

Summary of Discussion
Science Advisory Board Meeting

October 31-November 1, 2006

Participants

<p>Science Advisory Board Members</p> <p>Arnold Naimark (Chair) Mark Goldberg Keith Bailey Renee Lyons Renaldo Battista Kathryn O'Hara Lorne Babiuk Howard Palley Stephen Bornstein Remi Quirion Chris Loomis Jacques Simard Arminée Kazanjian Stanley Vollant Andreas Laupacis Mamoru Watanabe Louise Lemieux-Charles</p>	<p>Ex-Officio Member</p> <p>Susan Cartwright Pierre-Gerlier Forest Karen Dodds David Butler-Jones</p>
<p>Alternates</p> <p>David Clapin Ray Edwards Ross Leeder David Mowat</p>	<p>Invited Guests</p> <p>Arthur Carty J. Gracia-Garza Peter Nicholson Alan Winter Jeff Kinder Alan Bernstein Sue Milborn-Hopwood Arthur Hanson Kim Elmslie Theodore Kuschak</p>
<p>Secretariat</p> <p>Laird Roe Catherine Rotor Manal Bahubeshi Suzi Vivolo</p>	<p>Regrets</p> <p>Linda Lusby Neil Yeates Susan Fletcher Carolina Giliberti Morris Rosenberg Frank Fedyk Bernard Dickens Marcel Nouvet Chantal Cousineau-Mahoney</p>

**Boardroom 0115C, Brooke Claxton Building
Tunney's Pasture**

Tuesday, October 31, 2006

1. Preliminary Matters

1.1 *The Chair*

- welcomed members and directed their attention to the document containing the Chair's overview of the agenda and the objectives related to the various topics to be discussed.

1.2 *The Chief Scientist*

- noted the participation of the Science Advisory Board (SAB) members in the Health Canada Science Forum, *Keeping our I's on the Future*, and Kathryn O'Hara's role on the Forum organizing committee;
- noted the appointments of: Susan Cartwright as Associate Deputy Minister (ASDM); Carolina Giliberti as Assistant Deputy Minister (ADM) of the new Public Affairs, Consultations and Regions Branch; and of Stéphane Lessard, as Director of the Health Research Secretariat within the Office of the Chief Scientist.
- alerted the SAB to the following developments:
 - the White Paper, the Office of the Chief Scientist (OCS) has developed, governance and management of science for Health Canada;
 - the possible loss of the Post Doctoral Fellowship program due to departmental budget cuts;
 - a workshop to be held in early November for Health Canada scientists and managers on intellectual property issues;
 - the establishment of the Departmental Executive Committee (DEC)-Science in July 2006. DEC Science meets monthly and the Chair of the SAB is invited to participate in the DEC-Science meeting following each SAB meeting;
 - the recommendation by the Chief Scientist that peer reviews of research activities in the Department be reactivated (only one has been conducted in the last five years);

- the lead role of the OCS in a joint initiative with the Social Sciences and Humanities Research Council (SSHRC), the Natural Sciences and Engineering Research Council of Canada (NSERC) and the Canadian Institutes of Health Research (CIHR) on the issue of scientific integrity. Following consultations with stakeholders, a workshop in Canada and an international conference in Portugal, the group will begin to develop a Canadian position on scientific integrity;
- reorganization of Industry Canada (IC) related to science policy. The new ADM for Science and Innovation is Guy Bujold. It is expected that he will attend the January 2007 SAB meeting to update the SAB on the Federal Science & Technology (S&T) strengths; and
- the release by the Council of Canadian Academies (CCA) of its survey and analysis of Canada's scientific strength.

