

# **Science Advisory Board**

## **R E P O R T**

**of the February 11 - 12, 2003 Meeting  
held at the Millcroft Inn, Alton, Ontario**

**February 2003  
Day 1, Tuesday, February 11, 2003**

**Members Present:** Judith Hall, Richard Lessard, Karen Grant, Irving Rootman, Ardene Robinson Vollman, Linda Lusby, Stuart MacLeod, Keith Bailey, Patricia Clements, Kathryn O'Hara, Michel Bergeron, Lillian Dyck, David Roy, Rodney Ouellette, Paul Paquin, Carole Herbert

**Members Absent:** Elizabeth Jacobson

**Ex Officio Members Present:** Kevin Keough, Scott Broughton, Janet King (for Diane Gorman)

**Ex Officio Members Absent:** Dann Michols, Alan Bernstein

**Others Present:** Lisa Camelon, Val Marshall, Laure Benzing-Purdie, Laurie Maus, Paul Gully, Mohamed Karmali, Paul Sockett, Howard Njoo, Susan Read, Christine Forsburg, Franco Pagotto, Colin Broughton

**Regrets:** Ian Green, Munir Sheikh

**SAB Secretariat:** Tammy Davies, Glennis Lewis, Constance Brook, Karoline Millson

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**1. *Opening Remarks (Dr. Judith Hall, Chair)***

Dr. Judith Hall welcomed Board members. Seven members have reached the end of their terms. Five - Dr. Karen Grant, Dr. Rodney Ouellette, Dr. Michel Bergeron, Dr. Richard Lessard and Dr. Stuart MacLeod - have had their terms extended to the end of June 2003. Departing members were thanked for their contribution.

**2.a. *Update from the Office of the Chief Scientist (Dr. Kevin Keough, Chief Scientist)***

Dr. Keough introduced topics for discussion and provided background on key Health Canada initiatives.

**Research Partnerships Update**

- The Canadian Institutes of Health Research (CIHR) and Health Canada have embarked on research partnerships in a number of important areas including vaccines, prions, food and water safety, rural and aboriginal health, and health disparities. Health Canada is also one of 16 partners in the *Canadian Research Coalition for Safe Food and Water*.

- New partnerships are evolving, including one between CIHR and the Healthy Environments and Consumer Safety Branch (HECS) focusing on drugs and the environment. A joint initiative on children's health and the environment is also under development.

### **Policy Update**

- Progress is being made on a number of fronts. The Atlantic Region has released a report on the cost of chronic diseases in Nova Scotia. The Health Products and Food Branch (HPFB) is developing new standards to address health claims and new requirements for the labelling of food have been implemented.
- The Office of the Chief Scientist is engaged in the coordination of horizontal science-based initiatives and is implementing a department-wide framework for science.

### **Program Delivery Update**

- Health Canada, through its Centre for Infectious Disease Prevention and Control (CIDPC), has committed resources to increase surveillance of the West Nile virus. It has also enhanced surveillance of variant Creutzfeld-Jakob disease.
- PulseNet - an advanced surveillance system for the rapid detection of food and/or waterborne pathogens - has been enhanced.
- Health Canada's Scarborough and Longueuil laboratories have received ISO-17250 certification

### **SAB discussion included the following points:**

- The SAB could have a role to play in designing the landscape for collaborative relationships between Health Canada and CIHR.
- The SAB would like to hear more on Health Canada's surveillance and research efforts in the area of sexually transmitted diseases (STDs) and on the department's international science activities.

### **2b. *Update on Health Canada's Framework for Science (Tammy Davies, Director, Policy, Planning and Partnerships, OCS)***

The OCS has developed a Framework for Science that will introduce a systematic approach to planning, implementing and evaluating departmental science. A Science Executive Committee, chaired by the Deputy Minister, will oversee the implementation of the framework. The SAB is well-positioned to provide independent advice on the resulting draft Departmental Science Plan.

**2c. Update on the Preparation of a Guidance Manual for the SAB (Dr. Glennis Lewis, Manager, SAB Secretariat, OCS)**

Discussion of this item was deferred to the *in camera* session at the end of the morning agenda.

