

Institute of Population Health  
Inaugural Launch  
& Strategic Planning Workshops  
June 28-30, 2000

# Summary of Presentations

**University of Ottawa**



**Ottawa, Ontario  
Canada**

## **Wednesday, June 28, 2000**

### **Introduction and Welcome**

*Dr. Howard Alper*

The Institute of Population Health at the University of Ottawa will be an added value to the newly proposed doctoral program in the cross-sectoral study of population health. The Institute is made up of a consortium of seven faculties including Administration, Engineering, Health Sciences, Law, Medicine, Science and Social Science. The Institute enjoys a strategic location, central to all of Canada. Dr. Joe Losos, formerly of Health Canada, will be the first Director for the Institute of Population Health. His extensive background includes the last four years as Assistant Deputy Minister (ADM) of Health Canada's Health Protection Branch.

### **Overview of Institute**

*Dr. Joe Losos*

Dr. Losos thanked the faculty for the opportunity to lead this Institute. Income, social status, social support network, biology and genetics, child health development, physical environment, employment and working conditions, health services, are some of the determinants of public health. Dr. Losos explained the vision of trans-disciplinary teams within the four centres of the Institute:

- The Centre for Health Risk Assessment
- The Centre for Multiple Interventions
- The Centre for Best Practices
- The Centre for Health Policy

The Centre for Health Risk Assessment will have a population health risk assessment theme and be under the direction of Dr. Daniel Krewski. It will examine environmental, biological, physical, social and behavioural determinants of population health, including air quality, and the link between radiation and cancer.

Dr. Nancy Edwards, who will also be the director of the PhD program in population health, will lead the Centre for Multiple Interventions. This Centre will focus on the design of multi-component interventions.

The Centre for Best Practices will be led by Dr. George Wells and will work to evaluate the effectiveness of interventions, both clinical and community.

The Centre for Health Policy will contribute to the development of evidence for decisions on interventions and policy, for example housing standards, policies for the elderly, and tax systems.

Dr. Losos outlined some of the challenges facing the new Institute, including:

- being “truly trans-disciplinary” in its approach to research
- the finite and limited capacity of the Institute both nationally and internationally
- the need for a single facility to house the Institute’s Centres
- the need for the Institute for Population Health “to be groundbreaking in a new and complex research thrust”

Opportunities for the Institute, he continued, include exploring the concept of population health, the benefit of similar approaches that are now gaining momentum nationally and internationally, as well as the chance to make a major investment in research, infrastructure and information. The Institute needs participation in the areas of planning and program activity (e.g. teams, research, seminars). Strategic planning workshops, the formation of Executive, Advisory and University Boards, and the development of themes, priorities and projects will follow the launch of the Institute.

### **Population and Public Health: A Global Perspective**

*Dr. Daniel Tarantola, World Health Organization*

Dr. Losos introduced Dr. Tarantola, who spoke of his international work to combat AIDS, saying that although the risk may now be reduced, it “must be eradicated”. The “utmost health” – social, physical and mental – is the right of all persons and governments have the responsibility to provide for this state of health. Non-communicable disease and injuries are still a source of life loss and shortened life span internationally. Approximately two million children die each year, Dr. Tarantola stated, from “diseases for which vaccines are available at low cost”. The World Health Organization’s (WHO) corporate strategy includes:

- Reducing the burden of excess mortality and disability
- Reducing the risk factors to human health
- Developing health systems
- Developing and enabling policy and institutional environment

Risk factors include issues such as food safety, unsafe pregnancy, tobacco and mental health. The goals of the WHO include improving the quality, equity and efficiency of health systems.

Statisticians, Dr. Tarantola explained, use the term DALE to refer to Disability Adjusted Life Expectancy or the degree to which a disability may shorten a person’s anticipated life span. In countries that spend less than \$100 per capita on health there is a wide range of life expectancies, but increased spending does not always translate into better health. The effective use of the funds is just as crucial. Dr. Tarantola emphasised that the stewardship of governments and harnessing of private actors is vital to improving the health of a population. Dr. Tarantola closed by wishing the new Institute for Population Health a long life, not just a long life expectancy.

