



National Collaborating Centre
for Infectious Diseases

Centre de collaboration nationale
des maladies infectieuses

National Collaborating Centre for Infectious Diseases

Reducing the Burden of Influenza-Like Illness in Canada:

A National Consultation on Useful Products for Public Health Practitioners

Meeting Proceedings

March 28, 2013
Toronto, Ontario



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Executive Summary

Influenza and influenza-like illnesses (ILI) are a persistent public health issue that practitioners have to deal with, annually in epidemic situations caused by seasonal influenza and other respiratory pathogens, and under emergency situations in pandemics and sporadic outbreaks (e.g. pandemic H1N1 and avian H7N9). There are many unanswered questions and unsolved problems with respect to the effectiveness, cost-effectiveness and equity of public health and primary care programs and services for preventing and controlling ILI in Canada. These issues are diverse but many are inter-connected.

On March 28, 2013, the National Collaborating Centre for Infectious Diseases (NCCID), working with its sister centres (NCC for Aboriginal Health, NCC for Determinants of Health, NCC for Environmental Health, NCC for Healthy Public Policy and NCC for Methods and Tools), brought together thirty-five individuals representing federal, provincial/territorial and regional public health jurisdictions as well as various professional organizations, for a one-day consultation in the attempt to prioritize these issues, and to assess the knowledge gaps and other knowledge translation needs related to the prevention and control of ILI. The goal of this consultation, entitled “Reducing the Burden of Influenza-Like Illness in Canada: A National Consultation on Useful Products for Public Health Practitioners”, was to gather input on the type of knowledge products that would be useful to public health practitioners.

Working from a list of issues related to the prevention and control of ILI from a workshop hosted by the Institute of Population and Public Health (IPPH) of the Canadian Institutes of Health Research (CIHR) (2011), consultation participants deliberated and narrowed the list down to five top priority issue groups:

1. Vaccine efficacy, effectiveness, efficiency and equity (*sub-point for consideration: knowledge basis for making vaccination mandatory for health care workers*)
2. Primary prevention of influenza and ILI other than vaccine (*sub-point: barriers to disease transmission*)
3. Rapid diagnostics (*sub-point: antiviral effectiveness*)
4. Surveillance and better estimates of burden of influenza and ILI (*sub-point: health inequities*)
5. Communication and messaging.

Discussion and suggestions on potential solutions and knowledge products for these priority issue groups will inform the future work in the area of influenza and ILI that will be undertaken by NCCID and its counterparts that make up the National Collaborating Centres for Public Health (NCCPH).

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1. Background

Influenza and influenza-like illnesses (ILI) continue to be a public health issue that practitioners have to deal with, annually in epidemic situations caused by seasonal influenza and other respiratory pathogens, and under emergency situations in pandemics and sporadic outbreaks (e.g. pandemic H1N1 and avian H7N9). There is palpable pressure to allocate resources to prevent and control influenza and ILI because of their association with absenteeism from work and school, pressure on health care services, and excess morbidity and mortality. Despite this, there remain many unanswered questions and unsolved problems with respect to the effectiveness, cost-effectiveness and equity of public health and primary care programs and services in Canada. There are many issues to consider including surveillance methods, severity measurement, vaccine strategies, public education, and appropriate use of health care services and resources such as antivirals and antibiotics. These problems and their solutions relate to the mandate of all the National Collaborating Centres for Public Health (NCCPH). This is one of the reasons why the topic of influenza and ILI was selected as an area for a collaborative project among the centres. To gather input on the scope of this project and the products that would be useful to public health practitioners, the National Collaborating Centre for Infectious Diseases (NCCID), working with its sister centres, hosted a consultation to provide an opportunity for public health practitioners, researchers, and others to exchange views with each other and to provide advice to the NCCs.

The consultation, entitled “Reducing the Burden of Influenza-Like Illness in Canada: A National Consultation on Useful Products for Public Health Practitioners”, was held in Toronto, Ontario on March 28, 2013. This meeting served as a springboard for discussion on future work in the area of influenza and ILI that will be undertaken by NCCID and NCCPH. This report is a summary of proceedings of the consultation.

2. Setting the stage

In September 2011, the Institute of Population and Public Health (IPPH) of the Canadian Institutes of Health Research (CIHR) held a knowledge exchange workshop on *Health Systems Research on Pandemic Influenza A(H1N1)*. The workshop brought together researchers and public health decision-makers from the federal, provincial/territorial, and regional/municipal levels to share, discuss and debate research findings from projects that were supported by a special rapid response funding opportunity launched by CIHR-IPPH, CIHR partners and the Public Health Agency of Canada (PHAC) as a result of the 2009 influenza pandemic.

