INSTITUTE OF HEALTH ECONOMICS
ALBERTA CANADA

# Becoming the Best: Building Sustainability – A Knowledge Exchange Conference Series

## Summary Report

Game Changing Health Innovations
February 24, 2011

High Performing Health Systems
April 15, 2011

Population Health Innovations: Addressing Determinants of Health
May 2, 2011

Conducted for, and Supported by,

Alberta Health Services in Collaboration with

Alberta Health & Wellness

## About the IHE

The Institute of Health Economics (IHE) is a not-for-profit organization committed to producing, gathering, and disseminating health research findings relating to health economics, health policy, health technology assessment and comparative effectiveness. This work supports and informs efforts to improve public health and develop sustainable health systems. Founded in 1995, the IHE provides services for a range of health-sector stakeholders, and is governed by a Board that includes representatives from government, academia, health-service delivery, and industry organisations:

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## Preface

As part of Alberta Health Services (AHS) Strategic Health Needs Assessment and Service Design 2030 project, "Becoming the Best: Building Sustainability" the Institute of Health Economics (IHE) was commissioned to conduct three Knowledge Exchange events between February and May 2011. These single-day conferences assembled leading international thinkers and experts in Alberta to provide guidance and key learnings that could be adopted by provincial health planners. In addition to that provided by AHS, support for this project was received from Alberta Health and Wellness.

The following report summarises key themes and findings that emerged during the meetings. The first, Game-Changing Health Innovations, took place on February 24, 2011. This was followed on April 15 by High-Performing Health Systems and then Population Health Innovations—Addressing Determinants of Health on May 2. A full archive of the event, including videos of the presentations and background documents, is available on the IHE website at www.ihe.ca.

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The series was developed and managed by a team comprised of IHE staff and external consultants:

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## Conference Series Faculty

The IHE would like to thank the following distinguished speakers whose participation made the series so successful. Their insight, experience, and candour provided content that will inform Alberta Health Services' efforts as they work towards the target of "Becoming the Best."

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# EXECUTIVE SUMMARY

## Learning the Lessons from *Becoming the Best*

As part of Alberta Health Services (AHS) Strategic Health Needs Assessment and Service Design 2030 project, the Institute of Health Economics (IHE) was commissioned to conduct three Knowledge Exchange events. These three workshops were designed to investigate how innovation in the health care system can help Alberta's own health system fulfil its rich potential. In the workshops, entitled "Becoming the Best", the IHE brought together experts from around Alberta, Canada and the world to investigate three significant subject areas where innovation can benefit health care:

1. Game-Changing Health Innovations
2. High-Performing Health Systems
3. Population Health Innovations – Addressing Determinants of Health

Based on the discussions at each of these three meetings, and on the background evidence presented and identified by the IHE, there are a number of lessons to learn from the *Becoming the Best* series. These lessons can be cross-cutting from all the meetings, or relate to specific health innovation issues, but are all important in delivering a future effective and innovate health system for Alberta.

### Overview – The Key Messages

When considered as a whole, the *Becoming the Best* events tell a story of the main ways in which innovation can be built into an evolving health system. While the three events each covered different topic areas, there are some clear messages that come through that can be applied to Alberta's health system to place it at the forefront of innovative health systems:

1. **"Value" is a key theme in becoming the best**. Whether it be linking value to quality in terms of innovations, focusing indicators on value of interventions not inputs to them, or identifying the value of population well-being over medical improvements. There is a clear need to define what constitutes value in the health system and then to find practical ways to operationalise innovations to realise that value.
2. **Measurement is important.** Whether it is measuring levels of innovation, health change or population health improvements, information can change people's motivations and understanding. By setting clear measurement systems, behaviour can be modified to achieve specific goals. Clear measurement also leads to shared understanding of goals, activities and challenges for public, policy makers and health professionals alike.
3. **Collaboration is the key.** It is clear from all of the workshops that to achieve any of the goals set around innovative health systems, there are a number of stakeholders who need to be involved and feel a sense of shared ownership. This requires active engagement, transparency, and dedicated resources.
4. **Leadership needs to be strong and clear.** While collaboration is a must in changing to an innovative health system, it is not enough to achieve it. There needs to be clear leadership from the health system to ensure that partners in the innovation process are all understood, endorsed and maintained by stakeholders. This includes stakeholders outside of the usual, policy/patients/professionals groupings – such as those in other social sectors, transportation, science, industry, and academia.
5. **Build on the good work that already exists.** While innovation is often seen as a drastic change in the way things are done, innovation more often occurs through incremental improvements. In innovation policy, health system performance, and population health, there are already innovations that can be used as a

foundation to build an innovative health system on. Identifying, evaluating and utilizing these examples will make moving to a new system easier, more efficient and less costly.

6. **Setting up the organizational structures to allow innovative approaches to flourish.** In addition to building on the existing good work in health care innovation, there is a need to provide the infrastructure on which innovation can be built. For measurement this can mean data infrastructure; for collaboration, this can be network development; and for leadership, this can be policies and procedures. One of the main lessons from the existing examples is that organizational structures are often in place to support innovation and its implementation.

## Becoming the Best 1: Game-Changing Health Innovations

In addition to the six lessons identified above, the first *Becoming the Best* meeting also provided some messages that are specific to game changing health innovations.

- **Innovation is about culture, not technologies**: Commonly, innovation is only considered in terms of new health technologies (drugs, devices and machines). For game changing innovations, there needs to be an acknowledgement of the system, behaviour, policies, processes and organizational culture of the health system and its participants.
- **Aging and Demographics is a driver for change**: While demography might not actually be destiny, changing Alberta demographics (aging populations, socio-economic groupings, etc.) will undoubtedly change the way the Alberta health system provides for citizens. The roles of women and older people in health decision making were identified as key to address through innovative approaches.
- **Patients can help to drive innovation**: The patient portal in Alberta is seen as key disruptive health innovation. It shows how patients themselves can interact with the health system and their own health records, and use that innovative access to information to become more involved in their own health behaviour (as well as increasing trust in the health system).

## Becoming the Best 2: High-Performing Health Systems

During the high performing health systems meeting, there were additional key issues identified that are specific to the use of innovation to improve health systems.

- **Setting goals**: In the past the health system has often set goals related to spending, rather than on outcomes. By shifting the discussion to set goals around outcomes that are valuable to patients, health professionals and those running the health system, we can move towards incentivizing improvements in the health system (including innovation).
- **Engaging health professionals**: In order to achieve the goals set for the health system, it is vital that health professionals are engaged and on board with new innovations and approaches. Innovations need to occur bottom-up as well as top-down in the health system in order for lasting change.
- **Proactive and targeted performance management**: This relates not just to innovation for health systems, but also to a patient's journey through the system. It was identified that measuring performance means measuring what you can change through the health system, not just focusing on the easy things to measure. Performance measurement can be proactive to improve future planning in the health system, as well as managing chronic illness and improving public health.

## Becoming the Best 3: Population Health Innovations – Addressing Determinants of Health

During the final meeting, on population health innovations, participants noted the main factors to take into account when developing new population health innovations for Alberta.

- **Know your population - Information Systems and Surveillance:** Developing systems that collect data is important but can be misleading where different populations have different health characteristics. It is important to be able to disaggregate data to be able to effectively plan for health improvements.
- **Improving Population Health is possible - conditions of day to day life:** Since most of the disease burden in Alberta (and globally) is preventable, there is clearly scope to improve population health. Evidence shows that many of the main determinants of health relate to day to day life for individuals and populations, and supporting interventions around these determinants can have large impacts.
- **Incentivize collaboration:** Collaboration can be borne of mutual understanding of net benefit for the population, but more often than not, is reliant on benefits being realized by all parties in the collaboration. By incentivizing stakeholders to become involved in population health collaborations (either through positive or negative reinforcement) AHS is more likely to see the impacts of successful interventions.

### Summary

When developing its own health system, Alberta can benefit from an existing wealth of innovation on healthcare innovation. Prof. Cy Frank, an eminent Canadian healthcare expert, identified the 20 top issues raised at the events that Alberta must address if it is to succeed in *Becoming the Best*. These mirror the key points made above, and show the province can move forward with healthcare innovation in a systematic and effective way.

1. Success is defined and terminology is clear with success being defined for *all stakeholders. Quality is defined.*
2. 'Innovation' is defined and embraced: people, processes, and systems. Not just devices/drugs.
3. Networks that lead *a culture of innovation* (people, processes, systems, services).
4. People *test innovation*; it's OK to fail
5. *Champions of change* (and leaders) are identified, developed and supported
6. There is an engaged and empowered public (*the public is actively involved*).
7. Evidence-based treatments and approaches are used wherever possible and/or are pursued through research
8. *There is fusion of health, environment and education* in a planned way
9. The system improves value (*and value for money*) for all as a *major goal.*
10. *Good information for decisions* is essential
11. *Prevention* is 'part of doing business' (it is *somebody's job*).
12. *The system invests* to buy positive changes
13. People are *engaged in teams* across normal boundaries in the network
14. There is a *good HR system*
15. *Careful (avoid perverse) incentives* are used to incent all stakeholders
16. Careful (avoid perverse) *measurement is used. Measure against goals. Beware of what you aren't measuring.*
17. *Measure and evaluate* 'on-line' with *feedback to those who need it.*
18. Planning models with *embedded research.*
19. Be patient but always keep the patient in mind. *Meet or exceed patient expectations* as a top priority.
20. *'Top down' meets 'bottom up' in all ways* (structures, programs, goals)

# EVENT SUMMARIES

The following section provides individual two-page summaries of each event. They lay out key themes and recommended action items arising from the presentations and discussions. More detailed examinations of the days' proceedings are provided late in this document in the Event Syntheses. Presentations and speaker biographies are available online at http://www.ihe.ca/research/ahs--becoming-the-best-20-year-outlook--/.

# Game-Changing Health Innovations: Disruptive Innovation to Lead Health Care

Most health systems are "chaotic, expensive, inefficient, often ineffective and are dying for innovation". This is the case for AHS. Innovation is clearly needed – disruptive innovation, and that means by definition "changing the business model". As Dr Bob Brook with Rand Health in his opening address stated: "There is no excuse for you not to lead the world in making this transformation….. you have a lot of opportunity to do things that are quite differently. … I expect you to be the beacon that's going to transform the way other health systems in the world react and make a difference…. ".Dr. Cy Frank, University of Calgary provided a summary of what he had heard during the conference and concluded that: "This organization (AHS), this province needs to aspire to lead. The opportunity isn't going to come around again… it's unprecedented. Sustainable innovation is achievable….. It's a process and a culture not a project".

## Key Themes

### Innovation is about Culture not Technologies

- Innovation needs to be looked at broadly: Game changing or disruptive innovations are much more than just drugs and devices. It is about people and processes and systems. It is about creative solutions that integrate technology, behaviour, and new organizational processes. While there are many promising technologies the most important area of focus should be developing organizational capacity for innovation.
- Disruptive Innovation is about changing the business model – it is a challenge to the status quo and conventional ways of doing things. An organizational culture is needed that rewards trying new things and taking risks. AHS should focus on ways to support culture shifts and the soft side of behavioural change that might prevent or support innovation.
- Quality movement needs to be complemented by a "Value Movement". Health System needs to develop explicit value propositions for different audiences when implementing innovations focusing not just on incremental improvements in quality of care or access but the value certain innovations bring to different stakeholders. Cost and value assessments are needed for different target audiences in mind and do such assessments must be done transparently so trade-offs can be made and be explicit.

> *When a sports writer talks about a game-changing event, she is probably talking about the ninth inning home run that changes the outcome of the game.*
> *Game-changing innovation is more than that. It changes not just the winner or loser. It changes who the players are, and it changes, to an extent, the rules of the game.*
>
> **John Rapoport**
> **Mount Holyoke College**

### Information and Evidence – Must be Shared with All

- Integrating evidence-based decision-making would be innovative in itself and it is a key enabler for behavioural change. Processes to support ongoing evaluation of innovative processes and technologies need to be put in place with quick adoption of what works. AHS should aspire to be the best system in the world in implementing and evaluating innovative approaches and to make that information accessible to everyone online. Information and evidence "is the great leveller" and if put in place the 'right things will stick'. Comprehensive comparative effectiveness approaches, looking at a range of technology options in a care pathway, need to build on and replace traditional technology assessment processes. Reassessment of technologies in currently in practice and decommissioning where appropriate was seen as an important approach to allow greater flexibility to try new things.

- Engaging with the public and communities with information to support them and challenge them in their own behavioural change is essential. Patient encounters with the health system are often currently organized around the needs of providers and are not utilizing technology capability for virtual office visits, online communication and self-care tools. The patient portal was seen as a key disruptive health innovation and one which should be aggressively implemented. It was also noted public trust in the health system is best addressed through transparent presentation of evidence and information on health system performance.

> *What really disruptive thing could you do tomorrow? Tomorrow, not 30 years from now. You could require every hospital in this province to report, on a real-time basis on Facebook, their nosocomial infection rate...the number of people that died [...] under their care, and the proportion of those deaths that they contributed to. Require them to send that information to every reporter in Alberta. And ensure that the first thing that every health employee would see when they read their Blackberry, Twitter, Facebook, or whatever, would be those facts. If you want to disrupt what you are doing, change the way you use information now. Do not wait until you have interoperable electronic medical records or until the day that Edmonton becomes a paradise in the winter. Do it now.*
>
> **Robert Brook**
> **Rand Corporation**

- Powerful information systems are needed to support health system decision makers but first choices are needed on what information to collect. Information and communications technologies are at the top of the list for disruptive innovation but efforts must be targeted to information which supports behaviour choices by providers, administrators and policymakers. A minimum data set must be expected and demanded for the electronic medical record and become part of the electronic health record.

## Aging and Demographics – A Driver for Change

- Aging is a new strategic market for private business and for the health system. AHS must study and understand how families and individual's heath needs are changing and how much health behaviour change rests with women aged 47 to 57, who are often managing health decisions for themselves and their families. AHS should dedicate efforts to understand the circumstances and environments which people make daily decisions in and support efforts in self-care and healthy aging.
- Potentially the most impactful innovations will come through addressing social determinants of health. It was recognized at the conference the important leadership role that AHS must play in supporting intersectoral strategies in addressing social determinants of health and also that the trajectory for long term health is set when very young and initiatives to support early child development are too often on the periphery of health system decision making and priority setting.

## Key Actions for the Future

**Information Systems:** Patient-centered health information being readily available to providers, patients, policymakers, innovators, and the public. Alberta Health Services should make it a priority to accelerate the availability and use of such an information system.

**Incentives for Innovation:** People tend to be resistant to innovation, even if excellent information on the health system is available, game-changing innovation will only occur if incentives and infrastructure are in place to allow it to happen.

**Intersectoral collaboration:** Game-changing innovation cannot really be anticipated to happen without the participation of other important governmental sectors. Importantly, education, business and science communities must all coordinate and participate for game-changing innovation to occur.

**Imbedded Research and Evaluation capacity:** Game changing innovations, like any new as well as established technology, need to be comprehensively evaluated and monitored so that the medical, economic and other social implications are understood. This requires ongoing applied research and health technology assessment performed within the AHS strategic clinical networks.

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Alberta Health Services is in a unique position to become a truly high performing health system. Enablers of this include: a single health authority aligned with the province in establishing clear objectives and targets; a wealth of qualified health professionals, databases that, if used properly, can support more effective management and planning; and the great potential through the strategic clinical networks to drive improvements through the system. There is no silver bullet solution – and paramount is the need to provide comprehensive information about demand and utilization seamlessly to a well-trained and motivated front line.

## Key Themes

### Setting Goals and Measures

- Discussions around improved performance should begin with a focus on value and outcomes, rather than funding. It seems clear that attempts to improve system performance revert too often and too quickly to discussions of funding levels. There is evidence of significantly increased investments in health systems which simply created more expensive versions of that which already existed.
- Common agreement on indicators, what they mean, and how they are measured and communicated, should receive significant attention. "High-performing" depends on what you measure, how and why. It is clear that any complex health system includes many measurable components. The process to do this is perhaps even more important than the final outcomes, as it engages clinical and non-clinical staff, as well as the public, in developing common goals. There may be wide variations geographically and across programs, and "averages" can mask significant opportunities for improvement.
- Measurement and reporting are powerful tools and incentives in and of themselves for improving performance. This seems self-explanatory but information can be a powerful force in focusing discussions among clinical leaders, front-line staff, and managers. Further enhancements can be leveraged by linking to financial incentives. However, international experience speaks to the need for caution when applying such measures.