**3 & 4. Opening Remarks from PPHB and Update on the Healthy Living Initiative (Scott Broughton, Assistant Deputy Minister, PPHB)**

In September 2002, federal, provincial and territorial Ministers of Health announced their intention to work toward the realization of pan-Canadian healthy living strategies that emphasize good nutrition, physical activity and healthy weights. The Speech from the Throne reiterated that commitment. A national summit, convened by the federal government, will aim to enable integrated, intersectoral collaboration among stakeholders. The summit will be held in Toronto, on April 28 and 29, 2003.

SAB discussion included the following points:

- Planning for the Healthy Living Initiative and Summit should take an ecological perspective which recognizes that individual behavioural targets are situated within family, community, educational, economic and environmental contexts. Participants in the Health Living consultations should be representative of this broad perspective.
- It is also important to aim the initiative broadly and address the needs of disadvantaged Canadians.
- There is a dichotomy between social responsibility and individual responsibility for healthy living. The *Healthy Living* Initiative will only be effective if it does not *blame* its target audience(s).
- F/P/T consultation papers will be shared with SAB members.
- The Canadian Consortium for Health Promotion paper on lifestyle research may be relevant and useful for the *Healthy Living* consultation process.

**5. *Infectious Disease Program Steering Committee (Dr. Paul Gully, Senior Director General, PPHB Ottawa)***

The five science sectors within the Population and Public Health Branch (PPHB) are:

- Centre for Infectious Disease Prevention and Control (Ottawa)
- National Microbiology Laboratory (Winnipeg)
- Laboratory for Foodborne Zoonoses (Guelph)
- Centre for Emergency Preparedness and Response (Ottawa)
- Centre for Surveillance Coordination (Ottawa)

The Infectious Disease Program Steering Committee (IDPSC) is a Director General-level committee representing a range of disciplines. The IDPSC has identified the following seven priority areas for program integration:

- enteric food and water safety
- zoonotic diseases
- vaccine preventable diseases
- blood borne diseases
- sexually transmitted diseases
- antimicrobial resistance
- bioterrorism

The current chair of the Committee is Dr. Howard Njoo. Dr. Frank Plummer will be the next chair.

**Science Advisory Board discussion included the following points:**

- PPHB is consulting with other key departments and agencies to obtain the knowledge it needs for an integrated approach to bioterrorism issues. Health Canada has received additional resources to address these very issues, but more may be needed.
- Efforts are being made to record and analyze lessons learned.
- More action and response tools could be developed, although it was acknowledged the CBRN Research & Technology Initiative (CRTI) is generating relevant science in this regard.

**6. Overview of the Laboratory for Foodborne Zoonoses, PPHB (Dr. Mohamed Karmali, Director General, Laboratory for Foodborne Zoonoses (LFZ, Guelph), PPHB, Ontario/Nunavut Region)**

PPHB has two major programs in Guelph: the Laboratory for Foodborne Zoonoses (LFZ) and the Foodborne, Waterborne and Zoonotic Infections Division of the Centre for Infectious Disease Prevention and Control (CIDPC). The LFZ is at the hub of a network of provincial government and university-based research facilities.

LFZ's vision is to become a centre of excellence in agro-environmental public health. Important work is being done in mathematical modelling (risk), spatial and temporal epidemiology and microbial genomics.

The LFZ investigates and advises on risks to human health, including risks from the major foodborne pathogens, Verocytotoxigenic *E. coli* (VTEC), *Campylobacter*, and *Salmonella*. Surveillance is done at points along the entire food chain. Given its geographical location, the LFZ is well-positioned to carry out upstream interventions.

Surveillance, risk assessment, research, and policy are major components of an agro-environmental public health program and require close collaboration with academic and public health programs.

Health Canada works closely with other federal departments including Agriculture and Agrifood Canada and Canadian Food Inspection Agency (CFIA). HPFB's Food Directorate and LFZ together play a pivotal role in this alliance.

LFZ has two satellite units in St. Hyacinthe, Quebec, and in Lethbridge, Alberta. Business cases have been developed to move these units, respectively, to the University of Montreal and to the Alberta Provincial Laboratory where a partnership exists with the University of Alberta, Calgary and Lethbridge campuses. Shared research space with the University of Guelph is being discussed, and an agreement has been reached to locate a food safety outcomes epidemiologist at McMaster University.

University partnerships benefit Health Canada greatly; the LFZ is developing a framework for strengthened partnerships.