## **Evolution of Population Health in Canada**

***Dr. Fraser Mustard***

Dr. Mustard spoke of the health problems relating to early life development and nurturing. Dr. Mustard showed how the mortality rates of the British ‘upper class’ improved dramatically from 1931 to 1981, while those of the lower classes made significantly less improvement or even worsened, leading to a widening of the variance in mortality rates between the classes from the 1970s onward. A study in Scotland from 1980 to 1985 showed greater mortality rates for those who were considered ‘disadvantaged’. In the United Kingdom a study of civil servants showed that higher ranking employees enjoyed lower mortality rates, while those in the lower ranks had higher mortality rates.

Dr. Mustard related coronary heart disease, non insulin-dependent Diabetes, obesity and other health issues to a lack of nurturing and development in early childhood. This relationship was studied in rat pups and Rhesus-Macaque monkeys. The rat pups raised in “enriched cages” (a stimulating early development environment) showed increased brain size and nerve connections, new neurons and better learning performance as adults in comparison to those raised in non-enriched cages.

The Rhesus-Macaque monkeys that were exposed to poor mothering in the first six months of life showed increased anxiety and depression as adults, along with increased alcohol consumption and disrupted circadian rhythms. Those with “good mothering” in those first six months showed related improvements as adults.

A negative or stressful environment increases the already negative health impacts of physiological health issues such as high cholesterol levels, Dr. Mustard continued. An early childhood impact study done for the Ontario Conservative Government, entitled *The Early Years – Reversing the Real Brain Drain*, showed that poverty is not the only issue which needs to be addressed. Early childhood development, Dr. Mustard concluded, impacts on education and health, which in turn impact society and the economy.

## **Current Issues in Population Health Assessment**

***Dr. Phil Landrigan***

Dr. Krewski introduced Dr. Landrigan and explained that the Centre for Population Health Risk Assessment will examine the genetic, environmental and social/behavioural determinants of health. Examples of the Centre’s ongoing projects will include global climate change and aluminum in drinking water, among others. Training will be offered through the new doctoral program, certification in Population Health Risk Assessment, and other course offerings.

Dr. Landrigan stated that while there has been a vast decrease in death rates over the past 200 years, our children now live in a chemical environment. Toxicity testing has improved, he said, for drugs and pesticides, but is minimal for foods, cosmetics and other additives. Dr. Landrigan

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explained that health practitioners are seeing more cases of asthma, childhood cancer, congenital defects and developmental disabilities at the same time as we're putting out thousands of chemicals without full knowledge of their health impacts.

Leukemia is the most common childhood cancer, followed by brain cancer. There have been improvements in both diagnosis and survival rates over the past few decades.

Only 10-20% of all developmental disabilities, Dr. Landrigan explained, including Attention Deficit Disorder (ADD), Dyslexia, autism and mental retardation, can be attributed to genetic or familial grounds. Chlorpyrifos, an organophosphate insecticide, causes neurological deterioration and impact in lab animals, Dr. Landrigan stated, and has now been banned in the United States.

The National Academy of Sciences (NAS) in the US looked at three questions:

- Are children more heavily exposed (than adults)
- Are children more susceptible to toxicity (than adults)
- Do current laws and policies adequately protect?

The conclusion of the Academy was summarized as "Children Are Not Little Adults". Children are more exposed and less able to detoxify than adults, their developing organs are highly vulnerable to pesticides and they have more years of future life in which to develop chronic diseases triggered by early exposure. The general recommendations of the NAS included that tolerances be based on health considerations. Tolerances are the allowable levels of traces of pesticides, herbicides and fungicides remaining on foods delivered to consumers.

Specific recommendations included improved toxicity testing and collecting better data on toxicity and pesticide use.

**The Challenge of Multiple Intervention Research and Program Design for Population Health**

*Dr. Larry Green*

Dr. Edwards introduced Dr. Green's presentation on Multiple Interventions. Dr. Green began with a humorous drawing of a scientist with a table tracking "Successes" and "Learning Experiences". The Tobacco experience, he continued, including increased taxes and non-smoker's rights, all contributed to decreasing tobacco consumption. Price, policy and programs all worked together to this end.

Community programs to reduce the burden of tobacco related diseases included prevention, early detection and care programs for heart disease, asthma, cancer, stroke and oral cancers caused by smoking. School programs for faculty, staff and students worked to ensure that the adults presented a good example to the students. Enforcement programs reduce sales to minors and the exposure of non-smokers. Counter-marketing involved replacing tobacco sponsorship of sports and arts events, as well as promoting and reinforcing the 'quit smoking' message.