> *I will talk more about "targets and terror," because that is the most important element of the reform program that has cut waiting times and improved patients' experience...Local leaders of hospitals or primary care organizations are assessed based on their achievements in hitting [...] ambitious must-do targets. They know that if they fail, they probably will not be there next year [...] That's the terror.*
> *Regulations reinforce the use of targets and terror. The quality regulator collects and publishes data on the comparative performance of hospitals and primary care organizations...my New Zealand colleagues [...] call this "ranking and spanking." If your hospital is not delivering on the goals for transparency, benchmarking, and collecting data, you get visits from the regulators. They come in to help you to do better [...].*
>
> **Chris Ham**
> **The King's Fund**

### Engagement with Health Professionals and the Public

- Improved performance happens at the local level while being guided by system-wide standards. There is a need for an approach that is at once top-down and bottom-up. As noted, the UK's "targets and terror" (known as "ranking and spanking" in New Zealand) approaches have their place. They should, however, be accompanied by efforts to support monitoring and performance management initiatives at the local and clinical-encounter levels.
- Engaging clinicians in system performance measurement and management of resources is essential. This was illustrated by examples from the non-profit US integrated-delivery organizations. A mixture of approaches

that engage the clinical community to take ownership of performance measurement and improvement are required and can work.

- The public and patients must be engaged. To be high-performing, a health system must: Inform the public with respect to expectations; Educate patients regarding their role in contributing to effective and quality services and outcomes through self-care; and, Support informal caregivers in accordance with the importance of their contribution.

## Proactive and Targeted Performance Management

- Every step of a patient's journey across the continuum of care requires carefully-considered proactive performance management. The system is currently organized around episodic acute-care interaction. One must re-think how to support patients and their providers by planning more effectively for potential future encounters with the health system, and avoiding those that are unnecessary.

> *Perhaps the "secret sauce" of Kaiser Permanente is our independent Permanente Medical Groups. These are all physician-owned enterprises, run either as professional corporations or as partnerships. The Permanente physicians are salaried employees of the medical group that they own. [...] The health plan does not tell them what to do. [...] They have a culture of performance, of quality management, and of resource stewardship. [...] They are accountable for cost and quality. And, dating back to 1930s and 1940s when the groups were formed, there is a culture of evidence-based practice [...] and they have done that since long before we had computing power. [...] Our physicians, long before we had an electronic medical record, had a shared paper record and became accustomed to seeing each other's comments, notes, and patient information.*
>
> **Murray Ross**
> **Kaiser Permanente**

- Balance is required in measurement. Excessive performance measurement should be avoided. A strategy is required to manage system capacity and avoid unnecessary reporting. Focusing on a few key areas can divert resources from unmeasured areas but too much measurement can create "indicator chaos."
- Focus on those performance indicators the health system can address. Many health-system indicators are often provided despite their not being directly related to overall performance. Some, such as avoidable mortality, were presented as areas worthy of potential focus. Some elements are "amenable to health care," while others result more from factors outside the health-delivery system.
- Capacity building in ongoing performance management requires long-term perspective and investment. Planning for the future means funding research and embedding researchers into the system. It also means developing information systems, and retraining staff, capable of supporting planning and evaluation while building links to clinical networks and forging other relationships across the system.
- Upstream management of chronic illness and a focus on prevention are key. In the rush to improve access and efficiency of acute-care delivery, one must be careful not to forget prevention and better management of chronic disease. This is especially important as financing of primary medical care lies outside Alberta Health Services.

## Key Actions for the Future

**Consistent and Sustained Leadership:** Change takes time and patience is required when transforming a complex system. In order to promote ongoing improvement clear and consistent long term goals are required which are understood and endorsed by major stakeholders.

**Top-Down and Bottom-Up Target Setting is required:** Local data should be the primary driver of performance improvement balanced with some benchmarking against provincial, national and international comparisons. The strategic clinical networks are a key vehicle to bringing the province-wide goals and front-line experience together.

**Tools to support navigation and communication across the system:** Patients and providers often lack the necessary tools to navigate and communicate across the system. Understanding care pathways and hand-offs across the continuum of care and coordinating services is the key to improving performance.

**New approaches for engagement with physicians:** Physicians are a key factor to health system improvement and require the support, resources and incentives to be health system leaders. Physicians listen to physicians and engagement with them in solving performance issues is essential. Different decision-making structures may be required to support this engagement and increased accountability and responsibility.

**Focus on patient-relevant outcomes not costs:** Focusing on costs is not the way to create a fiscally responsible and sustainable health system. The focus needs to be on outcomes that are important to patients.

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# Population Health Innovations: Addressing Determinants of Health

Much of what makes us healthy lies outside the formal health system. Health status for individuals is determined by a complex set of factors and intersectoral collaboration is essential to address underlying determinants of health. The material presented during the course of this conference provides strong evidence that Alberta needs to: focus on intervening early, adopt multi-sector approaches and strategies to improve health, and invest in monitoring and evaluation of public policy impacts on population health. This means having population health surveillance which is linked to other population data to identify problems and assess effectiveness of interventions. Most importantly – it identified that in order for sectors to work together – common (cross-sectoral) goals need to be developed and transparently reported and committed to. A focus on prevention and on early childhood intervention will yield long-term benefits for societal well-being and economic prosperity. It was also clear from this meeting that there are existing examples of successful innovation in the population health domain, and that these can serve as exemplars of how to take forward population health innovation for Alberta.

## Key Themes

### Know Your Population - Information Systems and Surveillance

- Aggregated data can be misleading – look below averages. While one study based on a system-wide analysis can tell one story—for example of improving health within a particular, larger population—a disaggregated approach can uncover disparities at more local levels. Therefore it is important to have the ability to collect data that can be separated according to different socio-economic and demographic factors.
- To address population health – you need to know your populations. Alberta could learn from the experiences gained through the work of the Manitoba Centre for Health Policy (MCHP) which has a truly 360 degree picture of social determinants and health across time. They have overcome concerns about privacy by maintaining true transparency and communicating on a regular basis with various stakeholders. Researchers and policymakers benefit from such capacity.

### Improving Population Health is Possible - Conditions of Day-to-Day Life

*The report on urban environments showed that the closer someone lives to a source of pollution, the higher their degree of respiratory. But the more important finding of the study was that socioeconomic status has a greater impact than proximity. In other words, whether you are rich or poor is a greater determinant of the impact of air pollution on your respiratory disease than if you happen to live beside a pollution-generating industry. There are independent effects involved, but the greater impact of those two is socioeconomic status.*

**Corey Neudorf**
**Saskatoon Health Region**

- Many of the most burdensome chronic diseases are preventable. It is well known that certain life styles contribute to chronic disease in younger and middle ages, as well as to old age disability. The root causes of detrimental life styles including bad nutrition, absence of exercise and healthy living are often found in the social determinants for health including poverty, domestic violence, poor housing and environment, as well as in social stress-related primary diseases.
- Investing in supportive conditions for individual and community wellness and healthy public policy – yields returns. Cost-effective initiatives which appear to have major impacts on reducing inequities include: Structural changes in the environment, legislative and regulatory controls, fiscal policies, income support, prioritizing disadvantaged groups, and starting young.

- Emotional and physical wellbeing are inextricably linked. Therefore, focusing on mental health outcomes should be a core component of any population-based approach. In fact, one could go so far as to say that mental health is both outcome and determinant, meaning that it should be integrated into any overarching multi-sector initiatives and policies.

## Collaboration across Many Sectors and Partners is Essential and Requires Incentives

- "Whole of government" collaboration/accountabilities should accelerate. In Alberta numerous programs exist that cut across ministries, linking many stakeholder in cooperative efforts to address a range of issues. Collaborative approaches require a horizontal approach, while outcomes are assessed, and budgets planned, according to vertical constructs. Province-wide deterministic policies to improve population health would require a retooling of funding envelopes to allow true cross-pollination.

> *There is tremendous opportunity for collaboration. There should absolutely be no excuse not to collaborate.*
>
> **Jay Ramotar**
> **Alberta Health and Wellness**

- There is good evidence of the different types of policies and interventions that are effective in improving population health and in reducing health inequity. Many of these approaches require collaboration across policy areas, professional groups and stakeholders in the health and wellness process. Examples include improving social support and integration; supporting life-long learning; and legislative and regulatory controls around determinants. To successfully implement population health innovations in these high impact areas will require effective collaboration approaches.
- Already there are examples of collaboration working in Alberta, such as the Addiction and Mental Health Strategy; the Safe Communities Initiative; and the Aging Population Policy Framework. Building on these examples of working approaches to collaboration will enhance the ability to address population health issues in Alberta.

## Key Actions for the Future

**Information Systems and surveillance (linking different information sources)**: Build on the current good work in Alberta to develop effective data and information systems for healthcare by moving towards a population health information system that can act as a data repository for population health initiatives, and as a surveillance tool for future population health issues. This needs to link information from a variety of sources (health care, demographics, housing, etc.). There are good examples of this approach in other provinces, particularly the Manitoba Centre for Health Policy.

**Health Impact assessment of Public Policies:** Public policy making often has to take into account multiple factors before arriving at a final policy, environmental assessments of building and farming policies are a prime example. Since the determinants of health are linked to most parts of public policy making, and small changes to determinants can have large changes on population health, it would be wise to integrate "population health assessments" into policy decisions – mirroring the move to environmental assessments.

**AHS leading/partnering in province-wide population health strategies**: AHS has the opportunity to take the lead on population health strategies. This would provide the leadership and collaboration required to develop truly effective and incentivized population health innovations for Alberta. It would also place AHS at the forefront of movements around the world to develop and implement effective population health strategies.

**Identification of some major cross-cutting strategies which would have move impact**: Using the knowledge gained from this meeting, AHS can begin to identify and develop population health strategies that are evidence-informed and impact-based. This would be world-leading in terms of population health initiatives and would be accountable, evaluable and effective.

**Build on and accelerate existing initiatives (Safer communities, Early child intervention, etc.)**: Alberta can rightly be proud of many of its existing population health initiatives, which have improved population health in a number of areas. These initiatives provide the foundation upon which AHS can continue to build population health strategies, utilizing learning on collaboration, data systems, population engagement and structural and procedural approaches.

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# EVENT SYNTHESES

The syntheses presented below provide a more detailed review of the events, including answers to key questions that ran through each day's theme. Elements from certain presentations identified as being particularly germane to the goal of "Becoming the Best" by 2030 are presented, as well as charts and graphs that illustrate approaches and insights deemed to be of significant value to decision-makers as they pursue healthcare excellence in Alberta.

## Introduction

- The Institute of Health Economics (IHE) was asked by Alberta Health Services (AHS) to support the long-term planning of Alberta's future health system. As part of this support, the IHE was asked to conduct literature reviews, and a series of knowledge exchange events on: Game-Changing Innovations; High-Performing Health Systems; and, Broader Determinants of Health.

The first of the three-part series focuses on health system innovation, as Alberta health system leaders are clearly ready to create a world-leading health system which is ready to capitalize on innovation, innovative thinking, and game-changing innovations. The intention is to bring lessons learned on "game-changing innovation", also called "disruptive innovation" to stimulate thinking for Alberta's thought-leaders and health system planners.

At a one day workshop held February 24th, 2011 in Edmonton, Alberta, thirteen thought leaders and health system leaders presented findings from research and reflections on how health system excellence and sustainability can be achieved through "game-changing innovation". Speakers ranged from experts in health system research and delivery, health technology assessment and health economics. This report summarizes key concepts and provides key lessons learned on game-changing innovation for the Alberta health system.

## Why Look at Innovation?

Health care spending in Canada is rising faster than the rate of economic growth. This raises concerns about the sustainability of Canada's publicly funded health systems.[1] Health technology and new capital expenditures (e.g. construction, machinery, equipment, software for healthcare facilities) represent the fastest growing areas of spending. There are also concerns about access to services, and the quality and productivity of the health system. One response to these concerns has been to focus on improving health system innovation.

Innovation in health care is not simply introducing new drugs or device technologies, but can be seen in the introduction of new service delivery models, information technology, processes, organization of care, medical procedures, and administrative and management practices. Innovation is not the same as 'invention'. Invention only describes a change in approach or the development of a new idea. Innovation is change that leads to something positive and valuable. Innovation is invention that is intended to improve health system sustainability while also improving health system quality, accessibility and productivity.

Innovation is also intended to create economic opportunities and drive long-term economic growth. This means the ultimate value and aim of innovation is better health and continued prosperity for Albertans. Game-changing innovations are by definition positive, and lead to greater acceptance and value.

Innovation doesn't just happen. Creating opportunities to foster and manage innovation requires an understanding of what works and what doesn't so that future changes to the design of the health system will be guaranteed to succeed. Patients, providers, policymakers and the public all need to understand how health system innovation happens and what their role in fostering innovation is.

The role of innovation and how it can lead to better organizational productivity has been extensively studied in recent years. We have begun to see information about how innovation can be effectively fostered and managed in health

systems. The purpose of this research was to answer some important questions about disruptive innovation in health care:

1) What makes health system innovation game-changing?
2) What are the documented examples of game-changing innovation?
3) What clinical activities are affected by disruptive innovation?
4) How can we be sure opportunities for innovation are not missed?
5) How can health system innovation effectively be managed?

To address these questions, a systematic, though not exhaustive, literature search was conducted to identify key literature published from 2000-2011 that discussed game-changing or disruptive innovations in health care. The literature review included 113 relevant published articles.

Details of this research, including study selection criteria, can be found online at http://tinyurl.com/5w39unk.

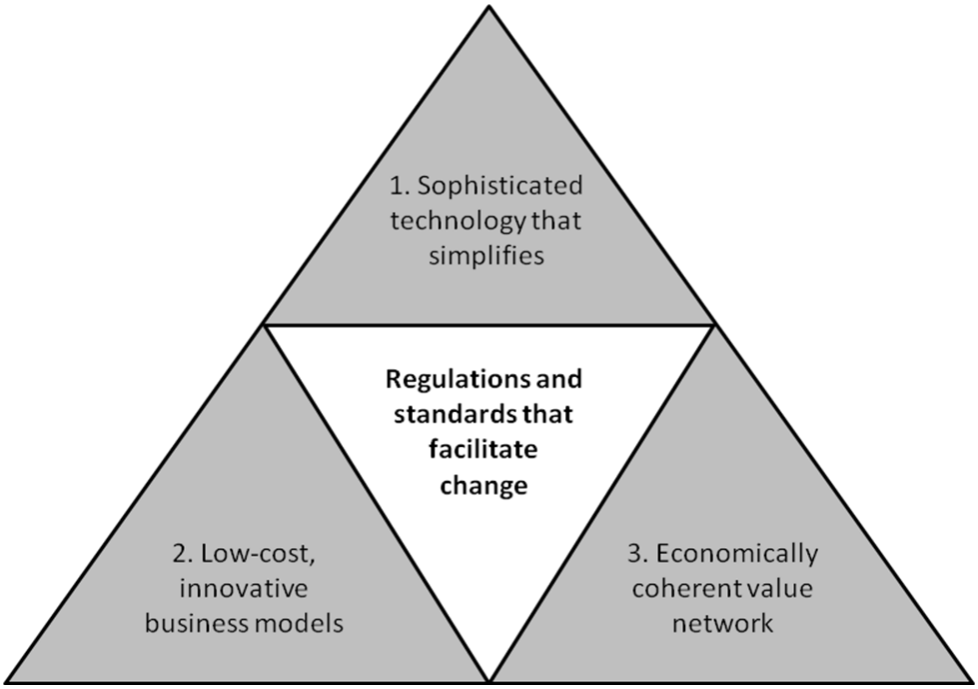
## 1) What Makes Health System Innovation Game-Changing?

Disruptive innovation (the term generally used in the academic literature) or game-changing innovation (the more informal term) is intended to be an "agent of transformation" which transforms industries in a way that their product and services are more affordable and accessible and that people with less training and skill can make or use them.

The term disruptive innovation was originally coined by Harvard Business School Professor Clayton Christensen, who describes it as occurring in an organization in different stages:

- **Technological enabler.** First, a technological innovation occurs which is an enabler for a change in business model. As previously mentioned, technologic innovation here is defined broadly, not just machines or devices, but the application of new ideas that can lead to a better performing health system, like scheduling changes that lead to reduced wait times, or a new procedure that reduces rates of stroke.
- **Business Model Innovation.** Second, the innovation prompts the emergence of a new business model that disrupts the existing arrangements for providing a specific type of health care service. Business model in this context refers to the service delivery model but also the organization, financing and management of the unit delivering the service. (See Box1)
- **Value Network.** Third, supporting networks such as equipment suppliers, providers of services, new types of funding mechanisms, or trainers of personnel must be put in place. Often it is not possible to disrupt just one part of the existing system but rather a whole series of inter-linked changes are needed.