Over the course of the CIHR-IPPH workshop, a number of challenges related to public health policy and practice on prevention and control of influenza (pandemic and seasonal) were raised by decisions-makers. This NCCPH influenza consultation followed up on some of these issues and aimed at further examining the corresponding knowledge translation needs of frontline practitioners.

The objectives of the NCCPH influenza consultation were:

1. To assess the knowledge gaps and other knowledge translation (KT) needs related to prevention and control of ILI in Canada;
2. To organize these issues into a logical framework of achievable, practical products;
3. To prioritize these issues and to recommend to NCCID a limited number of achievable projects including projects for collaborative action by all NCCs.
4. Through the process of the meeting, to improve collaborative networks for knowledge translation and exchange in public health.

The final agenda for the consultation can be found in Appendix A. Participants of the influenza consultation included representatives from PHAC, Canadian Food Inspection Agency, Association of Medical Microbiology and Infectious Diseases Canada (AMMI), Community Health Nurses of Canada (CHNC), provincial/territorial ministries of health and public health agencies, and regional/local public health jurisdictions. For the complete list of participants, see Appendix B.

3. Consultation results

3.1 Prioritization of issues related to the prevention and control of influenza and ILI in Canada

To jump start the discussion in the influenza consultation, participants were asked, before the consultation, to rank a list of issues related to prevention and control of influenza in Canada. These issues were derived from the 2011 CIHR-IPPH knowledge exchange workshop on *Health Systems Research on Pandemic Influenza A(H1N1)* and discussions within the NCCPH Planning Committee. Appendix C contains the result from the pre-meeting prioritization exercise and additional ideas submitted by the participants. These issues were reorganized, with some ideas being consolidated, as follows:

Top Seven Priority Issues

RANK	ISSUE
1	Vaccine efficacy, effectiveness, efficiency and equity
2	Communication and messaging: What to say about influenza and ILI and influenza vaccines - and how to say it to health providers, the public and the media
3	Better estimates of burden of illness, including morbidity, severity and mortality
4	How to obtain earlier and more useful and consistent federal/provincial/territorial surveillance data and evaluative information, including case definitions, syndromic surveillance, and appropriate triggers for action
5	Clarification of roles, responsibilities, and collaboration between public health, primary care, other health care and educational settings at the national, federal/provincial/territorial, regional and local levels
6	Reducing health disparities in ILI in disadvantaged (vulnerable) populations, related to social determinants of health, including access to care.
7	Effectiveness and efficiency of barriers to disease transmission, including appropriate role of masks and environmental conditions (e.g. airflow, sanitizers) in health care and public settings, towards national consensus and consistency

Lesser Ranked and New Ideas Submitted Prior to the Meeting

- a) *Antiviral effectiveness in treatment and post-exposure prophylaxis and the appropriateness of stockpiling for severe pandemics**
- b) Immune response: how to interpret serologic assays in natural and repeated infections in comparison to vaccination
- c) Appropriate collaboration in action between animal and human health agencies and organizations

The above lesser ranked ideas were added to a new list of seven (d-j below) that was generated by participants during the morning plenary discussion.

- d) *Rapid diagnostics for influenza**
- e) Modeling – nature of modeling with regard to influenza and ILI
 - o Value of modelling
 - o Ways to engage with modellers
 - o How to use modelling info in local, provincial, and national decision making (i.e.

- o Integrating info generated from modelling into control strategies
 - o Extend the use of modeling on economic analysis to inform vaccination programs
- f) Better understanding of and appropriate strategies to address differential risk in (vulnerable) populations
- g) *Knowledge basis for making vaccination mandatory of health care workers (HCW)**
- h) Appropriate response to ILI outbreak in health care facilities (e.g. acute care and long-term care facilities)
- i) Overuse of anti-bacterial drugs vs. underuse of antivirals
- j) Customized approaches to influenza prevention and control in Northern and remote communities

After the first round of prioritization, issues *a*, *d* and *g* (*) were selected to be added to priority issues 1 to 7 for further deliberation. The second round of prioritization led to the following revised ranking of the 10 priority issues.

