

Canada-U.S. Cancer Control Alliance 2005 Meetings

Research-Practice Partnerships Integrating Science with Service

Seattle, Wash. —July 11–12, 2005

Calgary, Alberta—Aug. 22–23, 2005

Toronto, Ontario—Sept. 7–8, 2005

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Appendix A: Concept Systems, Inc., Concept Mapping Summary Report

PART I. Overview of Meetings

The Canada-U.S. Cancer Control Alliance conducted a series of three meetings in 2005 to examine delivery systems within different service delivery contexts: primary care, oncology specialty care, and public health. The three meetings were designed to review options for closing the gap between research discovery and program delivery by gaining the unique perspectives of three sets of meeting participants: primary care specialists (Seattle meeting in July 2005), oncologists (Calgary meeting in August 2005), and public health specialists (Toronto meeting in September 2005). The meetings served to build a community of practice comprised of people interested in dissemination and evidence-based practice issues. A broader goal of the Canada-U.S. Cancer Control Alliance is to build collaboration between the National Cancer Institute (NCI) and the National Cancer Institute of Canada (NCIC) to develop tools for improving the utilization, uptake, and dissemination of cancer control interventions. This alliance will also help identify and overcome infrastructure barriers to delivering evidence-based interventions across local and regional agencies.

A pre-meeting assessment was performed using concept mapping—a tool used to solicit, organize, and aggregate input from a variety of people and perspectives. The assessment provided details about potential actions and about a framework of principles to guide the integration of research and practice. The final report includes suggestions for: (1) advancing U.S. and Canadian strategic planning efforts related to knowledge transfer, translation, exchange, and integration; (2) coordinating U.S. and Canadian efforts to use research evidence to inform and improve the practice of comprehensive cancer control across the cancer continuum (e.g., prevention, survivorship, end-of-life care); and (3) coordinating U.S. and Canadian efforts to use practice evidence to inform and improve the public health and clinical relevance of cancer control research across the continuum.

There has been considerable follow-up to this assessment including: (1) a series of earlier meetings sponsored by the NCI; (2) a special issue of *Health Psychology* published in the fall of 2005, which contains six articles and an editorial about dissemination research; (3) a joint effort with the Agency for Healthcare Research and Quality (AHRQ) through the Practice-Based Research Networks (PBRNs) was developed to determine how practitioners diffuse, disseminate, and implement evidence-based findings. (The PBRN collaboration featured involvement with stakeholders and funded a practice-based community prevention and control research network with the Centers for Disease Control and Prevention (CDC)); and (4) NCI working with National Institute of Mental Health (NIMH) and several other National Institutes of Health (NIH) Institutes and Centers to publish three Program Announcements in December 2005, which solicited proposals to study dissemination and implementation in public health, primary care, and disease specialty practice. Of particular relevance to the Canada–U.S. Cancer Control Alliance is the fact that the Program Announcements specifically solicit applications from research institutions outside the United States. To find out more about these opportunities for grant funding, go online to <http://cancercontrol.cancer.gov/d4d>.

PART II. Primary Care Meeting

Mayflower Park Hotel

Seattle, Wash.

July 11–12, 2005

Meeting Summary

Monday, July 11, 2005

Introductions

Canada

*Stuart Edmonds, Ph.D., Director, Research Programs
National Cancer Institute of Canada*

The National Cancer Institute of Canada (NCIC) is a nongovernmental organization (NGO) funded by the Canadian Cancer Society (CCS) and the Terry Fox Foundation. The mission of NCIC is to support research and related programs leading to reductions in incidence, morbidity, and mortality due to cancer. The NCIC funds research that spans the entire spectrum of cancer control research, including biomedical, clinical, and population health research. A strong relationship with the CCS allows NCIC involvement in cancer control policy and advocacy activities and provides an important link between cancer research and the use of such research.

The NCIC has developed a new strategic direction complete with 12 goals. The primary goals are to use the mandates of both the CCS and NCIC to translate research into “best practices” for cancer control and to increase investor satisfaction with NCIC activities. More than 6 of the 12 goals in the strategy depend on knowledge integration and dissemination. The two largest entities in the Canadian cancer community are the Canadian Institutes of Health Research (CIHR) and the Canadian Strategy for Cancer Control (CSCC). CIHR is a government health funding agency and the leading federal funding agency for health research, including knowledge transfer for cancer and other health-related issues. The CSCC was developed by the Canadian federal government, the Public Health Agency of Canada, the provincial cancer agencies that provide health care to patients, NCIC, and CIHR. The CSCC encompasses all areas of cancer control, with a focus on the transformation, exchange, and application of knowledge.

United States

*Jon F. Kerner, Ph.D., Deputy Director for Research Dissemination and Diffusion
Division of Cancer Control and Population Sciences
National Cancer Institute*

The National Cancer Institute (NCI) is a U.S. government funded agency committed to cancer control and public health. The dissemination and health services research activities are coordinated primarily through the Division of Cancer Control and Population Sciences (DCCPS), which reports directly to NCI’s Office of the Director. Through DCCPS, the NCI funds intervention research across the cancer control continuum—from prevention to early detection to diagnosis, and through treatment and survivorship. Despite the large sums of money dedicated to cancer research, the results of this research are not effectively translated to evidence-based service delivery programs. The Discovery-Delivery

Continuum suggests that, although significant funds are spent on the research of discovery and delivery of services, relatively little emphasis is placed on activities that create a bridge between the lessons learned from science and the lessons learned from practice.

Discussions at this meeting may have implications for policies to bridge this gap, and they may also lead to ideas for modeling interagency partnerships across the cancer control and discovery-delivery continua and for disseminating and implementing evidence-based interventions. The impact of slow and incomplete research dissemination is evident in a variety of cancer disparities—for example, the Black and Caucasian mortality rate disparities that first appeared in 1980 for breast cancer in the United States. This difference in mortality rates can be attributed to differences in access to mammography services and state-of-the-art care. The discrepancy exemplifies the detrimental effect of the failure to disseminate evidence-based interventions to all populations.

This meeting was the first of three to examine delivery systems within different contexts, which may affect the way knowledge is translated into practice. NCI's program, Translating Research into Improved Outcomes (TRIO), focuses on ways to use surveillance data to identify needs, track progress, and motivate action to collaboratively develop tools for accessing and promoting the adoption of evidence-based cancer control interventions and strategies to overcome infrastructure barriers to the adoption of evidence-based interventions. A goal of the Canada-U.S. Cancer Control Alliance is to build collaboration between the NCI and NCIC that will work to develop tools for improving the utilization, uptake, and dissemination of cancer control interventions. Such an alliance also will help to identify and overcome infrastructure barriers to delivering evidence-based interventions across local and regional agencies.

Country-Specific Contexts: Review of Previous Initiatives

United States

Jon F. Kerner

The goal of this meeting is to help create a community of practice comprising people interested in dissemination and evidence-based practice issues. This meeting is part of a series of meetings held as part of the Dialogue on Dissemination sponsored by NCI. The first meeting, Designing for Dissemination, was held in September 2002. Researchers, practitioners, and representatives from funding agencies and foundations were invited and a concept mapping activity was performed. Dr. Amanda Graham, Ms. Cynthia Vinson, and Ms. Lenora Johnson created a matrix featured in the meeting report that summarized recommendations arising from this meeting and noted those that the NCI already has attempted to accomplish.

The Researchers Action Plan created during the September 2002 meeting included short-, mid-, and long-term goals. One short-term goal was to contribute editorials that endorse and value dissemination research; arising from this effort was a special issue of *Health Psychology* published in the fall of 2005, which contains six articles and an editorial about dissemination research. A joint effort with the Agency for Healthcare Research and Quality (AHRQ) through the Practice-Based Research Networks (PBRNs) was developed to determine how practitioners diffuse, disseminate, and implement evidence-based findings. The PBRN collaboration featured involvement with stakeholders and funded a practice-based

community prevention and control research network with the Centers for Disease Control and Prevention (CDC).

Mid- and long-term goals were considered together for the practitioner action plan. One activity, Use and Evaluate Existing Evidence-Based Tools, focused on developing dissemination supplements and collaborations with the AHRQ. The other activity, Continue To Evaluate and Disseminate Research Findings to Other Practitioners, featured working with the AHRQ and the Health Resources and Services Administration (HRSA) to develop a new Web-based clinician resource called CLIPS—Clinicians Linking Information to Patients. This resource is designed to integrate research evidence at the point of service; CLIPS creates packages containing evidence-based guidelines relevant to an individual patient’s medical history, which are sent to the patient’s practitioner.

Practitioners and researchers asked for more funding and support from federal intermediaries, particularly to develop and expand infrastructures that promote evidence-based findings and make these findings more readily available. To promote dissemination research, a trans-NIH dissemination and implementation research Program Announcement with special Review (PAR), supported by seven Institutes, will be developed. The goal of the PAR is to create more funding incentives for dissemination research and to encourage collaboration with agencies with regulatory and administrative authority.

In a series of meetings led by NCI’s Center for Strategic Dissemination, a dissemination research agenda and implementation guide with case studies were to be developed. One point of special interest was to improve the quality of peer review of dissemination and implementation research. Study sections often do not have expertise in dissemination research, so the trans-NIH PAR will use special emphasis panels, and all reviewers will be asked to attend a pre-review orientation session. Another item, Increase Incentives and Awards, is being addressed through the development of an R25 training grant for community-based cancer prevention and control that now includes research dissemination language. Development of a common lexicon of research methods and terminology was also deemed important and will be integrated into the PAR. Monitoring progress of dissemination and implementation was also discussed because the United States has no surveillance system for monitoring the implementation of evidence-based practice.

Goals of this meeting included facilitating communication and interaction through educational and Web-based strategies as well as meetings. Participants discussed ways to promote partnerships between researchers and practitioners and ways to cultivate dissemination partnerships. Increased interaction between the NCI and NCIC also was a goal of this meeting.

Canada

*Allan Best, Ph.D., NCIC Advisory Committee on Research
Vancouver Coastal Health Research Institute*

When members of the Advisory Committee on Research (ACOR) first saw a draft of the strategic plan, they realized that the special relationship between the NCIC and CCS offered a unique opportunity to span the entire research-policy-of-practice continuum. The first draft of the plan had five strategic goals. One goal focused on translational research, largely bench-to-bedside issues, and another focused on knowledge transfer designed to have an impact across the prevention-through-palliation continuum. ACOR members noticed similarities between problems discussed by basic scientists, clinicians, and

those focused on population health, so a working group was created—initially only within ACOR, but later joined by the Joint Advisory Committee on Cancer Control (JACCC). JACCC is the senior advisory committee for both the NCIC and CCS, and it is JACCC’s responsibility to determine how to make the best use of research in practice. These discussions fostered the ideas of a community of practice and of developing different ways of working at the organizational level; by bringing together the appropriate organizations, more can be achieved. Organizations must have strategic objectives, infrastructures, resources, and the capacity to steer the entire organization toward evidence-based practice.

Initially, knowledge was thought of as a “product”; however, evidence does not support this model. Instead, as discussed in the White Paper included in the meeting materials, knowledge products must be thought about as embedded within relationships. This was noticed first in the clinical domain, where it became obvious that unless evidence-based practices and guidelines are woven into relationships, little progress is made. The relationship between basic scientists and practitioners needs strengthening; after this meeting and the two subsequent Canada-U.S. Cancer Control Alliance workshops, meetings will be held with basic scientists to determine how the results of these workshops apply to their work.

The nature of evidence is another area of concern. Some at this meeting have voiced the idea that randomized controlled trials (RCTs) are not always the best means for testing evidence; many outside of this meeting would disagree. JACCC requested a series of meetings to address issues surrounding the nature of evidence and to determine the kinds of knowledge or evidence important for dissemination and implementation research.

The Canadian working group process has underscored the consensus that systems-thinking is important. Currently, a disconnect between different agencies involved in cancer control in Canada presents a fundamental problem that must be addressed. A goal of the Canada-U.S. Cancer Control Alliance workshops was to develop a “roadmap” for connecting these agencies.

During the Designing for Dissemination meetings, AHRQ contracted with a Canadian group (McMaster University) to perform systematic reviews of the evidence base for the ability to move practice recommendations into practice. Often, there is no solid research evidence for this, and knowledge that emerges from clinical practice is necessary to determine the most effective strategy. Emphasizing issues of importance for those involved in moving research from “bench” to “bedside” is important, as is effective communication with basic science colleagues. The White Paper can be seen as part of an ongoing movement toward a community of practice that is able to make fundamental changes in how cancer control research and practice are performed; the U.S.-Canadian collaboration is part of that movement.

Discussion

Dr. Kurt Stange referred to Figure 2 of the NCIC report “The Language and Logic of Research Transfer: Finding Common Ground”¹ as a useful approach to outlining the issue of how to communicate with

¹ National Cancer Institute of Canada (NCIC). (2006). *The Language and Logic of Research Transfer: Finding Common Ground*. Final report to the NCIC Board from the Joint Working Group on Translational Research and Knowledge Integration of the Advisory Committee on Research and the Joint Advisory Committee for Cancer Control. Toronto, ON: author.

basic scientists about dissemination research. He also added that it would be helpful for basic scientists to understand that fundamental discoveries can occur at the level of the patient or clinical practice. Dr. Best responded that efforts are under way with basic science colleagues to develop a common language that serves both the basic research and dissemination research communities.

Dr. Best commented that at the Designing for Dissemination meeting, participants challenged the notion that the NCI would proceed in the correct manner and suggested that national organizations generally do not initiate change because change needs to come instead from the community. An effective strategy for change will require a combination of “top-down” and “bottom-up” approaches. Dr. Kerner answered that the director of the NCI, Dr. Andrew von Eschenbach, agrees that leadership and partnership are necessary and that the NCI recognizes that partnering at all levels can be effective. Ms. Johnson added that Dr. von Eschenbach also recognizes that, in a time of limited resources, help is needed to get the job done and the NCI must correctly direct dollars to the appropriate organizations and people.

Dr. Kerner commented that indicators and mixed models are needed for dissemination research and asked those who serve as journal editors to persuade their journals to consider the ways that evidence is presented. Small, concrete actions such as these could help to show that goals have been accomplished, thus justifying further investment. AHRQ and the North American Primary Care Research Group (NAPCRG) were identified as groups to help move the dissemination and implementation research agenda forward. Dr. Stange mentioned a supplement in *Prescription for Health* that concerned health behavior change research. The supplement is available online, free of charge, and the different agencies involved in its development are participating in an online discussion of the supplement. Dr. Stange also suggested working incrementally within the system, such as using the R25 training grant program to train investigators in dissemination research.

Dr. Kerner commented that a major challenge at the NCI is to show the population benefit of evidence-based dissemination of cancer control research—for example, showing what would happen for breast, cervix, or colorectal cancer if evidence-based screening practices were ubiquitously implemented. He commented that the Veterans Administration (VA) invested in health informatics to track changes and improvements in quality of care; improved informatics could help track the implementation of practices.

Charge to Group

Dr. Edmonds asked the Canadian participants to keep the White Paper in mind and to focus their discussions on how to implement its recommendations. The top 20 statements in the Canadian “Go-Zones” were narrowed down to the nine that were high in importance and feasibility. The statements were discussed in the context of organizational involvement, individual role, and policy implications.

U.S. participants were asked to focus on the statements on the worksheets that were included in the meeting materials. Participants were asked to choose concept region priorities and action item priorities and also to consider efforts by the participants themselves, their institutions, and other professional associations that could help to achieve these action items.

Canadian Breakout Session

Canadian participants were asked to consider actions to address statements within concept regions (redefined as meta-clusters in this session) that could be taken at one or more of the individual, organizational, or systems/policy levels. This was done for the first meta-cluster discussed, Develop Participatory/Action Research Strategies, but subsequent clusters were discussed primarily from a systems point of view. Statements with high feasibility and high or low importance were discussed.

The goal of this meeting and exercise was to address the gaps between basic research and translation of that research. The ACOR for NCIC supports the idea of improving the dissemination of evidence-based research; the new strategic plan designates funds for dissemination, but there are still gaps in understanding between basic and applied researchers. An issue that may be largely responsible for this gap is the “cultural language divide” between basic and applied researchers; ACOR intends to address this issue.

Meta-Cluster Region: Organizational Culture and Structure

- Policy briefs should be developed as an expected outcome of research. Policy makers who should receive these briefs include government and provincial officials, NGOs, and regional health authority boards. Relationships with policy makers should be redefined in a positive light.
- Ensure that all policy briefs follow the “1-3-25” rule—an attention-getting, 1-page summary for policy makers; a 3-page detailed summary for those who want information about the findings but not necessarily the methodology; and a 25-page report for those to whom researchers are accountable. The Cochrane Collaboration’s Workshop on Plain Language has information useful for developing reports of this sort.
- A national policy-making primary care group or panel should be established to promote policy concerning state-of-the-art treatment issues.
- NGOs could provide leadership in this area, given their abilities to develop and nurture diverse relationships. The advocacy efforts of these groups also should be supported.
- Primary care should be placed on the Canada-U.S. Cancer Control Alliance agenda.
- Relationships between research institutions and advocacy groups could be built around issues such as waiting times, prevention, and access to palliative care.
- To increase quality measures and indicators, organizations should be held accountable for tracking progress.

Meta-Cluster Region: Learning Infrastructure

- Training programs are needed for general health researchers, as is funding for health professionals to promote research by those working in clinics.
- Exposure of primary care residents to research should be increased and viewed as an important component of their training.
- Ph.D. programs for health professionals emphasize how to conduct research but not knowledge transfer or integration. Interdisciplinary courses that focus on these topics should be created and could include graduate students from many different programs.
- Research should be promoted in private practice. Opportunities should be created to encourage practitioners to view research as part of their role. This idea should be promoted by people in positions of leadership, including deans and program chairs.

- Develop transdisciplinary workshops for integrated cancer control research that could bring together investigators, primary care practitioners, and NGOs and that would highlight the difficulties and rewards of this research. The presence of people active at the grassroots level would help to disseminate information resulting from these workshops.
- Organizations should profile examples of successful research collaborations to serve as models and to publicize current research.

Meta-Cluster Region: Stakeholder Collaboration

Individual Actions

- Participants mentioned a systematic review of best evidence and best practices that had been published in *The Lancet*. Participants suggested that, as individuals, they could review the literature to apply the most recent findings to their own teaching, research, and patient care efforts. In general, they recommended that those who are interested in disseminating evidence-based practice increase their personal knowledge of the field.
- Students should be encouraged to obtain training in dissemination research, which could help bridge the gap between research and practice.
- Lines of communication should be developed and strengthened between researchers and practitioners.
- At present, it is difficult to include practitioners on research grants in Canada. Researchers should continue to encourage practitioner involvement in research and should try to help reduce obstacles to this.
- Researchers and clinicians should be taught the importance and necessity of working with each other.
- Basic researchers could communicate with primary physicians who refer cases to oncologists to help keep primary physicians informed of clinical trials options. Primary physicians thus could serve as a conduit between patients and researchers.

Professional Association/Organizational Actions

- Successful partnerships should be recognized and their work publicized. Research institutes, such as the NCIC, should realize the benefits of these partnerships and celebrate success stories. Recognition of successful partnerships could serve as “endpoints” of success.
- A mechanism should be developed to connect graduate students and researchers with primary care clinics. Provincial governments, which fund both health authorities and universities, could help foster partnerships between students, researchers, and clinics.
- Cancer centers should increase outreach to communities. Specifically, prevention efforts and cancer survivorship initiatives could be disseminated to communities through primary care physicians.
- Results of local initiatives and small-scale research projects performed within a community should be communicated to that community.
- Funding for evidence-based research should allow for time to develop working partnerships.
- Practitioners should be viewed as educators. Cancer prevention educators could include teachers as well as physicians (i.e., teachers educating students about smoking and drug-use prevention).