FIGURE 1: ELEMENTS OF DISRUPTIVE INNOVATION




(Source: Christensen, The Innovator's Prescription, Page XX)[60]

Finally, the exact way in which all this plays out is importantly dependent on the government regulations and policy environment relevant to health services. Disruptive innovation cannot happen in an environment of regulation that is too unforgiving or inflexible.

**Box 1 – Business Model Innovation: Low-Cost, Innovative Business Models in Health Care**

Disruptive innovation may mean existing providers carry out their functions in entirely new ways. They may need personnel with different skill sets, new capital equipment or new forms of organization and management. Alternatively, entirely new types of providers may come into existence which disrupt and replace the previously existing organizations.

Christensen describes three generic business models in health as the solution shop, the value-added process business and the facilitated network business. He suggests that each of these models might be most appropriate depending on the type of medical care offered.

A **solution shop** model involves the application of expertise by intuitive methods to fairly unstructured problems. Each unit produced is essentially unique. Multiple specialists working together in an academic medical center to diagnose a rare disease would be an example.

A **value-added process** business involves production of a specifically defined service in a structured way. After diagnosis, many surgical treatments are suitable for a value added process approach. Christensen argues that significant cost reductions are achieved by moving these treatments out of the general hospital to a separate organization. He cites as an example the Shouldice Hospital in Ontario which does only a particular type of hernia operation and has lower costs and better results than other providers. Another well-known example of this type of business model is the outpatient facility that performs laser-assisted in situ keratomileusis (LASIK), or laser-eye surgery to correct poor vision.

The **facilitated network business** model is suggested to be most appropriate for dealing with some chronic diseases. Where lifestyle modification and self care are important a network connecting patients with others with similar conditions can help them learn from each other and provide support. Alcoholics Anonymous is a long standing example but advances in communications technology enables creation of other such groups where members are geographically dispersed.

The three different types of business model are likely to have different funding mechanisms. For a solution shop, there is great uncertainty at the outset about the production process and the outcome of the service. In this setting payment is likely to be based on inputs used. The traditional fee-for-service compensation of doctors and hospitals is this type of funding model. At the start of treatment, e.g. hospital admission or initial physician visit for a given complaint, the total cost is not known.

In a value-added process the production method and the outcome are well known in advance, sometimes to the extent that the provider can offer a guarantee of a specific outcome. Payment is likely to be a flat fee for a specific service. Prices can be posted and known in advance by both buyer and provider.

The provider in a facilitated network is offering to the member access to other members of the network. Payment for such access is likely to be in the form of a membership fee, i.e. a fee which entitles one to such access during a specified time period.

## 2) What are the Documented Examples of Game-Changing Innovation?

About 25% of the authors who considered specific innovations thought they would disrupt hospitals (and of course the doctors who work in them). About 50% of articles were about innovations that would disrupt outpatient physician practice. Smaller numbers of articles focused on disruption of pharmaceutical or medical/nursing education. (7% and 5%, respectively) The broad service categories and specific services various articles discussed as being disruptive innovation included:

Patient Self Care

- Health care Tourism[2]
- Social Media [3]

Primary Care/Community Care

- Retail clinics [4-8]
- Workplace clinics [9]
- E-Clinic for Drugs [10]
- Extension for Community Health Care Outcomes [11]
- Community Health Networks [12]
- Community Nursing Center [13]

Diagnostic Imaging

- MR guided focused ultrasound [14]
- Computing in radiology [15]
- Mobile computing platform in radiology [16]
- Picture Archiving and Communication [17]

- Imaging [18]
- Molecular Imaging [19]

Personalized Medicine/Genomics

- Personalized medicine – genomics [20-24]
- Gene based vaccines [25]
- Genomics [21,26]

Hospital-Based Care

- Single specialty hospital [5]
- Ambulatory surgery center [5]
- Operating room organization [27]
- Operating room of the future [28]
- Orthopedics (several technologies) [29]
- Pediatric Surgery [30]
- Surgery Type [31]
- Specific Procedures
    - Carotid artery stenting [32]
    - Drug eluting stents [33]

Clinician/Providers – Scope of Practice

- Doctor of Nursing Practice degree [34-35]
- Nurse practitioners [36]
- General Practice Physician with Special Clinical Interest [37-38]
- Paramedic Expanded Scope [39]

Telehealth /Telemedicine

- Remote Patient Monitoring [40]
- Telemedicine [41-43]

ICT – Enabling Technologies

- Web based physician order entry [44]
- Informatics/communications technology [45-57]
- Instructional Technology [58]
- Wireless Technologies [27]
- Tracking Technology[59]

## 3) What Clinical Activities are Affected by Disruptive Innovation?

In terms of the type of clinical activity affected, about 15% of articles reviewed were relevant to diagnosis and about 25% related to treatment. Prevention and chronic disease management accounted for smaller groups of articles. Of course many articles were about technologies, e.g. electronic and communications innovations, which affected multiple areas since their initial effect was on health system integration and coordination.

## 4) How Can We be Sure Opportunities for Innovation are not Missed?

Christensen argues that it is useful to view medical services on a continuum. He says this continuum is useful for understanding and identifying needs for innovation. At one end of the continuum are diseases where diagnosis and treatment is well-known, rules-based and no longer requires significant expertise. He labels this type of medical care "precise". At the other end of the spectrum are diseases that are hard to diagnose and define or may have treatments that have less predictable outcomes, labelled "intuitive". He suggests that new business models should be sought out to accommodate those diseases which have more predictable diagnosis and treatment. That is, they are migrating from intuitive to precise modes of care. Specifically, he suggests business model innovation for more precise diseases should be sought or the "potential returns, in terms of reduced cost and improved accessibility, for society's massive investments in science and technology, will be small."

Some research articles have attempted to extend, modify, supplement, replace, or critique the Christensen analytical framework or the concept of disruptive innovation. None of the articles identified proposed something entirely new, all of the articles were consistent with the Christensen model and all emphasize the importance of changes in the business model.

## 5) How Can Health System Innovation be Managed Effectively?

The application of the disruptive innovation conceptual framework by health system managers might be aided by an attempt to answer the following series of questions when a new technological or delivery model innovation is being considered:

- Does it change the position of diagnosis or treatment of disease on the continuum from intuitive medicine to precision medicine?
- What is the current business model for provision of the service (Solution Shop, Value-Added Process or Facilitated Network)?
- What is the business model likely to arise after the innovation is adopted?
- How are the skill sets needed by providers changed by the innovation?
- Are changes in training needed to provide a suitable labour supply?
- Is the legal, social and cultural environment consistent with, and supportive of, the new business model?
- How well do the existing business model and the likely new business model address specific consumer demands?
- Is "moderately lower quality and much lower cost" an attractive option?
- Is the new business model likely to be introduced within existing organizations or within new organizations?
- Are there suppliers of equipment, supporting or complementary services, needed by the new business model which do not now exist?
- Is the existing funding mechanism consistent with the new business model?

The answers to these questions should make it easier to figure out the likely sources of support or opposition to the adoption of the new innovation. They should also, when combined with other information, help guide the policy discussions of what posture the health system should have toward the new innovation e.g. adopt it system wide, adopt it on a limited or trial basis, resist its adoption, take a neutral stance and let actors outside the existing system guide its development.

## What Lessons are Relevant to Alberta?

The results of this research were discussed among international experts at a meeting held in Edmonton on February 24th, 2011. These experts sought to identify concrete lessons for policymakers, providers and the public, on how disruptive innovation can be best fostered in Alberta. It is clear from this discussion that Alberta is uniquely positioned to be a leading health system internationally. However, based on research to date, and international experience, some lessons can be drawn.

### Health Information First

Game-changing innovation is intended to improve health system performance and sustainability. Measures of health system performance, namely measures of resources, quality and access to care important to Albertans cannot occur without investing in information systems that can track patients across the system, from doctor to nurse practitioner, and from hospital to clinic. Good health information is valuable to everyone. Robert Brook, Distinguished Chair in Health Care Services for the RAND Corporation stated "it's impossible to do anything if you don't understand what you're doing, and the simple notion of feedback of information is critical." Lessons from other business environments are clear: without commitments to making health system decisions on the basis of verifiable data, the impact of innovation is anyone's guess.

Good health information benefits:

- **Patients and Families** – In the US, patients who have access to their personal information or who are able to share their information with loved ones are empowered and can take time to make decisions about their own health. Personal information allows the health system to engage with patients in a meaningful way.
- **Providers of Health Care** – Those who provide health services can quickly view medical histories, evidence-based decision aids, referral wait times, safety notices, care plans and countless other important pieces of coordinated information to improve health system performance daily.
- **Policymakers and Payers** – Good health system information makes health system performance transparent, provides opportunities for evaluation and facilitates discussion on what innovation is necessary. It promotes health system accountability when innovation is introduced.
- **Producers of Health System Innovation** – Innovators, including researchers and private sector innovators, can be provided with better measures of what the needs of the health system are and how current and past innovations have performed.

Alberta is already leading much of the rest of the Canada with the development of a province-wide Electronic Health Record system, NetCare. Continued efforts have been announced with the future launch of www.myhealth.alberta.ca , an internet portal that will give patients access to their own personal information and individual care plans.

However, the lessons learned from other health systems and the importance of patient-centered health information cannot be emphasized enough. As Pamela Larson, Director of Consumer Health for Kaiser Permanente Internet Services stated, "As we were building the electronic medical record for providers, we listened to the providers. But as

we built the personal health record for our members, we found it extremely important to listen to them. They actually helped us to name the buttons on the computer screen, and they sat with us and did flows for how to go about making an appointment with your doctor on the web. That didn't always go over well, let me tell you, because we in health care have our own ways that we think things should run and be, and our members, our consumers, don't necessarily think the same way. So we had to become very strong advocates for our members."

Good information means provides a real-time dashboard for everyone, because everyone has an interest in better health care. Efforts must be targeted to information which supports behaviour choices by providers, administrators and policymakers. A minimum data set must be expected and demanded for the electronic medical record and become part of the electronic health record.

## *LESSON 1: Patient-centered health information is critical for game-changing innovation*

### Innovation Is Everyone's Business

Innovation is not new drugs or device technologies, but can be seen in the introduction of new service delivery models, information technology, processes, organization of care, medical procedures, and administrative and management practices. This means everyone has the potential to innovate, from patients to policymakers to the public. Robert Brook suggested health care organizations should "include community organizations as equal partners; they share in savings and they share responsibility for risks."

A culture of innovation requires embracing evidence-based decision-making first and foremost. This means we must accept that we can never be certain about the impact of changes to the current model. We are in a new era of products and ideas for health care. Although many of them might eventually prove positive for our own health system, many of them won't. As Dr. Clifford Goodman stated about new health technologies, "Marketing authorization does not mean that we know everything that we need to know and don't have to collect any more evidence. There are many things we still don't know: patient outcomes, not just the biomarkers; effectiveness in the target population as opposed to efficacy in ideal settings; adverse events, especially delayed or rare ones; and patterns of use and cost. When something comes on the market, evidence-gathering in these areas is just getting rolling."

Although there has been some recent movement toward promoting health system evaluation – field evaluation, comparative effectiveness research, and patient-oriented research- much more it seems could be done. We must accept that every potential innovation requires evidence collection and evaluation and that not all proposed innovations are valuable. We need to accept that failure will happen frequently. Game-changing innovation cannot occur without trial and error.

Importantly, the system must facilitate the identification and introduction of innovation by everyone – not simply health system leaders or private sector innovators. When Miles Ayling described promotion of innovation in the UK described the various initiatives undertaken by the United Kingdom National Health Service (NHS). This included making the introduction of innovation a legal duty, ensuring a top-down commitment from the health system leadership, awarding prizes for innovation, creating operational and capital financial incentives, bringing health service researchers and academia closer to the delivery of care, consolidating medical information, and hosting a health innovation expo. By creating incentives to share information, discuss innovation and monitor health system performance, everyone is provided with opportunities to innovate.

*LESSON 2: Game-changing innovation doesn't just happen. Promote and create incentives for innovation, then evaluate; expect failure.*

## Changing Behaviour

All of us are patients or future patients. Years of research have shown us plainly that health and our state of health goes beyond our health system – it is linked to our education, housing, community, and environment. This means true innovation will require crossing traditional boundaries, engaging science, industry, education and other important governmental sectors that can facilitate health system innovation. It means partnerships and collaborations built on open innovation platforms where you share intellectual property freely, sometimes with other competitors, in the hope that will help you generate the next generation of ideas must be encouraged.

Since health and prosperity is everyone's business, the public must be engaged. It starts with educating those who will affect the future. Michael Villeneuve of the Canadian Nursing Association stated that health professionals should also have roles outside of the health system, reminding us that, "We need to be thinking about how nurses can be involved in the design of homes, communities, community health centres, and even cars."

Another speaker suggested several boundary-crossing ideas that we could implement today:

1) Medical and Nursing Students teach all students in University about models of health;
2) Require students to volunteer monthly for community health promotion;
3) Children's medical records should contain records of academic achievement;
4) Replace meeting room chairs with treadmills.

We must also accept that changing perceptions and behaviour is not easy, but there are key players in the system who are better placed to help us all change. Who is best suited to lead changes in the care of an aging population? What about changes in the care of families? Those who have suffered a heart attack? They may not necessarily be who we think they are. As Joseph Coughlin, Director, Massachusetts Institute of Technology AgeLab reminded us, "Companies that provide health care and the consumer products and medications that go with health care do not conduct focus groups with men, because it is women who are responsible for 80 to 90 cents on the dollar of every purchasing decision… You cannot speak of disruptive innovation without understanding the true vector of health behaviour, and it is a 47- to 57-year-old woman — not because she signed up for it, but because she is more likely than not in charge of someone's health or health behaviour." Efforts must be spent to understand who can best champion change within the system.

*LESSON 3: Game-changing innovation requires public engagement; traditional boundaries must be crossed today.*

## Value is the Goal

The real goal of game-changing innovation is to create value. When we aim to create value, quality, accessibility, and affordability will follow. As Tom Noseworthy summarized at the end of the discussion, "Efficiency improvements alone are not going to be enough to sustain the healthcare system. While we continue to gain in efficiency, the value that we get from efficiency manoeuvres is limited. Continued and unrelenting efficiency efforts are required merely to offset the annual inflationary costs of health care." This was further summarized by Cy Frank, who implored us to "Change the quality movement into a value movement. This is a very important statement that we heard today. We need to think about value to patients, value to the public, value to providers, value to the administration, and value to policy people. It is possible to create a win-win-win-win for all those groups through innovation."

This is summarized by Clayton Christensen, who wrote "The challenge that we face – making health care affordable and conveniently accessible to most people – is not unique to health care…The transformational force that has brought affordability and accessibility to other industries is disruptive innovation. Today's health-care industry screams for disruptive innovation."[60]

*LESSON 4: Value is the new goal. When we aim to create value, we will create accessible, affordable, and high-quality health care.*

## Summary

Current research on game-changing innovation in health care and the considered opinion of international thought leaders provides some specific lessons for the future of Alberta's health system:

1) First, game-changing information cannot happen without patient-centered health information being readily available to providers, patients, policymakers, innovators, and the public. Alberta Health Services should therefore make it a priority to accelerate the availability and use of such an information system.
2) Second, as people tend to be resistant to innovation, even if excellent information on the health system is available, game-changing innovation will only occur if incentives and infrastructure are in place to allow it to happen.
3) Third, game-changing innovation cannot really be anticipated to happen without the participation of other important governmental sectors. Importantly, education, business and science communities must all coordinate and participate for game-changing innovation to occur.
4) Fourth, game changing innovations, like any new as well as established technology, need to be comprehensively evaluated and monitored so that the medical, economic and other social implications are understood. This requires ongoing applied research and health technology assessment performed within the AHS clinical networks.
5) Fifth, quality, accessibility and affordability can only be truly achieved if AHS strives for value from game-changing innovation.

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## Introduction

The Institute of Health Economics (IHE) was asked by Alberta Health Services (AHS) to support the long-term planning of Alberta's future health system. As part of this support, the IHE was asked to conduct literature reviews, and a series of knowledge exchange events on: Game-changing innovations; High performing health systems, and on Broader determinants for health.