**Science Advisory Board discussion included the following points:**

- LFZ's collaborative approach is yielding positive results, and strong linkages are being forged with key partners.
- The Federal Innovation Network of Excellence (FINE) is providing funding for horizontal initiatives as is the CIHR through its Safe Food and Water Initiative.

- Health Canada needs scientists with multi-disciplinary skills. Summer institutes were suggested as an effective vehicle for introducing new skills.
- Concern was expressed that universities and colleges are not offering enough programs in key areas such as risk assessment. The establishment of training centres is an idea worth exploring.
- Health Canada's new post-doctoral program could be an important means for addressing gaps in existing programs.
- To further its science mandate, Health Canada should consider supporting relevant research institutes and networks. The Ecosystem Health program, which is the product of a strategic partnership between the University of Western Ontario's Faculty of Medicine and Dentistry and the University of Guelph, was cited as an example of an effective interdisciplinary approach to research.

**7. *An Overview of the Foodborne, Waterborne and Zoonotic Infections Division (in Guelph) of the Centre for Infectious Disease Prevention and Control, PPHB.* (Dr. Howard Njoo, Director General, CIDPC, Ottawa, and Dr. Paul Sockett, Director, Foodborne, Waterborne and Zoonotic Infections Division, CIDPC, Ottawa)**

The CIDPC, of which the Foodborne, Waterborne and Zoonotic Infections Division (FWZID) is a part, comprises seven divisions with a budget of \$100 million and a staff of 200. The Centre is the lead organisation for HIV/AIDS in the Department. The Community Acquired Infections Division is a new division focussing on STDs, hepatitis C, and tuberculosis.

The FWZID has grown from a full-time staff of four in 1996 to 21 in 2003. This growth arose from the need to enhance capacity for evaluating the impact of foodborne and waterborne diseases in Canada and for investigating national outbreaks and risk factors for human disease. The ability to meet these requirements has been facilitated by:

- Development of national surveillance programs providing consistent timely data together with mechanisms for identifying higher than expected reporting levels;
- Building expertise and capacity to investigate nationally important outbreaks through national coordination and "on-the-spot" leadership;
- Creation of nationally and internationally recognised expertise in key areas including epidemiology, statistics, geospatial analysis and surveillance program development.

- Establishing critical national and international networks and partnerships as evidenced by international collaboration on population-based studies of gastro-intestinal illness and coordination of the national West Nile Virus Steering Committee;
- Investing in staff by encouraging excellence through training and academic linkage. The Division currently supports 2 PhD and 3 MSc students and has five staff in full or adjunct positions at the Universities of Guelph and Toronto;
- Development of research activities focussed on studies on the incidence of disease in the population, its economic impact, population-based risk factors;
- Building capacity to respond to emerging infectious disease risks; and
- Providing high quality information products to support policy development and public communications.

FWZID activities fall into four categories: enteric surveillance; outbreak response and issues management; targeted studies; and, zoonotic diseases.

FWZID is currently coordinating and facilitating the national response to West Nile virus and Raccoon rabies as well as seeking to enhance national surveillance of human zoonotic disease infections.

The Division led the Health Canada team invited to assist in investigation into the causes of the Walkerton *E. Coli* and North Battleford cryptosporidiosis outbreaks.

**Science Advisory Board discussion included the following points:**

- The need for training is increasing. Alliances with public health organizations and educational institutions are key to stimulating new directions in capacity building.
- Concern was expressed that the FWZID is deferring other important activities in order to respond effectively to the West Nile virus. The question of whether FWZID has adequate staff and resources for its mandate was raised.
- The elements of a national strategy to address foodborne and waterborne diseases were addressed in the Public Health Capacity Report. These elements can be pulled together through the forging of closer links between government, academia, industry and consumers.