NCI/NCIC and Other Policy-Level Actions

- Guidance is needed to identify “best practices” throughout the research community.
- Innovative grants and funds for pilot studies are needed to increase dissemination research, which will require educating granting agencies about the appropriate issues.
- Research fundraisers (such as the CCS) also can help direct funds to the field of dissemination research.
- Specific infrastructure needs for community-based research must be addressed.
- Research agencies such as the NCIC should help call attention to the trials they fund.

Meta-Cluster Region: Data and Accountability Systems

- Strategies to encourage collaboration and the use of models that enhance decision-making ability should be developed.
- Data-sharing across agencies should be enhanced and better surveillance and tracking methods developed.
- A national standard should be created to facilitate access to cancer registry data. Currently, researchers do not have access to Provincial Cancer Registry data, and patients are not asked if they will consent to researcher use of their data at the time it is collected.
- Support should be provided for establishing electronic health records at the local provider level.
- The information technology infrastructure should be strengthened by developing “least common denominator” information (i.e., minimal data sets, with allowances for individual customization as needed).
- Journals, granting agencies, etc., should be encouraged to place increased value on qualitative research (e.g., “storytelling” or case histories and anecdotes as evaluation) and mixed-methods of data presentation.

Meta-Cluster Region: Incentives and Funding

- Grant reviewers must be educated about transdisciplinary grants and about the time needed to establish partnerships and generate results.
- Funders must also be educated about the costliness of collaborative research, especially research that includes community participants.
- Grant reviewers must understand that innovation and social relevance are as important as research track record.
- Funding for salaries through grants should be advocated, and physician-scientist awards/mechanisms for funding should be expanded. Alternative means of career support will help provide flexibility for researchers from all environments.
- Interactions between researchers and clinicians should be encouraged.
- Incentives for primary care provider behavior change, along with the provision of necessary tools and resources, should be encouraged.

Major Messages—Canadian Viewpoint of Integrating Research and Practice

The CCS could serve as a conduit for information flowing to and from the public. Including the public is crucial because public attitudes influence policy decisions. Knowledge of the treatment, prevention, and control of cancer is growing exponentially; the challenge is to move the knowledge to the public and practitioners. The public is entitled to up-to-date information but also has a responsibility to help bring about changes in society to improve health care.

Key Points

- A public education campaign is needed to mobilize the public and researchers around cancer control activities.
- Matching answers with questions: Much information is available, but systems are needed to clarify it. Different aspects of the cancer control field should be brought together, and the cancer research community should harness the power of storytelling to develop and convey messages directly to the public to help organize people and efforts around important issues.
- Capacity for knowledge integration among clinicians, practitioners, and researchers can be built, especially by exploiting the Internet. NCIC's strategic plan emphasizes communication, and funds will be directed toward this effort.

Key Messages for the NCIC

- The NCIC is the only group with the capacity to develop, articulate, and explain the elements that are necessary to change cancer control activities. The NCIC can be the leader in the field of knowledge integration and must promote that as an overarching theme.
- The NCIC should provide leadership, not only for thinking but also for action.
- The relationship between the NCIC and CCS should be exploited to promote knowledge integration and dissemination. The NCIC is in a unique position to promote social/policy action.
- The NCIC, unlike other agencies, can focus on cancer context and proof-of-concept projects, especially for research and evaluation. Results of these evaluations could be presented to the CCS.
- The NCIC supports research on other chronic diseases, such as heart disease and stroke, which could serve as models for dissemination of cancer prevention and control information.
- National work that involves the entire Canadian cancer community and general public is needed. The NCIC has core expertise and unique relationships with the CCS and CIHR and could follow up on ideas presented at this meeting—integrating projects and initiatives, but focusing on transferring the results of research into practice.

U.S. Breakout Session

All concept mapping regions were discussed, and participants were asked to consider specific steps and ideas to help achieve the goals in each region and to identify specific activities they could undertake. The meeting organizers intended to contact the participants within 6 to 12 months to discuss their progress on these activities, whether they had identified relevant new areas or action steps to pursue, and whether NCI could offer assistance—including helping to build relationships between participants and others who might help achieve the goals of this meeting.

Meta-Cluster Region: Organizational Culture and Structure

- Increase awareness of existing literature syntheses. Participants should consider publishing the results of dissemination research in journals other than those that traditionally publish this research. More interactive forms of results publication, such as the CLIPS program—which works to translate information into specific sets of patient encounter forms, clinical materials, and patient education materials—also are needed.
- Increase practitioner input and involvement in dissemination research. Consult with practitioners to learn how prevention and screening activities can be promoted in practice, given the time constraints faced by most clinicians. Partnering with groups working on other chronic diseases (such as diabetes) could provide insight into clinical care challenges and strategies. The cancer control community could consider working with the Robert Wood Johnson Foundation Prescription for Health Initiative, which partners with practice-based research networks to implement strategies for promoting health behavior change.
- Participants should review the mission statements and activities of professional organizations to which they belong and identify activities that promote the mission and areas for improvement. Participants also could work with professional organizations to encourage state cancer programs to explicitly incorporate dissemination research as part of their mission. Managed care organizations also could be encouraged to take a role in promoting research-practice integration.
- The NCI could develop a “cheat sheet” to help researchers communicate with and influence decision makers. The NCI also could consider asking grant applicants to include dissemination plans in their proposals, with “extra credit” going to applications that include detailed plans likely to have an impact.

Meta-Cluster Region: Learning Infrastructure

- Steering committees of medical schools could be asked to consider including information about dissemination research, practice, and policy in their curricula. Venues that provide opportunities for discussing dissemination research with medical students should also be identified. C-Change could be asked to help develop public-private partnerships, especially with health plans and employers, to promote screening and prevention activities.
- Summaries that address “implications for practice and policy” could be included more regularly in publications. The Physicians Data Query section on the NCI Web site could include these sorts of summaries, particularly those that contain information on screening. Practitioner input is crucial to ensure that policy recommendations consider barriers to implementation that practitioners might face. Policy and implication statements should include contextual information to help avoid the misinterpretation of results.
- The R-TIPS Web site, which contains intervention programs that have been published in peer-reviewed journals and subsequently reviewed by two or three experts in the field, provides an example of a Web-based dissemination effort. Programs listed on this site also will be cross-referenced with the Guides to Community Preventive Service. NCI’s Office of Education and Special Initiatives currently has a program that adapts research-tested intervention programs to different practice environments.

Meta-Cluster Region: Stakeholder Collaboration

- Communicate with journal editors to encourage the publication of articles that contain qualitative, quantitative, and transdisciplinary research. The NCI could convene a meeting with journal editors to discuss mixed-methods research.
- Encourage meetings at which basic scientists, clinical researchers, practitioners, and patients could interact. The Department of Defense's breast cancer meeting could serve as a model.
- The NCI should work with other organizations to encourage the inclusion of practitioners in the review process for grants and articles. Group members who serve on NIH study sections should encourage Scientific Review Administrators at the Center for Scientific Review to create permanent implementation study sections and to include practitioners in them.

Meta-Cluster Region: Data and Accountability Systems

- Developing standard outcome measures is a priority and will help facilitate comparability and evaluation.
- Using electronic health records will facilitate implementation of pay-for-performance incentives to increase prevention activities. Switching practices to electronic record systems, however, will require substantial financial investment.
- Better support for registries is needed. Registries and institutions should strive for compatible software to allow for better communication and to help disseminate research results and monitor outcomes. The VA and National Health Service could serve as models for better registries.
- The NCI and AHRQ could work with the Centers for Medicare and Medicaid Services to enhance information technology infrastructures.

Meta-Cluster Region: Incentives and Funding

- Consider offering financial incentives to practitioners who use evidence-based approaches to cancer prevention. Other incentives, such as the "Good Housekeeping Seal of Approval," should be considered also.
- Workplaces should be asked to consider providing cancer screening services on-site and to encourage health behaviors. Studies that show a return on investment for these activities are needed to persuade employers.
- Private sector support for preventive services could be sought through the National Business Group on Health and the CEO Roundtable Gold Standard program.

Tuesday, July 12, 2005

Canadian-U.S. Dialogue: How We Can Collaborate

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*Dexter Harvey, Dr.Ed., Director, Knowledge Exchange Network
Canadian Cancer Society Manitoba Division*

Nine items from the concept mapping data were recognized as highly important and highly feasible. These items were grouped into five regions (renamed as meta-clusters) to develop a focus for discussion. The items in the meta-clusters were reviewed and discussed, with a focus on what individuals or organizations could do and on systems or policy level issues. Dr. Fitch commented that the participants had considered knowledge integration and evidence-based practice efforts in the context of existing Canadian activities. She provided an overview of the discussions of each meta-cluster and emphasized the ideas that had generated the most excitement during the discussions.

Meta-Clusters

- Organizational Culture and Structure: The results of knowledge integration and dissemination research efforts must be communicated to the relevant policy makers—defined as government officials, decision makers at cancer centers, NGOs, and board members. Sending a short paper to a policy maker is not effective; instead, relationships must be established around issues that are important to the policy makers. In Canada, waiting times for treatment could be a galvanizing issue for researchers, advocacy groups, and the public.
- Learning Infrastructure: Transdisciplinary education is required for knowledge transfer and integration. Participants were asked to consider who besides practitioners and researchers should be included in the educational process.
- Stakeholder Collaboration: Participants stated that stakeholder involvement is crucial to achieving successful knowledge transfer and integration. Trust must be established within partnerships between practitioners and researchers; establishing this trust requires face-to-face interactions, which has implications for the length of time needed to generate results and for adequate funding to allow time to build partnerships.
- Data and Accountability Systems: Data systems must be integrated and able to communicate. A national system of surveillance and monitoring, which will require a significant effort to coordinate, is needed. The value of different types of data—storytelling as well as numbers—should be considered, because this will aid understanding of context and environment beyond what numbers alone can provide.
- Incentives and Funding: A wider variety of funding vehicles is needed in Canada. If a primary care practitioner is invited to be an investigator on a research project, the practitioner must forgo his/her practice income to participate, which presents a significant barrier to participation. Incentives and support for a range of stakeholders who should be part of the research teams are needed; this may require considering changes to established funding structures.

The Canadian Action Plan considered its impact on the entire Canadian cancer control environment. Currently, the Canadian Strategy for Cancer Control involves the NCIC, CCS, CIHR, and the Canadian Association of Provincial Cancer Agencies. Knowledge transfer and exchange is a major goal and priority of the Strategy. The cancer control community in Canada is in need of public mobilization and cooperation between researchers, practitioners, citizens, organizations, and cancer agencies. Themes such as waiting lists or the gap between evidence and implementation into practice could catch the attention of all within the community and help bring the players together. Many cancer control activities are under way in Canada; many “answers” are known but have not been properly implemented.

Capacity-building is key to disseminating knowledge through all parts of the system, including to nonprofit organizations, NGOs, and cancer agencies. The challenge for the Canadian Action Plan is to

focus on the NCIC, which is in a unique position to take the lead—not only in promoting knowledge integration but also in providing leadership. The NCIC and CCS should provide joint leadership in cancer control and lead certain knowledge exchange aspects, such as developing exemplar models in research and evaluation; disseminating proven models that were developed for other chronic diseases also could be useful.

Discussion

Dr. Kerner asked about areas in which the NCI and NCIC could work together productively on a bi-national effort. Dr. Fitch answered that the NCIC and NCI could provide the leadership needed to drive thinking and action forward around knowledge transfer and integration and could ensure that knowledge is disseminated and shared. Dr. Kerner added that the U.S. breakout group also discussed ways to integrate qualitative and quantitative data. It is difficult to obtain funding for research that features “mixed models,” but perhaps the NCIC and NCI could work together with journals to organize a bi-national meeting on best practices and on encouraging journals to publish mixed-model analyses.

Dr. Allen Dietrich asked where primary care fits into these activities and about the issue of primary care physicians having to forgo income to work as investigators within a research project. He also asked how Canadian PBRNs would be included in this effort. Dr. Fitch agreed that creating, maintaining, and fostering these networks is difficult when there are barriers to participation. Building effective partnerships requires time for interaction; lack of support for primary care practitioners to participate in such activities prevents them from participating in meaningful ways.

Dr. Sally Thorne noted that, in Canada, oncologists are salaried employees in the context of academic institutions, and academics have 12-month salaried positions that are not dependent on research funding. All funding agencies are struggling with developing ways to include multiple stakeholders; there are some experimental funding models, but little progress has been made. Funders will need to be encouraged to develop creative funding mechanisms that will benefit cancer control activities. Dr. Best noted that community practitioners not on the academic faculty can be valuable contributors to projects and in some cases can be funded to be medical directors for projects. Dr. Thorne added that practitioners can participate but often cannot be principal or co-investigators, which creates a disparity with respect to who owns the research and who is directing the project.

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*Michael Pignone, M.P.H., M.D., Associate Professor of Medicine
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The U.S. breakout group decided to discuss all five regions on their worksheets. All items that fell into the green and yellow Go-Zones (based on ratings of importance and feasibility) were considered; participants considered individual roles and roles that professional organizations could play in advancing these items. Roles that the NCI could play in fostering these activities also were discussed. The most salient and developed action items were organized for this presentation.

Meta-Cluster Region: Organizational Culture and Structure

- Increase awareness of existing literature syntheses, which may need to be marketed, evaluated for quality, and perhaps updated. Literature syntheses may also need to be reframed to meet the needs of end users, because executive summaries often are too short to be useful, but technical reports with background information are too long. The NCI could help create an information sheet that explains how to redefine issues so they will be included on the policy makers' agendas.
- Grant applications should require ideas for dissemination of research results that go beyond publications and presentations. Tangible benefits should be provided to researchers who include rigorous dissemination plans in their proposals. An evaluation of the dissemination plan could be included as a component of the proposal, with extra credit assigned to grant applications that include an evaluation component.
- The vision and mission statements of organizations to which participants belong should be examined to ensure that translating research into practice is part of the mission.

Meta-Cluster Region: Learning Infrastructure

- Work with journal editors to allow integration of quantitative and qualitative research in the same article. Collaborate to discuss the best ways to do this (e.g., through the use of electronic publication supplements). The NCI could convene a meeting with journal editors to disseminate "behind the scenes" information about results of an intervention to add to the quantitative results.
- Advocacy groups, including the Center for the Advancement of Health, could provide summaries of research findings to policy makers.
- The NCI could include short summaries of screening fact sheets on the Physician Data Query.

Meta-Cluster Region: Stakeholder Collaboration

- Studying effective methods of dissemination is highly important. Limitations of the current grant review process were discussed, including incorporating transdisciplinary and patient feedback into proposals. The Department of Defense breast cancer meeting was cited as a good example of a process that incorporated patient input from the start in a meaningful way. Granting agencies, including the NIH, should try to support similar efforts.
- Community-based participatory research was recognized as particularly important for the widespread dissemination of cancer control interventions. It will not succeed within the current NIH infrastructure and existing research framework without special support, however.
- Incorporating patients and practitioners into the grant review process also was seen as important. Currently, study sections consist mainly of published researchers and researchers who have grants; obtaining input from practitioners, particularly for interventions that are designed to impact practice, is crucial for evaluating potential feasibility and success.

Meta-Cluster Region: Data and Accountability Systems

- This is an important issue, but the scope and financial obstacles are substantial and will require the combined efforts of many agencies and organizations. A major challenge for both the United States and Canada will be to generate enough capital to make the changes to data systems used in primary practice. Successful models, such as those used by the U.S. VA and British National Health Service, were discussed. It was noted that these systems may not be completely

applicable to the more fragmented and disorganized U.S. system. Enhancing the information technology infrastructure also will require efforts at the national level and, perhaps, collaboration with different stakeholders.

- Standard outcome measures should be collected to ensure comparability and to encourage evaluation. One method may be to develop a set of common measures that are evaluated on a regular basis, perhaps in the context of AHRQ's Annual Report on Quality. A set of sentinel practices from which data can be collected will help provide needed public health information to assess the activities that take place in practice.

Meta-Cluster Region: Incentives and Funding

- The effectiveness of economic incentives in increasing the use of preventive services should be evaluated. To engage employer groups, potential returns on investments for workplace prevention programs or information concerning how greater levels of health and prevention activities would reduce amounts of time lost from work should be publicized.
- AHRQ researchers could evaluate the pay-for-performance mechanisms being started in Britain and the United States to determine the effects, both positive and negative, that may occur when these efforts are deployed on a large scale.
- Investigators who meet certain prevention goals could be acknowledged and rewarded—not necessarily in economic ways, but perhaps by giving the “Good Housekeeping Seal of Approval” to practices that meet certain criteria in terms of preventive care and cancer prevention activities.

Participants discussed opportunities for synergy between key perspectives and issues raised by the Canadian workgroup compared with those raised by the U.S. workgroup. Dr. Pignone stated that there are large differences in pay structures and coverage between the two countries; in the United States, more than 40 million citizens have no health insurance and, thus, have limited access to regular health care. Dr. Laura Mae Baldwin commented that differences could be examined to learn about strategies to improve cancer control and prevention. Despite better access to health care in Canada, Canadian prevention efforts are not significantly more successful than U.S. efforts. Dr. Baldwin asked whether screening rates between the two countries could be compared to identify barriers that impact access to and utilization of screening services.

Dr. Pignone asked whether Canada had mechanisms for collecting national data, such as the Behavioral Risk Factors Surveillance Services and National Health Interview Survey in the United States. Dr. Alan Katz answered that community health surveys are performed in Canada, as well as a number of national health surveys. Additionally, because the Canadian system is fragmented into provincial structures, data are collected at this level, and good population data about screening rates within provinces are available. Dr. Kathleen Quinlan asked whether provincial results could be aggregated to the federal level; several respondents indicated that this would be problematic.

Dr. William Trochim asked whether the issue of waiting lists could be considered an access issue and whether the issue could be used to bring together researchers, practitioners, and policy makers in an attempt to improve research practice integration. Networks and systems connections that will be necessary for changing the way research is done can be developed from connections made at the interpersonal level. Dr. Fitch commented that waiting list issues usually concern access to diagnostic tests and treatment (usually surgery and radiation therapy). Access to treatment is seen as a mobilizing

issue in Canada, but perceived waiting is a symptom of coordination of care issues and barriers, including lack of physicians, that might impede access to care. Another problem is that responsibility for health care delivery lies within the provinces or the health regions within the provinces, and communication between health regions and provinces usually is not optimal.

Dr. Best identified waiting lists as a systems issue. Many senior decision-makers are aware that lack of continuity of care and difficulty navigating through the system are significant barriers. He asked for sophisticated research to understand how the system functions as a whole, but funding for such research is lacking. A possible area for collaboration could be the development of methodologies and demonstrations to illustrate that systems navigation issues can be better understood. Dr. Robert Bristow noted that Canada does measure waiting times, with some hospitals posting their “real-time” waiting times on the Internet, which can be an embarrassment to the government. Additionally, evidence concerning the effects of waiting for treatment is available, but it has not been effectively communicated to patients to help them understand that a shorter time until treatment is important for some cancers, but not for all.

Dr. Katz advised caution when discussing this issue because some groups in Canada wish to dismantle the publicly funded health care system in favor of a private insurance system. Dr. Pignone commented that both Canada and the United States endorse colorectal cancer screening and that National Health Interview Survey data are available that compare screening rates for insured versus uninsured citizens. He suggested comparing U.S. screening rates to those in Canada and, if screening rates are not substantially higher in Canada, trying to determine why this might be so. Dr. Joan Bottorff added that, despite free cervical cancer screening (Pap smears), some women in British Columbia do not participate. The social issues of behavior, gender, and class all influence screening behavior, and these must be considered when attempting to identify barriers to screening.