The second of the three-part series focuses on high-performing health systems, as Alberta health system leaders are clearly ready to create a world-leading health system which is characterized by exceptional performance. The intention is to bring lessons learned on how health systems become top performers to stimulate thinking for Alberta's thought-leaders and health system planners.

At a one-day workshop held April 15th, 2011, in Edmonton, Alberta, thirteen thought leaders and health system leaders presented findings from research and reflections on what is a high-performing health system and how this can be achieved. The speakers were internationally recognized health system leaders, experts in health system research, health system providers and patient advocates. This report summarizes key concepts and provides key lessons learned what makes a health system high-performing and provides key recommendations for the Alberta health system.

## Why Look at High-Performing Health Systems?

One year after being founded in 1945, the World Health Organization (WHO) declared in its constitution that "Governments have a responsibility for the health of their peoples which can be fulfilled only by the provision of adequate health and social measures."[1] Since that time, governments across the globe have developed policy to support the development of health systems. Health systems have been defined in numerous ways but generally refer to the related activities undertaken that have health as their main purpose.

Since that time, international jurisdictions have fine tuned health policies dedicated to protect these health systems according to their own values and through trial and error. Despite these tailored approaches, health systems internationally have evolved toward the same goals: activities that are fiscally responsible, while maintain adequacy and equity in access, income protection, freedom of choice for consumers, and autonomy for providers. Alberta Health Services, like other health systems nationally and internationally, has established a large number of indicators to understand how it is performing and respond to opportunities for health system change.

As it creates a long-term strategy for improving health system delivery, Alberta Health Services now has a unique opportunity to examine what is needed to create a leading international health system. Through an AHS-led Strategic Health Needs Assessment and Service Design project, AHS is planning how it will improve and maintain the health of Albertans in the next few decades. Given the vast amount of experience gained since the WHO constitution and the widespread establishment of international health systems, Alberta hopes to capitalize on lessons learned abroad to design a high-performing health system. By examining evidence of health system performance, AHS intends to capitalize on an opportunity to ensure its successful transition to becoming a leading international health system.

[1] WHO. Constitution of the World Health Organization, Geneva, 1946.

There is a large and ever-growing evidence-base on what makes a health system "high-performing". To inform recommendations for the future of Alberta's health systems, several important questions relevant to high-performing health systems were addressed:

1) Can Performance be Measured?
2) What Measures Matter?
3) Beyond Measures: What Else Matters?
4) What Makes a Health System High-Performing?

To address these questions, a scoping search of relevant published literature was conducted. The results of this research, along with evidence presented at the one-day workshop, are summarized here.

## 1) Can Performance be Measured?

The general approach to understanding how an organization or system performs is to use a conceptual framework. Frameworks are tools that help us use consistent language to describe, explain/predict, or evaluate organizations or systems in a consistent fashion. Health systems can also be described, explained, and evaluated through a framework. Numerous national and international frameworks have been developed to analyse, explain or predict the performance of health systems, usually with the input of many experts and often building on previous frameworks. Each framework can be described as having several distinct components: 1) overarching or long-term health system goals such as health and well-being; 2) intermediate goals or health system principles such as efficiency, quality, and access; 3) processes, or things that can be changed through action such as organization of care, regulation, integration, resource generation and resource allocation; and 4) building blocks, or critical supportive functions such as service delivery, health information, health workforce, technologies and commodities, demand generation, governance and financing.(1)(See Table 1)

TABLE 1: CHARACTERISTICS OF SOME KEY HEALTH SYSTEM FRAMEWORKS

| Framework | Source | Processes and Functions, e.g. | Intermediate Goals | Long-Term Goals |
|---|---|---|---|---|
| **Performance Framework** | WHO, 2000(2) | Resource generation, financing, service provision, stewardship | Access, Coverage, Safety | Health: level and distribution; Responsiveness: level and distribution |
| **Payment Framework** | OECD, 2001(3) | Voluntary insurance systems, tax-funded models and direct, voluntary out-of-pocket payment models | - | Health: level and distribution. Responsiveness and access: level and distribution |
| **Control Knobs Framework** | Hsiao, 2003(4) | Financing, payment, organization, regulation, behaviour | Efficiency, Quality, Access | Health status, consumer satisfaction, and risk protection |
| **Systems Framework** | Atun, 2008(5) | Financing, organization and regulation, resource allocation, provision | Equity, choice, efficiency, effectiveness | Health, financial risk protection, and consumer satisfaction |

A closer look at all of the frameworks developed reveals that each has a different focus and perspective, and defines concepts differently. For example, many frameworks harbour a narrow definition of health system, referring only to the health care system, while others take a broader view. The concepts of equity, access, and quality have also been defined differently. Typically, each concept is translated into a measurable outcome. For example, the WHO analysis of health system performance suggested an overarching goal of any health system is the attainment of health for the entire population affected by the system. To measure the concept of *health,* the WHO used two measures: 1) the number of healthy years of life (free of disease or disability) expected 2) equality with respect to attaining healthy years of life, giving more weight to regions where everyone has a similar chance, regardless of social or demographic variables. These performance measures therefore require conventional statistics on births, deaths and prevalence of disease and disability.

Other performance measures may be less concrete and require measurement outside of administrative and statistical data, for example through population-based surveys. Some frameworks require measures outside of health measures, for example focusing on resource measures and the flow of funds between key health system actors - providers, payers, the population and government. Ultimately, the choice of any framework dictates the choice of concepts and associated measures, which in turn dictates what type of information needs to be collected, and how it needs to be captured. Performance can be measured but each health system will need to decide what measures matter the feasibility of collecting information and the values of the public.

## 2) What Measures Matter?

Although, the types of measures that *should* be used are ultimately up to individual health systems, measures of performance that have been used can be described here. In a recent five-year funding and action plan, the Alberta government introduced 50 performance measures based on the principles of health care that is safe, of high quality, and accessible in as timely a manner as possible. Some of these performance measures, along with measures from key frameworks are in Table 2.

TABLE 2 EXAMPLES OF CONCEPTS AND SPECIFIC MEASURES IN ALBERTA'S CURRENT 5-YEAR ACTION PLAN

| Concept | Measure | Description* |
|---|---|---|
| **Access** | Access to Surgery | The maximum time that nine out of 10 people will wait (in weeks) for five types of common surgical procedures |
| **Equity** | Avoidable Morbidity and Mortality | The number of years a person would be expected to live, starting at birth, on the basis of mortality statistics |
| **Safety** | Harm | Percentage of Albertans reporting unexpected harm to self or an immediate family member while receiving health care within past year |
| **Efficiency** | Cash Flow | Alberta Health Services will operate within the approved five-year funding agreement with the Government of Alberta, and will not record an accumulated deficit |
| **Patient-Centered** | Satisfaction | Satisfaction with health care services received: Percentage of Albertans satisfied or very satisfied with health care services personally received in Alberta within the past year. |
| **Accountability** | Timeliness | An Annual Report in accordance with ministry requirements is submitted to the Minister no later than July 31 of each fiscal year. |

* Descriptions are illustrative as some were edited for length

The overarching question is what measures might matter in the future. What emerging health system themes may necessitate the need for new measures? A few new themes are emerging, and may shape the development of future health system performance measures:

### *What Matters to the Public*

As Fred Horne, MLA and parliamentary secretary to the minister of health and wellness of Alberta suggested, "a good place to start is to set goals and performance measures to support the notion of connecting every citizen to a community-based organization". This is a more conscientious and health-literate public is demanding a health system that is transparent, engaged, and patient-centered. This means information that is normally analyzed and communicated to the public must be made available for public scrutiny and analysis to ensure public accountability. To paraphrase ideas about patient involvement introduced by Deborah Prowse, Patient Advocate and Board Member of the Canadian Patient Safety Institute, patient-centered health information goes beyond simply providing electronic health records. It means comprehensive reporting of measures related to quality, safety and satisfaction along with information about health system concerns and how the system has responded to them.

Beyond this, there is growing consensus that the building blocks or critical supportive functions of any health system must take into account engagement with community-based organizations to ensure patients are connected to the health system in a meaningful way and have opportunities to shape the future delivery of health. John Abbott, Chief Executive Officer of the Health Council of Canada, reminded workshop participants that the public is engaged with the health system on various levels – as patients, through programs of care, and as citizens through government advocacy; he suggested we need to ask where the patient is in thinking and design the health system and how the system can better engage patients. The concept of a "medical home," a place in the system that is accessible and helps coordinate care has been shown to be associated with more positive care experiences, including more responsive and efficient care and lower rates of patient-reported errors.(6) As well, indicators for patient engagement can be built into future health systems.

***Comparability***

Because of the various health-system frameworks developed and adopted in the health system, considerable attention has been paid as to whether there should be one common strategic framework to facilitate comparisons across systems. It has been suggested this could be valuable because it would allow for comprehensive tools that could aid the development of health system strengthening strategies.(1) It would also allow consideration of the complex interactions among various elements of the health system, and between the health sector and external factors and it would facilitate more effective collective action at country level to implement health systems strengthening activities.(1) John Abbott suggested there is a potential problem for "indicator chaos," highlighting close to 40 sets of national and international sets of health system indicators, as more performance management frameworks continue to evolve and develop.

***Efficiency***

Health system wastage continues to be a problem worldwide. In the WHO's latest report on health systems financing, it is suggested that, conservatively, 20-40% of resources spent on health care are wasted. The report highlights solutions to key problems of inefficient use of health system resources including:

- Getting more from health technologies and health services
- Motivate health workers
- Improve hospital efficiency
- Get care right the first time by reducing medical errors
- Eliminate waste and corruption
- Critically assess what services are needed.

Efficiency can be incorporated into all dimensions of a health system framework. This includes strategies of active purchasing of goods and services, innovative financing models and more and better indicators of efficiency. As Catherine Pryce RN MN, Vice President, Addiction and Mental Health, Alberta Health Services, stated, "We are looking mostly at efficiency related to our expenditures and at our emergency department utilization. These are fairly limited indicators compared to the more complex, sophisticated ways that efficiency can and should be measured."

Another speaker highlighted that there is not necessarily a trade-off between efficiency and equity, as recently shown in an international report on health system efficiency.(7) Yet, as highlighted by the same report, a focus on efficiency means developing quality of care indicators (such as avoidable admission rates in the in-patient care sector) rather than health outputs.(7)

## 3) Beyond Measures: What Else Matters?

*Evidence-Informed Decision-Making*

A key theme that emerged when discussing other high performing health systems is to have appropriate information. Strategies to improve performance in healthcare are generally based on taking evidence observed in other health systems and applying them to a local context.(8) Experience from within Canada and internationally suggests information technology systems to collect and analyze real-world evidence are needed to inform health system policy and motivate physician leadership to support high performing health systems. Evidence from a local setting is ultimately of the most relevance to improving local decisions. This highlights the need for improved capacity in health outcomes research.

*Coordination*

Care coordination, ensuring patients can access and navigate through the health system effectively, is also an emerging theme in high-performing health systems. Care coordination can improve health outcomes and patient satisfaction, but requires proper alignment of provider and system incentives, information technology to support patients and providers, and seamless integration of programs of prevention, acute and chronic care.(6) As Ellen Nolte, Director, Health and Healthcare Policy Programme, RAND Europe, noted, it is believed good coordination will emerge from systems that harbour contextually appropriate approaches, consistent policies with an appropriate balance of top-down and bottom-up implementation, and undertake ongoing evaluation (what works best in what circumstances).

## 4) What Makes a Health System High-Performing?

Experience from other health systems which are high performing suggests a focus on quality, integration, patient engagement, and physician leadership are keys to improving performance. Kaiser Permanente (KP), a health system serving 9 million Americans and employing 14,000 physicians and over 165,000 is a fully integrated health system where each employee has a shared responsibility for the success of the program. Physicians are leaders and part of the design of all aspects of the system. As an integrated system, KP has developed a fully integrated electronic medical record for both individual patient care and population measures, which allows indicators of performance to be derived from ongoing data collection and in turn communicated back to patients, providers and others in the system. The system allows individual physicians to see which patients have care gaps, and track their own quality of care.

> *Develop an electronic health record that has a very good enterprise data warehouse, a repository that allows easy access to the data system-wide. Then develop a clinical leadership team that can oversee clinical quality improvement, using the tools of the electronic health record and the enterprise data warehouse. Put together a single development team that will work on a clinical process and take it from a baseline of excellent care to an improved baseline. Begin to share and replicate that success with other physicians and other clinical groups within your organization, to the point that you develop many development teams.*
>
> **Dr. Chris Wood**
> **Medical Director of Information Systems**
> **Intermountain HealthCare**

The electronic medical record system allows for better coordination of care. By asking patients to subscribe to an individual physician and allowing patients to access their personal electronic medical record and communicate to their physicians electronically. Kaiser Permanente has developed an electronic "medical home". Through this interface, patients can also learn about what they should be doing according to health system performance measures. More importantly, the system promotes patient engagement. In 2010, 3.4 million members who were registered users of the internet-based health system sent 11 million email messages to their doctors. As a result of this, in some regions, visits to primary care and specialist physicians dropped up to 25 percent.

Similar experiences were shared by Chris Ham, Chief Executive, The King's Fund, and Chris Wood, Medical Director of Information Systems for another US-based health system, Intermountain Healthcare. Dr. Wood suggested a focus on performance measures through the examination of their own data, rather than relying on measures determined by

others, was is the key to high performance. In addition to this, a focus on coordination, through examining the patient-health system interface, and implementing change through physician leadership was highlighted. Once changes are made, data systems are once again used to estimate impact, and the cycle can begin again. Dr. Ham suggested reforms in the UK were too top-down in hindsight, and future reforms will need to correctly balance a top-down approach with a bottom-up approach.

## What Lessons are Relevant to Alberta?

Relevant lessons can be drawn from the evidence identified and discussions among international experts at a meeting held in Edmonton on April 15th, 2011. These experts sought to identify concrete lessons for policymakers, providers and the public, on how to ensure a high-performing health system for Alberta's future. Based on research to date, and international experience, lessons and recommendations for Alberta are given.

### Performance can be Measured

High-performing health systems must continually monitor their performance. This requires an information-rich environment where feedback on performance is immediately accessible to patients, providers and the public. Alberta is already leading much of the rest of the Canada with the launch of an information portal for patients, www.myhealth.alberta.ca, and the development of a province-wide Electronic Health Record system, NetCare.

Good information allows for the development of performance measures that matter to the public and patient providers. Common agreement on indicators, what they mean, and how they are measured and communicated, should receive significant attention. The process to do this is perhaps even more important than the final outcomes, as it engages clinical and non-clinical staff, as well as the public, in developing common goals. "High-performing" does not mean for everything and everywhere. There may be wide variations geographically and across programs, and "averages" can mask significant opportunities for improvement.

While developing measures for improvement locally is important, performance measures that matter nationally and internationally cannot be ignored. These measures allow for comparing the relative performance of health systems and explaining differences between health systems. Standard measures and comparable measures will foster innovation and insight and provide a global evidence base for furthering health system performance.

*LESSON 1: Local performance measures matter most—start with local information and engagement.*

### Patients Come First

Improving and facilitating patient engagement is the key to high performance. It is becoming increasingly evident that patient satisfaction with health care is about improving opportunities to engage with the health system. Health system engagement can occur between patients and providers, through involvement with local and program-specific quality improvement and through larger policy discussions. What matters to the health system should be what matters to patients.

There are numerous opportunities for improvement when it comes to patients. For example, the Alberta Health System could consider increasing the number of performance measures based on surveying patient satisfaction or requiring

accountability measures that are accountable to patients. Quality improvement initiatives and health system design initiatives should put patients first. Lastly, efforts to improve coordination of care, including the development of a "medical home" and tools to help patients navigate through the system can lead to improved health system performance. It was noted by one speaker that by simply providing an opportunity for electronic communication between patients and providers health system performance was improved.

## *LESSON 2: Patient-centered health care leads to high performance.*

### Physician Leadership

Motivating change within a health system is not easy. At the core of health system decisions are health care providers, predominantly physicians who are the most effective change agents. One example of physician leadership was described at Kaiser Permanente, where physicians are partners in the shared fate of the health system. Independent Permanente Medical Groups are physician-owned enterprises, run either as professional corporations or as partnerships. Permanente physicians are salaried employees of the medical group that they own. The medical group takes on financial risk.