Cessation programs, Dr. Green explained, can yield a reduction in mortality rates in the short term, as well as in the long term. Youth prevention programs decrease mortality rates in the long term. Unaided quitting (i.e. ‘Cold Turkey’) still accounts for a greater number of former-smokers than prescription, over-the-counter, behaviour or in-patient programs, although the efficacy percentages would seem to indicate the reverse.

Dr. Green outlined how inadequate policy and support leads to weak and diffuse programs, little evaluation or impact and an unconvincing theory for the results. A strong management structure is needed, he insisted, for effective use of resources. Look on this, Dr. Green concluded, as a “marathon of community and population changes, which unfold slowly”.

### **From Doctor Knows Best to Evidence-Based Practice** *Dr. Claire Bombardier*

Dr. Bombardier spoke of a need for an holistic approach, including Quality of Life (QOL) assessments as well as biological assessments. She remarked that the omission of the question mark in the program does make a difference to the title, as it reflects the ‘questioning’ attitude of many practitioners to this change in methodology, stating that it is not yet definitive. For the patient, communication remains a major need, Dr. Bombardier continued, and it is assessed less well than other issues of doctor’s care.

Dr. Bombardier referred to what is commonly known as the Pyramid of Evidence-Based Practice, with double-blind, randomized trial at the top, cohort study in the middle and anecdotal ‘evidence’ at the base. We need, she asserted, new research designs and new outcome measures. The problem, Dr. Bombardier explained, is that most ‘evidence’ is produced by funding from stakeholders – the ‘evidence’ is not neutral when financed by interest.

Dr. Bombardier defined effectiveness (will it work in real-life practice?) as a combination of efficacy (the ideal), patient compliance, provider compliance, unselected patients, unselected care and access or coverage (even in Canada). Randomized trials are best, she agreed, but observational study is better for some evidence. The title of an article in the June 22, 2000 *New England Journal of Medicine* shows the tone commonly adopted: “Randomized Trials or Observational Tribulations?”

Shared decision-making is vital, Dr. Bombardier continued, and the doctor must never forget that the final decision maker is the patient. Educational outreach visits, reminders, multifaceted interventions and interactive meetings are all effective in changing practitioner behaviour. Lectures, she conceded, are not. “I believe we need to have an industrial revolution in the production of medicine”, Dr. Bombardier stated. We need to invest in Information Technology to provide ‘just in time’ and real-world information to the practitioners.

Dr. Bombardier concluded by saying that while great advances have been made in assembling and summarizing evidence, we need to generate recommendations and improve the impact on clinical practice.

**From Medicare to a Health System**

*Dr. Robert McMurtry, Health Canada*

Dr. McMurtry spoke of a framework for a hospital-centered system. Care is becoming a roundtable, he explained, with a need for multidisciplinary teams. Literacy is an issue for seniors and all generations, in providing clear communication and effective health care. “Vision 2020” (pun absolutely intended) is a move toward health care improvements for individuals, families, regions and across Canada over the next two decades.

The health impact of policy can be seen – for example, the lowered tax on tobacco led to an increase in smoking, especially in youth. Patient-centered rather than disease-centered care is needed, Dr. McMurtry explained. He also explained the difference between a disease (e.g. a broken hand bone) and an illness (the impact on the patient’s life and career, e.g. if they are a volleyball player, pianist or typist it would have a higher impact on their functioning).

As a percentage of the Gross Domestic Product, Canada’s per capita public expenditures on health care is less than the US. We will see a re-emergence, Dr. McMurtry stated, of infectious disease – 250,000 nosocomial infections (infections that originate in a hospital) occur annually, he elaborated, and some 8,000 deaths are attributed to nosocomial infections each year, according to Health Canada data.

Some 40 percent of Canadians function at low literacy levels, unable to comprehend simple instructions or medical impacts. Dr. McMurtry said he will print, not write, words and break up the syllables, even draw pictures in order to ensure clear communication. It is great, he said, to see “the light go on” and hear the patient say “I understand”. We need to integrate systems, he continued, but sometimes explanation is the best help.

A participant observed, once Dr. McMurtry had concluded, that judging health care according to the dollars spent rather than the results and population satisfaction is like judging a baseball stadium on how much it cost to build, instead of the fans’ attendance and enjoyment of the stadium. Dr. McMurtry agreed saying that quality of life is important, not just health spending.