Dr. Kerner added that, within the United States, there is a high rate of cervical cancer screening, but there are segments of the population—largely rural and lower socioeconomic class—whose relative risk of dying from cervical cancer is unchanged even though overall rates have been decreasing for the past 50 years. Initiatives are under way to discover new methods for reaching these populations. Given the situation described by Dr. Bottorff for British Columbia, similar social context issues may be affecting screening rates for these two populations. Determining how to increase screening rates in hard to reach populations could be another area for collaboration between the United States and Canada. Studies of unique populations and unique intervention approaches that may be specific to small populations should be examined.

Dr. Romaine Gallagher suggested adding pain alleviation to studies of screening rates because people without access to screening also usually lack access to pain relief. Dr. Dietrich suggested that the NCI and NCIC should issue program announcements to solicit linked studies that address the same issues in the United States and Canada, initially to fund demonstration projects that are designed to better understand the pertinent issues. Ms. Johnson commented that there are currently many qualitative and quantitative studies that address barriers across populations, but studies concerning effective methods of dissemination are lacking; addressing dissemination issues might be more effective than determining why people do not get screened.

Dr. Stange suggested looking to the NAPCRG's experience to learn about the infrastructure needed to maintain bi-national collaborations. NAPCRG's fall meeting in Quebec City also could serve as a venue for an NCI-sponsored meeting on the nature of evidence and use of mixed-methods. Dr. Best agreed with the idea of a meeting on these issues, but he cautioned that saying that traditional scientific methods are inadequate might be threatening to the research community. Dr. Kerner noted that the trans-NIH community-based participatory research PAR addresses implementation and dissemination research issues, but problems lie in the process of peer review. Peer reviewers do not readily accept a mixed-method model in a grant proposal, and the mixed-method approach always receives a lower priority score than a grant that employs randomized controlled trials. Acceptance of mixed-method models will need to occur at the level of the study section. Dr. Trochim suggested that the Canadian Evaluation Society and American Evaluation Association could provide another venue for debating issues that surround the use of mixed-method models.

Dr. Kerner commented on an effort to provide opportunities for dissemination and implementation research core funding within cancer center support grants, to create an incentive for cancer center directors to consider such research. Dr. Thorne suggested moving more funds to contracts as opposed to grants as a way of directing research more precisely and of more fully addressing agencies' needs. Dr. Stange disagreed, saying that favoring contracts over grants could lead to less innovation at a time when more is needed. The peer review process should be adjusted to promote innovation.

Dr. Pignone suggested that the group focus on promoting research on methods that are effective for disseminating existing knowledge. Large studies of practice improvement and data currently collected from the HRSA collaboratives may be informative. He cautioned that those interested in changing how dissemination and implementation of evidence-based medicine is performed should be certain that their recommendations are correct before the recommendations are put before policy makers. Dr. Stange suggested that the NCI could learn from the NCIC and partner with the American Cancer Society (ACS) on advocacy efforts. Dr. Kerner related attempts to collaborate with the ACS on efforts to move science into practice through comprehensive cancer control plans in the states, as part of the Cancer Control Plan, Link, Act, Network with Evidence-Based Tools (PLANET). The challenge lies in changing the research atmosphere of the ACS, which, like the NCI, tends to emphasize basic science. Dr. Katz commented that the focus of implementation research should be to communicate that the quality of cancer care does not suffer from a lack of data on how to treat cancer patients, but rather that the data are not implemented into practice. This could be an issue around which to mobilize advocacy.

Dr. Roy Cameron suggested that grant review panels should require grants to address the funding agency's strategy or mission statement. Innovation could be a goal to be addressed specifically in the review. Grant applications also could be required to include a dissemination plan that goes beyond publications in scientific journals and presentations at scientific meetings. Dr. Gallagher added that, because there is a body of knowledge that concerns how to change people's health behaviors, people working in this field could be asked to help explain the impetus for change and to help develop ways to change practitioners' behaviors. Dr. Best added that knowledge from disciplines such as the management sciences also could be useful in these efforts.

Ms. Johnson asked participants to think about what currently is known about dissemination and how this knowledge might be used to move evidence forward, rather than just continuing to study how to disseminate evidence. She agreed with the suggestion to use contracts to fund research and commented

that this could help fund opportunities to act immediately, rather than opportunities for more research. Dr. Armin Weinberg commented on an Institute of Medicine report titled *The Unequal Burden of Cancer* that examined NIH efforts to address health disparities. He believed that the report did produce change within the NCI and NIH as a whole, increasing activity in the study of health disparities. He proposed a joint NCI-NCIC study to address health disparities through comparisons between the United States and Canada.

Dialogue on Collective Next Steps

*Lenora Johnson, Director, Office of Education and Special Initiatives
National Cancer Institute*

*Stuart Edmonds, Ph.D., Director, Research Programs
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Areas for collaboration between the NCI and NCIC:

1. Nature of Evidence
2. Models for Dissemination of Evidence
3. Support and Share Progress Toward Overcoming Challenges

Nature of Evidence

Participants suggested developing models for mixed methodologies and providing opportunities to better understand and use mixed-methods. Two approaches were suggested: (1) working with journals to promote the publication of journal articles that include mixed methodology, and (2) working with evaluation organizations and professional societies to foster discussion of mixed methodologies. Participants also suggested developing literature syntheses that integrate evidence across boundaries and contexts and that reframe the evidence to render it more useful in practice settings. Knowledge from research on common issues from different contexts also should be integrated.

Dr. Kerner commented that key journals that publish primary care interventions could be identified and brought together with the NCI and perhaps the NCIC to discuss the question of peer review for funding and publication of mixed-method studies. Alternative models, perhaps electronic supplements to journals, will be needed to integrate qualitative and quantitative research models. Dr. Stange suggested that NCI conference grants, which are reviewed by staff rather than by peer review, could be used to coordinate these efforts.

With Dr. Stange's help, a workshop to discuss the nature of evidence and primary care transformation was planned for October 15, 2005, to precede the fall NAPCRG meeting. This meeting provides a bi-national venue for interaction among researchers who are working on mixed methodologies in primary care and participatory research. It also could bring together the community-based participatory research and practice-based network communities.

Dr. Trochim suggested involving the American Evaluation Association and Canadian Evaluation Society in efforts to evaluate mixed methodologies. Dr. Best suggested partnering with the Canadian

Association for Health Services and Policy Research to discuss potential changes to peer review, if participants think it would be wise to extend this discussion beyond the cancer community.

Dr. Katz raised the issue of including practitioners in the discussion of the nature of evidence because evidence that is useful to practitioners may be different than that identified as useful by researchers. He suggested presenting this issue at clinically oriented meetings, such as the American Academy of Family Medicine. Dr. Gallagher suggested using a problem or issue, such as quality of death or cancer pain, around which to gather practitioners to learn about the problems they face. Dr. William Phillips added that community-based practitioners should be involved also.

Ms. Johnson asked for ways to develop literature syntheses that integrate knowledge across boundaries and contexts and for ways in which to frame the syntheses to be more useful in the practice environment. Dr. Kerner mentioned attempts by the NCI to inventory all evidence reviews across the cancer control continuum and to place this inventory on the Designing for Dissemination Web site. He asked the NCIC to examine this inventory to identify gaps and areas that should be updated. Dr. Best suggested that Dr. Kerner contact Dr. Jeremy Grimshaw, head of the Canadian Cochrane Collaboration, to discuss a joint initiative on this.

Dr. Kerner described “targeted fact sheets” that were created as part of the evidence reviews developed with the AHRQ, designed in response to requests from researchers who wanted to know why their interventions were not included in evidence reviews. Public health practitioners complained that most of the interventions did not have clinical relevance because they were performed in highly controlled environments. In response, a fact sheet explaining how to develop research-practice partnerships that will result in research with dissemination potential was created. Dr. Kerner also suggested developing collaborative Canadian-U.S. targeted products to promote existing evidence in a format that is useful to practitioners.

Participants suggested developing a compendium to evaluate pay-for-performance initiatives that could cover both Canadian and U.S. efforts. Dr. Best agreed that, because the federal government has invested millions of dollars in funding primary care transitions demonstration projects across the country, a tool for evaluating the success or failure of these efforts was necessary. Dr. Katz cautioned that, during the Canadian breakout session, no topics were identified in the area of incentives that were highly feasible and highly important.

Models for Dissemination of Evidence

To improve dissemination of evidence, Dr. Kerner suggested analyzing strategies used by the NCI, NCIC, ACS, and other agencies for information dissemination and implementation work. Ms. Johnson encouraged participants to consider efforts outside of the primary care context. She described the TEAM-UP project, under way in six states with high breast and cervical cancer incidence and mortality to mobilize efforts within partnership settings to increase the use of evidence to reach women who rarely or never are screened. She also mentioned Body and Soul, a program that reaches out through Black churches in the United States. Dr. Dietrich commented that he and Dr. Trochim have discussed developing methodologies that measure change at a systems level to study dissemination and implementation efforts; one idea is to perform concept mapping repeatedly in a context to determine how the culture changes over time.

Ms. Johnson asked for ideas to develop models for community-based participatory research that includes primary care physicians, development of structures to support and include primary care practitioners in research, and ways to implement the research in a primary care application. Dr. Bottorff suggested that funding agencies could issue RFAs to stimulate activity in this area. Dr. Fitch added that RFAs should be targeted so that the results of the research will be usable by end users, including health care providers, patients, and their families. Dr. Harvey mentioned work by Dr. Steve Mansky at the Center for Behavioral Research and Program Evaluation at the University of Waterloo, which focuses on engaging users with researchers. He also mentioned examining efforts by Dr. Rejean Landry and others working in the field of information management technology to learn about dissemination models.

Support and Share Progress Toward Overcoming Challenges

Ms. Johnson commented on the lack of common measures, standards, and outcome measures across domains (practice, quality, and the ability to track uptake of evidence). Participants agreed that the development of a common language to describe measures and standards was necessary, along with communicating research in appropriate formats and tailoring dissemination efforts to the user. Ms. Johnson mentioned the “1-3-25” rule—a 1-page, attention-getting summary for policy makers; 3 pages for those who want information about the findings but not necessarily the methodology; and 25 pages for those to whom researchers are accountable.

Dr. Baukje Miedema asked for dissemination strategies that would reach local practitioners who do not have time to read all of the latest cancer control research. Dr. Cameron added that little is known about what people use; thus, it would be interesting and useful to learn from practitioners about the sources of information they consult on a day-to-day basis. Dr. Kerner described a point-of-service mechanism under development by the AHRQ and NCI, which gathers evidence contained in guidelines and clinically tested tools for helping patients make informed decisions and delivers this information to practitioners at the point of service. If patient data are available in the form of an electronic medical record, this information can be linked to a Web service that will analyze the patient’s data and provide the practitioner with a packet of information tailored to the patient’s individual needs.

Dr. Kerner asked if the NCIC would like to be involved in efforts to determine the effectiveness of this service. Dr. Best doubted that Canadian funding would be available for this effort and suggested partnering with the CIHR instead. Dr. Kerner clarified that his group is not developing vendor products or electronic medical records; instead, it is developing a Web service that will interact with multiple vendor products. The NCI also is interested in working with other NIH Institutes and the CDC to expand Web site content beyond cancer.

Several participants commented that the ways in which information is delivered to consumers need to evolve because younger people are more comfortable with Web-based information sources than are older people. Dr. Graham mentioned that NCI’s Web site is not easily searchable; Dr. Kerner added that this was a problem when gathering information from many government agencies’ Web sites. Dr. Gallagher emphasized including the public in dissemination efforts. As an example, patients report being satisfied with the pain management they receive even though as many as 50 percent report uncontrolled pain; this happens because patients are unaware of their options. Informing patients and the public in general is another way to disseminate information to practitioners. Dr. Katz suggested that Dr.

Kerner's project, which focuses on delivering patient-tailored information to practitioners, might want to consider delivering that information directly to patients. This would help to motivate practitioners to explore and adopt new information concerning treatment.

Concluding Remarks

Allan Best, Ph.D.

Dr. Best commented that this meeting provided an excellent opportunity to meet people in the field from different countries. He asked participants to think of themselves as part of a movement and members of a community of practice. He asked them to continue to think of ways to advance dissemination and implementation research.

Jon F. Kerner, Ph.D.

Dr. Kerner asked participants to contact him with ideas for next steps and also to provide feedback on the concept mapping exercise. He will be thinking about the extent to which contextual issues of primary care will drive strategies for addressing these issues in a primary care context and the extent to which there will be crosscutting issues when moving to oncology specialty care and public health practice. He reminded participants about the workshop scheduled for October at the NAPCRG meeting and thanked them for their participation and cooperation.

Meeting Evaluation Summary

Summary of Findings

- Of the 23 meeting participants, 18 completed the evaluation questionnaire, for an overall response rate of 78%. Ratings were on a scale of 1–4, where 1=not at all and 4=extremely.

Responses to Evaluation Questions

Question 1: Gather input from participants on what is needed to bridge the research/practice gap.

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.33

Question 2: Identify individual actions that participants can implement within their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.43

Question 3: Identify organizational and system level actions that participants can implement or advocate for in their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.72

Question 4: Identify actions that the National Cancer Institute or the National Cancer Institute of Canada or other research granting agencies can take to enhance the integration of research with practice.

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2/3
Average Rating: 2.96

Question 5: Create a community of practice that will work together (with NCI and/or NCIC) beyond the meeting to implement actions that require partnership efforts.

Rating: Number of Responses: 18
Highest Rating: 4

Lowest Rating: 1
Average Rating: 2.77

Question 6: Identify opportunities for fruitful strategic U.S.-Canada collaborations.

Rating: Number of Responses: 17
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.89

Question 7: How effectively did we make use of the pre-meeting assessment (conceptual framework and rating results)?

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.93

Question 8: How useful did you find the pre-meeting background reading materials?

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 1
Average Rating: 3.02

Question 9: How likely is it that you will take the priority actions you identified to improve the integration of research and practice in the organization in which you work and/or are a member?

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.39

Question 10: How effective was the meeting overall?

Rating: Number of Responses: 18
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.89

Question 11: If you rated any items in #1–10 as “not at all” or “not very,” please provide feedback below.

- For identifying action (#2 and #4) and creating action community (#5), there simply wasn't enough time to fully flesh out the ideas, develop relationships. This was an excellent start. Pre-meeting reading materials could have provided more guidance on how to prepare.

- None. I commend Amanda and Cynthia for handling of Mon. p.m. group. Kathleen Quinlan was great in large group presentations and discussions.
- Need different stakeholders getting together.
- More effort needed to move beyond what is comfortable and familiar to what is risky and challenging.
- Although there was much discussion of true community building on the community of practice aspects, much more needed to be done to mobilize people to do something beyond talk and share ideas.
- Pre-reading items were out of context until explained at meeting (e.g., relative rating sheets). White Paper X useful.
- The mission, initial question, and expected outcomes of chosen activities were not clear, even as the process progressed. (2) Some fundamental issues were not well enough defined: Research vs. evaluation, dissemination vs. implementation, knowledge vs. behavior change. (3) Mixing cancer control activities—prevention, treatment, EOL care may not be best strategy for this discussion. Effective strategy for research→practice for primary care prevention may not be the same as for oncology curative Tx.
- Expectations unrealistic to process methodology and meaning and specifics of concept mapping→move quickly to action planning. Further dialogue needed to enrich the concept mapping briefing. What are the commitments possible from individual vs. organizational representations?
- Hard to take individual action on these concepts, but has started me thinking.
- Personal action requires a challenge→commitment. For this to happen, individuals need to go through that explicit process. Participation in the process does not lead to behavior change.
- (#5) I would argue that the time together was not enough to actually jell into a COP.
- Conceptual mapping was an interesting exercise but may have created a context in which problematic assumptions of what we (the group) did and didn't agree on were used as an explicit context for the structured discussions.
- I would have liked more information that I could have taken “home” to implement the research dissemination process. I would have liked to hear from others what they do on a local level. I think the ‘local’ level is the most important one.
- (#2) Hard to evaluate; not the main focus.
- (#1 not at all, #2 not very) It was a very small group that comes from very different backgrounds. This fact limits the possibilities for system changes or organizational transformation.

Question 12: What worked best about this meeting? Why?

- Large and small group discussion sessions stimulated the most innovative thought. Maximize this!
- Free flow discussions. I thought the concept mapping process created more barriers than it overcame. Useful, but was too dominant in the Mon. p.m. discussion, especially without clarifying the meaning of some of the statements.
- Concept mapping was interesting.
- Size good for group discussion, especially when broken into two smaller groups. Suggest mixing the U.S./Canadians in future.

- Lots of “free range” dialogue. There was a lot of opportunity to present ideas and talk about solutions.
- Panels to brainstorm and rate elements.
- Breakout sessions were useful as were the final sessions bringing it together. Introductions were helpful. Appropriate time for discussion, etc.
- Bringing the people to the table.
- Opportunity for talking.
- To hear the big variety of cancer control activities and strategies in U.S. and Canada. Including AHRQ. Bi-national participation.
- Dialogue on second day with creative ideas and dialogue.
- Wonderful opportunity to work together.
- Plenary discussions were dynamic, creative. Discussion was respectful and well facilitated. Size of group worked well. (2) The concept mapping was a useful way of getting pre-conference involvement, and a good place to start.
- The participants’ engagement in discussion. This was supported by committed participants.
- Breaking into Canada/U.S. groups, then coming back together (size of group, validation of commonalities before differences exploited). (2) Seating arrangement (meeting new people, stimulating dialogue).
- Small group discussion on Monday afternoon.
- Bi-national forum.
- The discussions in the afternoon were very helpful.

Question 13: What suggestions do you have for improving this type of meeting?

- Brainstorm first. Ask for individual commitment later. (2) As much discussion as possible. (3) In the breakout session by country, I would start with examples and discussion and finish with individuals writing what they and others can do. Actions will be more evident to individuals after the discussions.
- More free flowing discussions, perhaps leading to identifying theme areas to be discussed by breakout groups with report back.
- Bring payers together, (2) better clarify existing research in this area.
- Make the commitments less threatening by engaging the participants more fully first. Make the objectives and definitions clearer at the outset.
- Spend less time reviewing the specifics from the concept mapping. (2) Spend more time synthesizing discussion and planning for action.
- 2–3 absolute ACTION items. Timeline for follow-up. Pick an issue for relevance to start modeling ideas.
- Shorten concept mapping overview—doesn’t need to be so long. A little more about who and why with expected outcomes before we met. (
- Have a catered lunch to facilitate networking. Maybe less time on concept mapping presentation.
- Add opportunity for informal networking. Develop guiding mission statement. Identify measurable patient-oriented outcomes to guide process. The concepts ought to come from the people you ask commitments from.

- Outcome could be realistic, change concepts with action steps. Increase practicing clinicians participation; their view of “feet on the ground” is different. Final frontier patient-centered. Where are they? At what point involved?
- Please explain the purpose of the pre-meeting conceptual framework and rating so that we can understand more what the task is about.
- Choice of appropriate participants is critical! I am not sure all the right people were around the table.
- Might include users.
- If meals together then more interaction and better case of non-focused dialogue (perhaps some missed opportunities for relationship-building?)
- To facilitate the “informal” aspect of the meeting by organizing some social events such as dinner and lunch. The “informal” aspects are often crucial in the networking process.
- A bit less time presenting the concept mapping. Get to small groups earlier and have more back and forth between large and small groups.
- Expand the panel discussion. (2) We needed to discuss the model.