In the ensuing discussion, the SAB:

- indicated its strong support for the continuation of the Post Doctoral Fellowship program, its important and should continue; and interest in receiving a brief description of the 16 Post Doctorate Fellowship projects currently in progress and an analysis of their links to the ongoing scientific activity of the Department;
- asked for a report from the OCS on funding of science and technology in Health Canada and its divisions showing separately funding for support of scientific activities to meet regulatory and "service" responsibilities and funding for support of research;
- asked about current Intellectual Property (IP) policies related to research done in government and was informed, that: the government of Canada has an IP Policy; Suzanne Lesage is the individual within the OCS responsible for the IP in Health Canada and that there is an equivalent position at the Public Health Agency of Canada;
- indicated its interest in having the OCS provide an analysis of the potential implications of the findings of the Council of Canadian Academies Report for Health Canada;
- indicated it wished to receive more information on the implementation of the Cancer Control Strategy and in particular how the funding associated with it will be spent; and
- reiterated the importance of facilitating collaboration between Health Canada scientists and University and industry based scientists.

1.3 Statements from members

Statements by members on developments that relate to the mandate and ongoing work of the SAB included the following items:

- The Chair provided reprints of journal articles addressing two matters of concern that bear directly on the interests of the SAB pertaining to: oversight of the quality and reliability of genetic testing; and, regulation of stem-celled based therapies and it was agreed that the SAB should ask for a briefing on Health Canada's position on these matters.

- Health Human Resources (HR) in general and the difficulties with respect to HR in Health Canada in particular, are matters of concern that require systematic investigation and analysis. Discussions with the CIHR and the Canadian Health Services Research Foundation (CHSRF) should be undertaken to determine how these agencies may help with such investigation and analysis.
- It was noted that there are initiatives being undertaken with respect to water quality in aboriginal communities without reference to initiatives on water quality in other communities undertaken by the Canadian Water Network (CWN) (a Network of Centres of Excellence); and that there is a significant opportunity to apply the skill and resources of researchers in the CWN to smaller rural and remote communities.

Special Note: During the meeting, the Chief Scientist announced he would be leaving Health Canada to become the Chief Executive Office (CEO) of the Pierre Elliot Trudeau Foundation. The Board expresses thanks to Dr. Forest for his support of the SAB and his contributions to Health Canada generally and wished him well in his new post. The Chair undertook to write a separate letter to the Minister with respect to the future of the OCS.

2. Environment and Health

2.1 Environment and Health

Sue Milburn-Hopwood, Director, Health Impacts Bureau, Healthy Environment and Consumer Safety Branch (HECSB), provided an assessment of the progress to date on the implementation of the integrated health and environment approach. She covered the broad Environmental Agenda that the Government of Canada is developing. HECSB is leading the Health Portfolio participation in the Agenda. The immediate priorities of which include: the Clean Air Act (already announced) and Clean Air Programming (under development); and, protecting Canadians and the environment from toxic chemicals. She also updated the SAB on the Canadian Environmental Protection Act (CEPA) Review.

- The implications for the Health Portfolio of the Clean Air Act include new authorities for the Minister of Health and activities related to building the knowledge foundation for regulation and development; implementing regulatory initiatives and other air pollution reduction measures; and accountability activities. The *Clean Air Programming* agenda which is currently under development includes issues related to transport, energy, climate change adaptation, air quality and public health monitoring/reporting.
- A Toxics Action Plan currently under development is intended to respond to results of the categorization of toxic chemicals exercise undertaken by Health Canada and Environment Canada. The Plan is intended to integrate federal actions within an outcomes based management framework designed to increase protection from toxic substances, and facilitate timely regulatory decisions. A web portal on toxics management has been developed to facilitate access to information by the public, industry and the science community.

- The House and Senate Committees considering the CEPA review are to complete their work by May 2007 and March 2007, respectively. The Committee agendas will be influenced by the Government's environmental initiatives and other interventions such as those related to the Kyoto controversy.

In the ensuing discussion, the SAB:

- highlighted the importance of including occupational exposure as part of the indoor air quality analysis;
- expressed interest in seeing more details about the methodology used to screen chemicals, estimates of the sensitivity and specificity of the process for known hazards and the outcome out of the screening process. The SAB indicated that there would be considerable advantage in having the screening methodology validated by external peer review;
- noted that there has been no formal response to its recommendation concerning the development of a national research program on the health-environment intersection; and
- recommended that objective scientific and technical information about toxics should be placed in a section of Health Canada's web site that is separate from parts of the web site containing material of a promotional or advocacy nature. This would aid readers in distinguishing evidence from advocacy.