## Friday, June 30, 2000

### Introductory Remarks

*Dr. Joe Losos, Director, Institute of Population Health, University of Ottawa*

In his opening remarks, the Chair person commented that the Institute for Population Health (IPH) will adopt a broad perspective, looking at the complexity of population health and the wide spectrum of determinants and taking a transdisciplinary approach to research. It is important to obtain support for pursuing these directions in population health. To this end, there is a need for many complementary activities in this area. He encouraged the experts present to participate as presenters in the seminar series being offered by the IPH at the University of Ottawa.

There is also a need for a strategic plan that reflects this transdisciplinary concept and can be used for fundraising. Once the overarching themes are identified, projects can be designed to reflect those themes. These projects will involve transdisciplinary teams.

### **Problems with evidence-based decision making—Opportunities for health policy research**

*Dr. Kumanan Wilson, Loeb Health Research Institute, Ottawa Hospital*

Dr. Wilson explained that in the 1970s there was a move away from observational/experiential decision making toward evidence-based decision making, in which decisions are based on controlled studies (typically a randomized clinical trial) wherever possible. This is the current model that dominates academic environments. Although useful, it has become a “religion” which reduces all policy making to a process of systematic review.

The following problems are associated with evidence-based decision making:

The current model involves randomized clinical trials (RCTs), which cannot be used for every health care problem because of the ethical, financial, and logistical issues involved. There is a need to rely on observational data, which can be flawed. Although the information can be helpful, ultimately the results may not be valid.

Evidence-based decision making ignores the fundamental role of values and creates an illusion of total objectivity (for example, by using the passive voice in a scientific report). In fact, values are reflected in the following ways: choice of outcome (length of life, quality of life, cost issues); choice of “p-value” (i.e. the degree to which a result is *not* seen as significant); and the way in which outcomes are expressed (physicians respond differently depending on how the information is presented).

How can policy analysts help medicine to switch from a system in which evidence-based decision making is the only mode of making decisions, to one in which it is used to offer assistance to the decision-maker?

Dr. Wilson referred to different models of policy analysis, noting that we are most familiar with the “rational actor model,” in which someone identifies and evaluates all the options and chooses the best one. This model ignores the role of values in decision making.

As an example, Dr. Wilson reviewed the handling of Creutzfeldt-Jakob Disease, which became a policy problem in 1995, when the Krever inquiry drew attention to the potential for transmission of certain diseases by blood. It was determined that Creutzfeldt-Jakob Disease could be transmitted by blood, but no one knew the real risk of transmission and blood could not be screened for the disease. Using the rational actor model, a decision would have been made solely by identifying the risks and rates of transmission. However, studies showed that the control groups were statistically more likely to get the disease. The logic of the rational actor model would have generated the improbable advice to give blood as a preventative measure.

The contextual influences on the decision-making process must be taken into account. These include the information available, the values of the decision maker, and the structures for decision making. All this occurs in an external system which exerts economic, social and other influences.

Interdisciplinary research on the decision making process would involve a variety of experts, including basic and epidemiological scientists, media and legal experts, ethicists, policy analysts and social scientists.

According to the structural determinism model, structures and institutions determine behaviour. For example, the structure of the health care system influences Canadian values. This model could help to provide a better understanding of the overall effect of health care in Canada.

A participant commented that an important objective is to eliminate care gaps or decide on appropriate gaps. Dr. Wilson responded that there is not enough evidence available on every issue, and the question is how to make decisions without adequate evidence. Although the public must be educated on the true level of risk, their values and level of concern about a risk (even a “low” risk) should be reflected by the decision-maker.

A participant asked if the “evidence” being discussed included soft science (i.e. personal knowledge) as well as hard science. Dr. Wilson responded that there are several levels of evidence – some more prone to bias than others. Personal knowledge is more specific, but also more prone to bias.

Another speaker asked about training the media to deal more accurately with scientific information, and involving them at an earlier stage of research. Dr. Wilson agreed that this might help and said that the Loeb Institute’s study of the media’s handling of Creutzfeldt-Jakob Disease seems to indicate a gap between the scientific evidence and what was reported.

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In response to a request for his perspective on the IPH and advice for how to bring disparate experts together, Dr. Wilson commented that there are three solitudes: physicians, epidemiologists and social scientists. The IPH could bring about real breakthroughs in building bridges among these groups.

The Chair person commented that there have been sporadic attempts at training the media, but the IPH could be instrumental in developing a more systematic and effective approach. Communication and marketing should be part of the work done in population health. Research programs and policy makers should be in touch with each other throughout the research process.