8. ***The tour of the Laboratory for Foodborne Zoonoses (LFZ) and the facilities of the Foodborne, Waterborne and Zoonotic Infections Division of the Centre for Infectious Disease Prevention and Control (FWZID), Guelph.***

***Day One of the meeting adjourned at 5:45 p.m.***

## **Day 2 - Wednesday, February 12, 2003**

**Members Present:** Judith Hall, Karen Grant, Richard Lessard, Michel Bergeron, Linda Lusby, Keith Bailey, Ardene Robinson Vollman, Lillian Dyck, Irv Rootman, Paul Paquin, Patricia Clements, Stuart MacLeod (a.m. only), Carol Herbert (a.m. only)

**Members Absent:** Elizabeth Jacobson, Kathryn O'Hara

**Ex Officio Members Present:** Kevin Keough, Scott Broughton, Janet King (for Diane Gorman), Ian Green (14:30 - 15:00 by telephone)

**Ex Officio Members Absent:** Dann Michols, Alan Bernstein

**Others:** Lisa Camelon, Val Marshall, Laure Benzing-Purdie, Laurie Maus, Paul Gully, Mohamed Karmali, Colin Broughton, Joel Weiner, Paul Sockett, Howard Njoo, Susan Read, Christine Forsburg, Anna Lammerding, Aamir Fazil, William Ross, David Mowat, Jeff Aramini, Pascal Michel, Franco Pagotto, Diane Kirkpatrick, Rebecca Irwin, James Flint, Frank Plummer, Shannon Majowicz

**SAB Secretariat:** Tammy Davies, Glennis Lewis, Constance Brook, Karoline Millson

9. ***Opening Remarks (Dr. Judith Hall, Chair)***

10. ***The Role of Science in the Ontario & Nunavut Region (Joel Weiner, Regional Director General, Ontario/Nunavut Region, Toronto)***

The Ontario & Nunavut Region delivers regulatory, environmental and population health programs. Science underpins much of its work. Activities led by the Walkerton Secretariat constitute a prime example of the Region's provision of timely and value-added intelligence. Another example of expertise in the region is the Drug Analysis Service, which has developed a Drug Yield Calculator now used on five continents.

Recent research initiatives in the Region include an innovative and inexpensive method

of removing fuel oil contaminants from groundwater with humic acid derived from peat moss. Another new direction is the Region's collaboration with City of Toronto on public health issues.

In the area of community health, the Region's Latin American Diabetes Project in London, Ontario, won the Peter F. Drucker Award for Canadian Nonprofit Innovation for developing a diabetes care model. This model is more inclusive and comprehensive than the standard medical models, which treat the disease only and ignore the social context and broader determinants of health.

**Science Advisory Board discussion included the following points:**

- The Ontario & Nunavut Region was recognized for its achievements.

**11. *Introduction to Advanced Science and Research in Zoonotic Foodborne Infections and Linkages to Policy and Public Health Practices***  
*(Dr. Mohamed Karmali, Director General, LFZ Guelph, PPHB)*

Foodborne and waterborne diseases are universal. Fortunately, advanced scientific tools are emerging to help control the rise in incidence of enteric infections. These include mathematical modelling for measuring risk, GIS technology for spatial and temporal epidemiology, and microbial genomics for DNA fingerprinting to combat antimicrobial resistance.

**12. *Risk Modelling for Decision Making*** *(Dr. Anna Lammerding, Head, Microbial Food Safety Risk Assessment, and, Dr. Aamir Fazil, Food Safety Risk Assessor, LFZ, Guelph, PPHB - Ontario; Dr. William Ross, Acting Director, Bureau of Biostatistics and Computer Applications, Food Directorate, HPFB, Ottawa)*

- Quantitative risk assessment (QRA) and Risk Modelling (Rmod) have applications for policy development, surveillance and research.
- QRA, a tool for science-based decision making, provides a framework for estimating the probability of different outcomes following specific risk management decisions.
- Rmod is a powerful tool for analyzing system dynamics from an issues perspective. It provides a framework for decision-making.
- Departmental use of QRA and Rmod is still in its infancy. While many groups in Health Canada are now beginning to develop activities in QRA and Rmod, more

coordination is needed.

**Science Advisory Board discussion included the following points:**

- The values aspect of decision-making has to do with risk communication and the tension that exists between values and science. Community and stakeholder consultations can resolve such tension by clarifying the values involved.
- There was strong agreement about the need to do benefit analysis and risk analysis in an equally vigorous fashion.
- Mathematical modelling has the power to incorporate a great range of information in a transparent manner; however, it is but one component in quantitative risk assessment.
- There is diversity in public perceptions of risk
- The recent Health Canada/CFIA Risk Forum allowed risk assessment experts to meet and share scientific and technological knowledge.