2.2 *Biotechnology, Sustainable Development and Economy*

Arthur Hanson focused his presentation on the newly released report from the Canadian Biotechnology Advisory Committee (CBAC) entitled: *BioPromise? Biotechnology, Sustainable Development and Canada's Future Economy*.

- CBAC commissioned an expert working group (EWG), chaired by Arthur Hanson, to undertake a comprehensive examination of the contribution biotechnology can make to the quality of Canada's environment and to the competitiveness of its economy.
- The EWG report sets out a vision for the year 2020 in which biotechnology has contributed to: a flourishing rural economy that supplies up to a quarter of Canada's fuel, chemical and synthetic product needs from renewable sources; a fifty percent reduction in the use of harmful chemicals that accumulate in the environment and in living organisms; and a clean up of Canada's contaminated industrial sites. Biotechnology can contribute to realizing these benefits if there is:
 - a coherent federal strategy to guide the development and deployment of innovative technological approaches to sustainable development and coordination among departments, including: Agriculture Canada; Environment Canada; Industry Canada; Health Canada; and Natural Resources Canada;

- increased investments in Resources and Development (R&D);
 - recognition of the central role of shared values in defining strategic directions and of the need to take an adaptive approach to decision-making so as to be responsive to changing circumstances;
 - on-going engagement of citizens and stakeholder groups in the process of decision making to build public support for bold initiatives with special efforts being made to engage young people; and
 - linkage of strategic actions to measurable outcomes through an effective and credible assessment framework and an effective ecological monitoring system based on improved integration and coordination of existing efforts and on the development of new methods and performance indicators.
- The global dimensions of ecological challenges prompted the EWG to urge strengthening Canada's role in international cooperation along two lines: enhanced participation in international knowledge networks on biotechnology and sustainable development; and taking greater advantage of Canada's ability to make a larger contribution to improving the quality of life in developing countries through, for example, development and use of new vaccines for humans and livestock and of environmental technologies for sanitation and supply of clean water.
 - The EWG report provides extensive analysis of the economic aspects of biotechnology and sustainable development having to do with the development of biorefineries to make use of the large supply of biomass in Canada.

In the ensuing discussion, the SAB:

- complimented the authors of the report on its comprehensive nature;
- noted that there that there are important value judgments involved in attempting to identify agreed upon sustainability targets; and
- indicated the importance of rural community input and was advised that this would be solicited by CBAC in its call for commentaries on the EWG report.

2.3 *Agriculture and Health*

The Chair briefed the Board on the joint task force of the Agriculture and Agri-Food Canada (AAFC) SAB and the Health Canada SAB. Both Boards submitted possible topics for consideration by the task force. The AAFC SAB proposed two topics: (1) Pathogen Detection and a Farm-to-Fork Traceability System and (2) Regulatory Policy Development.

The SAB agreed as follows:

- That one topic should be chosen as a pilot undertaking and that since the chair of the AAFC SAB has agreed to be the initial convener of the task force, the topic should be from among the two proposed by AAFC.

- Both topics were seen as timely and worthwhile, but the second proposal on pathogens and the food supply has the more obvious science and technology dimension and might lend itself better to being the pilot topic.
- The Chair undertook to communicate the SAB's views to the Chair of the AAFC SAB. Members that agreed to sit on the joint task force (at the May 2006 meeting) include: L. Lusby; S. Bornstein; and A. Kazanjian.

3. Public Health

3.1 *Mental Health*

The Senate Report on Mental Health in Canada, given preliminary consideration at the May, 2006 SAB meeting, was addressed by Rémi Quirion who indicated that there was no clear indication of progress with respect to the recommendations of the Report. It was noted that another report on mental health was recently issued, *The Human Face of Mental Health and Mental Illness in Canada*. Support for the report was expressed by the Parliamentary Secretary, Stephen Fletcher, the Minister of Health and Senator Breton. The SAB agreed to keep monitoring this file.