Question 14: What follow-up materials or activities would you like to see (and when) to support the accomplishment or identified priority actions?

- There were several goals: (1) the cross-national collaboration development, (2) identification of strategies to integrate research/practice. To support #1, need a core group that will continue to meet to brainstorm possible collaborations and make them happen. For #2, this can be done separately or together; many good suggestions raised. Follow-up would best bring together other types of groups (e.g., journal editors with NCI; payers/health plans/primary care providers/NCI).
- (1) Develop program announcement for Canada/US demonstration/pilot projects, (2) happy to talk with Jon/Allan and others with Kurt and others who have done large RCTs to increase screening to explore commonalities, (3) NAPCRG opportunity for joint meeting.
- Updated sys. review of effective methods for practice change.
- Notes! Next Steps! Action items for participants!
- Electronic follow-up networking options. The meeting materials were excellent.
- Summary paper policy ideas, joint article.
- Copies of slides/notes that were developed during meeting. Follow-up on meeting Oct. 15th and potential collaboration with evaluation and methods associations.
- I suggest support and encouragement to follow-up with all on those items they identified.
- Meeting to build RFA for joint collaboration. Would like to be connected to and involved in this community of practice.
- If the mission and desired outcomes are more clearly worked out, I would be interested in a follow-up meeting at about one year. I am not sure how the three “contexts,” primary care, oncology, public health should be integrated. (2) I would be interested in efforts to improve the representation of primary care clinicians and scientists in the research peer review process.
- Soon
- A good workshop summary. A resource list with online resources of relevant sites.
- A summary report of the meeting.
- (1) Revision of White Paper (especially nature of evidence section?) (2) NCIC/NCI meeting on nature of evidence.

- A list-serve that we can stay in touch with and that can provide us with information.
- Meeting summary. A blog.
- Please provide a follow-up report for this meeting!

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PART III. Oncology Meeting

Delta Bow Valley Hotel

Calgary, Alberta

August 22–23, 2005

The second in a series of three meetings jointly sponsored by the National Cancer Institute of Canada (NCIC) and the National Cancer Institute (NCI) in the United States was held Monday and Tuesday, August 22–23, 2005, in Calgary, Canada. The three meetings were designed to review options for closing the gap between research discovery and program delivery by gaining the unique perspectives of three sets of meeting participants: primary care specialists (Seattle meeting in July), oncologists (Calgary meeting in August), and public health specialists (Toronto meeting in September). A final report will include suggestions for: (1) advancing U.S. and Canadian strategic planning efforts related to knowledge transfer, translation, exchange, and integration; (2) coordinating U.S. and Canadian efforts to use research evidence to inform and improve the practice of comprehensive cancer control across the cancer continuum (i.e., prevention to survivorship to end-of-life care); and (3) coordinating U.S. and Canadian efforts to use practice evidence to inform and improve the public health and clinical relevance of cancer control research across the continuum.

Meeting Summary

Monday, August 22, 2005

Introductions

Canada

Heather Logan, M.H.Sc., B.Sc.N., R.N., C.H.E.

Director, Cancer Control Policy

National Cancer Institute of Canada and Canadian Cancer Society

Ms. Heather Logan welcomed participants from the two countries. They were asked to offer their insight as oncologists regarding the presentations throughout the meeting and to suggest ways to translate ideas into action to close the gap between research discovery and service delivery by identifying: (1) NCI/NCIC support opportunities, (2) professional association opportunities, and (3) the individual contributions to implement action items suggested during the meeting.

Ms. Logan presented a brief overview of the Canadian cancer community organization. NCIC is a nongovernmental organization (NGO) that is funded by the Canadian Cancer Society (CCS) and the Terry Fox Foundation (TFF). NCIC has a well-established relationship with CCS—an organization that is similar to the American Cancer Society (ACS) of the United States—that allows NCIC involvement in cancer control policy and advocacy activities and provides an important link between cancer research and the use of such research.

NCIC has two scientific and policy committees. The multidisciplinary Joint Advisory Committee on Cancer Control (JACCC) advises both the NCIC Board of Directors and CCS National Board of Directors on emerging cancer control and strategic planning issues. The Advisory Committee on Research (ACOR) advises the NCIC Board on cancer research matters. These committees formed the

NCIC Working Group on Translational Research and Knowledge Integration and recently drafted the White Paper, “The Language and Logic of Research Transfer: Finding Common Ground.”

Canada has several avenues for transferring knowledge gained from cancer research into practice. The main government cancer-funding agency, the Canadian Institutes of Health Research (CIHR), funds knowledge transfer for cancer and other health-related issues. NCIC and CCS are founding members of the Canadian Cancer Research Alliance (CCRA), a consortium that seeks large-scale research initiatives that need a consortium-type approach to funding. In addition, NCIC and CCS are part of the Canadian Strategy for Cancer Control (CSCC), a partnership that also includes Health Canada (the country’s public health agency) and the Canadian Alliance of Provincial Cancer Agencies (CAPCA), which provide health care to patients. CSCC encompasses all areas of cancer control, with a focus on the transformation, exchange, and application of knowledge. CSCC strives to: (1) reduce cancer incidence, morbidity, and mortality; (2) enhance the quality of life for those with cancer; and (3) support sustainability of the health care system.

Ms. Logan encouraged participants to consider how they might collaborate with key players in areas outside of their usual spheres of contacts, including Canadian organizations other than those just mentioned, to close the gap between research discovery and service delivery.

United States

*Jon F. Kerner, Ph.D., Deputy Director for Research Dissemination and Diffusion
Division of Cancer Control and Population Sciences
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Dr. Kerner noted that NCI has increasingly recognized that partnerships, rather than unilateral actions, will result in improved cancer control. NCI currently partners with a number of federal agencies in the United States, and this series of meetings provided an opportunity for collaborative discussions between CCS, NCIC, NCI, ACS, and other key potential partners.

NCI is a U.S. government funded agency committed to cancer control and public health. These dissemination and health services research activities are coordinated primarily through the Division of Cancer Control and Population Sciences (DCCPS), which reports directly to NCI’s Office of the Director. Through DCCPS, NCI funds intervention research across the cancer control continuum—from prevention to early detection to diagnosis, and through treatment and survivorship. Despite the significant funds dedicated to cancer research, the results of this research are not effectively translated to evidence-based delivery programs. Most of the intervention funding at NCI is dedicated to extramural investigator-initiated research through academic institutions and other mechanisms. NCI’s Director, Dr. Andrew von Eschenbach, has challenged NCI staff to consider research that is being translated into interventions that will impact the community.

The lack of knowledge concerning dissemination and implementation of interventions impacts the delivery of services. The inability to adequately disseminate evidence-based interventions to all populations leads to increased health disparities. For example, the disparity in Black and Caucasian mortality rates for breast cancer in the United States can be traced to when mammography became common. Mammography, more readily available in the Caucasian community, led to decreased mortality from breast cancer; a similar decrease was not observed in the Black community. This

difference in mortality rates is attributed both to differences in access to mammography services and state-of-the-art care.

Terminology differs between Canada and the United States. The Canadian White Paper states that translational research encompasses the entire cancer continuum; in the United States, translational research refers to the discovery-to-development span of the continuum (i.e., developing treatment or prevention interventions for scientific findings). Another form of research translation is to implement intervention findings into the various delivery systems in the United States. Most translational research in the United States is based in academic medicine and drug development and medical device industries.

One reason for this series of meetings is to rethink the context in which services are delivered. These service contexts vary between public health, primary care, and specialty practices. Dr. Kerner asked the oncology specialists to suggest the important challenges for integrating science and service in the context of oncology practice. He described a program at NCI, Translating Research into Improved Outcomes (TRIO), that focuses on ways to use data to identify needs, track progress, and motivate action (e.g., whom to reach and how to reach them), while also collaboratively developing tools for accessing and promoting the adoption of evidence-based cancer control interventions and strategies to overcome infrastructure barriers to the adoption of evidence-based interventions. A major goal of creating a Canada-U.S. Cancer Control Alliance is to build collaboration between NCI and NCIC to develop tools to improve the use, adoption, and dissemination of cancer control interventions. Such an alliance also will help to identify and overcome infrastructure barriers to delivering evidence-based interventions across local and regional agencies.

Meta-Cluster Breakout Session Reports

Each group offered a brief report on its assigned meta-cluster discussions.

Meta-Cluster Region: Organizational Culture and Structure

Currently, “silos” exist within and between many organizations that deal with cancer (e.g., government agencies, cancer centers, hospitals). Organizations fail to have effective communication and interaction between departments and programs. Greater communication gaps exist between organizations. The silos reduce the feasibility of bridging the gap between research results and practice.

Meta-Cluster Region: Learning Infrastructure

A high priority across all ideas within this meta-cluster should be the development of national and perhaps international systematic evidence review mechanisms for cancer clinical research. These mechanisms should be timely and efficient and should link with appropriate tracking sources that allow reviewers to evaluate an application effectively.

Meta-Cluster Region: Stakeholder Collaboration

A top priority is to define the stakeholders and to define the diversity of opinions that arise when reviewing the importance of including stakeholders. A better balance of stakeholders, whoever they are, should be included from inception to conclusion of the process to translate science into service.

Meta-Cluster Region: Data and Accountability Systems

Availability of funding resources is the key to developing acceptable data and accountability systems. The group reviewed all of the items within the cluster and discussed whether they were placed correctly. Most of the low feasibility and low importance items were moved to higher levels of importance and feasibility. These items can be accomplished with the proper technology and the money to invest in that technology.

Meta-Cluster Region: Incentives and Funding

The group discussed the sequence of actions that need to be planned to effect change. Those offering incentives and awards should establish: (1) clear standards and targets, (2) more Phase 4 trials to provide a set of standardized guidelines for translation of the findings into practice, (3) instructions for completing an evaluation that captures the necessary data that demonstrate when an organization or medical practitioner is meeting target guidelines, and (4) data accountability systems and an infrastructure to capture and evaluate those data.

Those working to translate research into practice need to assure stakeholders that such translation research is a positive exercise. The stakeholders must recognize what barriers exist to accepting this change. They need to identify the incentives in their particular organization and consider that, in addition to funding, incentives and rewards should include infrastructure support to cover data management or institutional review board (IRB) process reviews.

Discussion

Dr. Yates from the American Cancer Society noted that tumor registries provide adequate information to stakeholders to track prevention and early detection. The system for tracking patterns of care (POC) and best practices in patient management is inadequate because few institutions beyond health maintenance organizations (HMOs) have adequate care-delivery tracking information systems. The level of funding needed to improve these systems must be addressed. The United States should study the administrative systems that CMS and private insurers use and try to standardize that information to conduct POC studies.

Dr. Kerner asked participants to consider how the electronic medical record (EMR) and the electronic health record (EHR) may address this issue. Currently, 20 percent of physician practices in the United States use EMRs. As the use of EMRs increases, the implementation of evidence-based approaches could increase through automated audit and feedback approaches. Participants suggested that the United States must offer incentives that make it affordable for the other 80 percent of medical practitioners to add EMRs and possible EHRs to their practices.

Participants questioned whether all highly technical advances that are extremely expensive to implement should be broadly disseminated. The United States and Canada must consider who will pay for the dissemination of such advances.

Dr. Eisenhower suggested that knowledge translation discussions include preventing widespread dissemination and use of discoveries that may be harmful or less effective in wider practice than in a controlled clinical trial. Dr. Yates and Dr. Fred Ekery suggested that oncologists consider whether some benefits that extend the median survival rate by a short period are worth translating into practice if this short-term survival is at great emotional and economic cost to the patient.

Dr. Nelson suggested that the pharmaceutical industry should be included in this discussion. This industry sometimes promotes overutilization of inappropriate treatment options and underutilization of standard care.

Dr. Browman offered that a disconnect exists between the research and caregiver communities. The former funds research based on scientific questions and transfers research findings to the care-delivery organizations without either group adequately evaluating the new knowledge, which should occur prior to the transfer. An action item should be to find a method to fund this evaluation.

Tuesday, August 23, 2005

Country-Specific Contexts: Review of Previous Initiatives

Representatives from Canada and the United States presented an overview of previous initiatives that provided a historical context for why the participants were called together and how recommendations from the three workshops will be considered when NCI and NCIC develop future initiatives.

Canada

Heather Logan, M.H.Sc., B.Sc.N., R.N., C.H.E.

NCIC is an NGO research organization funded exclusively by two charitable organizations, the CCS and the TFF (founded to honor Terry Fox, a marathon runner who lost his life to cancer). CCS provides 75 percent of NCIC funding, and TFF provides the remaining funds. The Canadian government has no influence over NCIC and has its own extramural research funding agency, CIHR. Its Institute for Cancer Research (ICR) has a small budget for special initiatives such as palliative care and quality of cancer care.

NCIC and the CCS share a CEO, but they are separate legal entities. CCS has a National Board and separate division-level boards. Representatives from the National Board are members of the NCIC Board. NCIC board members also include representatives from TFF, the ICR, provincial cancer agencies, and members of the scientific community who represent the spectrum of risk cancer research.

The NCIC Board approved the NCIC Strategic Plan 2015 on June 17, 2005, the first such plan in more than a decade. Dr. Eisenhower, as NCIC Vice President, has been involved in the strategic planning process. NCIC's goals include maintaining a position of leadership in controlling and moving forward the field of cancer research, funding only the best and top priority research, and improving cancer control by funding research across the full spectrum of the cancer continuum. The CCS was involved in

the initial strategic planning process with NCIC, and the TFF will review the plan and determine where it can be of assistance.

The Strategic Plan focuses on NCIC's special partnerships with CCS and TFF, establishes a new leadership fund that will allow NCIC to address opportunities and gaps in new and emerging research priorities, and recognizes the importance of NCIC's continued involvement in cancer control policy and information, especially to ensure that NCIC can pass research results on to CCS and TFF so they can inform the public. Prior to the development of the strategic plan, NCIC invited an external blue ribbon panel, consisting mainly of U.S. experts, to review cancer research organizations in Canada. Dr. Yates was on the review panel.

Knowledge transfer factors into the Strategic Plan in two main areas: (1) the creation of the JACCC/ACOR Working Group, and (2) the integration of knowledge transfer into NCIC Strategic Plan priorities.

Cancer control policy at CCS and NCIC currently includes the development and review of evidence-based health policy and position statements and cancer-related information. The two organizations monitor the cancer control evidence base and communicate research findings to the media, CCS divisions, and their spokespeople. CCS and NCIC support the work of JACCC, the Canadian Committee on Cancer Staging (with links to the International Union Against Cancer [UICC] and the American Joint Committee on Cancer), and NCIC's Steering Committee on Cancer Statistics. Through these committees, CCS and NCIC connect with international cancer control organizations and build and monitor staff capacity to use, interpret, and communicate statistics effectively through the media.

The following cancer control policy goals are included in the Strategic Plan for 2015: (1) establish cancer control priorities in emerging research areas; (2) develop a series of cancer control policy papers on topics identified as needing more analysis during the preplanning process; (3) continue facilitating collaborations between CCS and NCIC regarding knowledge translation through health policy and ongoing work, and provide tools to provincial and national health policy makers and the cancer control community; (4) support the successful implementation of the Canadian Strategy for Cancer Control by using and interpreting statistics and by promoting advocacy efforts; and (5) expand the Canadian Cancer Statistics publication (used widely as a tool to provide data on incidence and mortality in Canada) to influence public policy and system-level change.

The JACCC and ACOR Working Group will review the input from these three workshops on November 28 to determine how to integrate the recommendations into the White Paper. CCS and NCIC will continue to collaborate with NCI and will communicate back to participants the impact of what they have contributed.

United States

Jon F. Kerner, Ph.D.

Although NCI has discussed moving science into practice in the United States since its inception, not enough has been accomplished to effectively and quickly disseminate research results into practice.

A series of dissemination meetings have occurred since 2000 in an effort to close the discovery-to-delivery gap. The first meeting was sponsored by the ACS-New England Division and brought together experts from the comprehensive cancer centers in New England with public health and clinical practitioners to discuss the challenges of moving science into practice.

NCI collaborated with the Center for the Advancement of Health and the Robert Wood Johnson Foundation (RWJF) to sponsor a meeting, Designing for Dissemination (D4D), in 2002.

Researchers, practitioners, and representatives from funding agencies and foundations were invited, and a concept mapping activity was performed. Dr. Graham, Ms. Cynthia Vinson, and Ms. Lenora Johnson created a matrix featured in the meeting report that summarized recommendations that arose from this meeting and noted those that NCI already has attempted to accomplish. Dr. Johnson's organization, the Office of Education and Special Initiatives (OESI), has developed an evidenced-based intervention (EBI) adaptation training module that currently is being tested to adapt research findings to local context and criteria. Two Web sites have been developed: the D4D site for researchers, which contains synthesis reports, evidence reviews, and literature on the subject (URL: cancercontrol.cancer.gov/d4d) and a site for public health practitioners, Cancer Control PLANET (URL: cancercontrolplanet.cancer.gov), which synthesizes information on surveillance, research practice partnerships, evidence reviews, and research-tested intervention programs. NCI collaborated on developing the PLANET Web portal with ACS, the Centers for Disease Control and Prevention (CDC), AHRQ, and the Substance Abuse and Mental Health Services Agency (SAMHSA). More than 1,000 U.S. public health practitioners have been trained in the use of the PLANET portal through the Comprehensive Cancer Control Leadership Institutes, and trainings will continue for other groups, such as the Native American tribal public health officials.

The United States is committed to building a dissemination research base. To fulfill the D4D recommendation to fund dissemination and implementation research, NCI is offering dissemination supplements to NCI-funded intervention research grants. Grantees are provided funds for one year to explore how to disseminate their intervention findings. In September 2005, a Trans-NIH dissemination program announcement with special review will begin; it will allow people to request five-year dissemination/implementation research grants. Subsequent to the launch of the Trans-NIH program announcement, NCI will refocus its dissemination supplement program to focus on the dissemination of surveillance research findings.

NCI sponsored a series of meetings in the United States called Dialogue on Dissemination, including one in Maryland in 2004 and one in New York in 2005. Concept mapping again was used, and a matrix was created to summarize the recommendations and the actions that have been taken by NCI. NCI's Cancer Centers Program now includes revised Cancer Centers Support Grant Guidelines for the Centers to obtain funding for dissemination research cores, where a critical mass of dissemination and implementation research is being conducted. NCI is working with AHRQ and HRSA (the funder of U.S. community health centers) to develop a primary care Web-based service called Clinicians Linking Information to Patients (CLIPS), which is designed to provide a clinician with up-to-date information that includes AHRQ-recommended guidelines for clinical practice and clinically tested patient education materials to be used for each patient. The system is designed to be effective in a low technology environment.

Canada's contribution to bridging the gap includes two meetings that were sponsored by the CIHR: (1) the Knowledge Translation and Technology Transfer Meeting (held in Vancouver in 2003), which was

an international meeting held to discuss ways to move technology innovations into practice, and (2) the Knowledge Translation Workshop (held in Toronto in 2004). CIHR and AHRQ collaborated on a meeting, Workshop on Funding Agency Support and Promotion of Knowledge Translation (held in Ottawa in 2004), for which both groups collected data internationally and studied how funding agencies promote and/or inhibit the movement of science into practice. Dr. Kerner suggested that the Canadian contingency review the findings from this meeting when evaluating the White Paper; valuable lessons may be learned from fields other than cancer.