As Dr. Murray Ross, Vice President of Kaiser Foundation Health Plan, and Director Of Kaiser Permanente Institute For Health Policy described, "The leadership of the medical groups is selected and elected by their peers. They elect their executive medical directors; and some other executive positions are appointed by the boards of directors of the medical groups, who are themselves physicians from the medical group. Thus these operations are owned and operated — lock, stock, and barrel — by the physicians. The health plan does not tell them what to do… I cannot emphasize physician leadership enough, because that is what drives improvement. Physicians listen to physicians."

Similar examples of physician-led change were identified in another high-performing health system, Intermountain Healthcare. According to Chris Wood, "Every clinical program… has a Clinical Program Guidance Council led by a one-quarter-time paid physician leader. The councils have a full-time clinical operations administrator and include regional physicians, nursing and hospital operations managers, information systems people, and finance people. These people read the literature, look at what Kaiser and others are doing elsewhere, look at comparative effectiveness trials, and ask, What should we do?… you need the data to convince physicians to change, and you have to work with them to persuade them that the data is accurate. But once you have that data, you have a powerful lever for physician behavioral change. The Clinical Program Guidance Council creates development teams that work on core processes, and uses whatever information systems are needed to improve those core processes."

## *LESSON 3: Physicians are not just care providers—they are champions of change.*

### Health Outcomes are the Key to Efficiency

Alberta has developed numerous performance measures related to quality of care. Many of these are measures of access to care, including wait time targets. However, there is growing evidence that output-based efficiency indicators may have only a limited impact on population health status, specifically when coordination problems exist across health programs. When the focus is improving health outcomes, efficient delivery of services will follow.

Alberta has opportunities to improve outcomes and efficiency by adopting strategies of active purchasing of goods and services, innovative financing models and using more and better indicators of efficiency. Beginning conversations about performance by focusing on funding will not lead to improved performance. Instead, conversations need to focus on outcomes and values, and what can be done to improve performance.

*LESSON 4: Future measures must focus on outcomes, not outputs.*

## Coordination and Integration

To be high-performing, a health system must

- Communicate with the public about expectations;
- Educate patients regarding how they can engage the health system; and,
- Support informal caregivers about the importance of their contribution.

Every step of a patient's journey across the continuum of care requires carefully-considered performance management. Systems that are too heavily focused on acute care may lose opportunities to coordinate other important means to improving health outcomes, including preventive, chronic and rehabilitative care. It is critically important to provide information and opportunities to patients and their caregivers and providers so that unnecessary encounters with the health system are avoided. There is compelling evidence that improved coordination improves health outcomes reduces costs and improves patient satisfaction.(6,9). Coordination and a medical home model can be facilitated by information systems designed to support patients and providers. There is compelling evidence that these information systems have been one of the keys to the success of high-performing health systems internationally. Coordination and integration also provide additional opportunities for the engagement of patients and the public with the health system. Alberta has an opportunity to further remove structural and financial barriers to coordination and improve its existing information technology infrastructure and a single source for health service delivery to coordinate and integrate services in a seamless manner.

*LESSON 5: Improving performance means encouraging necessary patient and provider interaction with the health system.*

## Summary

Current research and opinion on high-performing health systems provides some specific lessons for the future of Alberta's health system:

1) First, performance can be measured but must be focused on what the health system can and should address. Local data should be the primary driver of performance improvement balanced with some performance measures that help with national and international comparisons

2) Second, performance can be improved if patients are more engaged with in their own care and ongoing improvements to the health system. Engagement means providing opportunities for communication and understanding of health system goals. There is room to focus more efforts on measuring patient satisfaction rather than operational outputs.
3) Third, changes to improve performance cannot be top-down. Physicians are a key factor to health system performance and require the support and resources to be health system leaders and create change. Physicians listen to physicians.
4) Fourth, focusing on costs is not the way to create a fiscally responsible and sustainable health system. The focus needs to be on outcomes that are important to patients, efficiency can only result if outcomes are the focus, not the other way around.
5) Fifth, even the health system with the highest potential for performance will fail if patients and providers lack the necessary tools to navigate and communicate through the system. Understanding care pathways and hand-offs across the continuum of care and coordinating services is the key to improving performance.

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## Introduction

What makes and keeps people and populations healthy? Increasingly evidence is demonstrating that numerous factors contribute to and determine the health of individuals and populations and the biggest impact comes from factors outside the formal health delivery system. A population health approach considers all the factors outside the health care system which significantly affect health. This includes a wide range of individual and collective factors and conditions - and their interactions - that have been shown to be correlated with health status. Commonly referred to as the "determinants of health," these factors include: (ref: Public Health Agency of Canada).

## Determinants of Health

1. Income and Social Status
2. Social Support Networks
3. Education
4. Employment/Working Conditions
5. Social Environments
6. Physical Environments
7. Personal Health Practices and Coping Skills
8. Healthy Child Development
9. Biology and Genetic Endowment
10. Health Services
11. Gender
12. Culture

The importance of focusing on determinants of health is highlighted in World Health Organization Commission on Social Determinants of Health final report, *Closing the Gap in a Generation – Health Equity through Action on the Social Determinants of Health* (2008), which noted:

> *It is likely that paying attention to the social determinants of health, including health care, will make health services more effective. The health sector will also play a leadership and advocacy role in the development of policies to deal with the social determinants of health. But lack of health care is not the cause of the huge global burden of illness; water-borne diseases are not caused by lack of antibiotics but by dirty water, and by the political, social and economic forces that fail to make clean water available to all; heart disease is not caused by a lack of coronary care units but by the lives people lead, which are shaped by the environments in which they live; obesity is not caused by moral failure on the part of individuals but by the excess availability of high-fat and high-sugar foods. The main action on social determinants of health must therefore come from outside the health sector.*[i]

The Institute of Health Economics (IHE) was commissioned by Alberta Health Services (AHS) to support the long-term planning of Alberta's future health system. As part of this support, the IHE was asked to conduct three workshops in a series called "Becoming the Best": These were designed to inform the AHS Strategic Health Needs Assessment and Service Redesign Initiative which is looking at planning strategically for the Alberta health system to 2030. The three workshops were:

- Becoming the Best – Game Changing Innovations
- Becoming the Best - High Performing Health Systems
- Becoming the Best – Population Health Innovations

In the final workshop of this series, "Becoming the Best – Population Health Innovations: Addressing Determinants of Health", was held on May 2nd 2011, and participants and presenters focused on how social determinants of health can influence the Alberta health system. (Full presentations available at: http://www.ihe.ca/research/ahs--becoming-the-best-20-year-outlook--/population-health-innovations ). The program outlined challenges that social determinants bring for the health system and ways in which an innovative health system in Alberta might address those challenges. The intention was to provide information, concepts and ideas on how innovative health systems can relate to the social determinants of health and as such stimulate thinking for Alberta's thought-leaders and health system planners.

Speakers at the workshop ranged from health promotion specialists, through health services and policy researchers, experts in population and public health, to cutting edge service delivery players in the health and social systems. Speakers also came from many areas of government – representing not just healthcare, but also education, tourism and recreation, urban planning, housing, culture and community, and also cross-cutting government policy units. This report summarizes key concepts and provides key lessons learned on how the social determinants of health will affect the Alberta health system.

> *We want to figure out how to help every individual in our population become healthier. As a first step, we have to be able to build healthy communities and healthy families.*
>
> **Don Johnson**
> **Board Member**
> **Alberta Health Services**

The material presented during the course of this conference provides strong evidence that Alberta needs to: **focus on intervening early, adopt multi-sector approaches and strategies to improve health, and invest in monitoring and evaluation of policy impacts on population health**. This means having population health surveillance which is linked to other population data to identify problems and assess effectiveness of interventions. Most importantly – it identified that in order for sectors to work together – **common (cross-sectoral) goals need to be developed and transparently reported and committed to.** If health improvement comes from actions taking place on a number of fronts a common vision needs to be endorsed and communicated.

Alberta Health Services cannot be solely responsible for addressing determinants of health – however it is an essential and key player in all efforts. When we do not effectively address the determinants for health people end up in the health system. From a purely fiscal point of view proactively addressing health determinants makes sense. [2]

The future can be shaped and in fact must be shaped and planned. In planning for AHS's efforts to influence the health of Albertans – population health innovations must be at the centre. Small upstream shifts in health at the population level can make a huge difference in overall health status.

[2] In Alberta Health Services, the Population and Public Health portfolio includes the following program areas: *Emergency, Disaster Preparedness* is responsible for making sure that Alberta Health Services is ready and able to respond to major events such as pandemics and natural disasters. *Health Protection* includes Environmental Public Health that works to create safe and healthy environments in public and private spaces by applying and enforcing health regulations. It also includes *Communicable Disease Control* which helps to prevent illness through a comprehensive vaccination program and rapid response to disease outbreaks. *Surveillance and Health Status Assessment* monitors and reports on the health of the population and conducts surveillance for the early detection of disease or other health risks. *Health Promotion, Disease and Injury Prevention* advocates for policies and environments that make it easy for people to make healthy choices, and develops programs that enable people to achieve good health.

## Why Population Health Innovations?

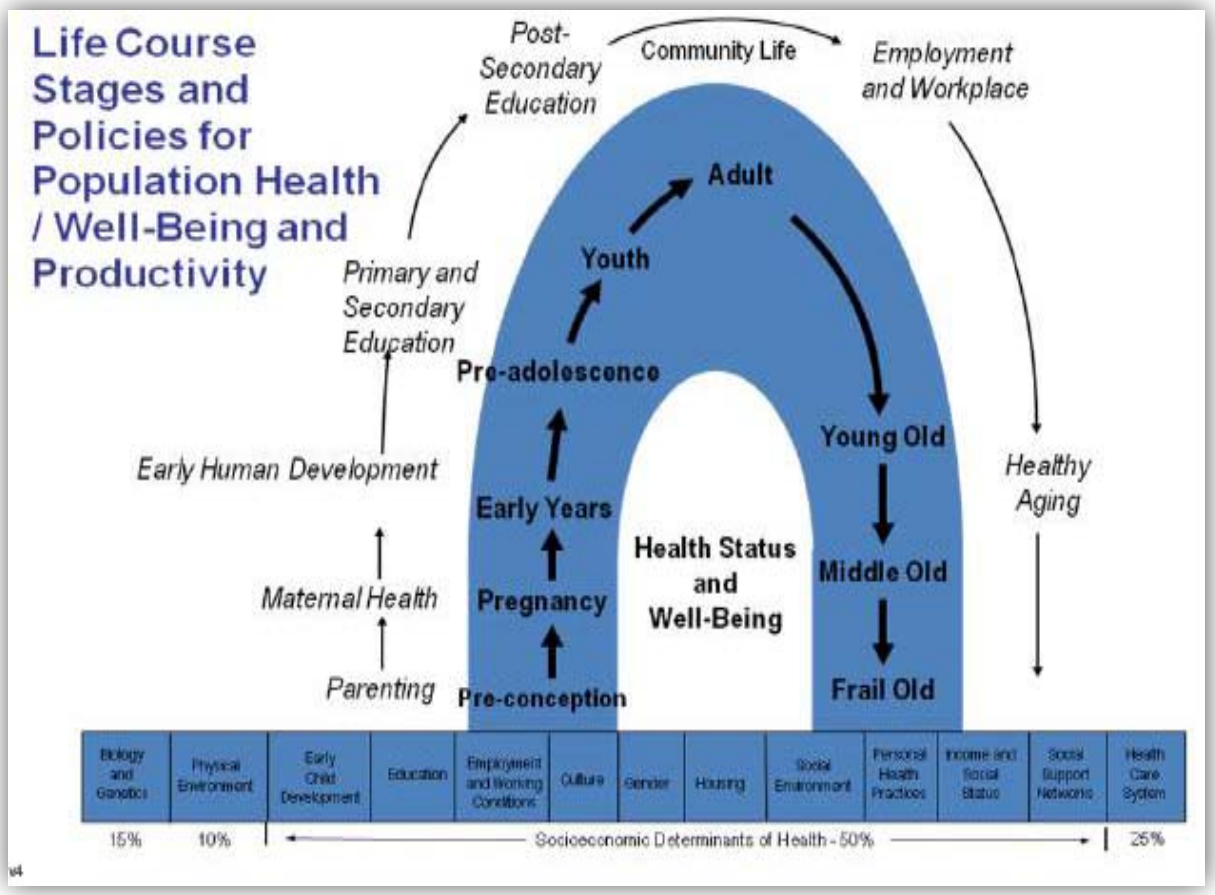
The Public Health Agency of Canada (PHAC) provides a useful definition of population health:

> *Population health is an approach to health that aims to improve the health of the entire population and to reduce health inequities among population groups. In order to reach these objectives, it looks at and acts upon the broad range of factors and conditions that have a strong influence on our health.*[ii]

This definition is telling, since it places the concept population health firmly in line with equity of health and the factors or determinants of health.[iii]

At its heart, population health innovations are ones that can provide improved health for all (reducing inequities) and focus on the determinants of health. From small-scale local population health initiatives, such as the Aboriginal Diabetes Initiative in Northern Alberta,[iv] all the way through to global action like the World Health Organization's Commission on Social Determinants of Health,[v] population health innovations provide the opportunity to create a fair, effective and sustainable health system. While there are pockets of activity, and particularly of research, on population health, there has not been as much uptake as desired of population health innovations in Canada in the form of public health action on the determinants of health.[vi] Alberta is in a unique position to improve population health with the new single health authority and the potential that brings in identifying province-wide goals and strategies.

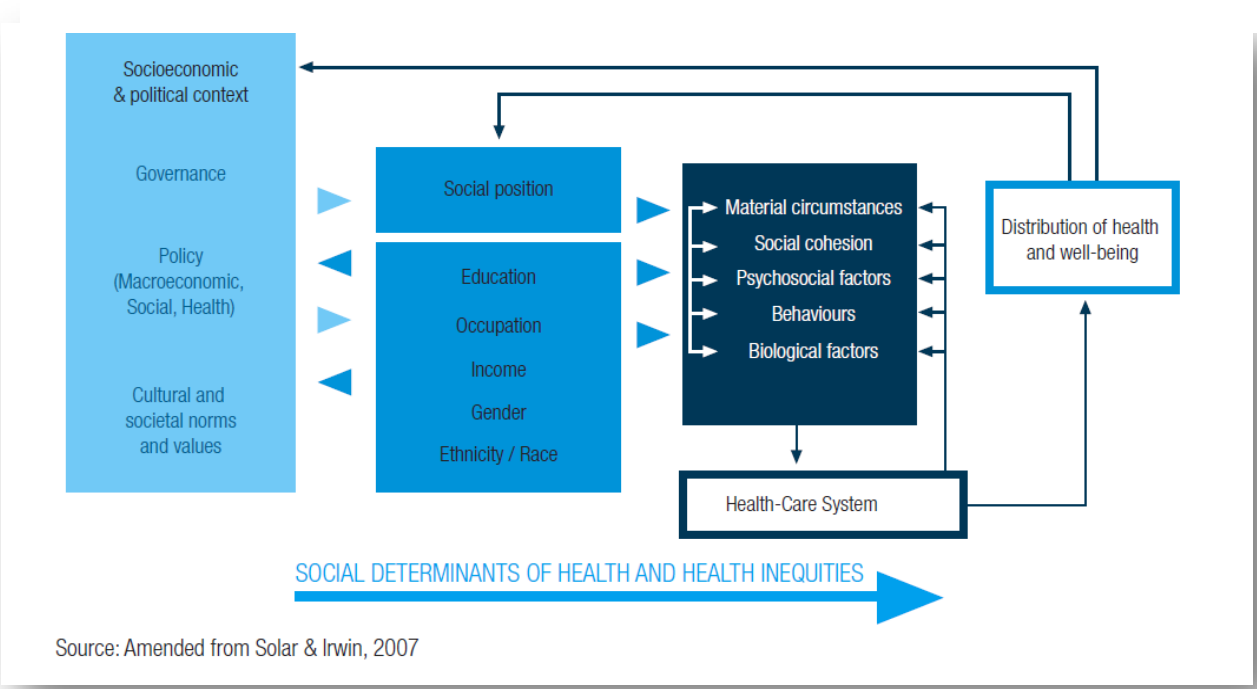
FIGURE 2: PARLIAMENTARY REPORT ON POPULATION HEALTH, 2009. OVERALL, SOME 10% OF HEALTH OUTCOMES ARE ATTRIBUTABLE TO THE PHYSICAL AND BUILT ENVIRONMENT AND FULLY 50% OF THE HEALTH OF THE POPULATION CAN BE EXPLAINED BY SOCIO-ECONOMIC FACTORS.