**Perspectives on Health Policy Research in Canada Challenging the Status Quo**  
*Mr. Bill Tholl, Executive Director, Heart & Stroke Foundation*

Mr. Tholl asked several key questions:

- Is there a market for health policy research?
- Is it working?
- If not, why not?
- How could the Centre for Health Policy Research help to create a meeting place for researchers and those who make use of the research?

There is a place where the “doers” and “users” of research, as well as public interest, intersect. This is the “market” for research. Researcher’s value having their work used in policy making; while policy makers value research that supports their policies. However, Ministers do not always have time to wait for well-designed studies that could guide their decisions. Users of research at the “macro” level value consultation based on the information available to the researcher at the time when the decision must be made.

At the “meso” level, hospital policy makes use of research and can affect patient outcomes. Mr. Tholl gave the example of two hospitals; one which required a prescription for beta-blockers for heart patients, while the other distributed them routinely unless otherwise instructed by a doctor. These different policies resulted in different patient outcomes.

There are six steps involved in examining policy: identify the issue; define the issue; assess the options; make the decision; implement the decision; and evaluate the outcome. Research can be used to inform five of these steps – all but the making of the decision.

From an optimistic perspective, there are pockets of hope in the effort to link health research and policy: the Canadian Institute for Health Information and the Public Research Network, for example. However, from a pessimistic point of view, there are still barriers to the creation of that meeting place. These include: the high turnover of “receptors”(Deputy Ministers and high-level Health Canada advisors); the problem of parochialism (lack of communication among different policy research centres); lack of consensus about the language (different uses of the term “population health”); and delays in turning knowledge into policy.

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He noted that more “knowledge transfer” isn’t necessarily better—the goal should be “useable” knowledge transfer. In order to provide just the right knowledge, in useable form, to just the right person, the key is timing. There is a need to think of new ways of conceptualizing knowledge transfer, and the IPH could help with this by creating opportunities for researchers and policy makers to communicate.

Asked about practical ways of providing “just-in-time” information, Mr. Tholl noted that there are ongoing mechanisms for transferring information, as well as ad hoc mechanisms such as conferences and expert advisory committees.

Regarding language, a participant remarked that people have a tendency to create and define buzzwords without regard for others’ understanding. This can result in loss of credibility. Mr. Tholl replied that this raises the question of whether the concept of population health reflects a fundamental change in thinking, or simply a change in language. He urged policy makers not to be too intimidated to ask researchers for the definition of a term.

A participant asked how to create a smooth interface between evidence and policy, how decisions could be made when the information is not complete, and what the role of the IPH could be.

Mr. Tholl replied that both “hard science” and other areas of knowledge (such as economic observation) have a role in policy making. When decisions must be made without adequate information, a more acute and sensitive surveillance system can be built so that the issue can be tracked carefully and quick changes to policy can be made. He added that the Ottawa-based IPH cannot address all the issues alone—there is a need for collaboration with institutions located in other parts of Canada.

Asked how the concept of population health could be operationalized, Mr. Tholl suggested that the Aboriginal medicine wheel could provide a good conceptual model.

A participant acknowledged the time lag between knowledge and policy, but suggested that the instant translation of ideas into practice would not necessarily be a good thing. Policy makers need time to consider population health issues in more depth before making policies. Mr. Tholl agreed that it is important not to be “half wrong instead of half right,” and concluded that you never “solve” health policy problems—you simply substitute one set for another, hoping that the new situation will be better.

**Health Care Policy Research Issues**  
*Dr. Michael Wolfson, Director General Statistics Canada*

Dr. Wolfson gave three examples of the large-scale complexity of population health, beginning with compression of morbidity. There is a need for information on trends, as well as causal stories, to make projections on morbidity. He noted that statistics on compression of morbidity, age and sex, show either a reduction or no change. In comparison, 1998 numbers showed significant differences by socioeconomic group, with much opportunity for improvement.

Needs include: data for monitoring trends; longitudinal data; analysis of data; and evaluation of potential interventions. Summary indicators can be used to communicate information to the public, but it is important to discriminate regarding the quality of the statistics.