**13. Spatial and Temporal Epidemiology** (*Dr. David Mowat, Director General, Centre for Surveillance Coordination, PPHB, Ottawa; Dr. Pascal Michel, Epidemiologist, LFZ St-Hyacinthe, PPHB - Quebec; Dr. Jeff Aramini, Senior Epidemiologist, and, Rob Meyers, Medical Geographer, Division of Enteric, Foodborne and Waterborne Diseases, Bureau of Infectious Diseases, CIDPC, Guelph, PPHB*)

Health Canada is exploring how GIS technology and temporal/spatial statistics can assist research into and decision-making around waterborne disease and West Nile virus.

Geomatics, which involves collecting, analysing and evaluating spatial data, is an emerging technology in Health Canada and has many potential applications. The geomatic approach is unique in its capacity to integrate spatial data.

Health Canada has recently employed descriptive and analytic spatial-temporal methods to study several infectious diseases of public health importance, including *verotoxigenic E. coli* and West Nile virus.

**Science Advisory Board discussion included the following points:**

- Visual models have potential to facilitate risk communication, especially where there are complex spatial/temporal issues.

- Having access to the high quality data needed for effective geospatial modelling can be a challenge.
- Privacy is an important consideration.
- Spatial and temporal epidemiology is a field that integrates different disciplines such as epidemiology and medical geography. It takes a trans-disciplinary, multi-disciplinary approach and works with new and different paradigms.
- Recruitment and training is ongoing. Health Canada may wish to consider:
  - setting up a specialized training unit in Health Canada,
  - reviewing existing university inter-disciplinary programs relevant to Health Canada,
  - initiating a roundtable with the universities to identify emerging needs; and
  - partnering with universities to establish cooperative graduate programs or post-doctoral programs.
- Some examples of inter-disciplinary initiatives underway in Canadian universities that should be of interest to Health Canada science programs are:
  - new developments in soil science and agriculture in Quebec;
  - a GIS Masters program at the University of Calgary involving collaboration between mathematics, computer science, geography and medicine; and
  - a bio-informatics initiative at the University of Western Ontario.
- A true inter-disciplinary approach is required for both Health Professional Schools and Departments of Geography.

**14. *Microbial Genomics: Public Health Applications in Bacterial Foodborne Infections*** (Dr. Mohamed Karmali, Director General, LFZ Guelph, PPHB - Ontario); and, Dr. Franco Pagotto, Research Scientist, Research Division, Bureau of Microbial Hazards, HPFB, Ottawa)

The field of infectious diseases is evolving rapidly, creating significant implications for infectious disease diagnosis, surveillance and risk assessment, and new drug and vaccine development.

Genomics has a broad impact on public health issues related to foodborne diseases. There is potential for Health Canada to play a leadership role in developing new research applications in this area.

**SAB discussion included the following points:**

- Health Canada's genomics research was presented at the first Health Canada Research Forum in November 2002. While departmental scientists must stay informed of new research developments, the focus remains on public health applications.
- Health Canada is well-positioned to contribute to the national research agenda. Nonetheless, improved mechanisms are still needed to facilitate partnerships and leveraging opportunities.
- Genomics research has given rise to a host of intellectual property issues, not least of which is the patenting of gene sequences. Concern arises when patenting of gene sequences interferes with health care delivery and allows industry to drive the direction of scientific research.
- Genomics is big business in the US. Canada is following a similar pattern, giving rise to quality control issues in private laboratories.
- It was suggested that Health Canada assume responsibility in monitoring private laboratories for the quality of the genome testing they do.
- The question of who should regulate genome sequencing was also raised.
- There is an opportunity for Health Canada to work with the Standards Council of Canada to develop standards for Laboratory certification of genome testing.
- Symmetry is lacking between applications of genomics in public health and in clinical practice. Individualized health care is on the horizon but there is a lack of trained people (e.g., genetic counsellors) to deliver and interpret these new developments.
- The public health training system in Canada needs to be strengthened. Health Canada personnel should meet periodically with the heads of public health schools to introduce them to emerging challenges and training needs.