REVISED RANK	ISSUE
1	Vaccine efficacy, effectiveness, efficiency and equity
2	How to obtain earlier and more useful and consistent federal/provincial/territorial surveillance data and evaluative information, including case definitions, syndromic surveillance, and appropriate triggers for action
3	Better estimates of burden of illness, including morbidity, severity and mortality
4	Communication and messaging: What to say about influenza and ILI and influenza vaccines - and how to say it to health providers, the public and the media
5	Rapid diagnostics for influenza
6	Clarification of roles, responsibilities, and collaboration between public health, primary care, other health care and educational settings at the national, federal/provincial/territorial, regional and local levels
7	Knowledge basis for making vaccination mandatory of HCW
8	Effectiveness and efficiency of barriers to disease transmission, including appropriate role of masks and environmental conditions (e.g. airflow, sanitizers) in health care and public settings, towards national consensus and consistency
9	Reducing health disparities in ILI in disadvantaged (vulnerable) populations, related to social determinants of health, including access to care.
10	Antiviral effectiveness in treatment and post-exposure prophylaxis and the appropriateness of stockpiling for severe pandemics

Given the interconnectedness of some of these issues, participants agreed that, rather than further narrowing on a smaller number of priority issues, the 10 issues should be regrouped such that a broad range of challenges could be addressed inclusively and comprehensively. The final five issue groups were:

Issue Group #	Major Topic	Sub-Point
1	Vaccine efficacy, effectiveness, efficiency and equity	Knowledge basis for making vaccination mandatory of HCW
2	Primary prevention of influenza and ILI other than vaccine	Barriers to disease transmission
3	Rapid diagnostics	Antiviral effectiveness
4	Surveillance/Better estimates of burden of illness	Health inequities
5	Communication and messaging	

In addition to the above combined issue groups, two cross-cutting themes were identified:

Cross-cutting themes

- i. Health inequities
 - o The effect of health inequities on the susceptibility and risk of individuals for developing severe illness as a result of influenza and other respiratory pathogens.
 - o Recognizing that “one-size-fits-all” approaches are inadequate, there is a need to think about how strategies need to be different based on social, economic, cultural, geographic and other factors etc.
- ii. Roles, responsibilities, and collaboration between public health, primary care, other health care and educational settings at the national, federal/provincial/territorial, regional and local levels.
 - o Who should participate in the collaborative work?
 - o What would their roles and responsibilities be for the knowledge product solutions?
 - o How could diverse agencies collaborate to leverage resources and expertise?

These cross-cutting themes will serve as the lens through which solutions to knowledge gaps related to influenza prevention and control should be discussed, sought and implemented.

3.2 Plenary discussion: Brainstorming ideas for addressing the top priority issues

Following prioritization and reorganization of the top ranking issues, participants provided extensive perspectives on each issue group that further broke down each area into discreet modular topics, and in some cases with corresponding potential solutions.

Issue group #1

Major topic: Vaccine efficacy, effectiveness, efficiency and equity

Sub-point: Knowledge basis for making vaccination mandatory of HCW

- Health economics – e.g. how many acute admission are prevented through vaccination, how many cases of influenza are transmitted from HCW to others (→ knowledge basis of mandatory vaccination of HCW)
- Which vaccine formulation is the best for whom (differential effectiveness)
- Prioritization of vaccine for different age groups and risk groups

- Measuring vaccine effectiveness in real time in different populations (*This issue also relates to the issue group #3 - surveillance.)
- Better understanding of HCW's beliefs, attitudes and behaviour that influence uptake of the influenza vaccine
- Differentiation of effectiveness outcomes: incidence vs. severity
- Diagnostics
- Does the concept of mandatory vaccination of HCW do more harm than good?
- The correlation between HI titers generated by the influenza vaccine and actual protection against circulating influenza strains
 - How good is HI reading as a proxy indicator of vaccine effectiveness (actual protection)

Issue group #2

Major topic: Primary prevention of influenza and ILI other than vaccine

Sub-point: Barriers to disease transmission

- Infection prevention and control, and cleaning (of fomites) in institutions: school, hospitals
- Efficacy of sanitizers and disinfectants in public areas and areas of congregation in community settings, including buses and other public mass transportation
- Public health measures related to respiratory viruses, not limited to influenza
 - Social distancing
 - Role of mass gathering vs. social isolation
 - Respiratory etiquette
 - School disclosure
- Role of diagnostics in primary prevention
- Effectiveness of personal protective equipment
- Variation in susceptibility to severe influenza illness: determinants of health (e.g. homelessness)
- Policy to support HCW to stay home when sick
- Respiratory precaution in health facilities (i.e. acute and chronic care settings)
- Primary prevention related to marginalized and disadvantaged populations
- Role of over-the-counter vitamins in preventing illness
- Healthy living as primary prevention of respiratory infection
- Identification and management of super spreaders
- Use of antivirals to interrupt the chain of transmission
- Organization of information related to chain of transmission