4. Science, Technology, Innovation

4.1 *National Strategy on Technology Assessment*

A paper update was received on the National Strategy on Technology Assessment from the Canadian Agency for Drugs and Technologies in Health (CADTH). In discussing the update information, the SAB noted that:

- its content is “promotional” in nature;
- it speaks to the creation of a policy forum that will enable policy makers across the country to meet and compare notes and exchange information as well as an exchange forum which will enable workers working in this field to work together to establish common criteria for the assessments;
- it lacks a description about what is transpiring across the country;
- it does not include all relevant issues such as concerns over the funding for future; the status of training programs; evolving relationship between industry and technology assessment; and
- it would be more useful to receive an in-person report from CADTH to get a fuller understanding what is happening with the Strategy.

The Board will develop a topic list and invite a representative from CADTH to join the January 2007 meeting of the SAB for a full discussion.

4.2 Canada Health Infoway

A paper update was received from Canada Health Infoway. The SAB noted that:

- here too, the update was of a “promotional” nature;
- it is interested in learning when the Electronic Health Records (EHR) initiative will be completed, and in understanding what all the pieces are and how they fit together;
- it will follow the suggestion of the Chief Scientist that the SAB invite Marcel Nouvet, ADM of Corporate Services Branch, Health Canada and Richard Alvarez, President and Chief Executive Officer of Canada Health Infoway, to the January meeting to discuss this matter. (He also informed the Board that the newly created branch, Public Affairs, Consultations and Regions Branch, has conducted an audit of Canada Health Infoway);
- the EHR has been developed and use extensively in the United States and some analysis comparing the Canadian and United States situations would be of interest;
- its interest relates to the potential role electronic health records could play in facilitating epidemiological and health systems research.

4.3 White Paper on Governance and Management of Science in Health Canada

Pierre-Gerlier Forest, Chief Scientist, Health Canada, gave an overview of a discussion paper related to the needs of the Department, in terms of planning for science and research. This new discussion paper, referred to as the *White Paper*, aimed at spurring a dialogue on enhancing horizontal science management in the Department through the development and implementation of a science plan. He indicated that the origin of this paper was the Framework for Science and its resulting Mapping Health Canada’s Science report. The Framework adopted the three principles of Excellence, Linkages and Alignment, as defined by the Council of Science and Technology Advisors. As well, the Department added Stewardship and Innovation as two more guiding principles. Part I of the *White Paper* includes the major principles and governance models and Part II is composed of components where horizontal management collaboration and cooperation will benefit the Department as a whole.

DEC-Science will be the main governance mechanism for the development, validation, monitoring, reporting and evaluation of the science plan. The role of DEC-Science will include oversight of permanent or ad-hoc sub-committees formed to ensure the timely and effective implementation of the components. The success of the plan will require a strong governance structure and sustained commitment.

4.4 *A Health Canada Strategy for Science, Technology and Innovation*

The Chair introduced this session by making the following observations.

- The terms of reference of Health Canada's SAB include *inter alia* the following responsibilities:
 - *providing broad strategic advice on the scientific activities of Health Canada;*
 - *providing advice on the relevance and quality of the science performed and used by Health Canada;*
 - *providing advice on the science underpinning a range of issues addressed by Health Canada; and*
 - *reviewing and advising on emerging health sciences, scientific trends, challenges and opportunities in national and global contexts.*
- Most of the SAB's deliberations have focused on matters that fall into the latter two responsibilities. Little systematic attention has been given to the first two responsibilities.
- To provide sound and timely strategic advice to the Minister on the scientific activities of Health Canada, and on the relevance and quality of the science performed and used by Health Canada, the SAB requires a clear understanding of:
 - the contemporary context for development of S&T policy related to S&T policy development and of current initiatives - within government in general and within Health Canada in particular;
 - the Department's goals, strategies, action plans, desired outcomes and performance measures related to its scientific activities.

**Boardroom 0115C, Brooke Claxton Building
Tunney's Pasture**

Wednesday, November 1, 2006

4.4.1 *The contemporary context for federal S&T policy development*

A panel of experts provided the SAB with their views about the general context for the development of a Health Canada strategy for science, technology and innovation.