NCI funds training programs through the R25 grant mechanisms. The R25T addresses training of researchers in cancer control; to date, no dissemination research language has been added to this grant mechanism. The R25E, a community-based education program, trains public health practitioners, lay health advisors, and other community-based delivery system personnel on integrating lessons learned from cancer control research into practice. NCI has incorporated language about research dissemination into this grant mechanism, and applications are beginning to reflect this change.

D4D and Dialogue on Dissemination meetings focused on funding-agency policies. This series of three meetings sponsored by Canada and the United States addressed actions that need to occur at the national, regional or organizational, and individual levels. One goal of this meeting was to create a community of experts in the oncology field who are interested in dissemination and evidence-based practice issues. Another goal was to change the view of knowledge transfer from “moving research into practice” toward “integrating research with practice.” A final goal was to continue a productive collaborative effort between Canada and the United States toward achieving the other goals. NCI will be looking for recommendations from the meetings that it can address on its own, in collaboration with NCIC, and with other national partners.

Discussion

Participants asked whether NCI has evidence that these IT-related tools are being used. Dr. Kerner responded that Dr. Graham and Ms. Vinson are developing an evaluation package to monitor use of PLANET programs. Ms. Vinson noted that TEAM-UP: Cancer Screening Saves Lives is a pilot in eight states and includes an evaluation of whether people are using evidence-based interventions.

Participants reiterated that, during the breakout sessions, each group should consider what evidence exists for a recommendation and, if no evidence is available, what the logic is behind the recommendation. Dr. Browman added that nonacademic areas have evidence-based dissemination successes that also should be considered.

Dr. Eisenhauer asked participants to consider who the target groups are and what recommendations best effect change in attitude for those practitioners who are the least likely to be persuaded to change when offered new research findings.

Charge to Group

The charge for the Canadian and U.S. participants was to review the high priority/high and low feasibility action items within each meta-cluster region and consider the following three areas needed to achieve key action items: (1) resources or support NCIC and NCI should provide; (2) support that

organizations could offer on their own or collaboratively with NCIC or NCI; and (3) actions individual participants are willing to undertake.

Ms. Logan asked the Canadian participants to keep the White Paper in mind, reiterating that their input will be considered during review of the paper by the JACCC/ACOR Working Group in November.

Canadian Breakout Session

Canadian participants reviewed the action items for each meta-cluster region and suggested their top three priorities in each region. The group then discussed those items that had received the greatest number of individual responses in each region and developed recommendations for those priorities. Personal action items were not shared with the group.

The group based its discussion on intervention examples that related to surgery, radiation, and medical oncology. Historical and current problems were reviewed for each cluster discussion.

Meta-Cluster Region: Organizational Culture and Structure

The group considered the two closely related statements together. These statements relate to the recommendations suggested under “Stakeholder Collaboration” that stakeholders should be involved in a collaborative effort to address questions that will lead to change in policy practice.

Dr. Browman noted that the core resource of health care organizations is knowledge about what care needs to be delivered, and organizations should be more diligent about managing and integrating that knowledge.

Action Item (Statement 1): Work with policy makers in interpreting the evidence that research provides.

Action Item (Statement 2): Make research practice integration an explicit part of the mission, vision, and strategy.

NCI/NCIC and Other Policy-Level Actions

- Policy makers should continue to be involved in the investigation process.
- Encourage transparency in cancer centers—the governing board should be aware of what is effective and what does not work.
- Be proactive in addressing evidence-based research (i.e., practitioners, policy makers, and patients should be briefed about a PSA study under way and the implications of the possible results).
- Disease-site groups should be included in the decision-making process about evidence-based research. They should be informing organizations about research with future potential practice changes.
- Routine monitoring of evidence-based interventions used and their effectiveness should be incorporated into practice.

The group discussed where collaboration should occur between Canada and the United States. Mr. John Garcia noted that public health practitioners are interested in research findings from the United States and want to be able to apply positive research results. They are interested, for example, in having access to Cancer Control PLANET.

The Canadian group suggested that, if the two countries collaborated just at the research level, this one area of collaboration would be of great benefit to both countries. An area for potential collaboration could be developing an international health services research network that includes participants from the Canadian Provinces and U.S. community and academic centers. NCIC and NCI could establish separate networks that include international links.

Dr. Eisenhower suggested that both countries develop a system of common language to use when discussing translating knowledge into practice.

Meta-Cluster Region: Learning Infrastructure

All group members chose the following action item as the top priority in this meta-cluster and considered it more of a philosophical and cultural statement than an action item.

Action Item (Statement 1 with added text): Create an expectation among all stakeholders (policy makers, governance boards, health care facility managers, practitioners, patients) that research and practice go together and must be part of how we do our work.

NCI/NCIC and Other Policy-Level Actions

- Basic scientists should be exposed to, or be required to have experience in, a clinical practice setting.
- CCS and NCIC should emphasize to policy makers, governance boards, managers, practitioners, and patients that research and practice are inseparable.
- Advocate for the development of a policy to integrate research and practice.
- Advocate for increased patient participation in clinical trials and promote increased funding of clinical trials.
- Invite federal and provincial policy makers to discussions about integrating research and practice.

Professional Association/Organization Actions

- The health service and practitioner accreditation process should embrace this action item as a value statement and foster a culture that promotes it.
- Other research funding organizations should support the statement and invest in promoting a culture that fosters integration of research and practice.

The group included the following new statement that was developed during the cross-country breakout:

Action Item: Create systematic national/international evidence-based review mechanisms for research findings that are timely and efficient, with built-in tracking of research applications.

Individual Actions

- Dr. Eisenhower offered to propose inclusion of an “implications for practice and policy” section in *JCO* to the Editorial Board.

Several group members considered the following action item, which relates to the previous action item, a high priority.

Action Item (Statement 7): Provide feedback to practitioners and hospitals not presently adopting evidence-based changes in practice that should be adopted.

NCI/NCIC and Other Policy-Level Actions

- Introduce a health services/systems research program.

Professional Association/Organization Actions

- Provincial cancer centers/agencies should share information regarding successful/unsuccessful evidence-based practice changes.

Meta-Cluster Region: Stakeholder Collaboration

Dr. Kathleen Quinlan clarified that this region refers to different kinds of stakeholders (e.g., patients, community members, policy makers, and practitioners) with whom collaboration needs to take place.

Action Item (Statement 1): To encourage researchers and practitioners to build participatory research projects together (from developing objectives to writing the publication).

NCI/NCIC and Other Policy-Level Actions

- Explore ways to have practitioners as co-investigators in research to ensure that all are involved in the investigation from the beginning (i.e., the Ontario Tobacco Research Unit [OTRU]).
- Advocate for reintroduction of the former Health Systems Link Research Unit in Ontario and introduction of other such units across the country, and take the lead in developing a program similar to OTRU.

Professional Association/Organization Actions

- Foster funding of participatory research projects.

Action Item (Statement 3): Conduct additional research into effective methods of dissemination.

NCI/NCIC and Other Policy-Level Actions

- Consider and promote the different options for disseminating research projects.

Meta-Cluster Region: Data and Accountability Systems

The group considered all of the statements in this meta-cluster to be similar and difficult to prioritize. Most members chose the following action item as the top priority:

Action Item (Statement 3): Seek and identify models of success. Are there practitioners who are effectively implementing evidence-based interventions? Why and how are they doing it?

NCI/NCIC and Other Policy-Level Actions

- Identify a strategy that results in the funding of effective evidence-based interventions.
- NCIC could undertake work of this kind in collaboration with CAPCA.
- Identify and evaluate successful and unsuccessful evidence-based interventions. This task could be assigned to JACCC. Some interventions that work separately would be more effective if used in combination (i.e., nurse feedback, point of care patient-oriented interventions, academic detailing, and computer-based screening callbacks).

Professional Association/Organization Actions

- CCHSA could take the lead in directing practitioners toward effective evidence-based interventions through standards/guidelines.

The group linked Statements 1 and 4 to address the development of performance monitoring and accountability systems that organizations would use to monitor their performance. Canada does not have hospital-based cancer registries from which to glean standard outcome measures, but it has a common billing system to which staging information could be added. A population-based registry might be developed from an electronic records linkage system in Canada.

Action Item (Statements 1 and 4): Develop and collect quality assurance measures for cancer control interventions. Collect standard outcome measures that are important to decision-makers, clinicians, and policy makers.

NCI/NCIC and Other Policy-Level Actions

- Establish a network of health systems researchers with performance measurement as one area of focus, and provide incentives for collaboration.
- Initiate health service delivery performance measurement.

Professional Association/Organization Actions

- Collect standard performance measures.
- CAPCA could lead the initiative to require staging data collection by institutions that treat cancer patients; Ontario and Alberta could lead in piloting the initiative.

Meta-Cluster Region: Incentives and Funding

The Canadian group considered this region very important.

Action Item (Revised Statement 3): Require cancer centers to focus at least some of their resources on disseminating evidence-based practices.

NCI/NCIC and Other Policy-Level Actions

- NCIC could foster development of research programs that relate to evidence-based research dissemination.

Professional Association/Organization Actions

- Cancer centers could set aside funding for initiatives of this kind. This suggestion should be linked to the recommendation that NCIC establish a health systems network with incentives (Data and Accountability Systems Region). One requirement for joining the network might be to demonstrate that funds have been invested in a knowledge transfer project.

Action Item (Statement 7): Recognize the time and effort required to develop research-practice partnerships.

The group noted the importance of making those who contribute to the academic enterprise through service feel as important as those who conduct the research.

NCI/NCIC and Other Policy-Level Actions

- All contributions to research should be recognized.
- Reward clinicians as well as researchers.

Action Item (Statement 10): Provide incentives for organizations to utilize evidence-based research.

The group considered that incentives should go beyond monetary rewards.

NCI/NCIC and Other Policy-Level Actions

- Incentives could include infrastructure, monetary rewards, and recognition.
- Use of evidence-based research is expected or assumed; develop a mechanism to assist practitioners in achieving that expectation, and provide disincentives to institutions that do not use evidence-based research.
- NCIC could identify key questions in this area that lend themselves to investigation and systematic reviews. Systematic reviews provide incentives for change in behavior.
- NCIC could convene a workshop or issue an RFA on how to develop incentives to ensure use of evidence-based research.

Professional Association/Organization Actions

- Promote the use of case conferences among oncologists to discuss the treatment proposed for patients.
- Use of evidence-based research could be included in the health service accreditation process (CAPCA).

U.S. Breakout Session

U.S. participants discussed the statements in general for each meta-cluster region and suggested action items by region for NCI and other policy-level organizations, professional associations and organizations, and individuals.

An overarching recommendation offered during the Learning and Infrastructure discussion was that representatives from the pharmaceutical industry be included in the discussion. Policy makers should oversee the translation of pharmaceutical company research into practice because oncology practice is strongly influenced by pharmaceutical companies.

Meta-Cluster Region: Organizational Culture and Structure

Major disconnects exist within and across organizations. The main goal is to remove the silos within organizations and between organizations.

NCI/NCIC and Other Policy-Level Actions

- Establish a model for improved communication between clinicians and scientists within institutions. NCI needs a mandate from its leadership to promote communication across NCI Divisions. The Divisions should communicate about common goals and overlapping activities.
- Increase funding of health services research within NCI by reprioritizing current funding allocations. RWJF is a model to review for shifting funds to adapt to changing organizational emphases.
- Create better linkages among organizations that are involved in cancer control. For example, a weak linkage exists between CDC and NCI related to oncology practice.
- Collaborate with CDC to facilitate coordination between the various cancer organizations in the United States.
- Collaborate with CMS to obtain regular feedback from clinical oncologists around the United States.

Individual Actions

- Participants could work through their professional associations to request meetings with NCI's Director to discuss priority issues. Requests should be sent to Nina Ghanem of NCI's Office of Liaison Activities.
- Dr. Herberman offered examples of how participants could make organizational and cultural changes in their own institutions. His cancer center already is engaged in activities to address differences between academic faculty, community-based oncologists, and radiation therapists

and is also addressing ways to increase collaboration between these groups. Differences include financial incentives and work patterns. His center also is developing clinical pathways by specifying clinical trials participation as a priority for each type of cancer in the continuum of care.

Meta-Cluster Region: Learning Infrastructure

NCI/NCIC and Other Policy-Level Actions

- Establish an independent group to evaluate dissemination strategies and make the strategies applicable for community practitioners.
- Fund development of core curricula around evidence-based practice.
- Facilitate a meeting of journal editors to develop approaches to translating information so that it is usable for practitioners.
- Conduct timely, systematic oncology evidence reviews that highlight the implications of new evidence and involve representatives of all stakeholders involved in care (family practitioners, oncologists, payers, pharmaceutical companies, patients) to ensure the utility of reviews for practitioners. Encourage the American Society of Clinical Oncology (ASCO), the National Comprehensive Cancer Network (NCCN), the American College of Radiology, and other organizations to use evidence to develop guidelines (e.g., the Cochrane Collaboration model).
- Fund more health economics research, especially grants to determine the fiscal implications of practice.

Professional Association/Organization Actions

- The Association of American Medical Colleges (AAMC), residency review committees, and others could offer funding to develop core competencies in evidence-based practice and implement training programs for medical school students and residents. ASCO also could become involved in such funding.
- Provide opportunities to train primary care providers to recognize cancer earlier. Bring oncology specialty and primary care physicians together later in their training to understand the challenges of diagnosing cancer at an early stage. Invite patients' primary care providers to attend the tumor boards as a learning opportunity.
- Make cross-training and sabbatical opportunities available. Students who ultimately will be clinical researchers should be placed in real-life settings (e.g., small community centers, private practices) to gain insight into the needs of practitioners in these settings. Lifelong learning opportunities in areas outside their normal scope should be promoted for clinicians and researchers.

Individual Actions

- Dr. Ekery could ask U.S. Oncology and Texas Oncology whether they could share mechanisms for disseminating evidence and the results of cost-effectiveness studies.
- All participants could encourage tumor boards to include local practitioners. They also could provide patients with lists of active research protocols at an institution.

Meta-Cluster Region: Stakeholder Collaboration

NCI/NCIC and Other Policy-Level Actions

Participants emphasized mechanisms that would bring researchers and practitioners together. The existing silos need to be removed to allow for collaboration between researchers and practitioners and also across organizations.

- NCI could work with state legislatures and governors to provide funding for local-level dialogues to stimulate bottom-up changes that could increase demand for evidence-based information and tools. The work of statewide cancer control programs and C-Change could be leveraged to bring together key stakeholders (including community-based, patient advocacy and professional organizations).
- Create a collaborative “Cancer Corner” page in journals that lists resources, tools, and key practice implications of recent research. Journals to be considered include: *Cancer*, *JCO*, *NCI Bulletin*, *AHRQ Newsletter*, *Cancer Letter*, journals for surgeons and primary care providers, and the *American Journal of Medical Quality*. Resources and tools that could be listed on this page include: clinical trials information (work with cooperative groups), Web resources (e.g., “Oncology Corner” at the NCI Web site), and the Patient Navigator Bill.
- Fund the development of tools to make information easily accessible to providers. Recruit Alliance participants to engage in usability testing.
- Coordinate with ACS on programs in underserved communities. Provide funding for local coordination of existing dissemination efforts in a particular community.
- Fund programs that will translate research into feasible practice. For example, provide impetus for the Community Clinical Oncology Programs (CCOPs) to develop and translate treatments that are affordable, less toxic, and that have a significant impact on survival.
- Update NCI’s consensus statements, which are powerful and authoritative and set standards for care.

Professional Association/Organization Actions

- State comprehensive cancer control organizations, health plan organizations, and quality improvement organizations (QIOs) could promote researcher/practitioner collaborations within individual states. State and local medical associations could disseminate information.
- The American College of Surgeons has great potential as a networking source. It has a Commission on Cancer Information, a tumor registry (the National Cancer Database), a network of 1,400 hospitals, and a statewide chairs association. It includes a bi-directional system for collecting data and influencing the practitioners that it represents. Its database, however, is not population-based, and concerns exist about the scope and quality of data.
- Use resources that address health disparities. The Indian Health Service and Health Canada are collaborating on a memorandum of understanding to address health disparities. A new Aboriginal Cancer Organization was created, and some of the groups in the United States (e.g., Spirit of Eagles) could mentor this group. A network of 47 ethnic physician organizations could be used for networking and to build collaborative efforts. Ethnic health journals and the media can be approached. Individual comprehensive cancer centers are conducting outreach to

underserved communities in their areas (e.g., a model program at the University of Pittsburgh Cancer Institute that encourages minority participation in clinical trials).

Individual Actions

- Dr. Nelson could promote having the medical center bring evidence-based practices to the forefront more routinely (e.g., by having evidence-based reviews on how to manage cancer during conferences and grand rounds).
- Dr. Beltran serves on the editorial board of the *American Journal of Medical Quality* and is editor of the *Latino Medical Journal*. He could include editorials or theme issues that encourage stakeholder collaboration.
- Dr. Beltran also chairs a national phone conference forum on health care quality and diversity for the American College of Medical Quality. The November forum will address health disparities and clinical trials. Physicians interested in quality improvement management will participate.
- Dr. Ronald Herberman will encourage researchers, especially laboratory-based researchers, to participate regularly in tumor boards. This will enlighten the researchers regarding what actually occurs with individual cases and the implications for research.
- Dr. Shank is interested in being involved in usability testing of tools designed to make information easily accessible to providers.

Meta-Cluster Region: Data and Accountability Systems

NCI/NCIC and Other Policy-Level Actions

Two statements from this region were as important to Canada as to the United States during the cross-country discussions and should be included as action items:

- Collect standard outcome measures that are important to decision-makers, clinicians, and policy makers. The United States has good staging that is needed in Canada. Both countries need good surveillance data, especially on patterns of care.
- Develop common definitions for interventions and billing codes so that the diffusion of research can be tracked using administrative data sets (moved from the gray zone).

Discussion of these two statements led to further recommendations:

- Collaborate with CMS and other payers to encourage modification of data points to allow for the tracking of patterns of care.
- Use State Cancer Plans to improve patterns of care.
- Work with Dr. David Brailer and colleagues to ensure that electronic health management systems capture the appropriate data elements to support evaluation of practice patterns and outcomes within oncology specialty care.

A set of strategies may be effective in changing practitioner behavior:

- Collect treatment performance data and provide feedback to physicians and hospitals.
- Deliver information to physicians about new therapies with demonstrable benefit to the patient.

- Provide financial incentives for physicians.
- Engage practitioners in clinical trials.

Professional Association/Organization Actions

- ACS has approached the American College of Surgeons about developing a more user-friendly version of the National Cancer Database to monitor practice patterns.
- The Veterans Administration (VA) is interested in underwriting physicians' offices that will adapt its electronic records system for their use.
- ACS and CMS could form partnerships between NCI's Surveillance Epidemiology and End Results (SEER) Program, American College Surgeons, BCBS, cooperative groups, and other key organizations to develop a minimal data set that would allow states to track patterns of care and conduct pilot studies on specific cancers. NCI's cancer Biomedical Informatics Grid (caBIG) has been approaching cancer centers and cooperative groups about consolidating a uniform clinical database.
- U.S. Oncology could collaborate with NCI, C-Change, CMS, VA, or Dr. Brailer and colleagues to ensure that its new electronic health record system captures the appropriate data elements to support evaluation of practice patterns and outcomes within oncology specialty care.
- C-Change could conduct a forum to determine standard cancer surveillance data elements that should be collected by electronic medical record systems.

Individual Actions

- Dr. Yates will work with ACS, CMS, and caBIG to bring partners together (SEER Medicare, College of Surgeons, BCBS, etc.) to discuss development of a minimal data set that allows states to track patterns of care and conduct pilot studies for specific cancers.