Issue group #3

Major topic: Rapid diagnostics

Sub-point: Antiviral effectiveness

- How sensitive are rapid diagnostic tests
- How to feed diagnostic test information into the traditional surveillance system
- Best practice examples of jurisdictions (e.g. health maintenance organizations) that have integrated rapid diagnostics testing in the expeditious provision of antivirals, and assessment of service efficiency

- “Who to test and when” for the purpose of testing to determine individual care regimen vs. testing for surveillance purposes
- Testing for multiple respiratory pathogens at the same time
- Finding the knowledge base on the economics related to rapid diagnostics (e.g. policy for funding and supplying rapid diagnostic test to family physicians for public health purposes)
- Finding the knowledge base for developing guidelines on best practice approaches on which diagnostic test to use when, especially with regard to provincial laboratories
- Clearer characteristics of all aspects of rapid tests, not just sensitivity and specificity
- How to communicate with clinicians, primary care practitioners, ER physicians etc. about what rapid test to use when (* This issue also relates to issue group #4 - communication.)
- How will rapid diagnostic test be used (i.e. who will give the test when people have difficulties getting appointments to see their doctors?)
- How to assess the effectiveness of antivirals on a year-to-year basis given the unlikelihood of RCT in the future

Issue group #4

Major topic: Surveillance/Better estimates of burden of illness

Sub-point: Health inequities

- Systematic review on the burden of illness, serious consequence, morbidity and mortality due to non-influenza respiratory pathogens
- Effectiveness of FluWatch: how to best communicate surveillance results
 - Explore the possibility of including additional information into FluWatch, such as information on specimen collection, laboratory testing, sequencing and other data collected through the sentinel surveillance program
- Consistence of surveillance methods across Canada
- Ability of the current surveillance system to detect and identify new, serious respiratory pathogens such as SARS
- How to better conduct respiratory virus surveillance in Northern and remote communities
- How to tie in animal and public health surveillance systems for zoonoses
- How to make use of the research-based infrastructure for vaccine efficacy as the everyday nationwide surveillance platform for public health purposes, so as to circumvent the need for ethics approval and availability of research funding if it were handled as a research project on an annual basis
- Surveillance as a means to detect different outcomes from different programs
- What do we report surveillance data that the media can grab onto
- How do we help the media interpret, understand and communicate surveillance data
- Surveillance vs. prospective studies through laboratory confirmation vs. indirect statistical methods
 - Which method is appropriate when
- Possibility of engaging the general public to gather information for early warning and/or surveillance purposes (e.g. non-traditional, syndromic surveillance systems)
- How do we use data from electronic health records for surveillance purposes
- Validity (strengths and limitations) of syndromic surveillance for ILI, e.g. from emergency departments, sentinel practices, hospital administration data
 - Sensitivity, specificity, potential benefits, potential misreads

Issue group #5

Major topic: Communication and messaging

- How to explain to the general public the importance of influenza vaccine, despite its moderate efficacy
- Communication to unions and healthcare providers
- How to communicate morbidity and mortality in children and other specific populations
- How to communicate the difference between individual protection and beneficial community effect (i.e. herd immunity)
- How to target workers in agriculture and animal industry setting (esp. the swine industry)
- How important is consistency of messaging: what is the impact of inconsistency?
- How to better educate the media
- How to better express uncertainty (e.g. uncertainty related to vaccine effectiveness)
- How to communicate the complexity of respiratory viral seasons (i.e. not just influenza; variation season to season dictates the appropriate intervention/intervention mix), and how to do this in real time for healthcare providers and the broader community
- How to communicate what the vaccine is trying to prevent: all illness, severe illness, mortality
 - Clarification of messaging about the actual outcomes that would have been prevented
- How to get the message across when the reason behind a certain intervention may be conflicting with those used in previous circumstances (e.g. messaging around priority groups for seasonal vaccine vs. priority groups for the pandemic vaccine)
- Clarification of messaging that distinguishes policy and legislative requirements, especially as it relates to the use of the word “mandatory”
- Evidence of value and role of social media as a mechanism of public health communication
- Evidence to support early proactive messaging vs. reactive strategies in response to crises and politics
- How to deal with anti-vaccine lobbyists/groups
 - When do you react? When do you get involved? How to get messaging across?
- How to explain vaccine safety
- How to best communicate to vulnerable populations (e.g. inner city populations, Aboriginal populations, homeless, people with mental health issues)
 - How to reach populations that are the hardest to reach
- How to evaluate effectiveness of communication strategies
- Explore innovative communication strategies (e.g. marketing, branding)
- iPad application for educating the public about influenza and influenza-related issues
- How to manage information in a time of uncertainty