**15. *Antimicrobial Resistance (AMR) Update*** (Diane Kirkpatrick, Director General, Veterinary Drugs Directorate, HPFB, Ottawa; Dr. Rebecca Irwin, LFZ Guelph, PPHB and, James Flint, CIDPC, PPHB)

Antimicrobial agents are widely used in human and veterinary medicine for the treatment of microbial infections and for growth promotion or feed efficiency in food-producing animals. With continued antimicrobial use over time, treated microorganisms

acquire resistance, making the antimicrobial ineffective. AMR poses a threat to our ability to fight human and animal infections making treatment more difficult and increasing health care costs. AMR is a global problem, involving a wide variety of stakeholders. It is also a key horizontal issue for the Government of Canada, relating to environment, fisheries, agriculture and farming, health and the health care system, and trade issues.

Health Canada is spearheading a variety of activities, including research, surveillance and policy development as part of its AMR Action Plan. Key among them is the financial support and secretariat services provided to the Advisory Committee on Animal Uses of Antimicrobials (ACAU) which was established in 1999.

In June 2002, the ACAUA submitted its final Report and recommendations to the Veterinary Drugs Directorate (VDD). The final Report is posted on the VDD's Web site along with VDD's proposed Response to the Report's 38 recommendations.

The next phase dealing with the agri-food and aquaculture sector involves meetings with key stakeholders (to take place in spring 2003), finalization of the response and designation of next steps.

The interdepartmental policy and science committees which address AMR from both a human and animal perspective continue to meet and develop criteria for priority setting. The science group is also discussing the process of risk assessment.

Health Canada is developing tools to increase professional and public awareness. VDD continues to work in partnership with other Health Canada Branches and government departments such as Department of Fisheries and Oceans, CFIA, and Environment Canada.

**Science Advisory Board discussion included the following points:**

- The use of antimicrobials in medicine and in animal husbandry are probably the two key factors in the AMR problem. Antimicrobial use in personal care and household products may also be a contributing factor, but more research is needed to fully understand the significance.
- North American doctors control human use of antimicrobials via the prescription process but the control of veterinary antimicrobials is less stringent.
- The regulation of antimicrobials used in both human medicine and animal husbandry is complicated by the ability of physicians and veterinarians to prescribe off-label use. This needs to be addressed. Cross-border issues involving the personal importation of human and veterinary drugs also need to be

addressed.

- Use of antimicrobials in human medicine entails a very different risk-benefit analysis than do agri-food applications.
- AMR stems from the overuse of antimicrobial drugs. The ACAUA has recommended a closer look at need and efficacy in growth promotion uses.
- Health Canada is looking at different reasons for the use of antibiotics in agri/aquaculture and the impacts on human health.
- Limiting the use of antimicrobials in the agri-food business would have potential implications for the agricultural community, both in Canada and the United States. The evidence base needs to be developed further.
- The CIHR is very conscious of the need for research in this area. It is encouraging that the VRQ in Quebec approve a multi-million dollar program for better AMR control.
- Public education plays a role in addressing AMR issues.
- At Health Canada, VDD is taking the lead on AMR issues and is contributing to initiatives for educating the public and physicians. Multi-stakeholder consultations are an important part of Health Canada's AMR educational initiatives.

**16. *PulseNet Canada and Beyond*** (Dr. Frank Plummer, Scientific Director, National Microbiology Laboratory, Canadian Science Centre for Human and Animal Health, Winnipeg; and, Dr. Susan Read, Science Program Coordinator, LFZ, Guelph, PPHB)

PulseNet Canada detects foodborne outbreaks rapidly and facilitates rapid recall of contaminated food from the national and international markets. PulseNet Canada's electronic capability reduces the time required to collect national and international data and eliminates the unnecessary duplication of laboratory analysis.

PulseNet Canada, modelled after and associated with PulseNet in the USA, is a network for the rapid exchange of bacterial "fingerprints" and laboratory and epidemiological information. Currently the database contains pulse-field gel electrophoresis (PFGE) fingerprints of enteric pathogens. The bacteria currently analyzed by PulseNet Canada participants are *E. coli* O157:H7 and other Shiga toxin-producing *E. Coli*, *Shigella*, *Salmonella*, *Campylobacter*, and *Listeria*.

In the future, PulseNet Canada will feature online realtime data exchange of molecular typing through a central server accessible by investigators worldwide. Accurate, realtime global surveillance will set the stage for the inclusion of other molecular tests. The end result will be an extremely efficient means of detecting unusual events, including outbreaks or bioterrorism events. In particular, it is anticipated that PulseNet Canada be able to:

- Handle additional pathogens;
- Employ more rapid and sensitive fingerprinting methods; and
- Provide a better IT and bioinformatics platform to facilitate electronic interchange of information.