Meta-Cluster Region: Incentives and Funding

Participants felt that a number of the statements addressed a similar issue: Find better methods for reimbursement or incentives for better efficacy or cost-effectiveness.

NCI/NCIC and Other Policy-Level Actions

- Provide funding to bring researchers and practitioners together for focused discussion of research evidence and practice implications for specific "hot" topics (e.g., NCI ALERTs, issues in the news). Provide incentive funding to draw specific attendees to these meetings.
- NCI and CMS currently are discussing cost and quality issues that could be expanded to include clinical oncology. Include AHRQ in this dialogue, as it is a primary driver of cost and quality. Provide incentives for developing and delivering cost-effective protocols.
- NCI could bring together payers (at the national, regional, or local levels), including CMS, to discuss reimbursement mechanisms for cost-effective, evidence-based services (including preventive care/health education).
- Consider requiring or encouraging grantees (at least for Phase 2 or Phase 3 therapeutic or screening/prevention trials) to discuss potential downstream clinical applications of proposed research. This might necessitate practitioners serving on peer review panels. Two issues to

address are how to convince review groups that practitioners should be included and what the best approach is (e.g., language or timing) for encouraging grant applicants to seriously consider clinical implications.

- NCI could collaborate with disease-management companies that partner with health plans to disseminate evidence about the cost-effectiveness of medical practices.
- Examine research studies to determine the value of clinical trials (and clinical trials participation).

Professional Association/Organization Actions

- Groups such as ASCO, the American Society for Therapeutic Radiology and Oncology (ASTRO), and the Society of Surgical Oncology (SSO) could sponsor forums of practitioners and researchers in collaboration with NCI.
- The National Quality Forum (NQF) is a possible venue for discussing what impact pharmaceutical companies may have on cost-effective protocols.

Individual Actions

- Dr. Shank could discuss researcher/practitioner meetings with organizations in which she is actively involved, such as the Northern California Radiation Oncology Society.
- Dr. Ekery could communicate with U.S. Oncology and Texas Oncology about sharing data on relative costs of oncology protocols.
- Dr. Herberman's cancer center is working with Blue Cross/Blue Shield (BCBS) to develop an improved reimbursement mechanism for evidence-based, cost-effective treatments. This could be a potential case study. Collaborations with third-party payers at the regional level might be most effective.

Canadian-U.S. Dialogue: How We Can Collaborate

Kathleen Quinlan, Ph.D.

Senior Consultant, Consulting Division

Concept Systems, Inc.

Dr. Quinlan asked that participants present one or two action items from the country-specific discussions that addressed NCI/NCIC, professional association, or individual actions that might help to bridge the gap between research and practice. These recommendations will provide a foundation on which to develop an international collaboration between Canada and the United States. The following action items were recommended:

- The culture at NCI and other organizations needs to change. Remove silos that prevent communication between groups within an organization and between organizations by bringing researchers and practitioners together to discuss practice implications. Individuals can leverage their positions on editorial boards to reach oncologists, promoting knowledge and bringing issues related to health disparities and the importance of diversity in clinical trials to their attention.
- Integrate research and practice and include it as a value statement at all levels (i.e., policy maker, institution, practitioner, patient, public). To accomplish this, use such strategies as: (1) creating a

value statement that the leaders in an organization must follow, (2) engaging the organizations that provide accreditation to hospitals and cancer centers, (3) having research funding agencies enhance the opportunity for patients to participate in clinical trials, and (4) having researchers participate in practice and vice versa.

- Fund a collaborative network of health services researchers to copartner with the stewards of the data (e.g., hospitals and cancer centers) to develop common goals, language, and research questions. This could be an international endeavor between Canada and the United States. AHRQ, NCI, CMS, NCIC, the Canadian Health Services Research Foundation (CHSRF), provincial cancer agencies, and other such organizations might be engaged in this endeavor. Look for organizations through which to try a new approach rather than following the status quo.
- Compare patterns of care in Canada and the United States. Explore how health system related factors affect outcome over a broader range of practices than is seen in one country. A limitation may be the absence of databases to track these factors. Canada lacks staging data, and the United States lacks care follow-up data; demonstration projects that show the usefulness of this approach could be an incentive to hospitals and cancer agencies to capture this information. Prior to a demonstration project, NCIC, NCI, and possibly ACS could convene a meeting on the role of health services research in improving cancer outcomes.
- Canada's JACCC could collaborate with similar organizations in the United States to develop and publicize a list of case studies of both successful and unsuccessful dissemination activities that already have occurred.
- New practitioners' training should include exposure to knowledge transfer principles, which would prepare them to incorporate this concept long term. Enhance the positive exposures and downplay the negative exposures concerning patterns of care data and financial rewards.
- Find methods for obtaining cost-effectiveness information when considering similar patterns of care. Consider pharmaceutical industry barriers to moving to a more cost-effective treatment option. Some countries (e.g., Australia) require pharmaco-economic data for any new drug application that federal authorities review for marketing.
- Ethical considerations regarding therapy should be addressed using health services research as a tool. Human subject protection principles should be considered for all patients, not just those in clinical trials.
- Consider at what point cost-effectiveness should be considered and at what point practical implementation for dissemination occurs (Phase 2 or 3). If earlier, practitioners will need to be part of the peer-review process at NCI, and barriers to their inclusion will need to be overcome.
- A joint workshop could be held to discuss the use of cost-effectiveness, ethical issues, etc.
- Consider health economics as part of health services research. The value of research to practice needs to be incorporated into all fields. Consider patient QOL, however, when reviewing efficient, economical care.
- Prevention strategies should be addressed, but the role of oncology beyond chemoprevention is not clear. Oncologists could inform researchers involved in prevention trials to focus not on early detection of easily treated cancers but on detection of those cancers that have poor survival rates when detected late.

Dialogue on Collective Next Steps

Lenora Johnson, Director, Office of Education and Special Initiatives

National Cancer Institute

Elizabeth Eisenhauer, M.D.

Director, Investigational Drug Program, Clinical Trials Group

National Cancer Institute of Canada

Dr. Johnson synthesized the recommendations for the meeting and presented the collective next steps that can be pursued by Canada and the United States, and Dr. Eisenhauer offered additional comments. The following were the seven overarching themes that flowed through the meeting:

Build a Different Way of Learning

Participants suggested that groups outside of the usual sphere of influence can provide lessons. Learn from others who are effective in translating research into practice (e.g., corporate management systems, groups that address non-cancer disease issues and problems).

Participants discussed bridging gaps between groups and removing silos. Different groups can share and exchange spaces, which provides opportunities for each group to learn and understand the nature of the others' work. Such opportunities can be applied to many groups (e.g., researchers/practitioners; organizations/federal agencies; academia/clinic; students/community or private practice; primary care/oncology care; United States/Canada).

A cultural shift toward knowledge transfer can begin by preparing clinicians for lifelong learning and by incorporating knowledge transfer principles throughout all stages of learning. Organizations can collaborate to provide curriculum models and core competencies and to assure exposure to evidence-based practices and problem-based learning. Cooperative/collaborative learning models can be used at later stages in a career as well.

Expand the Nature of Knowledge

Analyzing practice behavior is important. Participants suggested that systematic reviews on what changes practice behavior be conducted and periodically updated. Canada and the United States should hold cross-country discussions about the need for systematic reviews on specific topics.

Reconsider the use of expert/consensus panels for clinical oncology recommendations and whether a different format could be used. If the current format is to remain the norm, include practicing oncology specialists on panels. Consider incorporating systematic reviews into this process and use the panels to provide implementation guidelines and recommendations.

A major theme was that, although it is important to learn from successes, it is equally important to share what has been ineffective and what should not be incorporated into or continued in practice. New information may lead to starting, stopping, or altering a prescribed practice method, and these different layers of knowledge translation merit different approaches to achieve maximum impact. Participants also noted that rapid adoption of ineffective findings can have serious consequences.

Knowledge transfer involves many factors. Understand the pathway of knowledge; redesign it where needed, and promote that new paradigm of interface between the generation of knowledge, its

affirmation, and its application. Review how knowledge is managed (i.e., review its systems and costs) and the nuances of having an evidence-based team to manage and modify knowledge once it is applied. Consider using the clinical alert as a pilot to study this management process and convening discussion groups comprised of researchers, practitioners, and payers around key issues of evidence.

Participants emphasized the lack of evidence to support many recommendations for bridging the gap between knowledge transfer and practice. They recommended that case studies for knowledge dissemination be incorporated into systems.

Consider Policy Makers as Objects of Learning

Policy makers exist at multiple levels of the knowledge transfer process. Broad policy makers mandate public policy, and administrators implement and guide policy within clinical settings. Policy makers are driven by public demand and their own expectations and needs. A seamless transition of new research findings can occur if policy makers who are involved in implementing the findings also are involved in some way in their generation.

Promote Clinical Trials as a Treatment Standard and Channel for Knowledge Transfer

Clinical trials indirectly promote the standard of care through the assumption that such a standard exists against which new treatment options are tested. Incentives should be provided to ensure that clinical trials occur in community care centers and not just in standard academic research settings, offering a broader platform for promoting trials. Dr. Eisenhower offered a Canadian example. The Ontario government is promoting clinical trials by providing infrastructure support to community hospitals to increase enrollment in trials. The United Kingdom could be invited to discuss its finding that improvement in poor cancer outcomes is achieved through investment in clinical trials. Clinical trials might be a standard to pursue for cancers with less effective conventional treatments.

Gain a Better Understanding of the Context for Dissemination in Oncology Services

Much discussion focused on the context in which oncologists operate. Oncology is a health service system. Collaborate to gain a better understanding of the impacts on the delivery of oncology services. Review what is reimbursable; include third-party payers in the discussion to better understand their viewpoints, and discuss with them how to effectively translate research into practice. NCI and CMS are collaborating to discuss methods for expediting CMS approval for third-party payment practices.

Stakeholders need to consider how knowledge transfer influences a practice or care system. Discussion focused on how to integrate dissemination research with health services research, the need for reviewing cost-effectiveness data and sharing it with administrators, and the importance of including all stakeholders who are dedicated to cancer care delivery in discussions. Clinicians may gain new insights and make changes in their practices after becoming involved in developing evidence-based guidelines for what is disseminated.

Count and Capture (Data and Accountability)

Too few data systems exist for use in evaluating dissemination activities. Groups need to collaborate to assess these deficits. Discuss how to establish systems and, if one system is not possible, how to establish a uniform set of measures for dissemination systems that can be shared across countries. Work with CMS and other third-party payers to modify existing data points to include the tracking of patterns of care. Remain involved in the development of EHRs to assure the capture of appropriate data elements to evaluate practice patterns and outcomes in oncology services.

Dr. Eisenhauer noted that the Canadian participants emphasized the importance of engaging those who maintain the data (e.g., cancer center directors or institutional leaders) in a research process that requires data capture and includes accreditation standards. All institutions that treat cancer should be required to follow standard procedures to produce a common data output for evaluation.

Opportunities for Immediate Collaboration

Participants discussed tools to share that facilitate the exchange of and access to knowledge (e.g., PLANET, CLIPS). Some of these tools may not directly link to oncology specialists but may be adapted for use by oncologists.

Several discussions focused on modifying the structure of journal articles to include practice implications of each study for oncology issues. Journals also could be used to address health disparity issues. A meeting of editors who work for cancer-related journals could be convened to discuss their role in the dissemination and adoption of evidence.

Dr. Eisenhauer offered an additional theme. Participants frequently discussed how to bring economic costs and practice patterns into the dialogue of moving science into practice that balances economic realities with ethical questions faced in care delivery. Dr. Kerner noted that the cross-country workshop to address these issues that was mentioned earlier is a realistic follow-up to this series of meetings.

Concluding Remarks

Jon F. Kerner, Ph.D.

Dr. Kerner asked participants to contact him with ideas for next steps and also to provide feedback on the concept mapping exercise. A synthesis report across all three meetings will be distributed to participants. He thanked participants for their cooperation.

Heather Logan, M.H.Sc., B.Sc.N., R.N., C.H.E.

Ms. Logan thanked participants. Their input will be reviewed from NCIC's perspective, and those who offered individual action items will be contacted.

Meeting Evaluation Summary

Summary of Findings

- Of the 24 meeting participants, 11 completed the evaluation questionnaire, for an overall response rate of 46%. Ratings were on a scale of 1–4, where 1=not at all and 4=extremely.

Responses to Evaluation Questions

Question 1: Gather input from participants on what is needed to bridge the research/practice gap.

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.54

Question 2: Identify individual actions that participants can implement within their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.73

Question 3: Identify organizational and system level actions that participants can implement or advocate for in their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.90

Question 4: Identify actions that the National Cancer Institute or the National Cancer Institute of Canada or other research granting agencies can take to enhance the integration of research with practice.

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 2/3
Average Rating: 3.36

Question 5: Create a community of practice that will work together (with NCI and/or NCIC) beyond the meeting to implement actions that require partnership efforts.

Rating: Number of Responses: 11
Highest Rating: 4

Lowest Rating: 2
Average Rating: 3.0

Question 6: Identify opportunities for fruitful strategic U.S.-Canada collaborations.

Rating: Number of Responses: 10
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.0

Question 7: How effectively did we make use of the pre-meeting assessment (conceptual framework and rating results)?

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.45

Question 8: How useful did you find the pre-meeting background reading materials?

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.18

Question 9: How likely is it that you will take the priority actions you identified to improve the integration of research and practice, in the organization in which you work and/or are a member?

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.36

Question 10: How effective was the meeting overall?

Rating: Number of Responses: 11
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.36

Question 11: If you rated any items in #1–10 as “not at all” or “not very,” please provide feedback below.

- Most actions were organizational/systems and we didn’t spend much time going round the table to ask “what ONE thing will you do?”
- I recognize the difficulty of determining concrete changes to be made in specific organizations.

Much of what has been discussed has given me general ideas and an awareness which may carry over into specific ideas.

- I didn't discern much action that would specifically benefit from NCI-NCIC collaboration.
- Needed better pre-meeting organization to know agenda ahead of time to arrange plane schedule.
- Just because it is difficult to implement when work needs to be done.

Question 12: What worked best about this meeting? Why?

- Opportunity for free flowing discussion.
- Good dialogue. Well facilitated. Excellent summaries/synthesizing.
- Reasonable balance of structured and open-ended discussion.
- Good participant mix. Efforts to engage all.
- The individual country-specific meetings. Although there are some common grounds and issues between the U.S. and Canada, our emphasis on problems of cancer are somewhat different, so that it was better to focus on our U.S. issues in depth separately.
- Detailed dialogue among a range of experts.
- Dialogue and discussion to better effectively understand and communicate stakeholder concerns.
- Variable backgrounds of participants, variable input.
- Different cultures (sites) in same room with adequate time for comments and exchange of ideas.
- Discussion. Create NCI page. Think about train the trainer sessions and an editorial board that targets MDs in private practice.
- Group discussion.

Question 13: What suggestions do you have for improving this type of meeting?

- Less structure in terms of rating, etc.
- Move to more specific problem annotations, by country.
- Explain to participants how you plan to use the pre-meeting materials.
- Perhaps add in: someone from "policy level," someone with cultural anthropology background, explore other jurisdictions (e.g. Why/how does Belgium screen >70% of 50+ year old women with mammograms).
- None, as a whole it was well done.
- Develop a post-meeting communication and reporting process.
- More of the same. Try to arrange things to where all participants stayed for entire meeting.
- Need better pre-meeting organization. To impact practice change need: pay for performance, fiscal note in everything like efficiency, partner with insurance to use these items to lower premiums/avoid litigation.
- Less time spent on reviewer process and results of mapping. Relatively intuitive and need to trust methodology (perhaps provide background literature).

Question 14: What follow-up materials or activities would you like to see (and when) to support the accomplishment or identified priority actions?

- Outcome/actions driven from our deliberations.
- Meeting summary from this and other meetings.

- Further teleconference engagement to refine and implement a strategy.
- Report.
- Feedback from the NCI as to continuing changes would be helpful, so that we can help support initiatives and also comment on them, when appropriate.
- Receive cc of summary slides presented at end of meeting. Receive cc of summaries from the other two related meetings.
- Periodic updates and feedback electronically.
- Meeting summary.
- Summary of meeting and comments. Any actions take on suggestions.
- Follow-up continuing work via email; input in a policy paper.
- Sooner rather than later always better. “Strike while iron’s hot.”

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PART IV. Public Health Meeting

**Delta Chelsea Hotel
Toronto, Ontario
September 7–8, 2005**

**Meeting Summary
Wednesday, September 7, 2005**

Introductions

Canada

Heather Logan, M.H.Sc., B.Sc.N., R.N., C.H.E.

Director, Cancer Control Policy

National Cancer Institute of Canada and Canadian Cancer Society

The Canadian Cancer Control Community encompasses more than 150 organizations, the most prominent of which are the Canadian Institutes of Health Research (CIHR), the Canadian Cancer Research Alliance (CCRA), and the Canadian Strategy for Cancer Control (CSCC). CIHR, the main governmental cancer funding agency in Canada, funds cancer research across the cancer spectrum. Research is funded from CIHR “central” in Ottawa and from its virtual Institute of Cancer Research. CCRA was founded by the National Cancer Institute of Canada (NCIC) and the Canadian Cancer Society (CCS) and encompasses a consortium of cancer research funders. CCRA’s primary goal is to identify major gaps or large projects that would benefit from a partnership approach that involves multiple organizations. CSCC was created in 1999 by NCIC, CCS, the Canadian Association of Provincial Cancer Agencies (CAPCA), and Health Canada. More than 800 volunteers and experts across the country have helped to identify key priority areas and collaborative strategies to reduce incidence, mortality, and morbidity from cancer; enhance quality of life of those living with cancer; and support the sustainability of the Canadian health care system, which is expected to face serious challenges due to a growing and aging population.

The core principles of CSCC focus on building current abilities to form, exchange, and apply knowledge. In addition to identifying clinical practice guidelines, information must be disseminated to clinicians in a form that can be used in public health and primary care settings. The goal of this meeting was to stimulate thought and discussion in the area of knowledge transfer, an important issue for both the National Cancer Institute (NCI) and NCIC.

NCIC was created in 1947 as a joint initiative of the national Department of Health and Welfare and CCS. CCS joined with the Terry Fox Foundation in the 1980s to fund NCIC after the Department of Health and Welfare ceased involvement. NCIC’s mission is to undertake and support cancer research and related programs that will lead to reduced incidence, morbidity, and mortality from cancer. NCIC’s scientific and policy committees are the Advisory Committee on Research, which advises the board on cancer research opportunities and funding issues, and the Joint Advisory Committee on Cancer Control (JACCC), a multidisciplinary committee that advises NCIC’s board of directors on emerging cancer control issues and also advises CCS’s board of directors. These two committees are involved in knowledge transfer and integration.

CCS is a national community-based organization of volunteers whose mission is the eradication of cancer and enhancement of the quality of life of people living with cancer. CCS has five national priorities, known by the acronym PARIS—Prevention, Advocacy, Research, Information, and Support; NCIC primarily is involved in research. The transfer of knowledge generated from research into policy and health information for the public and for systems-level change is an important component of the relationship between CCS and NCIC; this partnership provides strengths that are unique among nonprofit organizations in Canada.

Meeting participants were invited to help translate ideas into action and to close gaps between research discovery and service delivery, gaps that are bridged by policy. Participants also were asked to help NCIC and NCI better integrate science with service in the context of population and public health practice, identify international opportunities for inter-organizational collaboration, identify leadership opportunities for intermediaries (such as professional organizations and journal editors), promote and support research-practice partnerships, and identify individual actions participants can take in both leadership and setting-specific research or practice roles.