The determinants of health encompass personal, cultural, social, economic and environmental factors. The chart in Figure 2, above, comes from the Senate of Canada Report (2009) on Population Health.[3] It highlights that we need to look at population health over the course of people's lives and target interventions to the different stages. It also highlights that at the most 25% of health outcomes are contributed by the health care system itself. The largest impact comes from socioeconomic determinants such as early child development, education, employment and working conditions

The WHO Commission on Social Determinants was a landmark document which studied the 'causes of the causes' – for inequity in health. It highlighted that differences in health outcomes come fundamentally from inequity and the differing circumstances of daily life. Too often when looking at health improvement strategies we focus on increasing the efficiency and effectiveness of the short time people spend interacting with the health system – rather than focusing on where people spend most of their time – in their communities, at work and at home. Figure 3 shows the conceptual framework that was developed for the WHO Commission (Solar & Irwin, 2007).

FIGURE 3: WHO COMMISSION ON SOCIAL DETERMINANTS – CONCEPTUAL FRAMEWORK.




This framework suggests that interventions can be aimed at taking action on:

**The circumstances of daily life:** differential exposures to disease-causing influences in early life, the social and physical environments, and work, associated with social stratification. Depending on the nature of these influences, different groups will have different experiences of material conditions, psychosocial support, and behavioural options, which make them more or less vulnerable to poor health; health-care responses to health promotion, disease prevention, and treatment of illness;

**And the structural drivers:** the nature and degree of social stratification in society – the magnitude of inequity along the dimensions listed; • biases, norms, and values within society; global and national economic and social policy; processes of governance at the global, national, and local level

[3] A Healthy, Productive Canada: A Determinant of Health Approach (Senate of Canada Subcommittee on Population Health; 2009)

The three overriding recommendations from the WHO Commission are useful to remember and applicable as Alberta considers how to address determinants for health.

- **Improve the conditions of daily life** – the circumstances in which people are born, grow, live, work, and age.
- **Tackle the inequitable distribution of power, money, and resources** – the structural drivers of those conditions of daily life – globally, nationally, and locally.
- **Measure the problem, evaluate action,** expand the knowledge base, develop a workforce that is trained in the social determinants of health, and raise public awareness about the social determinants of health.

## Key Issues for Alberta

The "Becoming the Best: Population Health Innovations" meeting covered healthy communities, ways to support innovations in population health, how to identify what works for population health, and selected examples of approaches in Alberta. While these were distinct categories for presentations and discussions during the day, the key issues (as is so often the case) are cross-cutting.

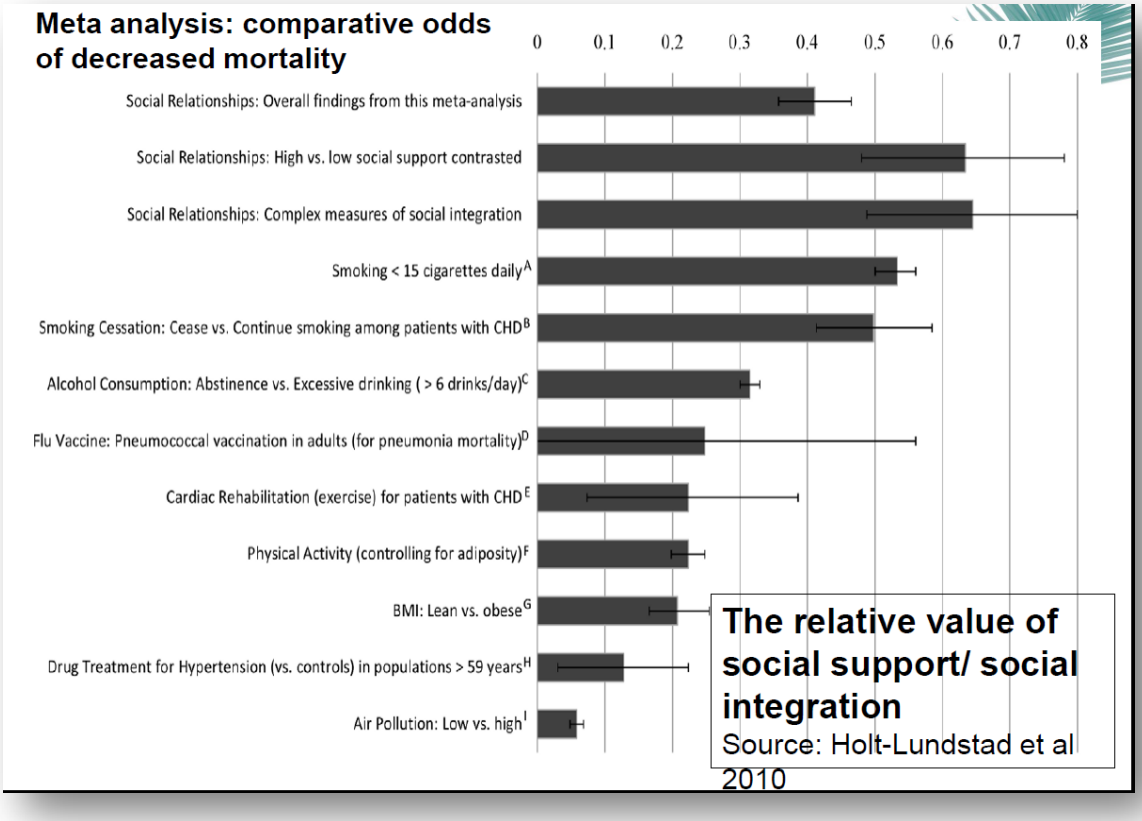
### 1) The Value of a Social Determinant Model of Health

While it is well known that the numerous social determinants of health are extremely powerful impactors on health and wellbeing, it is rarely identified just how much determinants may impact populations and individuals.

The benefit ratios of different mental health promotion approaches show the power of determinants of health. Outlined in the chart below are some returns on investment analyses for investments in terms of cost savings produced from investment in mental health promotion. (Source: Best Buys Analysis: NHS – Mental Health Investments)

| Population Health Approach | Activities | Return |
|---|---|---|
| **Supporting family life** | Parenting / home-learning environment / reading | 8:1 return |
| **Supporting lifelong learning** | Health promoting schools and continuing education | 25 - 45:1 return |
| **Improving work** | Employment/ workplace | Up to 30% saving |
| **Mental health assets** | Diet, exercise, sensible drinking; and social support / integration (Befriending, volunteering, time banks, community development) | Cost effective |
| **Supporting communities** | Environmental improvements/environmental justice | Very promising |

Social support systems have a significant impact on health. Recently a meta-analysis was conducted of 148 studies looking at the risk factors for early mortality. (See below). Social integration – feeling a sense of belonging, feeling part of a community are on par with smoking in their influence on mortality and they exceed many other risk factors such as obesity and physical inactivity.




As Dr. Phil Jacobs noted in his remarks at the conference on The Cost and Supply of Public Health Services, "*Preventable disease accounts for 70% of the burden of illness.*" This makes it all the more important to know and understand the importance of different determinants in societal wellbeing. Applying that knowledge to population health approaches and activities will be a key to taking forward an innovative population health approach for Alberta. Small incremental changes in policies and implementation that can marginally affect determinants for preventable illness can yield significant improvements in population health.

Perhaps two of the most obvious examples here relate to drinking and smoking as risk-factors for major preventable diseases. Large sums of money have been spent in Alberta on public health campaigns around smoking and drinking. These expenditures have been bolstered by numerous other public policy levers (such as taxation and regulation). This demonstrates the clear acknowledgement of the power of specific determinants and risk factors. Identifying the return on particular policy levers may not be so well understood. For tobacco-related decision-making, a number of options avail themselves to the policy maker. These involve varying levels of cost-effectiveness. Broad-based taxation and regulatory approaches are more effective and cost-effective than treatment options. In looking at health improvements broad-based approaches which shift incentives or environments of people – can have a significant impact.

Overall, while it is generally acknowledged that the determinants of health are important, it is not always clear just how much of a role they play. This is true of the determinants themselves, the activities undertaken to reduce risk factors and the return on those activities (particularly in terms of economic ROI). Effective and ineffective approaches have been documented in various works, including the National Collaborating Centre for Determinants of Health 2010

Environmental Scan referenced during the May 2nd event. In it, the report's authors identify a report on health inequalities in Scotland.

**Characteristics of Policies more Effective in Reducing Inequalities in Health**

- *Structural changes in the environment: (e.g. area wide traffic calming schemes, separation of pedestrians and vehicles, child resistant containers, installation of smoke alarms, installing affordable heating in damp cold houses)*
- *Legislative and regulatory controls (e.g. drink driving legislation, lower speed limits, seat belt legislation, smoking bans in workplaces, child restraint loan schemes and legislation, house building standards, vitamin and folate supplementation of foods)*
- *Fiscal policies (e.g. increase price of tobacco and alcohol products)*
- *Income support (e.g. tax and benefit systems, professional welfare rights advice in health care settings)*
- *Reducing price barriers (e.g. free prescriptions, school meals, fruit and milk, smoking cessation therapies, eye tests)*
- *Improving accessibility of services (e.g. location and accessibility of primary health care and other core services, improving transport links, affordable healthy food)*
- *Prioritizing disadvantaged groups (e.g. multiply deprived families and communities, the unemployed, fuel poor, rough sleepers and the homeless)*
- *Offering intensive support (e.g. systematic, tailored and intensive approaches involving face to face or group work, home visiting, good quality pre-school day care)*
- *Starting young (e.g. pre and post natal support and interventions, home visiting in infancy, pre-school day care)*

***Characteristics of Interventions less Effective in Reducing Inequalities in Health***

- *Information based campaigns (mass media information campaigns)*
- *Written materials (pamphlets, food labelling)*
- *Campaigns reliant on people taking the initiative to opt in*
- *Campaigns/messages designed for the whole population*
- *Whole school health education approaches (e.g. school based anti smoking and alcohol programmes)*
- *Approaches which involve significant price or other barriers*
- *Housing or regeneration programmes that raise housing costs*

SOURCE: MACINTYRE S. *INEQUALITIES IN HEALTH IN SCOTLAND: WHAT ARE THEY AND WHAT CAN WE DO ABOUT THEM?* UK MEDICAL RESEARCH COUNCIL SOCIAL & PUBLIC HEALTH SCIENCES UNIT: GLASGOW, 2007.

## 2) To Act We Must Know – The Importance of Data

Presenter Lynne Friedli, a mental health promotion specialist in the UK and with the WHO, summed up the importance of evidence on population health to support healthy communities with the phrase; "*It is more important to be roughly right than precisely wrong*". This really underpins the whole premise of building evidence-informed healthy communities. There has been a tendency to adopt health community strategies without including the evaluation component decision-makers require to implement a program on a broader scale or even develop relevant policy. This underscores the value of recent initiatives to increase investment in population health research. Examples include the activities of Canadian Institutes of Health Research (CIHR), in particular through the their Institute of Population and Public Health (IPPH), where strategic use of grant funds towards population health studies has been a key organizational policy.

There has been a shift in the way science has looked at population health problems since the development of CIHR, with a more agreed-upon base for the relevance of population health as a study area, the discourse has shifted:

- From understanding determinants to examining the impact of coherent, multi-level interventions and policy;
- From describing socioeconomic gradients to interrogating health inequities and their mitigation;
- From controlling context to understanding the influence of context on interventions;
- From studying intervention components to examining complex interventions within complex adaptive systems.

While this shift has been significant in the discourse around population health research, it has not been followed by shifts in the understanding of research at the decision making level, or by a larger number of implementation studies. This is primarily because at the research level, there is a poor understanding of the ways to undertake and evaluate implementation studies on complex population health questions.

Where we can know more, and this relates intricately to the power of social determinants of health, is in the area of impacts from population health innovations. Collecting epidemiological data on the provincial population is a place where Alberta can learn from neighbouring Manitoba. Manitoba's Centre for Health Policy maintains databases on massive amounts of population health data.[4] This data is mined by research experts for the use of decision makers in the province. By allowing researchers to investigate the population's health and relate findings to specific population health innovations, the MCHP are in the enviable position of being able to link health impacts to population health innovations. Collecting the data is the relatively easy aspect; the difficulty can be in interpreting the data for research and policy purposes.

> The fundamental resource that we need for population health research is person-specific microdata that is longitudinal and linkable. We still don't have that in the Province of Alberta [...] The Manitoba Centre continues to receive delegations from Alberta. We continue not to have reliable, effective, readily-available, timely access to microdata that is longitudinal and linkable. We have to change that if we are going to change in Alberta.
>
> **Tom Noseworthy, Director**
> **Centre for Health and Policy Studies**
> **University of Calgary**

Often, researchers and decision makers have different concepts of how to use knowledge to improve population health. Researchers often want to provide in-depth analyses of complex problems, while decision makers regular cite the "need to know" concept of information gathering – what would I need to know to make a better decision. MCHP have attempted to address this issue by bringing together researchers and policy makers from the setting of research questions, all the way through to delivery of results. They have also used journalists to summarize complex research studies into take-home messages and stories for decision makers. In effect, they focus on finding the "stories" that the data tells. In this, they have been successful and despite discomfort among leaders and policy-makers with some of the information that emerges from the mined data, the stories have pointed to successful population health initiatives that could translate well in Alberta. These include the following example:

- The Healthy Baby Program is an $80/month supplement to low-income, pregnant women in their second and third trimesters. By examining and correlating data, the MCHP was able to determine that this relatively low-cost, simple approach has led to a one-to-nine percent reduction in low-birth weights, up to six percent reduction in preterm births, and a 10-to-21% increase in breastfeeding. The detailed, multi-sector data have the power to provide the evidence needed to inform policy-makers and demonstrate the value of specific programs on stratified societal groups. This goes to the heart of population health and the need to reduce inequality.

In addition to being able to tell good stories, packaging impact findings for policy makers can also include relating to the returns on investment from population health innovations. As identified earlier, benefit ratios are an effective tool to showcase the impact of population health innovations, but so are approaches that use monetized health benefits and other monetary returns. In Canada, there is now a framework in place to assess ROI for health research that can be modified and applied to population health innovations,[vii] while in Australia there has been a large scale meta-analysis of cost-effectiveness of numerous population health initiatives.[viii] The Australian example is pertinent since it addressed costs to patients, the healthcare system and time costs (all issues to worry policy makers). The Australian approach

[4] It is worth noting here that the data collection and maintenance are transparent processes, allowing everybody to understand what data is collected and what it is used for. This approach has reduced the privacy issue over data collection and use in Manitoba.

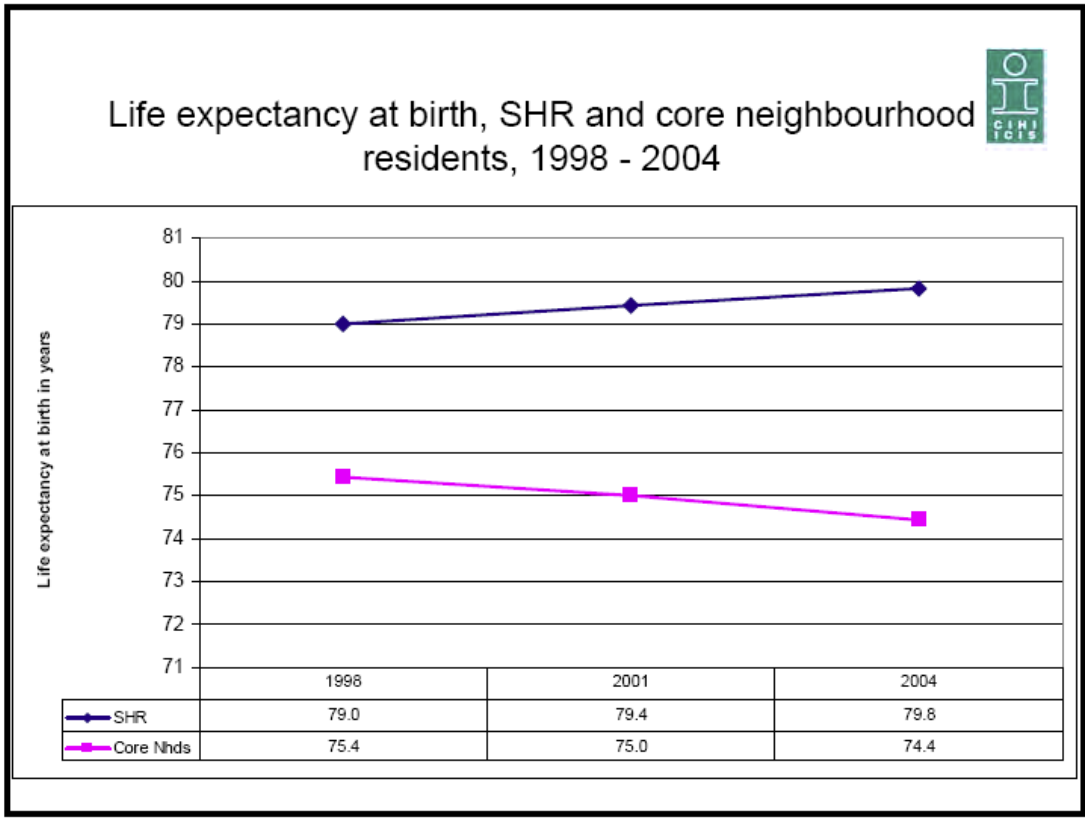
used DALYs (Disability Adjusted Life Years) to monetize the health impacts of population health interventions, therefore allowing comparisons of very different types of population health innovations from tax policies all the way through to cancer screening. By prioritizing the interventions based on cost-effectiveness, the Australian study has allowed an open debate on where decision makers should be investing to improve health. What all of these studies suggest, is that there is more benefit to intervening early in many people's lives, than there is to intervening later but on a more focused subset of "at risk" individuals in a population. This is borne out by US work from California on reducing the impact of adverse childhood experiences – which have been shown to increase the likelihood of multiple future adult conditions including STDs and Hepatitis.