**Science Advisory Board discussion included the following points:**

- Concerns about the protection of data confidentiality could hinder the effectiveness of surveillance networks such as PulseNet Canada. This issue is compounded by the number of privacy regimes in Canada.
- To deal with privacy concerns Health Canada needs to consider a protocol for the responsible transfer/sharing and use of data, recognizing that the health of Canadians is of paramount importance.
- The PulseNet process works in a series of steps:
  - Health Canada gets human illness information from hospitals - influenza, viruses, parasites.
  - Health Canada feeds information to the CFIA.
  - CFIA follows through to get specimens.
  - CFIA sends specimens to the National Microbiology Laboratory in Winnipeg.
  - Tests are done within a few days.
- A strategy for surveillance of AMR is being developed. It involves the molecular typing of MSRA and is taking place in a hospital system separate from PulseNet. With AMR, the information goes from hospitals to provincial labs and finally to the National Microbiology Lab in Winnipeg.
- PulseNet Canada is part of an international network of networks. The US is in the lead, with Canada and Europe being at similar levels of development. Mexico is not part of the PulseNet network.
- Discussion focussed on whether there is a need to develop more public awareness about PulseNet and Health Canada's infectious disease surveillance activities and initiatives.



**17. *National Studies on Acute Gastrointestinal Illness*** (Dr. Paul Sockett, Director [Ottawa] and Shannon Majowicz [Guelph], Epidemiologist, Division of Enteric, Foodborne and Waterborne Diseases, Bureau of Infectious Diseases, CIDPC, PPHB)

Accurate estimates of disease incidence and burden are central to sound public health policy. The National Studies on Acute Gastrointestinal Illness (NSAGI) Initiative is designed to investigate the magnitude, under-reporting, etiology, burden of illness, chronic sequelae and risk factors associated with acute gastrointestinal illness in Canada, in such a way as to strengthen and supplement existing enteric disease surveillance.

The NSAGI initiative is structured as a series of stand-alone studies that, when taken together, will provide a picture of acute gastrointestinal illness in Canada. The first NSAGI component addressing the magnitude and under-reporting of illness is currently in progress. This component consists of four studies: a population survey, a physician survey, a laboratory study, and a public health reporting study. Overall, preliminary numbers suggest that approximately 1 in 500 cases of acute gastrointestinal illness in the community is reported to the province. Next steps for NSAGI include finalising this reporting function, as well as planning for the other NSAGI components.

The NSAGI team consists of seven epidemiologists.

**Science Advisory Board discussion included the following points:**

- The NSAGI initiative involves efforts to develop baseline knowledge so that it is possible to measure when an acute event is taking place.
- The NSAGI initiative takes various public health, clinical and epidemiological settings into account as well as burden of work (i.e., economic) costs of illness.
- The initiative differentiates between acute and infectious illness, since not all gastrointestinal illness is infectious.
- Because of the many jurisdictions involved in pathogen testing, only positive lab results are reported. The question was raised about the reporting implications if doctors were to begin to do bedside pathogen testing.

**18. *Health Canada; A Report*** (Ian C. Green, Deputy Minister, Health Canada - by telephone)

The Deputy Minister began with an overview of some of Health Canada's most important accomplishments and activities in 2002, including development of a new federal/provincial dispute avoidance and resolution mechanism and the first report on health system performance. He noted that funding was obtained for aboriginal early childhood development programming. New funding was also obtained to put First Nations and Inuit health care on a more sustainable basis. The Pest Control Products Act was passed by Parliament and the Assisted Human Reproduction Act has been introduced in the House of Commons.

The Board was informed of a number of regulatory activities including a consultation on the proposed Regulatory Framework for Natural Health Products. New nutrition labelling regulations have been implemented and a regulator framework for the control of precursor chemicals has been introduced to minimize the diversion of these chemicals to clandestine laboratories for the manufacture of illicit drugs. The new Marketed Health Products Directorate has been created in HPFB. Measures have also been taken to strengthen emergency preparedness. Health Canada's capacity to work in coordination with Canadian and international partners has also been strengthened. Health Canada continues to work with provinces and municipalities on the West Nile virus, including surveillance and public education initiatives.