Background documents provided to the SAB included:

- The SAB's earlier advisory memorandum to the Minister on Health Canada's interest in science, technology and innovation;
- AAFC's document on Science and Innovation; and
- Update papers on the science and technology community.

Arthur Carty, National Science Advisor, spoke to the changing face of science, the implications, the challenges and the opportunities for Health Canada. Identified issues that should be considered when devising a science, technology and innovation strategy include:

- technological changes;
- new research paradigms;
- new models and approaches that are being adopted around the world;
- increasing complexity of scientific issues as they influence policy decision-making;
- the challenges in managing research and development (R&D) in federal institutions; and
- risk aversion and vertical management that creates institutional barriers to collaboration and synergy.

He suggested that the issues Health Canada should put emphasis on include:

- funding - Health Canada is presently a relatively small player in the health research funding scene, the challenge is to sustain and build a positive research base;
- partnerships – Health Canada will increase opportunities by engaging in collaborative multi-stakeholder partnerships, including improving linkages with universities;
- resources - build research capacity;
- infrastructure - create new models for sharing research infrastructure;
- laboratories - federal labs are not that attractive to the best science; and
- communications - improve communications to share federal science and better translation of research results from the laboratory and clinic to the marketplace.

Peter Nicholson, President, Council of Canadian Academies, presented an overview of the recent *State of S&T in Canada* report. The report was created in response to the question from the Minister of Industry, 'Where does Canada excel in research and technology applications?'. The report is a baseline of S&T information for use by the Government of Canada in developing its S&T strategy, and is the first of its kind. Over 1500 expert participants responded to a survey

conducted, as input for the Council's report, resulting in a comprehensive assessment of Canada's strengths (and weaknesses) in S&T. The report indicates that:

- Canada is strong in research, generally well-equipped technologically but lagging in translation of research strength to innovation strength;
- the four main clusters of strength include: natural resources S&T; information and communications technologies, health and related life sciences and environmental S&T;
- 197 sub-disciplines were assessed in the opinion survey and 125 research areas were assessed biometrically. There was extensive coverage of health sciences, biotechnologies and medical biotechnologies; and
- components of infrastructure, relative to international peers, were also assessed.

The report identified strengths and trends in:

- health sciences:
 - strong in: cancer research; genetics; infection and immunity; nutrition, metabolism and diabetes; neuroscience, mental health and addiction; circulatory and respiratory health; aging; and population and public health
 - weak in: clinical research; and dental science
- biotechnology:
 - strong in: genomic and proteomic technologies; medical imaging; stem cells; and plant biotechnology
 - weak in: medical devices (other than imaging) and pharmaceuticals
- S&T infrastructure:
 - rated well: CRC and CFI; universities and research hospitals, infectious disease laboratories; CIHR and NSERC
 - rated poorly: venture capital supply; charitable support for research; and health and safety regulations
- Where Canada is best positioned to lead:
 - clean energy technologies and "next generation" health issues

Alan Winter, Deputy-Chair, Council of Science and Technology Advisors (CSTA), provided an overview of the CSTA and presented information with respect to the future of S&T as viewed by CSTA. He observed that the conduct and management of S&T are changing in dramatic ways that challenge us to keep pace. He remarked on:

- national and global distribution of S&T capacity;
- increasing complexity and rapid pace of S&T development;
- convergence of enabling technologies;
- the changing "social contract";
- imperative for the Federal Government to exercise leadership and harness national S&T capacity to address issues vital to Canada; and
- the need to break down the traditional silos among S&T sectors, disciplines,

organizations and governments, particularly to support policy and regulatory decision-making requirements of the 21st century.

He was strongly of the view that Health Canada needed to develop its own strategic vision and action plan related to science and innovation to complement any broader federal strategy.

Alan Bernstein, President of the Canadian Institutes of Health Research, placed emphasis on integration and breaking down of silos. He agreed with his colleagues that science is getting much more complex and it is necessary, in order to be outward looking, that new partnerships are created. Innovation from the Health Canada standpoint should be aimed at the improvement of health and the health care system. Innovation in the health sector is not synonymous with commercialization of products and processes. Commercialization is a challenge in many countries and while Canada is doing as well as any other country, he feels we could do better.