As the University of Queenland's Lennert Veerman noted, experience included the following conclusions regarding what interventions are most effective, information that is directly relevant to the Alberta context:

- Taxation and regulation interventions have great potential. They tend to be very cost-effective or cost-saving, from a health-sector perspective at least, and have a large health impact;
- There is great potential to improve the efficiency of the prevention of cardiovascular disease through lowering blood pressure and cholesterol and so to accelerate the decline in cardiovascular disease that is already underway. These diseases have declined by about 70 percent since the early 1970s;
- There is an untapped potential to address pre-diabetes and chronic kidney disease with preventive intervention;
- Evidence is emerging that intervention can have a substantial role in preventing mental disorders;
- Targeted interventions with drug treatments in cardiovascular disease, pre-diabetes, chronic kidney disease, and osteoporosis have good credentials; and,
- Targeted interventions aiming to change the behaviour of individuals tend not to be cost-effective and have a modest impact on population health. The problem seems to be that it is very difficult for people to change their behaviour permanently if the environment in which they live does not change accordingly. They can keep it up for some time, but mostly they fall back into their old habits.

All these approaches are supported by evidence, meaning they're relevant to policy-makers and leaders in most G20 jurisdictions, including Alberta as it seeks cost-effective, relevant ways of realising its goal of becoming the best.

There is a caveat to the move towards increasing amounts of data to support decision-making; aggregated data can be misleading. While one study based on a system-wide analysis can tell one story—for example of improving health within a particular, larger population—a disaggregated approach can uncover disparities at more local levels. Therefore it is important to have the ability to collect data that can be separated according to different socio-economic factors. This allows policy/decision-makers to use real information when deciding how to allocate valuable resources. An example of this can be found in the work of Dr. Corey Neudorf, Chief Medical Officer of Health of the Saskatoon Health Region. SHR doesn't necessarily made decisions based on aggregated data. The graph below shows the value of parsing research findings to paint a true picture. When the Region took a first look at its life expectancy statistics a few years back, everything appeared positive. But a more detailed examination, made possible because of the way the data had been collected, revealed significant inequities:




SOURCE: DR. COREY NEUDORF. PRESENTATION GIVEN TO "BECOMING THE BEST: POPULATION HEALTH INNOVATIONS – ADDRESSING DETERMINANTS OF HEALTH," MAY 2ND, 2011. EDMONTON, ALBERTA.

This demonstrates the value of a data-driven population health approach to healthcare planning. With this information, SHR is better able to assess how to allocate resources and what other departments to bring onboard.

## 3) Working Together

While there are challenges implicit in breaking down silos, the Government of Alberta is making progress in this area. As was identified by the panel of Deputy Ministers and several other speakers, key multi-sector programs have already yielded results. Some horizontal initiatives, such as the Addiction and Mental Health Strategy, which links 17 departments and 31 other stakeholders, have a proven track record. There is solid evidence to support continued allocation of resources in this area. This, in turn, should serve as a call to action to other policy- and decision-makers seeking solutions to more of the "wicked problems" plaguing the population health arena. Vertical efforts, such as the collaborative approach to food safety described by Dr. Gerry Preddy, provide ample proof that different levels of government can work together when implementing measures impacting the safety of citizens.

> Services in government can become barriers to communities' taking action, and so this is perhaps a moment to revisit community development and to ask whether the ministry, agency, or organization you work with is doing anything that sets up barriers to people's connecting, to communities' working together in partnership, to people's helping each other and taking initiative.
>
> **Lynne Friedli**
> **Mental Health Promotion Specialist**

Various other cross-ministerial programs exist, linking myriad stakeholders in cooperative efforts to address a range of issues (see Appendix A). The challenge to formalizing such initiatives in order to attack the inequities associated with determinants of health is that collaborative approaches require a horizontal approach, while outcomes are assessed, and budgets planned, according to vertical constructs. Province-wide deterministic policies to population health would

require a retooling of funding envelopes to allow true cross-pollination. In addition to retooling government there is also a need to rethink the roles of people in implementation and evaluation, since currently there is a lot of enthusiasm to be involved in policy development and planning, but less enthusiasm to play a role in implementation.

One clear message from the meeting was that as long as decision-makers, researchers, population health specialists and those involved in implementing change working in silos or individually, we will never move beyond a state of knowing how to make changes without actually achieving the desired impacts. Population health challenges have been called "wicked problems;" they do not respect policy boundaries and are difficult, if not impossible, to solve.[ix] Being wicked problems, these issues require new thinking and innovation not only in addressing them, but also in defining them and determining who should be involved in addressing them. Because social determinants in their myriad forms are integral to outcomes, many different players should be involved. Such cross-sector approaches can yield incremental results, each of which can have major long-term, systemic impact. That is, a small shift involving a determinant can yield significant improvements in population health.

> [...] policies made in sectors other than health have the greatest potential to improve (or worsen) population health and well-being and reduce health disparities. Accordingly, numerous witnesses stressed that these policies should be assessed for their potential impact on health prior to their implementation. Health impact assessment (HIA) is the formal approach used to predict the potential effects of a policy; particular attention can be also paid to the impact on health disparities. As such, HIA practice is useful is ensuring that health-related issues are considered in government-wide policy making.
>
> SOURCE: *A HEALTHY, PRODUCTIVE CANADA: A DETERMINANT OF HEALTH APPROACH*. SENATE OF CANADA SUBCOMMITTEE ON POPULATION HEALTH. OTTAWA, 2009.

One caution that was made around working together to address population health problems was that while policies and interventions are always made with the best of intentions, it is easy to create unexpected community problems, since government and policy actions can inhibit the way communities work together to provide support for each other. This is a particularly important consideration for working together on population health initiatives, since communities working together with each other (and with decision makers) can be shown to have a strong knowledge of the needs and assets of their community – particularly in relation to assets that relate to mental health improvements in the community.

## 4) Moving beyond Health to Wellbeing

Running through the meeting it was clear that the concept of population health is fast becoming outdated, with a focus now shifting towards population well-being. This is derived from the multiple factors involved as determinants of health and well-being, and in particular, the link of mental well-being to physical health. While mental health is clearly influenced by social determinants of health, it can also be thought of as a determinant itself. For example, mental health can help to explain outcomes that are not explained by traditional risk factors for a wide variety of health issues from coronary heart disease through to drug addiction. Mental health can even explain outcomes for broader life outcomes such as education, crime, employment and productivity. One of the most intriguing issues around mental health and its link to health is the link to reduced inequities in health. This is a two-way link since reduced inequity leads to better mental health for larger parts of the population, and poor mental health is linked to increased poverty for individuals. With such an intricate link between mental health and improved population health, it is important to improve the value placed on mental health outcomes in population health innovations.

Illustrating the move towards wellbeing, Canada has developed an index of well-being, which brings together eight domains of population well-being:[x]

- Living Standards,
- Healthy Populations,
- Community Vitality,
- Democratic Engagement,
- Time Use,
- Leisure and Culture,
- Education and Environment.

Each of these domains contains multiple measures of well-being. Although there is a "healthy populations" domain, it is clear that the index has interconnected domains so the healthy populations domain alone would not provide all the information that would relate to the determinants of health. Mirroring the Canadian view of well-being, the UK have also moved to a consultation on national wellbeing to rethink the concept of GDP to incorporate wellness as well as domestic product.

In addition to finding measures for well-being, there is a move towards understanding the role that health equity plays in population health. Health equity is clearly something to work towards, from the point of view of an equitable community, but there is also data to suggest that health equity itself can influence population health. For communities who see adversity being shared "fairly" then there seems to be a trend towards more positive health outcomes. It is fair to say that the concept of health inequities as a source of population health problems is controversial, but it is certainly an area worthy of further innovation.

## Major Lessons to be Learned

Summing up the day's events, Professor Tom Noseworthy of the University of Calgary identified his four major themes that permeated the day's discussions:

1. **How we live together is THE population health issue**. Humans are interdependent creatures and wellbeing is enhanced by opportunities to act in solidarity with others. Lynn Friedli put it well: "*We cannot understand the determinants of health unless we understand our social nature, how we are influenced by the manner in which we are seen by and treated by others*."
2. **Population health considerations should be embedded in all public policy decisions**. This is the case regardless of any apparent lack of connection to health care and wellbeing by the policy makers, since there likely will be implications.
3. **True population health initiatives require inter-sector collaboration.** This is contrary to the current silo approach to healthcare delivery and policy development.
4. **Adverse childhood events tend to have a lasting impact on individual health**. Giving children a good start in life and rReducing negative incidents can yield long-term benefits that are only just starting to be understood.

> There is dose-response relationship between adverse childhood events and numerous organic diseases[...]I find this to be very interesting, because in going to my doctor for my regular check-up, I have been asked about smoking and lifestyle and had my blood pressure and cholesterol checked. But never has a doctor done an assessment to find out what my adverse childhood experiences are, despite the fact that the relative risk, if you have seven or more ACEs [adverse childhood events], is higher than for cholesterol, smoking, or high blood pressure.
>
> **Nadine Burke**
> **Medical Director**
> **CPMC Bayview Child Health Center**
> **San Francisco**

From these four themes, we can identify some major lessons that Alberta Health Services can take away from the May 2nd conference and apply in its effort to "Become the Best."

1. **Make the most of the determinants of health opportunity**
   Population health approaches that address the determinants of health have the capacity to be hugely effective. This will require that Alberta Health Services and Alberta Health and Wellness continue to promote initiatives whose success depends on the effective integration of multi-sector decision-making, management, implementation, and evaluation. Such collaboration, particularly when programs are developed under a health impact assessment lens, can create effective population health solutions.
2. **Understand the how and why, as well as the what**
   In developing population health innovations, not only is it useful to know how much impact a determinant has on health, but it is also imperative to understand how the innovation might affect the level of impact – in terms of the significance of the impact (e.g. will it reduce health issues by 25%?), and also in terms of the method of the impact (e.g. did it change people's health through affecting personal decision-making or alter the ability to access positive wellness goals?[5]).
3. **Health equity is an issue to address**
   While health equity has always been something to strive for in the Alberta (and Canadian) health system(s), the linkage of equity to population health outcomes suggests that there are innovation opportunities for population health initiatives that will consider inequities. This should include the use of health equity audits in developing policies – including policies outside health.
4. **Build the data infrastructure for population health improvements**
   The success of the Manitoba Centre for Health Policy in developing a usable, accountable and widely respected data hub for population health data suggests that there is a model that Alberta can look to when developing a way to build evidence-informed population health policies and evaluate them. Knowing more is better than knowing nothing, but developing a rigorous approach to knowing more is still vital. There is, however, a caveat to be applied to the use of data: Be sure that the information you apply is telling you the whole truth. It is easy to assume one has the right answers just because the source is reputable and the findings are accurate. Policy- and decision-makers should disaggregate data, where relevant and possible, in order to drive down to community-level requirements that take into account the socio-economic disparities population health approaches are intended to mitigate.
5. **Make use of what you have**
   It was clear from the conference that there are a number of effective approaches to population health problems in Alberta. This includes different types of interventions (tax policies through to smoking cessation strategies), different policy making approaches (cross-cutting in government and collaboratively with communities), and linkages of research to implemented health interventions. Where good practices currently exist, they should be evaluated, celebrated and the contextual factors that underpin success identified.

While taking on board all of these lessons will benefit the work of the Alberta health system on population health, it is important to note that collaboration (as per Tom Noseworthy's main themes) means that these lessons are not just for the Alberta health system, but for all those who play a role in policies that affect determinants of health. Should all the relevant stakeholders take on board these lessons, then we can truly say there has been innovation for Alberta's population health.

[5] As an example, anti-smoking campaigns may work either by providing people with good reasons to change their personal behaviour, or they may make previously expensive therapies for quitting smoking available to a wider range of people.

## Conclusion

If one accepts the premise that health, as the WHO defines it, is, "A state of complete physical, mental and social well-being, and not merely the absence of disease," then there can be no doubt that in Alberta, the responsibility to develop effective evidence-based population health policy rests with many players. At the top of the list are Alberta Health Services and Alberta Health and Wellness. But they cannot work in isolation. They need to support, and be supported by, colleagues from other provincial departments and levels of government. Alberta is good at developing policy and mapping out action plans. What is required now is the implementation required to realise a range of solutions, from system-wide, sweeping policy initiatives to focused community interventions. Alberta also needs to develop the data that reveals the inequities while informing the scope and scale of the best approach to remedy the problems: information that is collected according to strict standards; that can be aggregated and disaggregated according to a range of parameters; and, that factors in various socio-economic, geographic, and environmental variables. Armed with such data and the willingness to use it, Alberta Health Services that is what provides the tools decision- and policy-makers need to allow Alberta to Become the Best by 2020.

Dr. Lynn Friedli, in her presentation at the AHS/IHE conference presented a potential introductory paragraph for an article to appear in 2020 if concerted action was taken on population health determinants.

> *Communities across Alberta celebrated yesterday as Alberta was named world wellbeing capital, becoming the best place to be born, live, work, raise kids, and grow old. "The saving in healthcare costs alone has made Alberta the first province to reverse the trend of escalating health system spending," said the delighted Premier. "Savings in social welfare and criminal justice have also been remarkable, releasing funds for education, housing, tourism, and the knowledge economy."*
>
> **Edmonton Journal, 2020?**

Hindsight is said to be 20:20, but could the future for Alberta in 2020 really relate to above far-sighted newspaper cutting? The Becoming the Best: Population Health Innovations meeting provided thoughts and ideas and evidence that such improvements are possible.

# Appendix A – Government of Alberta Intersectoral Initiatives

This appendix provides an overview of five prominent intersectoral Government of Alberta initiatives tackling issues important to population health through collaboration and cooperation.

## Safe Communities (SafeCom) Initiative

SafeCom is a partnership of nine government ministries: Justice and Attorney General, Solicitor General and Public Security, Health and Wellness, Education, Children and Youth Services, Housing and Urban Affairs, Culture and Community Spirit, Municipal Affairs, and Aboriginal Relations.

Safecom was established to facilitate the implementation of the recommendations in Alberta's Crime Reduction and Safe Communities Task Force Report.

Key to the initiative is the recognition that crime prevention is a shared responsibility between government and communities and the underlying factors that may lead to criminal involvement are best managed through a multi-disciplinary, integrated approach.

The commonalities seen in the determinants of mental health and the range of factors contributing to criminal behaviour highlight the importance of exploring the relationship between mental health, mental illness and crime reduction/prevention.

A number of SafeCom initiatives aimed at crime reduction and prevention, which span the continuum of care—from prevention to treatment and rehabilitation of individuals with addiction and mental health issues—have been implemented.

SafeCom is also moving to set-up and implement the Integrated Justice Services Project (IJSP). By leveraging the authority of the court and the existing resources and services provided by government ministries and agencies, IJSP links frequent offenders in the community with supervision, treatment and support services.