United States

*Jon F. Kerner, Ph.D., Deputy Director for Research Dissemination and Diffusion
Division of Cancer Control and Population Sciences
National Cancer Institute*

NCI is a U.S. government-funded agency committed to cancer control and public health. The dissemination and health services research activities of the NCI are coordinated primarily through the Division of Cancer Control and Population Sciences (DCCPS), which reports directly to NCI's Office of the Director. Through DCCPS, NCI funds intervention research across the cancer control continuum—from primary prevention to early detection to diagnosis, and through treatment and survivorship. Most research is funded through extramural grants. NCI also is concerned with the Discovery-Delivery Continuum; billions of dollars are spent on research, and hundreds of billions of dollars are spent on service delivery, but little is spent to link the two so that lessons learned from science can be translated effectively into practice to benefit patients. A goal of this meeting was to discuss ways to develop and model interagency partnerships across the continuum and best disseminate and implement evidence-based interventions.

Discussions at this meeting may have implications for policies to bridge this gap, and they also may lead to ideas for modeling interagency partnerships across the cancer control and discovery-delivery continua and for disseminating and implementing evidence-based interventions. The impact of slow and incomplete research dissemination is evident in a variety of cancer—example, the Black and Caucasian mortality rate disparities that first appeared in 1980 for breast cancer in the United States. This difference in mortality rates can be attributed to differences in access to mammography services and state-of-the-art care. The discrepancy exemplifies the detrimental effect on health disparities of the failure to disseminate evidence-based interventions to all populations.

The United States historically has defined translational research as moving research from “bench to bedside,” or moving basic science discoveries into clinical practice. In practice, this occurs largely in academic medical centers; however, more than 90 percent of U.S. cancer patients never see the front

door of an academic medical center, which thus may limit exposure and access to the latest practices. When discussing research translation, context becomes important. The three meetings planned as part of the Canada-U.S. Cancer Control Alliance series of workshops were organized to allow discussion of research translation in three separate contexts: primary care, oncology specialty care, and public health research and practice. Context, infrastructure, and delivery systems differ between these three service delivery fields and all must be considered in efforts to translate evidence-based interventions into practice.

NCI's Translating Research into Improved Outcomes (TRIO) program has three components: (1) using and communicating cancer and behavioral surveillance data to identify needs, track progress, and motivate action and change; (2) collaboratively developing tools for accessing and promoting the adoption of evidence-based cancer control interventions; and (3) supporting regional and local partnerships to identify infrastructure barriers, expand local capacity, and integrate science into comprehensive cancer control planning and implementation. NCI's partners in this effort include the Agency for Healthcare Research and Quality (AHRQ), Centers for Disease Control and Prevention (CDC), Centers for Medicare and Medicaid Services (CMS), Health Resources and Services Administration (HRSA), and the U.S. Department of Agriculture (USDA). These agencies include those with a focus on research and on developing interventions and moving them into practice, and those that pay for the delivery of services.

Participants were challenged to find ways for NCI to collaborate with NCIC to develop strategies for moving evidence-based interventions into practice, to discuss relevant infrastructure needs, and to examine—at a broad policy level, a national level, a regional level, and from an institutional perspective—specific activities that can be undertaken to achieve this goal.

Charge for Meta-Cluster Breakout Session

Participants were divided into five groups, each of which was assigned one meta-cluster from the concept mapping pre-meeting exercise to discuss. Participants were asked to share experiences and perspectives and to use the Go-Zone graph to discuss statements in each meta-cluster that were of high importance and high or low feasibility. Each group had both Canadian and U.S. participants.

The following discussion prompts were suggested:

1. How do the statements relate to your understanding of what needs to be done by whom?
2. Do the relative importance and feasibility ratings of the statements make sense to you? Any surprises?
3. Which actions are you and the organizations with which you work already taking?
4. What new or different actions do these statements or clusters suggest for you and/or the organizations with which you work?
5. What are the key points you will want to share with your country-specific working group tomorrow?

Meta-Cluster Breakout Session Reports

Meta-Cluster Region: Organizational Culture and Structure

Participants in this group thought that the title of the meta-cluster should be expanded to “Organizational Culture, Structure, and Processes.” It was considered important that different constituencies understand the processes used by decision makers and policy makers in various groups to understand and use evidence, especially in terms of item #1 in this meta-cluster: Working with policy makers and interpreting evidence that research provides. Policy makers were defined as principal or government level officials, institutional officials, or people in charge of designing a curriculum. The word “interpreting” should be changed to “understanding and acting” to attempt to more accurately reflect the work needing to be done in collaborative relationships. Program evaluations were deemed important, as was building evaluation into an organization’s mission and vision statements to provide for process feedback and understanding. The group also discussed whether cancer could be considered a chronic condition.

Meta-Cluster Region: Learning Infrastructure

To achieve the objectives listed in this meta-cluster, participants called for an integrated system that would fund development of tools, build an infrastructure for distribution, and support training on tool use. To create an expectation that research and practice go together and must be part of work in the public health field, the group described building a grassroots movement to create the idea that adoption of evidence-based practice is the norm. As models, they described antismoking campaigns, which shifted smoking from the normative state to a negative state, and campaigns to encourage seatbelt use, which have also succeeded in changing behavior.

Meta-Cluster Region: Stakeholder Collaboration

Participants agreed on the importance of improving stakeholder collaboration but also stated that there were many barriers to working with stakeholder groups. Rather than funding specific research projects, targeting money for research networks would facilitate increased stakeholder interaction and collaboration. Researchers also must ask whether the evidence they produce and wish to put into practice is the kind of information that stakeholders need or want. Ideally, stakeholder groups would be asked what sort of evidence they need to implement an intervention at an early stage of the research process.

Meta-Cluster Region: Data and Accountability Systems

This group focused on the importance of registries and data collection programs as examples of the need for improved data and accountability systems. Registries and data collection programs require both financial and political support. It sometimes is difficult to convince legislators who make funding decisions of the importance of these programs. The group called for continuing to encourage maximum access to and utilization of existing data sets; the state of California, for example, encourages researchers and program officials to use and link with registry data to help evaluate outcomes.

Commenting on the Incentives and Funding meta-cluster, Dr. Eva Gruber noted that the development of tenure track models that promote better integration of practice and research does not appear to apply to cancer control at the population level. Dr. Jo Anne Earp responded that dissemination researchers would not be promoted under traditional tenure models, which raises the question of who would train future

population, dissemination, and cancer control researchers and workers. Dr. Kerner added that, if credit is not received for work done in the practice sector, what is the incentive for researchers to work with practitioners and policy makers? Incentives and rewards are required to encourage investigators to work in community public health settings.

Meta-Cluster Region: Incentives and Funding

Participants in this group suggested that policy makers and decision makers should be considered along with researchers and practitioners when discussing activities pertaining to the incentives and funding meta-cluster. Participants also considered funding more cost-benefit and cost-effectiveness research to be of high importance because effectiveness is as important as efficacy. Concerning actions participants and the organizations to which they belong might take, participants offered as an example Kaiser Permanente's new policy of including in its annual personnel reviews assessment of activities from the point of view of knowledge translation. Participants suggested tenure models as an area in which new or different actions might be suggested by statements or clusters in the concept mapping exercise. Much of the work performed in public health takes the form of report rather than publications in peer-reviewed journals, and tenure still depends largely on publishing peer-reviewed articles. This group also commented that using chronic disease prevention as a model for cancer control initiatives should be discussed further.

Thursday, September 8, 2005

Country-Specific Contexts: Review of Previous Initiatives

Canada

*Stuart Edmonds, Ph.D., Director, Research Programs
National Cancer Institute of Canada*

NCIC's new strategic plan for 2015—"Driving Excellent Research To Improve Cancer Control"—includes a focus on research excellence, augmented cancer control policy functions, stimulating new research development, responding rapidly to research opportunities in high-priority areas, and, along with CCS, developing a leadership fund with a joint priority-setting process. Knowledge integration also is part of the framework for the strategic plan.

In 2003, the Advisory Committee on Research and the Advisory Committee on Cancer Control found that NCIC's framework did not fit with current activities. A working group involving both committees was charged with creating a better definition of knowledge translation and integration, which resulted in the White Paper, "The Language and Logic of Research Transfer: Finding Common Ground." The White Paper and this meeting's concept mapping exercise will help NCIC develop new programs to meet the goals of its strategic plan by 2015.

Cancer control policy activities have included development of evidence-based health policy statements, position statements, and cancer-related information; communication of research findings to the media, CCS divisions, and their spokespeople; support of national-level committees such as the JACCC, Committee on Cancer Staging, and the Steering Committee on Cancer Statistics; international liaisons to leverage resources; and facilitation of collaboration between NCIC and CCS.

Future activities include drafting of strategic cancer control policy papers designed to create system-level change; efforts to facilitate translation of research into policy and practice; expansion of Canadian Cancer Statistics publications; and support for successful CSCC implementation.

*Allan Best, Ph.D., NCIC Advisory Committee on Research
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Topics addressed by the NCIC White Paper overlapped most of the meta-clusters identified in the concept mapping exercise, including Implement Innovative Professional Training; Fund and Facilitate Integration Activities; Develop Participatory/Action Research Strategies; Respond to Stakeholder Priorities; Enhance Data Systems and Capacity; Promote Evidence-Based Practices; and Change Organizational Culture and Structure.

During the drafting of the White Paper, it was noted that problems with research translation arose for basic scientists, whereas population scientists described problems facilitating uptake of health information. These problems were seen essentially as problems with the cancer control research system that presented barriers to the translation process. The goal of these efforts was to develop a framework that investigators along the entire research continuum could use to develop a more comprehensive approach to research translation. There still is a divide between the groups, which resulted in the preparation of a separate companion paper by basic science researchers. Nonetheless, a final report will be produced that contains an integrated set of recommendations.

During the two months following this workshop, the results of the discussions that took place over the course of the three meetings in this series will be given to a group that includes “thought leaders” from NCIC and CCRA. This “editing group” will use information from the White Paper and these meetings to develop recommendations to provide a platform for the “how to” part of the strategic plan. Knowledge integration will be an important part of this process. The White Paper will continue to provide a framework to discuss the ideas of differences in knowledge bases between different settings and differences in motivation of individual versus group behavior. JACCC will examine large-scale changes that could make the system more useful and may prove more fruitful than changes in individual practice.

During the breakout sessions, Canadian participants were asked to consider steps to translate statements within the meta-clusters into broader, integrated plans or strategies to facilitate research-to-practice activities. Because the Canadian cancer control community is relatively integrated, participants were asked to focus on larger organizational strategies that would best serve research-to-practice activities in Canada. Participants were asked to consider actions NCIC could take, how to influence the normative culture, and what they could do on a personal level. The concept mapping exercise could be used to develop strategic and tactical ideas to develop and advance a broader knowledge base.

United States

Jon F. Kerner, Ph.D.

When NCI was authorized in 1937, language in the authorization bill called for promoting useful application of research results. Passage of the National Cancer Act in 1971 called for more rapid and effective communication of research results to medical practitioners and, as appropriate, to the general

public. These meetings were designed as part of the process of moving from dialog to action and for building momentum to inspire change. A number of meetings were held to close the discovery-delivery gap. The American Cancer Society, New England Division, sponsored one of the first meetings to discuss dissemination and created an occasion for interaction between researchers and practitioners. Another critical meeting, *Designing for Dissemination*, brought together researchers, practitioners, and “intermediaries”—decision makers and policy makers—to identify priorities for dissemination efforts. The Knowledge Translation and Technology Transfer Meeting, held in 2003, and the Knowledge Translation Workshop, sponsored by CIHR as a joint meeting between the Canadian Health Services Research Foundation and AHRQ, discussed issues pertaining to technology transfer. The Dialogue on Dissemination was a series of three meetings; the first involved primary care and oncology practice physicians, the second involved public health practitioners, and the third was an integrated meeting that included a representative from the President’s Cancer Panel.

Several recommendations and activities resulted from the *Designing for Dissemination* meeting. The Office of Education and Special Initiatives developed an Evidence-Based Interventions (EBI) adaptation training module that adapts interventions to make them contextually relevant without changing their outcomes. The *Designing for Dissemination* Web site provides tools and support for researchers. The Cancer Control PLANET Web site was created as a Web portal specifically for public health practitioners. It links resources from various funding agencies across the discovery-delivery continuum to facilitate public health practitioners’ search for needed resources. NCI and NCIC are considering working together to add Canadian content to the Cancer Control PLANET. One thousand public health practitioners in the U.S. have been trained in PLANET use through the Comprehensive Cancer Control Leadership Institutes. Included in the training were those responsible for developing comprehensive cancer control plans at the state, tribal, and territorial levels. A version of PLANET, *Clinicians Linking Information to Patients (CLIPs)* is in development for primary care practitioners and contains patient-specific information delivered at the point of care.

NCI also has funded Administrative Dissemination Supplements for intervention research, will soon be funding similar supplements for surveillance research, and is contributing to a new Trans-NIH Dissemination and Implementation Program Announcement (PA). This program will include a special emphasis panel with an orientation prior to the review of grants and will be specifically open to researchers from countries other than the United States. The Cancer Center Support Grants Guidelines have been expanded to include Dissemination Research Cores that allow cancer centers to apply for and receive funding for cores to support dissemination research. Guidelines for the R25E community-based cancer education and training grant have been updated to include a research dissemination theme, which serves as another way to sustain and support dissemination research.

One goal of the Canada-U.S. Cancer Control Alliance is to shift thinking away from “moving research into practice” and toward the “integration of research with practice.” Another goal is to develop U.S.-Canadian collaborations to further this effort.

U.S. Breakout Session

Meta-Cluster Region: Organizational Culture and Structure

NCI Activities:

- NCI can help translate the results of research into lay language that is understandable by and useful to policy makers. Research results should be distilled into a one-paragraph executive summary that includes a brief description of the study, its findings, and implications. Recommendations from multiple studies should be synthesized to avoid placing too much emphasis on any single study.
- NCI could lead efforts to make research-practice integration an explicit part of organizations' missions, visions, and strategies. NCI needs to define research-practice integration and show how it applies in different contexts (e.g. public health, oncology specialty care, primary care, state health departments).
- NCI can sponsor development of a consensus on clinical or program practices by systematically reviewing the literature and existing guidelines. Expanding Cancer Control PLANET content, particularly to include survivorship interventions, should be part of this recommendation. The reviews also should include links to primary literature, which often contains specific information that is important for implementation. The Research Tested Interventions Programs (RTIPs) also will be useful for these activities.
- NCI can provide a “bully pulpit” to champion synthesis-based decision making. Anecdotes can be used to garner attention, but NCI must emphasize the importance of a process-oriented approach that considers numerous studies rather than relying on a single study.
- Improved definitions of evidence are needed. The highest level of evidence would be program-tested research that is included in RTIPs as guidelines or part of a guide-recommended strategy. Other levels include evidence that is recommended but not supported by studies that could apply to a particular setting. If this level of evidence is implemented, users should evaluate and report on their use of such evidence to advance the knowledge base.
- NCI's Office of Legislative Affairs should continue to develop a template for communicating research results to legislative staffers in the form of one- to two-page summaries.
- NCI could consider developing ranking systems to rate prevention efforts at the state and county level. County health officers could be enlisted to help with this effort, particularly concerning access-to-care issues.

Personal Activities:

- Participants should consciously decide to make evidence-based medicine the cornerstone of program implementation and application in their normal practice.
- Participants could help publicize cancer prevention plans and communicate successes to newspapers and other information outlets. Cancer advocacy groups also should be involved in disseminating cancer prevention plans.

Meta-Cluster Region: Learning Infrastructure

- Create a conversation around the implementation of evidence-based practices by developing a magazine or newsletter that contains brief summaries, written in lay language, of the latest cancer control interventions, with links to sites that provide more detail. This should be a nongovernmental effort, perhaps initiated by a consortium of community and nonprofit organizations. The goal of this effort is to change the social norms that related to the adoption and use of evidence-based practices.

- Incentives and sanctions are needed to ensure implementation of best practices and discontinuation of less effective practices. CMS reimbursement policies have played a role in changing practices; breast cancer treatment is one example. Community health care providers and the Veteran’s Administration (VA) currently provide some of the best care for diabetics, and these examples should be used to develop ways to translate best practices into public health settings.
- Programs such as the University of North Carolina’s dissemination and implementation program are helping to raise the status of health behavior studies by offering core courses to members of many disciplines, including epidemiology, biostatistics, and environmental science. Continued interactions with these groups will help raise the status of public health education.
- Executive summaries and descriptions of research implications for practice and policy are crucial. Scientific journals should be encouraged to include practice and policy implications in journal articles. NCI could convene a meeting to discuss this with editors of cancer-related journals.
- Academic and medical research centers should be involved in integrating cancer control research and practice.

Meta-Cluster Region: Stakeholder Collaboration

- Developing, supporting, and participating in practice-based research networks will require a paradigm shift, in part because of the way grants are reviewed and because of the difficulties that academic researchers have in evaluating work performed in a community setting. Nonetheless, these networks should be funded and allowed to compete for funding.
- Cancer centers should be encouraged to develop and participate in practice-based networks, including primary care networks, and to work with community physicians.
- Researchers who perform community-based population-science trials should consider inclusion of these trials in the current clinical trials systems, with the caveat that tools for appropriate evaluation should be developed and used. PLANET could be used to monitor these studies.
- To engage primary care practitioners, general health benefits that result from some cancer prevention activities (i.e., maintaining a healthy weight, consuming fruits and vegetables, smoking cessation) should be emphasized.
- Social workers should be engaged in community-based participatory research on cancer prevention. Some of the more research-oriented organizations, such as the Society for Social Work Research, Association of Oncology Social Workers, and Institute for the Advancement of Social Work Research, might be most receptive to inclusion in community-based research efforts.
- Professional groups should seek to raise the status and emphasize the importance of the role of a “knowledge broker” who can effectively translate and communicate the results of research to the appropriate audiences.
- From a public health point of view, the idea of professional organizations should be framed more broadly to include groups such as parent-teacher associations and civil rights organizations.

Meta-Cluster Region: Incentives and Funding

- Cost and economic analyses are important tools for providing compelling reasons for policy makers to support research-practice integration and should be considered integral parts of dissemination activities.
- Professional organizations and NCI can encourage the systematic study of the “science of dissemination.” Grantees could be required to consider the downstream applications of their research, preferably in collaboration with practice partners.
- To help disseminate evidence-based medicine to the widest possible audience, developing a field of “knowledge brokering” should be considered. The Center for the Advancement of Health could help develop such a field; county extension programs also might provide assistance. In the developing world, knowledge brokers translate complex science into practical agricultural help and prenatal care information. Knowledge brokers can be viewed as the “marketing arm” of behavioral science. The St. Louis School of Public Health has made dissemination and dissemination research its central theme.
- People in positions of authority, such as the President’s Science Advisor and friendly politicians, should be encouraged to learn about knowledge translation.
- Tenure track models that reward dissemination and community research should be encouraged.
- Cancer Centers should be encouraged to invest resources in knowledge transfer infrastructures, and dissemination research should be added to Cancer Center Guidelines.