- **Upstream Determinants of Health**

In regard to upstream determinants of health, the Deputy Minister stated that the department is working with the provinces and territories on pan-Canadian health strategies to prevent illness, promote good health, and reduce risk factors associated with chronic disease such as diabetes and cancer. The department has launched an aggressive second-hand smoke campaign. The Canada Health Portal was launched to give Canadians a single window for health information. Initiatives worked on in the Health Canada regions included the Atlantic Wellness Strategy, the Alberta Healthy Living Consortium, early childhood development in Manitoba and Saskatchewan, and progress with the Vancouver Agreement in B.C.

- **Internal Initiatives**

The Deputy Minister highlighted a number of important internal initiatives. The first Health Canada Health Research Forum was held to showcase the work of the department's scientists and researchers. This event demonstrated the range and quality of work being done, often in collaboration with others. The department's statement of core values and ethics was released. A new results-oriented approach to the Departmental Performance Report to Parliament has been taken, and the department's IT systems infrastructure has been

modernized. Audit and assurance functions have also been strengthened to help ensure that Health Canada exercises good stewardship of the resources it allocates through grants and contributions.

### **2003 Accord on Health Care**

- The Deputy Minister noted the extent to which Health Canada is engaged in meeting the government's Speech from the Throne commitments in the areas of health care renewal, children and families, climate change and the environment and smart regulation. The Speech from the Throne also set the stage for the First Ministers' Meeting in January and the 2003 Budget.
- The 2003 First Ministers' Accord on Health Care Renewal builds on the vision, principles and action plan for health system renewal introduced in September 2000. The Accord involves \$17.3 billion in increased federal support for health over the next three years, rising to \$34.8 billion over five years. Features of the Accord touched upon by the Deputy Minister include:
  - A \$16 billion Health Reform Fund for primary health care, home care and catastrophic drug coverage to be transferred to the provinces and territories over five years.
  - \$2.5 billion to be transferred to provinces immediately to relieve existing health care pressures.
  - \$600 million for the Canada Health Infoway for work on the implementation of electronic health records and for further development of telehealth application that are critical to care in rural and remote communities.
  - \$500 million for research hospitals through the Canada Foundation for Innovation.
  - \$1.6 billion for direct health accord initiatives over five years, including a national immunization strategy, Employment Insurance compassionate care provisions and a GST rebate for health institutions.
  - \$1.3 billion over five years for a series of federal health priorities to be set out in the upcoming budget.
  - \$1.3 billion for the improvement of Aboriginal health services.
- The Deputy Minister emphasized that the agreement by the Provinces and

Territories to report back to the Canadian public annually on all health care dollars spent is fundamental to the Accord. Performance indicators in the reports will include access, quality, system efficiency and effectiveness. There is also agreement on the establishment of a Health Council to monitor and make annual public reports on the implementation of the Accord.

### **Dialogue with Social Scientists**

- In response to a suggestion made by the SAB at its November 2002, meeting, the Deputy Minister reported that Associate Deputy Minister, Munir Sheikh, met with a group of Health Canada social scientists in the first week of February. The Associate Deputy Minister's next step will be to meet with the Health Canada science community as a whole, to relate and discuss the issues that arose in the initial meetings, and to explore possible initiatives to address their concerns.
- In closing, the Deputy Minister commented that this is an exciting time to be at Health Canada. He quoted the Prime Minister's statement that "health care is the single most important priority for Canadians". The 2002 Speech from the Throne, the 2003 First Ministers' Accord, and the 2003 federal budget have set out clear objectives for Health Canada in the coming years. In this context, Deputy Minister Green will be seeking the Board's views and advice on many of the initiatives that the department will be developing.

### ***Science Advisory Board discussion included the following points:***

- Concern was expressed about ways of dealing with the privacy implications of initiatives in the Accord. The Deputy Minister pointed out that there is general awareness throughout the department that a consistent approach to privacy is essential.
- It was suggested the Privacy Commissioner be invited to speak to the SAB.

### **19. Closing Remarks (Dr. Judith Hall, Chair)**

The next meeting of the Science Advisory Board (SAB) will be June 10-11, in Ottawa.

**Day Two of the meeting adjourned at 15:30.**