Intersectoral collaboration can be challenging and time consuming but provides an opportunity to learn from other disciplines, develop multi-disciplinary networks, more effectively and efficiently use resources, and provide coordinated and integrated plans that focus on the best outcome for the client.

## Aging Population Policy Framework

Alberta's aging population will have profound and lasting economic and social implications for governments, the private and non-profit sector sectors, families and individuals.

These factors precipitate the need for a clearly articulated, aligned and coordinated policy approach for decisions concerning future seniors.

The Aging Population Policy Framework is designed to foster a holistic approach to meeting the needs of Alberta's current and future seniors. It sets out how GOA will respond in integrated ways to meet the changing needs of an aging population.

The Framework has been developed with input from a cross government advisory committee comprised of senior policy staff from various ministries including Culture and Community Spirit, Education, Employment & Immigration, Executive Council, Finance & Enterprise, Health & Wellness, Housing & Urban Affairs, Infrastructure, Municipal Affairs, Transportation and Seniors and Community Supports.

The Framework identifies the various roles and responsibilities of individuals, community and government in meeting the needs of an aging population and states principles for government decision making.

The Framework outlines government policy directions in eight key areas: financial security and income; housing and aging-in-place; continuing care; healthy aging; transportation and mobility; safety and security; supportive communities; and access to government.

## Alberta Land-Use Framework

Released in December 2008, the Land-use Framework consists of seven strategies to improve land-use decision-making in Alberta.

The framework is designed to ensure that future land-use planning and decision making better balances environmental factors with economic and social considerations.

Framework strategies include: the development of regional land-use plans, the creation of a land-use secretariat, the use of a cumulative effects management approach, the development of a strategy for conservation and stewardship on private and public lands, the promotion of efficient land-use, the establishment of information and monitoring systems, and the inclusion of aboriginal peoples in land-use planning.

The framework was developed with input from a large number of GOA departments and boards, including Aboriginal Relations, Agriculture and Rural Development, Culture and Community Spirit, Energy, Environment, Municipal Affairs, Sustainable Resource Development, Tourism, Parks and Recreation, the Energy Resources Conservation Board, the Natural Resources Conservation Board, and the Surface Rights Board.

Input and advice was also gathered from a broad spectrum of stakeholders (landowners; municipal leaders and planners; agricultural, forestry, transportation and energy associations; conservation and environmental groups; recreational groups; and academics) and members of First Nations, the Métis Settlement General Council and the Métis Nation of Alberta.

## Provincial Climate Change Strategy

In January 2008, the Alberta government released Alberta's new *Climate Change Strategy*. The new approach builds on Alberta's 2002 climate change action plan, taking the next step to ensure the province remains at the forefront of addressing climate change.

The strategy establishes goals for real reductions in greenhouse gas emissions and includes actions in three key areas: energy conservation, carbon capture and storage, and the greening of energy production.

Central to the strategy is the development of integrated policies and programs that reflect the range of issues and interests involved.

As climate change is an issue that impacts all segments of society, government developed a collaborative approach designed to build agreement on the necessary actions and outcomes.

Strong intersectoral collaboration was achieved through formal governance structures up to and including the Ministerial level, including external interests, as well as the engagement of a wide range of government (municipal, provincial and federal), industrial and non-governmental stakeholders.

## Alberta Schools Alternative Procurement (ASAP) Initiative

Increasing school enrolments, combined with spiralling construction costs, created a critical need for GOA to devise a cost-effective and timely method for building new schools in expanding communities.

To address this issue, Alberta Infrastructure developed the ASAP initiative, a public-private partnership process that will speed up the delivery of schools by two years, creates major savings; and eliminates deferred maintenance costs.

A core project team with diverse expertise was established to coordinate technical, operational, financial, legal, procurement, risk management, construction and other attributes of the initiative.

Recognizing that stakeholder input would be critical to the project's success, the ASAP team set up a School Board Liaison Committee to involve stakeholders thoroughly in process development. All school boards provided input through this committee.

There were also two governance committees: an Assistant Deputy Minister level committee, and a Deputy Minister level 'Project Steering Committee' to provide oversight and guidance.

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# GAME-CHANGING HEALTH INNOVATIONS

## Disruptive Innovation to Lead Health Care

February 24, 2011
Edmonton, Alberta, Canada
Fairmont Hotel MacDonald

Program

07:30 Registration

08:00 Introductions and Greetings

*Fred Horne, MLA*
*Parliamentary Assistant to the Minister of Alberta Health and Wellness*

0815 Disruptive Innovation: Analytical Framework and Background Study

*John Rapoport*
*Professor of Economics, Mount Holyoke College*

0830 Innovations That Will Most Likely Change Health Services and Impact Health

*Robert Brook*
*Distinguished Chair in Health Care Services, RAND Corporation*

*Joseph Coughlin*
*Director, Massachusetts Institute of Technology AgeLab*

1010 Break

1030 Preparing a System for Future Innovation

*Miles Ayling*
*Director of Service Design (Commissioning and System Management Directorate)*
*National Health Service, United Kingdom*

*Axel Meisen*
*Chair of Foresight, Alberta Innovates – Technology Futures*

1200 Lunch

## 1300 Game-Changing Health Innovations

*Cliff Goodman*
*Principal and Senior Vice President, The Lewin Group*

*Jeffrey Lerner*
*President and CEO, ECRI Institute*

## 1410 Platforms for Innovation – Personal Approaches

*Pamela Larson*
*Director, Consumer Health, kp.org Internet Services Group, Kaiser Permanente*

*Bill Trafford*
*Senior Vice President Corporate Merger and Information Technology*
*Alberta Health Services*

## 1510 Break

## 1540 Future Innovations – Impact on the Workforce

*Michael Villeneuve*
*Scholar-in-residence, Canadian Nurses Association*

*Stephen Birch*
*Professor, Centre for Health Economics and Policy Analysis, McMaster University*
*Chair in Health Economics, University of Manchester*

## 1655 What We Learned for the Future of Alberta Health Services: Reflections

*Tom Noseworthy*
*Director, Centre for Health and Policy Studies*
*Department of Community Health Sciences, University of Calgary*

*Cy Frank*
*Professor of Surgery and McCaig Professor of Joint Injury and Research*
*University of Calgary*

## 1715 Concluding Remarks

*Alison Tonge*
*Executive Vice President, Alberta Health Services*

# HIGH-PERFORMING HEALTH SYSTEMS

## Innovation in Systems and Structures

April 15, 2011
Edmonton, Alberta, Canada
Shaw Conference Centre

Program

**0700 Registration**

**0800 Introductions and Greetings**

*Fred Horne, MLA*
*Parliamentary Assistant to the Minister of Alberta Health and Wellness*

*Eldon Smith*
*Board Member, Alberta Health Services*

**0810 Evidence of High Performing Health Systems International Overview**

*Moderator: Susan Williams*
*Assistant Deputy Minister, Health Policy and Service Standards*
*Alberta Health and Wellness*

*Reinhard Busse*
*Professor, Department of Health Care Management*
*European Observatory on Health Systems*

*Ellen Nolte*
*Director, Health and Healthcare Policy Programme, RAND Europe*

*Christophe André*
*Economist, Public Economics Division*
*Organization for Economic Cooperation and Development*

**1010 Break**

**1030 High Performing Health Systems In Practice: International Examples**

*Moderator: Tom Noseworthy*
*Director, Centre for Health and Policy Studies*
*Department of Community Health Sciences, University of Calgary*

*Chris Ham*
*Chief Executive, The King's Fund*

*Guus Schrijvers*
*Professor of Public Health, Julius Center for Health Sciences and Primary Care*

**1200 Lunch**

**1300 High Performing Health Systems In Practice: Some examples**

*Moderator: Cy Frank*
*Professor of Surgery and McCaig Professor of Joint Injury and Research*
*University of Calgary*

*Murray Ross*
*Vice President and Director, Kaiser Permanente Institute for Health Policy*

*Chris Wood*
*Medical Director, Information Systems, Intermountain Health Care*

**1420 Monitoring Health System Performance: What Measures Matter?**

*Moderator: John Sproule*
*Senior Policy Director, Institute of Health Economics*

*Fred Horne, MLA*

*John Abbott*
*Chief Executive Officer, Health Council of Canada*

*Deborah Prowse*
*Patient Advocate and Board Member, Canadian Patient Safety Institute*

**1520 Break**

**1540 Alberta 'Systems of Care' and Establishing Performance Improvement Strategies.**

*Moderator: Marianne Stewart*
*Vice President, Edmonton Zone, Alberta Health Services*

*Cy Frank*
*University of Calgary*

*Cathy Pryce*
*Vice President, Addiction and Mental Health, Alberta Health Services*

*David Johnstone*
*Clinical Director, Mazankowski Heart Institute*

## 1620 Key Lessons from the Day

*Tom Noseworthy*
*University of Calgary*

*Cy Frank*
*University of Calgary*

## 1640 Concluding Remarks

*Alison Tonge*
*Executive Vice President, Alberta Health Services*

# POPULATION HEALTH INNOVATIONS

## Addressing Determinants of Health

May 2, 2011
Edmonton, Alberta, Canada
Crowne Plaza Chateau Lacombe

Program

**0700 Registration**

**0800 Introductions and Greetings**

*Don Johnson*
*Board Member, Alberta Health Services*

**0805 Healthy Communities: Keynote Address**

*Moderator: John Sproule*
*Senior Policy Director, Institute of Health Economics*

*Lynne Friedli*
*Mental Health Promotion Specialist, World Health Orgnization*

**0905 Healthy Communities: Intersectoral Dialogue**

*Jay Ramotar*
*Deputy Minister, Alberta Health and Wellness*

*Keray Henke*
*Deputy Minister, Alberta Education*

*Annette Trimbee*
*Deputy Minister, Alberta Advanced Education and Technology*

*Bill Werry*
*Deputy Minister, Alberta Tourism, Parks and Recreation*

*Lois Hawkins*
*Deputy Minister, Alberta Culture and Community Spirit*

*Marcia Nelson*
*Deputy Minister, Alberta Housing and Urban Affairs*

*Roxanna Benoit*
*Deputy Chief, Policy Coordination Office*
*Executive Council, Government of Alberta*

**1005 Break**

**1020 Innovations in Population Health – Research and Infrastructure to Support**

*Moderator: Sylvie Stachenko*
*Dean, School of Public Health, University of Alberta*

*Nancy Edwards*
*Principal Scientist, Institute of Population Health*
*Senior Scientist, Élisabeth Bruyère Research Institute, University of Ottawa*

*Phil Jacobs*
*Director of Research Collaborations, Institute of Health Economics*

*Cory Neudorf*
*Chief Medical Health Officer, Saskatoon Health Region*

**1150 Lunch**

**1250 What Works, What Impact? How Do We Know?**

*Moderator: Margaret King*
*Assistant Deputy Minister, Community and Population Health*
*Alberta Health and Wellness*

*Patricia Martens*
*Director, Manitoba Centre for Health Policy*

*Lennert Veerman*
*Senior Research Fellow, Centre for Burden of Disease and Cost-Effectiveness*
*School of Public Health, University of Queensland, Australia*

*Nadine Burke*
*Medical Director, Bayview Child Health Center*
*California Pacific Medical Center*

**1440 Break**

**1500 Alberta Health Services: Examples of Practice**

*Moderator: André Corriveau*
*Chief Medical Officer of Health*
*Alberta Health and Wellness*

*Gerry Predy*
*Senior Medical Officer of Health*
*Alberta Health Services*

*Kim Raine*
*Professor, Centre for Health Promotion Studies*
*School of Public Health, University of Alberta*

## 1610 Looking to the Future

*Moderator: Nancy Reynolds*
*President and CEO*
*Alberta Centre for Child, Family and Community Research*

*Riel Miller*
*Futurist, XperidoX Futures Consulting*

## 1640 Key Lessons from the Day

*Tom Noseworthy*
*Director, Centre for Health and Policy Studies*
*Department of Community Health Sciences, University of Calgary*

## 1650 Concluding Remarks

*John Sproule*
*Institute of Health Economics*

# Appendix C – Event Evaluations

## Event 1: Game-Changing Innovations

### Overall Event Organisation

The event was well received. One-third of the 187 participants submitted evaluations and provided a mean rating across the board of about 4.5 out of 5, indicating the session to have been well organised, valuable, interesting, and relevant. Suggestions for improving future events focused on adding a poster presentation element as well as providing more time for interaction with the presenters. Future topics suggested by attendees included change management, exploring the relationship between AHS and AHW, and comparing health systems in other countries.

### Participant Observations

Among the most common issues raised by attendees was the need to transform Alberta's healthcare system by developing a more proactive, collaborative culture. Some people pointed out that for real change to occur, senior leadership will have to be strong, courageous, and accepting of occasional failures on the road to success, since innovation requires trial and error.

Several themes permeated participant comments as they distilled their perceptions of the day's various presentations. Some of the more common included the need to:

- Increase funding and support for research, particularly the capacity to integrate knowledge into practice and incubate the work of applied researchers through formal mechanisms.
- Improve the use of existing databases in addition to find ways to improve electronic data gathering through personal health records, portals, and telehealth.
- Move beyond a physician-centered approach to one that trusts and empower patients, a concept that means engaging the public and community in general, and younger people in particular. This is particularly important in an aging population whose incidence of chronic disease will continue to rise. Such a situation also requires increased emphasis on wellness versus treatment.
- Update conditions related to healthcare workers, including innovations affecting scope of practice and occupational definitions, types of physician remuneration and changes in staffing models.

## Event 2: High-Performing Health Systems

### Overall Event Organisation

The event was well received. Roughly 20 percent of the 208 participants submitted evaluations and provided a mean rating across the board of about 4.4 out of 5, indicating the session to have been well organised, valuable, interesting, and relevant. There were no substantive suggestions for improving future events. Future topics suggested by attendees included an examination of primary care and what Alberta can do to face the coming challenges in this area, a discussion of metrics and how to evaluate performance and celebrate success, and a look at how to build leadership capacity while finding ways to do a better job of engaging patients and taking into account the desires of the "consumer."

### Participant Observations

Among the many subjects attendees found stimulating, a few jumped out as garnering the most attention. In particular, participants pointed to a number of key areas:

- To be truly high-performing, Alberta must develop a better medical/health IT infrastructure that will link patients and providers through detailed EMRs. This is a key element of patient-centered care and could translate into better interaction with physicians and improved outcomes.
- Good primary care is critical—everything starts there. Improving primary care networks and access to their various services requires a culture change whose implementation must involve frontline healthcare workers. Part of what is required to achieve success involves setting realistic goals and developing meaningful evaluation mechanisms. The whole process should employ a bottom-up approach to balance out the traditional top-down mechanisms.
- Canada and Alberta have good systems and, in many cases, our challenges are those experienced elsewhere by other jurisdictions. No perfect system exists and we must learn from each other if we are to improve.

## Event 3: Population Health Innovations

### Overall Event Organisation

The event was well received. Roughly one in six of the 185 participants submitted evaluations and provided a mean rating across the board of about 4.3 out of 5, indicating the session to have been well organised, valuable, interesting, and relevant. Suggestions for improving future events focused on selecting a more comfortable environment with better chairs, providing handouts for all the presentations, offering more time to interact with the speakers, and having the opportunity to provide a written evaluation of the individual presentations. Future topics suggested by attendees included an examination of population-based approaches in other countries, a session geared strictly to intersectoral collaboration, and an examination of equity frameworks in health, and a series focusing on each social determinant separately.

### Participant Observations

A number of issues resonated with participants, particularly in terms of the need to link health equity and social determinants to population and public health. There was strong recognition of the need to do more to drive more and better intersectoral collaboration, and suggestions that the deputy ministers would have done well to stay and listen to the afternoon presentations.

Highlight the participant suggestions were the need to:

- Develop better, more integrated information, perhaps through the creation of an Alberta version of Manitoba's linked, multi-sector data collection and repository administered by the Manitoba Centre for Health Policy. Once the data are available, they should be used—leaders must be bold and take necessary action.
- Improve health equity in Alberta so as to close the gaps in outcomes related to social determinants. This will require formal integration at the ministerial level and among government, providers, and the community. To make this happen, leaders need to remove barriers to community/social mobilisation. Part of the solution lies in educating politicians about the various levels of connectivity linking wellbeing/health and social determinants.
- Invest and focus more on mental health, an important social determinant. This is an area that does not get the attention its ultimate influence deserves.


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