Canadian Breakout Session

Meta-Cluster Region: Organizational Culture and Structure

- Supportive care currently is overlooked and should be addressed and integrated into the public health perspective.
- Community-oriented primary care should be integrated into public health and an interface built between the primary care and public health communities.
- Organizations at all levels should integrate knowledge translation into their visions, missions, and strategies. Participants should consider how they could influence this.
- CIHR’s Listening for Direction program should be expanded to include a cancer context.
- The public health community should assess governments to determine how they understand and use best evidence to drive policy and regulations. Accountability to the government is necessary, and CCS can serve as an advocacy group to monitor this.
- NCIC, although primarily a research organization, could help develop funding mechanisms to bridge the gap between research and practice.

Meta-Cluster Region: Learning Infrastructure

- Core competencies should be identified for the development of translation and dissemination skills. Professional associations can be enlisted to ensure that appropriate standards of practice and minimum qualifications are met.
- Organizations that support individual learning should be created. Individual public health units need to incorporate professional learning, performance monitoring, and continuing education and public health accreditation.

- Discussion of implications for policy and practice could be required in grant reports to NCIC, although ways of disseminating this information to the public and assessing the quality of reporting must be considered.
- NCIC should analyze the learning needs and priorities that are specific to public health.
- NCIC should establish an environment that would enable practitioners to share their experiences and allow public health practitioners to access research evidence and incorporate it into their practice; NCI's PLANET could serve as an example for this. NCIC should create a peer learning environment that focuses on specific issues. Practitioners and public health practitioners together can help determine the needs and feasibility of prevention efforts; health economists also should be included. The goal of such a learning community is to build mutual understanding and trust across the spectrum of researchers and decision makers.

Meta-Cluster Region: Stakeholder Collaboration

- Public health researchers and practitioners should be encouraged to develop, support, and participate not only in practice-based research networks but also in evidence-based research networks and policy development/implementation. Including practitioners in this effort will enable more effective communication between the two disciplines. Political decision makers also should be considered as a key component of these networks. NCIC is uniquely positioned to convene these networks and could act as the driver of the process, although perhaps not the key organizer.
- Researchers and practitioners need to interact and align themselves similarly with a research agenda; alignment will facilitate dissemination.
- NCIC should facilitate research on dissemination, perhaps by introducing a new knowledge translation panel to fund dissemination research, or by introducing funding programs that can assist researchers with the knowledge translation component of their research. The Canadian Breast Cancer Research Alliance has knowledge translation research grants that help researchers link with the user community to develop research questions and includes funding for disseminating research results.
- Dissemination research is performed in other disciplines; NCIC should link with professional associations also interested in disseminating evidence.
- Prevention is a priority, and efforts are needed to determine what end users need to know to implement effective prevention efforts. The user end of the spectrum should be engaged more fully in research and dissemination; tobacco control policies could provide examples for this effort.

Meta-Cluster Region: Data and Accountability Systems

- More support for electronic patient records and registries is needed, with the goal of creating a common source of electronically linkable information. Registries should link to other databases, such as that of the Canadian Health Services, to create a population context. Patient health records should be used as a research tool, although expense and privacy issues must be considered. Improved and linked registries would help track dissemination of new programs, their users, and applications.

- NCIC should increase its efforts to build linkages between researchers and databases and improve accessibility. A search tool with a cancer focus that provides a comprehensive search across all existing databases would be useful.
- NCIC should play an advocacy role in privacy issues related to health documents and records.

Meta-Cluster Region: Incentives and Funding

- Linkages are needed between those who perform research and those who implement it. Aligning researchers and implementers early will help streamline the process and anticipate future directions.
- Mechanisms are needed at all stages along the basic research-to-implementation continuum to encourage interaction between key players to update and share information and plans, which will help facilitate translation. End users can inform researchers about potential problems in implementation, which will help researchers formulate future studies. Health economists also should be included in these interactions.
- Although folding cancer prevention into chronic disease prevention efforts was considered, it was decided that cancer is a unique disease and should be treated as such.
- NCIC should expand its scope to include knowledge translation.
- Practitioner salaries should be included in research grants to allow practitioners to participate in research. NCIC and CCS should highlight successful partnerships and examples of evidence utilization to help build awareness of the usefulness of practitioner-researcher collaborations.
- NCIC should promote and facilitate practitioner participation in research. NCIC should instill and operationalize the value of involving scientists and practitioners in research and practice, especially at population levels.

Canadian-U.S. Dialogue: How We Can Collaborate

*Kathleen Quinlan, Ph.D.
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Meta-Cluster Region: Organizational Culture and Structure

Participants agreed that changing the culture and structure of the implementation of evidence-based practices will take time and investment, comparing it to the 50 years needed for tobacco control efforts to demonstrate results. Movements of this sort need “champions,” cooperation from grassroots organizations, and perhaps also the ability to coalesce around an enemy—for example, drunk drivers, in the case of Mothers Against Drunk Driving (MADD). The enemy of the implementation of evidence-based practice is the status quo. Taxpayers also may be more interested in supporting disseminating and implementing evidence-based practices if it can be shown that current practices are ineffective and impact both health outcomes and health care expenditures.

The effort to translate evidence-based research results into practice needs concrete goals. For example, MADD asked for 0.08 blood alcohol level laws and could show the cost of not implementing these laws. The costs of failure to implement evidence-based interventions need to be clarified, perhaps through the use of case studies. Participants cautioned against the dangers of relying on anecdotes rather than data

but realized that effective storytelling can help advance the effort. The benefits of evidence-based practices must be made clear to politicians, legislators, journal editors, and journalists. Enlisting the help of health economists to demonstrate the financial advantages of using evidence-based research could be useful, but the message must be conveyed to the interested groups in an understandable and concise manner. Public health practitioners might find it helpful to examine the effectiveness of pharmaceutical company marketers who have succeeded in creating strong public demand for their products.

Meta-Cluster Region: Learning Infrastructure

Effective social marketing is needed for cancer control efforts. Ms. Moyer mentioned that the CDC has collected successful marketing examples, with messages that are often transferable, on its Web site. Dr. Best suggested that capacity building might be a more effective way of describing this meta-cluster. To change an organization, changes in infrastructures are needed. The Cancer Control PLANET could be used as an organizing tool and could contain social marketing information, educational tools, and data sets.

Linkages are needed to bring together disparate groups; this could involve developing a new kind of public health professional to create these linkages. The Canadian Health Services Research Foundation has a research dissemination model that is based on knowledge brokering and involves training people to serve as knowledge brokers. While many in the group were enthusiastic about the idea of knowledge brokers, some cautioned against trying to invent a new discipline or subspecialty without considering potential problems with credentialing and credibility. Because of this, the group suggested taking an existing program or skill and supplementing it with cancer control knowledge.

Meta-Cluster Region: Stakeholder Collaboration

A distance exists between those who generate population health research and those who implement it. Networks should be created to align implementers as collaborators with the researchers. It may be best to accomplish this in the context of a specific public health issue (e.g., HPV vaccination, obesity, or exercise). Implementers need to be aware of advances in basic research or they will not be prepared for potential problems and challenges in implementing new research findings. The group discussed the idea of “implementation brokers” who can translate and deliver research findings to users effectively.

Initiation of HPV vaccination could be an area for a U.S.-Canadian collaboration on the implementation and evaluation of a new technology. Initial vaccine development efforts focus on biological and clinical issues, but implementation issues such as circumstances for delivery, which populations would benefit the most, how a population would react to the vaccine, and potential misunderstandings about the vaccine also should be considered. Many of these efforts could be initiated before vaccine development is completed.

The United States and Canada also could collaborate on knowledge integration and translation and on dissemination and implementation research. The Dissemination and Implementation PA, for which both Canadian and U.S. citizens can apply, should generate opportunities for collaboration.

Meta-Cluster Region: Data and Accountability Systems

Clear standards to measure and evaluate the outcomes of implementing evidence-based practices are needed, and cancer registries can contribute to this evaluation process. Cancer registries differ between Canada and the United States. The Canadian registry offers more comprehensive coverage of the population, but the level of information is less detailed. The U.S. SEER registries have more limited coverage but are more in-depth. The Canadian and U.S. registry systems should interact to form one unified North American cancer surveillance system (possibly through the North American Association of Central Cancer Registries). In the United States, states must justify their investment in registries, and NCI and NCIC could work together to educate policy makers about the importance of cancer registries. A potential “danger zone” occurs during the transition to electronic health records. Many may believe that registries will be unnecessary once electronic health records are fully implemented, but these records may not be as complete as the registries, at least initially. Dr. Best suggested that a “business case” be built for the need to develop the next generation of registries, in part by convincing policy and decision makers that funding registries will save money in the future.

Registry data can be a valuable resource for decision-making, surveillance, and prevention programs, but epidemiologists have done a poor job of demonstrating registry use. Existing data sets could be linked with data sets that are created for explicit purposes and also with census, risk factor, and physician practice data. Some participants thought that registry data could be used to demonstrate disparities in health care in the United States as a way of drawing attention to the value of registries. Ms. Cheryl Moyer also suggested a collaboration between the United States and Canada to examine obesity prevention efforts. If the data contained within each country’s data systems are similar, they could be used to compare the effects of different national policies to combat obesity.

Participants discussed whether cancer should be considered a chronic disease and whether it should be part of a general chronic disease registry and surveillance program. Dr. Eduardo Franco noted that cancer is more varied than most chronic diseases and, in fact, is not a single disease. Dr. Russell Glasgow commented that organizations such as the VA and community health care centers have made progress in chronic illness management by adopting a population-based perspective and creating registries. Mr. Robert Villanueva argued that a general chronic disease registry could be too complicated. In his experience, maintaining a registry that tracks only cancer is problematic enough, and the complications involved in surveying a number of diseases could cause states to eliminate registries entirely and just use health records.

Meta-Cluster Region: Incentives and Funding

Dr. Kerner commented that NIH’s Implementation and Dissemination research PA is designed to encourage cross-country collaboration. Dr. Franco raised the issue of ethical requirements, which are becoming increasingly onerous, and suggested a cross-country collaboration to streamline these requirements. A cross-country effort to discuss issues and problems that arise from interactions with Institutional Review Boards also could be considered. He added that Canada and the United States should consider sharing databases and registries, especially tumor registries.

Dialogue on Collective Next Steps

*Lenora Johnson, Director, Office of Education and Special Initiatives
National Cancer Institute*

Areas for collaboration between NCI and NCIC:

- NCI and NCIC can use their power at the national level to serve as a “bully pulpit” for disseminating evidence. These two organizations can leverage their power to introduce a global statement that supports an “obligation to use the best evidence” and to make policy makers and decision makers aware of this statement. Consensus guidelines should be promoted and the definition of “evidence” simplified to clarify what works and what does not.
- Good storytellers are needed who can use data to tell a compelling story that is tailored to address the needs and motivations of different audiences. In general, “less is more,” and the most important findings and policy implications of any study should be conveyed in one page. NCI and NCIC could help to create mechanisms for “plug and play” science—any user of evidence should be able to understand and act on study results. Use of social comparisons (i.e., report cards and rankings) to inspire change and the adoption of best practices should be explored. Champions for cancer control efforts should be identified at all levels.
- NCI, NCIC, and professional organizations should work together to develop a working definition of the “science of dissemination” and to make operational the transition of knowledge into practice. This will require standardized outcome measures and defining the knowledge cycle. The unique roles and players who contribute to cancer control efforts should be credited, which could take the form of developing knowledge brokers who help to communicate research findings to different audiences. Models of operating systems or structures that support evidence-based practice should be identified, and research-practice networks should be convened.
- The learning infrastructure should be activated by establishing core competencies for evidence-based practices and providing specific skill-building opportunities that support roles within the knowledge cycle, including training knowledge brokers, translating clinical information, building partnerships, and engaging stakeholders. Individuals’ capacities should be expanded by increasing knowledge and skills development in organizations, systems, review panels, and the like. Successful models of knowledge transfer and infrastructures in which cancer control can invest also should be identified.
- The definition of stakeholders should be broadened to include groups and individuals such as parent-teacher associations and teachers in cancer control efforts (i.e., those who teach about smoking cessation, sun protection, alcohol use, and sexually transmitted diseases). Stakeholders have multiple roles beyond “subjects of need and impact,” and this should be recognized. Measuring validity, monitoring involvement (intermediaries and community-based research studies), and identifying natural collaborators and research partners will be beneficial to cancer control efforts. Cancer need not be the sole focus, however. Instead, cancer control can be woven into other health-promotion strategies. Stakeholders could be elevated by creating roles around their links to science (e.g., science brokers, science implementers, and disseminators).
- Other collaborations could include sharing tools to facilitate exchange and access to knowledge (e.g., PLANET). NCI and NCIC could work together to encourage modification of the structure of journal articles to include practice implications, perhaps by bringing together editors of cancer-related journals to discuss their role in the dissemination and adoption of evidence. Evidence on understanding and addressing health disparities could be shared, along with templates for surveillance (i.e., SEER, tumor registries).

Concluding Remarks

Allan Best, Ph.D.

Jon Kerner, Ph.D.

New systems are needed to clearly define and make operational knowledge integration, including networks to provide continuity and depth of understanding. Through the course of these meetings, a tension between researchers who work on discovery and those who apply or disseminate research has been noted. These different communities have different definitions of evidence, and the first draft of the White Paper recognized these differences and showed the struggle between basic and dissemination research for funding priorities. Because of the difficulties of the situation, JACCC felt that collaboration between the United States and Canada was needed to address these issues.

Several participants commented that an Institute of Medicine (IOM) report concerning the nature of evidence and implementation of evidence-based practices should be commissioned, since these reports are often influential. Dr. Kerner said that DCCPS would consider contacting IOM about this issue but noted that there usually is a “waiting list” for IOM reports. Dr. Best added that the new Canadian Academy of Health Sciences has senior scientists who advise government officials and perhaps could be approached about addressing dissemination issues.

Participants also discussed the importance of including people at the grassroots level in meetings of this sort. For the primary care meeting, practitioners who did not perform research were considered to be “grassroots-level” people. For the public health meeting, participants such as Mr. Villanueva and Dr. Kurt Snipes, who try to turn funds from the CDC or NCI into programs that make a difference in a community, could be considered “grassroots.” Mr. Villanueva commented that this venue was not an appropriate one for public health grassroots involvement. He added that, although cancer survivors can be strong allies, they also can create difficulties because they do not understand how the system works. The next step in this process is to bring the results of this meeting to community groups and grassroots organizations.

In response to several questions, Dr. Best answered that a conscious decision was made not to include basic researchers in the meeting, because mixing disparate groups would limit the depth of understanding within a given context. In the future, discussions will focus on how to integrate basic research. Dr. Amanda Graham commented that science should be in the practice of service, and patients should be included in future discussions to help determine what scientists and practitioners can offer in the service of public health.

Dr. Kerner commented that NCI has many venues for patient and public involvement, but it is unclear whether patients or the public are being involved in the correct way. The recommendations from the primary care and oncology specialty care meetings were clearer than those that arose from this meeting—public health is more complex and difficult to understand than the other two contexts. The next challenge will be to assess the results of all three meetings to understand context-specific recommendations and to discover intersects across all three groups.

Meeting Evaluation Summary

Summary of Findings

- Of the 28 meeting participants, 13 completed the evaluation questionnaire, for an overall response rate of 46%. Ratings were on a scale of 1–4, where 1=not at all and 4=extremely.

Responses to Evaluation Questions

Question 1: Gather input from participants on what is needed to bridge the research/practice gap.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.62

Question 2: Identify individual actions that participants can implement within their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 1
Average Rating: 2.46

Question 3: Identify organizational and system level actions that participants can implement or advocate for in their own organizations to more effectively integrate research with practice.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 2
Average Rating: 2.77

Question 4: Identify actions that the National Cancer Institute (NCI) or the National Cancer Institute of Canada (NCIC) or other research granting agencies can take to enhance the integration of research with practice.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.15

Question 5: Create a community of practice that will work together (with NCI and/or NCIC) beyond the meeting to implement actions that require partnership efforts.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 1
Average Rating: 2.69

Question 6: Identify opportunities for fruitful strategic U.S.-Canada collaborations.

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.23

Question 7: How effectively did we make use of the pre-meeting assessment (conceptual framework and rating results)?

Rating: Number of Responses: 12
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.42

Question 8: How useful did you find the pre-meeting background reading materials?

Rating: Number of Responses: 12
Highest Rating: 4
Lowest Rating: 3
Average Rating: 3.83

Question 9: How likely is it that you will take the priority actions you identified to improve the integration of research and practice to the organization in which you work and/or are a member?

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 1
Average Rating: 3.23

Question 10: How effective was the meeting overall?

Rating: Number of Responses: 13
Highest Rating: 4
Lowest Rating: 2
Average Rating: 3.15

Question 11: If you rated any items in #1–10 as “not at all” or “not very,” please provide feedback below.

- On those specific items, we did not have any specific discussions.
- Most of my low ratings reflect a discussion that was aimed at what NCIC and NCI could do and take leadership on. Not sure what was expected of the organization at the individual level. It was difficult to pull out KT from “evidence” such as “data sources.” Much of the discussion was on registries rather than on how to use registries as a way to support KT.
- Question 2: Little emphasis was placed on this. The emphasis was more on collaborative action.
- Question 5: Although the group was highly collegial, the next step of a community of practice

was only superficially explored.

- Number 2, 3: Several related to individual action or action by organization was not discussed by colon group.
- Number 5: Had no sense that participants in this group formed any new “community” (some of us were already engaged in subcommittees).
- Canadian discussion found, in the main, on advice to NCIC.

Question 12: What worked best about this meeting? Why?

- Break out by country.
- Very focused; well organized; effective leadership.
- I like the workgroups first mixed then country-specific.
- Small size and good mix of disciplines, listeners, and speakers.
- Excellent facilitation and pre-meeting planning.
- Committed leadership.
- The background/preliminary materials and the interaction that they facilitated.
- Day one of the meeting was exciting and used a very powerful process. The cross border dialogue was exceptional. Day two was not very helpful. It seemed that there was a sense of maintaining “what is” and very focused towards “diseases” and not people. The whole idea of the concept mapping somehow was lost in day two.
- The working groups—both the subject-specific and country-specific. They allowed exposure to a wide spectrum of thoughts and ideas.
- Clean structure, good moderators of sessions, helpful discussions, grateful for the openness of the dialogue.
- Openness of organizations to free debate, new ideas.
- Well-facilitated.

Question 13: What suggestions do you have for improving this type of meeting?

- Time to discuss the White Paper and definitions, and approaches to dissemination/integration.
- The cross-country section could have used some form to help direct and stimulate conversation. While it was informative, it was a bit strained at the beginning. Some structural questions could have moved this along.
- Bring health promotion experts and basic cancer researchers.
- There was no sense of what the people-patients want as how they are knowledge brokers. There was not much of an openness for ideas of KT data and databases on quality of life in psycho-social outcomes that are measurable—it would seem in public health that would be important.
- We needed some “grass roots” public health practitioners in the room.
- More time about the health care system of Canada and how it differs from that of the U.S.
- Few of the participants are what I consider “public health” people—should have had more.
- Interpretation and substantive presentations.

Question 14: What follow-up materials or activities would you like to see (and when) to support the accomplishment or identified priority actions?

- Summary of meeting activities as soon as possible.
- Listserv administrative groups. Keep the dialog alive.
- Just would like to see what comes from these series of meetings and what progress is made.
- Getting the notes of the discussions back out to us as soon as possible as thoroughly as they can be.
- Conclusions should be published in a peer-reviewed/high profile cancer/medical journal.
- A draft report of recommendations to allow the participants to help refine those recommendations.
- Summary of this meeting and others separately and then synthesized.
- Report from all three meetings, need version of paper/model.
- Would like to see summary notes from meeting, revisions of White Paper, and actions taken by NCIC/NCI as a result, including but not limited to funding program announcements.

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