The Board attempted to address the requirement for a Health Canada strategy for science and technology but questions were raised on the need for a broader strategy.

In the ensuing discussion, it was generally agreed that:

- Health Canada must articulate not only an S&T management/governance plan for the Department (the subject of the OCS “white paper”), but also a strategic action agenda with clear goals and a focus on deliverables and performance measures.
- Health Canada’s strategic action agenda should be coherent with the government’s S&T strategy; and should place special emphasis on horizontal linkages with other departments and with external agencies and research institutes within and outside of the federal government; on fostering scientific excellence and on building capacity.

The development of such a strategic action agenda and SAB’s further deliberations on this topic will be on the agenda of the January 2007 meeting by which time there may be further development of the government’s plans for S&T.

5. Therapeutics, Diagnostics and Natural Health Products

5.1 National Pharmaceuticals Strategy

A paper update was provided on the National Pharmaceuticals Strategy (NPS). The SAB:

- expressed concern about the lack of movement in the three areas: access; safety effectiveness; and price negotiating;
- raised the question about what effect Ontario’s Bill 102 (Transparent Drug System for Patients Act) will have on the NPS;
- inquired about the possibility of inviting Jill Saunders and Les Lavigne to the January 2007 meeting to further discuss this issue; and
- asked where the development of a business plan is in the process.

6. Matters from Previous Meetings

Updates for information were received on the following issues for information.

- Aboriginal Health;
- Expensive Drugs for Rare Diseases;
- Special Access Program;
- Medical Marijuana;
- Applied Research and Analysis Directorate; and
- Pandemic Influenza.

7. SAB Operational Issues

7.1 Extranet

Theodore Kuschak, Ph.D., Manager, Canadian Public Health Laboratory Network, National Microbiology Laboratory, Public Health Agency of Canada, demonstrated the Canadian Network for Public Health Intelligence (CNPHI) database to the Board. He demonstrated the vast capabilities of the software. The Board seemed quite pleased with the functionality of the database. The Board will commence the use of the database post-haste for tracking, archival and discussion purposes. Further training is available in small groups, either in person or by teleconference.

7.2 Valuation of Advice

The Chair indicated that feedback from members on the focus of efforts to assess the value of the Board's advice indicated that the SAB wished the focus, on the value of its advice, to be on the recipient's evaluation of the advice rather than the SAB's evaluation of the impact of the advice on the recipient. The SAB affirmed that the focus should be on the recipient's evaluation.

7.3 Form and Content of SAB's Advice to the Minister

Following a description of the path followed by the formal advice provided to the Minister within the Minister's Office, the SAB agreed that the form and content of the regular reports to the Minister were appropriate.

7.4 Congruence of the Activities of the SAB with the Full Scope of its Terms of Reference

The Chair noted that there was little alignment of the activities of the SAB with the full scope of its Terms of Reference. This situation was illustrated in his introductory remarks to item 4.3 above. He indicated that a fuller discussion of this matter would be desirable at the SAB's next meeting.

7.5 *Commissioning of Special Studies Recommended by the SAB*

At its retreat in August 2005, the SAB received a briefing from Paul Armstrong on the nascent Canadian Academy of Health Sciences (CAHS) and possible intersection of the Academy's activities with the SAB. In the ensuing *in camera* session, a member asked if the SAB had a budget to undertake studies and research on significant topics. It was pointed out that although there was no specific appropriation of funds for SAB initiated studies, there is a provision in the SAB's Terms of Reference that states: "The Board may constitute specialized sub-committees and panels, **commission studies**, or liaise with outside organizations, **as approved by the Minister.**" The CAHS is now fully organized and has inducted its second cohort of Fellows. One of its primary functions is to conduct independent expert studies related to health under contract with public sector entities such as Health Canada. The SAB was asked: (a) to consider topics of major importance for which a commissioned study would be timely, and seeking the Minister's approval, would be appropriate; and, (b) whether it would wish to identify the CAHS as an appropriate body to undertake the study. It was decided to return to this matter at a future meeting.