Health inequalities are a big problem that requires greater understanding. There is a relationship between the health of a city and income equality – cities in the U.S. with less inequality have lower mortality rates. In Canadian cities, there are lower rates of both inequality and mortality but there is no slope (as there is in the U.S.) in the relationship between inequality and mortality. Dr. Wolfson speculated that the reasons for this could range from the influence of universal health care, to inaccurate interpretation of the graph, to different modes of urban planning. More is being done to connect health care policy with socioeconomic data, and there is a need for “multilevel, multivariate [micro data] that is longitudinal.”

### *Opportunities and Priorities*

- Create data sets based on multilevel, multivariate, micro data that is longitudinal.
- Train transdisciplinary health researchers.
- Design a new Canadian population health initiative.
- Ensure collaboration and communication.

A trial evaluating tamoxifen as a preventative drug for women at risk for breast cancer concluded, that the use of the drug would be appropriate for a large number of women. The study was stopped prematurely when it was determined that the drug would work. But what would happen if the use of this drug was adopted in a realistic cohort of Canadian women?

The Statistics Canada Population Health Model (POHEM) was used to address this question. This model synthesizes a large sample of synthetic individual biographies, to create a “web of causality”. This information is then put together in a longitudinal framework to determine the relative risks of tamoxifen-related effects. It was determined that, although life expectancy would not ultimately go down if all the recommended women took tamoxifen, quality of life would be affected (this was not taken into account in the study). Because there were no net benefits to life expectancy, preventative use was clearly not indicated.

### *Issues and Opportunities*

- Genetics studies are an emerging issue.
- The asymmetry of information between ordinary consumers and the vendors of these medicines implies an opportunity for profit.
- There is a need to develop a systematic and coherent system for evaluating these issues.
- POHEM is one tool that can help.

Dr. Wolfson concluded that these examples show the usefulness of three-way collaboration among academics, government policy groups and the statistical system. Statistics Canada is a willing partner in the work of the IPH, which is located in close proximity to federal policy makers.

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Regarding tamoxifen, a participant noted that the POHEM model had been helpful in giving women a realistic view of the issue and helping consumers understand the rationale behind policy decisions. She added that POHEM could also be useful in modelling community health interventions. Dr. Wolfson agreed, noting that this kind of work requires considerable collaboration.

Another speaker expressed concern that the POHEM model is not transparent, and suggested that it would be more policy-relevant if people could understand how it works and the factors that affect results. Dr. Wolfson noted that transparency and validity are key, but said there is also a “requisite complexity” involved. Checks and balances can be built into the model, which is available on the Internet and can be evaluated by anyone interested.

It was suggested that the concept of multilevel, multivariate, micro data that is longitudinal could be presented as part of the seminar series at U of O.

Asked how he would go about describing population health in Canada, Dr. Wolfson replied that he would begin with life expectancy, make appropriate adjustments, and evaluate distribution among socioeconomic groups. In response to another question, he noted that many health problems are not included in mortality. It is most useful to combine different forms of information, including asking people how they feel, and creating webs of causality to understand risk factors. He noted that macroeconomists created models for dealing with multiple factors that added up to more than 100%; this kind of framework is needed for health issues.

**Program Themes: Presentation and discussion from previous day’s workshops**

**Risk Assessment Workshop**  
**Dr. Daniel Krewski**

Dr. Krewski presented an overview of the Centre’s paradigm for population health risk assessment. The idea is to combine the best of the population health and risk management fields with a focus on the genetic, environmental and social/behavioural determinants of health (and their interactions). The Centre also focuses on emerging health risks, in order to anticipate and prevent problems. Ongoing projects include studies on determinants, risk factors, policy and uncertainty analysis.

Based on the workshop presentations, possible thematic areas to be examined by the IPH in the area of population health risk assessment include: genetic, environmental and social risks; risk characterization (development of methodologies); policy analysis; and risk communication.

A representative of the Canadian Society for International Health asked about international opportunities for risk assessment and policy development in the areas of environmental and occupational health. Dr. Krewski responded that this would be an exciting opportunity, noting that the Centre currently has work underway with the European Union.

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Asked about moving beyond disease surveillance to environmental exposure surveillance, Dr. Krewski responded that the four key sources of information are epidemiological, toxicological, clinical and surveillance. If risk assessment information can be linked with risk factor surveillance, then epidemiological studies could be done which were immediate, rather than taking 5-10 years.