3.3 Breakout session: What are the important elements that should be included in the identified solutions?

Participants were assigned to one of five breakout groups. Each breakout group was asked to further deliberate on the proposed topics for action for each issue group in terms of their feasibility given the mandate of NCCPH, and to describe concrete activities that might be undertaken by the NCCs. Each breakout group was also asked to suggest potential partners and

collaborators who should be involved in the planning and execution of these activities. Individual breakout discussions were recorded on a standard template. These templates are found in Appendix D. The following is a brief summary of discussion at each breakout table.

Issue group #1

Major topic: Vaccine efficacy, effectiveness, efficiency and equity

Sub-point: Knowledge basis for making vaccination mandatory of HCW

Problem: Canadian morbidity and mortality due to influenza are sub-optimally impacted by available influenza vaccine immunization programs.

Proposed knowledge products

- Syntheses of evidence on the effectiveness of the influenza vaccine, including the use of the vaccine targeting specific populations (e.g. children, the elderly, HCW, pregnant women etc), at the individual and population levels
- An expert consultation to identify the research, process, and infrastructure necessary to address knowledge gaps
- Inventory of influenza immunization research/researchers
- Inventory of influenza immunization programs, including policies for the mandatory vaccination of health care workers
- Knowledge exchange opportunities, such as through publications, webinars and consultations
- Networking opportunities
- Establishment of centralized hub for coordination and collaboration of study on influenza vaccine effectiveness related knowledge generation, translation, exchange etc.

Issue group #2

Major topic: Primary prevention of influenza and ILI other than vaccine

Sub-point: Barriers to disease transmission

Problem: In addition to vaccination, other methods of primary prevention should be emphasized. Sub-point to consider: Which barrier methods to disease transmission (e.g. masks; environmental conditions such as environmental cleaning, airflow, sanitizers etc.) should be considered/evaluated/re-evaluated?

Proposed knowledge products

- Synthesis of, with regular periodic update on, the evidence on the effectiveness of these interventions in reducing the transmission of influenza and ILI:
 - Respiratory etiquette (hand washing, cover your cough)
 - Personal protective equipment
 - Environmental cleaning in health care facilities[§] and community settings
 - Isolating and/or cohorting patients with influenza in health care facilities
 - The post-exposure prophylactic use of antivirals in health care facilities to disrupt the chain of transmission
 - Social distancing (stay home from work, restricting public gatherings, school closures) at the community level
- Evaluation of the effectiveness of health messages related to the above interventions (**This activity relates to Issue Group #5 – Communication and Messaging.*)
- Synthesis of evidence on the effectiveness of collaboration and coordination of efforts between public health and animal health in reducing the burden of influenza and influenza-like illness

[§] It was suggested that the NCCs could work with Accreditation Canada to funnel the latest evidence into the development of practice guidelines as part of their accreditation process.

Issue group #3

Major topic: Rapid diagnostics

Sub-point: Antiviral effectiveness

Problem: Exploration and clarification of the role of rapid diagnostics for improving surveillance, assessment of vaccine effectiveness and antiviral treatment of influenza from a public health perspective.

What are some specific elements that the final knowledge product should include?

Proposed knowledge product

- Examination of test characteristics, starting with the available literature and identifying gaps; and evaluation of the tests' usefulness and effectiveness against traditional clinical diagnostic methods
- Examination of the range of capabilities of rapid tests (in different settings and different respiratory virus seasons) and the effectiveness of these tests (to eliminate influenza from the other ILI viruses)
- Assessment of providers' knowledge, attitudes and practices relating to the role of influenza diagnostics in individual and public health
- Knowledge translation relating to the acceptance of testing by the public/consumers
- Analysis of economic aspects of rapid diagnostics, including implementation issues relating to family doctors' offices
- Review of methodologies and/or mechanisms for linking rapid testing with rapid and easy reporting to augment real-time surveillance
- Development of rapid and cost-effective tests for non-influenza viruses
- Review of evidence on the use of rapid diagnostics to optimize antiviral effectiveness
- Review of evidence on the use of rapid diagnostics in assessing vaccine effectiveness

Issue group #4

Major topic: Surveillance/Better estimates of burden of illness

Sub-point: Health inequities

Problem: There is a need for more useful and consistent F/P/T surveillance data, including case definitions, syndromic surveillance, and appropriate triggers for action.