**Multiple Interventions Workshop**  
*Dr. Nancy Edwards*

Dr. Edwards presented an overview of the Centre's paradigm for the Centre for Multiple Interventions and gave a summary of the key topics presented at the workshop. Nancy concluded that in order to advance this area of inquiry, it involves the following considerations:

There is a need for clarity on where efforts would be most effective, which interventions to use, and how to evaluate results.

There is a need for better understanding of interactions between components, as well as the underlying mechanisms.

Context is an important factor that influences multi-component interventions. How can those variables be built into research design?

How can population sub-groups be identified for intervention?

Nature can offer models for understanding multi-component intervention.

The following factors should be considered in selecting issues and populations for study:

prerequisites for research (including funding envelopes and expertise);

issues for which there are some agreed-upon outcomes;

potential for partnerships;

potential for putting lessons into practice;

interdisciplinary teams;

areas where it is possible to introduce innovation into health care system delivery; and, importance of service delivery and components of interventions in terms of architecture of health care system.

Resource-related issues include the following:

Funding must be of adequate duration to test the full impact, long-term ripple effect and interactions of multi-component interventions.

There is a disjuncture between the funding provided for research and the resources needed to introduce the service component of multi-component interactions.

Data must be compiled in a database that is easily accessible.

Interdisciplinary research teams are important: gaps must be mediated and diversity celebrated, rather than blending perspectives into one common denominator.

Dr. Edwards noted that service delivery models are also needed. IPH could be a catalyst, playing an advisory role in getting research operationalized into service delivery models and practice settings more quickly.

**Best Practices Workshop**  
*Dr. George Wells*

Dr. Wells gave an overview of the Centre for Best Practice paradigm and gave a brief summary of the workshops. Workshops were held in three areas: diagnosis of breast cancer; musculoskeletal disease; and prenatal care.

During these workshops, experts outlined the following objectives:

- To identify care gaps (evaluate practice, practice variation)
- To evaluate effectiveness (systematic reviews, clinical trials)
- To integrate evidence (decision support technologies)
- To facilitate and evaluate use (research transfer)

Other areas were identified for study, including mental health, stroke and violence against women. In order to bring all these issues together, a diagram was created “characterizing the care gap” between ideal and actual practices. A best practices approach tries to link actual and ideal practices. Risk assessment, multiple interventions and health policy can all help to address aspects of the care gap.

A participant added two additional points: the role of prevention in maintaining healthy populations; and the need for systems engineers to design better ways of delivering health information and services.

Another speaker suggested that the concept of “unattained obtainables” would extend the issue beyond the care gap to include best practices in policy making.

The optimal allocation of resources has two components, said another speaker: doing the right things (allocative); and doing them right (technical).

**Synopsis and Discussion: potential policy research themes and topics**

The Chair person offered his thoughts on how the IPH might approach some of these issues, outlining the elements of a strategic and operational plan for the IPH.

The IPH has to “ask different questions,” for example, by looking across the life cycle from early childhood development, through adult health and healthy aging. This approach would also take gender issues into account. The underlying issues in terms of knowledge development would then be explored, and best practices identified.

All this is “more than one institute can handle,” but as an example, a main area of inquiry could involve healthy environments and best practices.

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The IPH will consider emerging-issues, conduct knowledge synthesis, evaluate existing interventions and generate policy questions and options. One consideration is how to judge when an issue is ready to move to the policy stage. For example, the precautionary principle has legal implications for decision makers who may be called to account in the future. “We must move and act at a stage when we have much less certainty and information.”

There is also a need to look at best practices in health care, prevention and policy. Critical choices must be made in deciding what issues the IPH will take on. These choices will be based on: needs assessments; existing human and geopolitical strengths (including the Ottawa location); synergisms across health determinants/faculties; and courage to “move into the dark areas.”

Courage is needed to look into higher risk areas where few studies are being done. This raises the question of how to reward and evaluate inquiry. There is a need for ways of answering important questions, with access to long-term funding, instead of rewarding staff only according to the number of publications and the sheer number of research dollars brought into the institution.

### **Wrap-up**

Dr. Losos concluded the session, noting that proceedings will be distributed. The strategic planning process will continue throughout the next several months and the plan is to establish a web site by the end of the year so the planning and feedback process can continue on a long-term basis. Efforts will be made to synthesize elements of the workshops into a strategic plan, drafts will be circulated for feedback. A final draft will then be created and circulated to the advisory group, deans and governors of the university.

Dr. Losos thanked all participants for their tremendous efforts and contributors to the launch and the strategic planning workgroups.