Sub-point to consider: In addition to the above, we need better estimates of burden of illness, including morbidity, severity and mortality.

Proposed knowledge product

- Review of methodologies for ILI surveillance: surveillance vs. prospective studies vs. indirect statistical methods
- Review of methodologies for estimating the annual burden of influenza and ILI (for answering the question "how bad is it going to be?"). Such forecast could shed light on the implications of the matched-ness (or mismatch) of the influenza vaccine in a particular season on the surge capacity in health care facilities, emergency disaster management, business continuity planning.
- Development of appropriate, useful case definitions that are consistent between all jurisdictions
- Better estimates on the burden of influenza and ILI, including the estimates on the proportion of morbidity and mortality attributable to influenza. (Conversely, what is the proportion of morbidity and mortality that is attributable to other respiratory viruses?)
- Review of mechanisms for electronically sharing information between primary care and public health

Issue group #5

Major topic: Communication and messaging

Problem: There is a continued need to improve communications and health messaging related to influenza and the influenza vaccine.

Proposed knowledge product

- Environmental scan of productive health messaging approaches used in different countries
- Development of clear health messages around specific target populations
- Development of tools for communicating risk to the public and to the media during “regular” influenza seasons and outbreak situations
- Development of educational materials for the media about influenza and about public health in general
- Evaluation of the effectiveness of various mechanisms for interacting and communicating with the media (We need to understand our audience: How they understand health messages? How they access health information? What type of health messages resonate with them in order to bring a change in behaviour?)

4. Highlights from the consultation evaluation

Fourteen participants (54% of meeting attendees other than NCC staff) completed a written evaluation form at the end of the consultation. A blank evaluation form can be found in Appendix E. A compilation of the evaluation results is provided in Appendix F.

Overall, the respondents were very pleased with the event, with 79% (n=11) rating it as good and 21% (n=3) rating it as excellent. All respondents expressed that the objectives for the consultation were met (partially or fully).

Objectives	% respondents who felt each objective was met/not met		
	Did not meet	Partially met	Fully met
To assess the knowledge gaps and other knowledge translation needs related to prevention and control of influenza-like illness in Canada	0	36	64
To organize these issues into a logical framework of achievable, practical products	0	64	36
To prioritize these issues and to recommend to NCCID a limited number of achievable projects including projects for collaborative action by all NCCs	0	50	50
Through the process of the meeting, to improve collaborative networks for knowledge translation and exchange in public health	0	36	64

Responses to specific questions asked regarding the consultation are summarized below:

- 100% of respondents agreed or strongly agreed that the sequence of activities during the consultation was appropriate.
- 100% agreed or strongly agreed that their interest was sustained throughout the consultation.
- 93% felt that the format of the plenary discussion was good or excellent.
- 93% agreed or strongly agreed that the correct mix of participants was present to fully discuss the issues.
- 86% agreed or strongly agreed that there was plenty of opportunity to connect with people that they can collaborate with.

Participants were asked what was most valuable about the consultation and two recurring themes emerged:

- The opportunity for open discussion, information sharing and exchange
- The opportunity for networking and collaboration.

In terms of aspects of the consultation that could be improved, although the majority of respondents felt that the correct mix of participants were represented from different disciplines and from different regions of the country, it was suggested that researchers, such as those from the PHAC/CIHR Influenza Research Network, could be involved in the consultation process. It was also suggested that more time should be allocated for the breakout session to permit more in-depth exploration of potential solutions for the priority issues raised.

5. Next steps

The report from the consultation will be circulated to the NCCPH Planning Committee and to the delegates. Discussion and suggestions from the consultation will inform the scope of the NCCPH collaborative influenza project and activities to be undertaken by each NCC. Once a workplan has been finalized, consultation participants will have an opportunity to provide further input and/or to become involved with the project.

APPENDIX A – Consultation Agenda

- * *This revised version of the agenda reflects the actual proceedings of the consultation program. Changes were made to the original agenda as the day progressed in order to provide flexibility and sufficient time for participants to adequately address priority issues.*

Reducing the burden of Influenza-like-illness in Canada: A National Consultation on Useful Products for Public Health Practitioners

Sheraton Gateway in Toronto International Airport (Terminal 3)
March 28, 2013

Revised Agenda

Purpose

To provide a forum for open discussion and consultation regarding what is needed in the way of knowledge translation and exchange activities and products to reduce the morbidity and mortality of influenza and influenza-like illness (ILI) in Canada.

Objectives

- To assess the knowledge gaps and other knowledge translation needs related to prevention and control of ILI in Canada;
- To organize these issues into a logical framework of achievable, practical products;
- To prioritize these issues and to recommend to NCCID a limited number of achievable projects including projects for collaborative action by all NCCs;
- Through the process of the meeting, to improve collaborative networks for knowledge translation and exchange in public health.

Tentative Meeting Agenda

* *The consultation was conducted in English.*

Thursday, March 28, 2013

Basel Room

9:30 – 10:00	Breakfast and registration	
10:00 – 10:15	Housekeeping Quick round of introduction	Anneliese Poetz
10:15 – 10:30	Welcome remarks and introduction • NCCPH overview • Consultation objectives	Joel Kettner
10:30 – 10:45	Presentation: Priority issues previously identified related to the prevention and control of influenza and ILI in Canada	Eve Cheuk

	<i>(5-minute stretch in the room)</i>	
10:45 – 12:15	<u>Plenary discussion: What are the priorities?</u> Review , confirm and prioritize needs The list of priority issues were reorganized and ranked according to participants' view on the urgency with which they should be addressed.	All
12:15 – 1:15	Lunch	
1:15 – 1:30	<u>Plenary discussion: What knowledge products are needed to address the identified priority issues?</u> Brainstorming potential solutions for addressing prioritized needs By the end of this session, a list of potential solutions for each priority issue was suggested by the participants. These solutions were the focal points for discussion during the breakout exercise. The main focus should be on solutions which NCCPH could play a role.	All
1:30 – 3:00	<u>Breakout session: What are the important elements that should be included in the identified solutions (processes and/or products)?</u> <i>(Note: A solution could be supported by multiple knowledge products.)</i> - What are the objectives and expected outcomes of the selected solutions? - What are some specific elements that the solutions should include in the production process? Who should provide support? Who should collaborate and who should be consulted in the process? - What are some specific elements that the final knowledge product(s) should include? - How should the final product(s) be disseminated and exchanged?	All
3:00 – 3:20	Refreshment Break	
3:20 – 4:45	Report back and final discussion	All
4:45 – 5:00	Wrap-up	Joel Kettner

APPENDIX B – Participant List

	Organization	Name	Job Title
YK	Department of Health and Social Services	Karolina Machalek	Public Health Officer, Epidemiologist
NU	Department of Health and Social Services	Maureen Baikie	Chief Medical Officer of Health
BC	Vancouver Coastal Health	Meena Dawar	Medical Health Officer
	Vancouver Island Health Authority	Dee Hoyano	Medical Health Officer
AB	Alberta Health Services	Robert Briggs	Medical Officer of Health
MB	Manitoba Health	Elise Weiss	Deputy Chief Provincial Public Health Officer
	Winnipeg Health Region Authority	Salah Mahmud	Medical Officer of Health
ON	Ministry of Health and Long-Term Care	Erika Bontovics	Manager, Infectious Disease Policy and Programs Section, Public Health Policy and Programs Branch
	Public Health Ontario	Doug Sider	Medical Director, Communicable Disease Prevention and Control
	Toronto Public Health	Barbara Yaffe	Director, Communicable Disease Control and Associate Medical Officer of Health
	York University	Seyed Moghadas	Professor, Agent-Based Modeling Laboratory
		Jianhong Wu	Senior Research Professor, Centre for Disease Modelling
QC	Ministère de la Santé et des Services sociaux du Québec	Monique Landry	Médecin conseil, Direction de la santé publique
	Institut national de santé publique du Québec	Monique Douville Fradet	Physician consultant
		Rodica Gilca	Médecin spécialiste
NB	Department of Health	Alex Doroshenko	Provincial Medical Officer of Health
NL	Department of Health and Community Services	Faith Stratton	Chief Medical Officer of Health
PEI	Department of Health and Wellness	Corinne Rowsell	A/Administrator, Chief Public Health Office
Federal	Canadian Food Inspection Agency	Jag Dhandra	National Manager, Foreign Animal Disease Programs, Animal Health, Welfare and Biosecurity Division
	Public Health Agency of Canada	Nashira Khalil	Senior Epidemiologist, Surveillance and Outbreak Response Division
		Barbara Raymond	Director, Pandemic Preparedness Division
		Ken Scott	Senior Medical Advisor to ADM, Infectious Disease Prevention and Control Branch
		Rob Stirling	Senior Medical Advisor, Office of Public Health Practice

	Organization	Name	Job Title
National	Association of Medical Microbiology and Infectious Disease Canada (AMMI)	Upton Allen	AMMI representative
		Fred Aoki	AMMI representative
	Community Health Nurses of Canada (CHNC)	Donalda Wotton	CHNC representative
	NCC Environmental Health	Thomas Kosatsky	Medical Director
	NCC Determinants of Health	Mary-Anne McBean	Program Manager
	NCC Healthy Public Policy	François Benoit	Lead
	NCC Infectious Disease	Eve Cheuk	Project Manager
		Pam Gareau	Project Officer
		Joel Kettner	Scientific Director
		Anneliese Poetz	Project Manager
		Allan Ronald	Senior Scientific Advisor
	NCC Methods and Tools	Sunita Chera	Research Coordinator

APPENDIX C – Pre-Meeting Prioritization Exercise

Before the influenza consultation, participants were asked to rank a list of issues related to prevention and control of influenza in Canada. These issues were collated from the 2011 CIHR-IPPH knowledge exchange workshop on *Health Systems Research on Pandemic Influenza A(H1N1)* and discussions within the NCCPH Planning Committee. Additional issues were also suggested by participants (see below). [Note: the lower the score, the higher the rank.]

RANK	SCORE	
1	44	Influenza vaccine • Need better understanding of vaccine efficacy, effectiveness, and dosage and formulations for risk groups • Need better framework/strategies for determining vaccine sequencing in a pandemic situation • Need better understanding of attitude, beliefs and behaviours, and means to influence these factors to improve vaccine uptake in different target populations
2	58	Education and communications related to influenza and the influenza vaccine • Need to provide education and consistent health messages to primary care and public health practitioners • Need to provide education and consistent health messages to the general public • Need to determine the appropriate communication channels for specific audience • Need to determine how to appropriately engage the media
3	65	Estimates of burden of illness • Need to determine better numerators and denominators • Need better measures for mortality and morbidity
4	75	Surveillance • Need better case definitions • Need better cross jurisdictional coordination and data-sharing mechanisms • Consider routine use of syndromic surveillance? Goal and objectives? Protocols for investigating alerts? How to determine trigger for action?

RANK	SCORE	
5	80	Health systems approach to preventing and controlling influenza • Need better coordination and collaboration between public health and primary care • Need better coordination and collaboration between public health and educational institutions • Need better coordination and collaboration between public health and other organized groups (e.g. EMS, pharmacists, day care etc.) • Need clearer role and responsibilities of different levels of government and organizations, especially as they relate to the surge capacity across all levels during a pandemic
6	84	Addressing health inequities and social determinants of health affecting one's susceptibility to influenza, and access to prevention and treatment • Need better definition of what a vulnerable population is (e.g. rather than defining vulnerability by characterizing certain groups, could instead consider factors such as crowded living conditions etc.) • Need better information about the populations that are considered vulnerable • Need to consider ethical and social issues when addressing the needs of vulnerable groups • Need better and sustained community engagement
7	104	Personal protective equipment • Need better understanding of the effectiveness of N95 respirators vs. surgical masks in preventing the transmission of influenza and ILI
8	111	Effects of environmental factors on transmission of influenza and ILI • Need better understanding of environmental barriers and practices to diminish ILI (e.g. airflow, hand sanitizers, people movement in public and health care spaces etc.)
9	114	Antivirals • Need better understanding of the effectiveness of using antivirals as post-exposure prophylaxis • Need better understanding of the effectiveness of using antivirals as treatment in different target groups (e.g. pregnant women, children) • Need better understanding of the rationale and strategies for antiviral stockpiles for a pandemic

Additional raised by participants in the pre-meeting prioritization exercise

- Immune response to influenza infection and influenza vaccination
 - Need better interpretation of serologic assays in measuring antibody response to natural influenza infection and vaccination
 - Need better understanding of the human immune response to repeated exposure to influenza strains
- National consensus on influenza control measures in health care facilities including residential care, addressing staff immunization policy and other healthcare worker (HCW) control measures
- Collaborations between agencies/departments responsible for animal and public health
 - Defining roles and responsibilities for agencies/departments responsible for animal and public health
- Evaluation and feedback mechanisms during the changing phases of the outbreak
- Engagement of other “non-traditional” providers such as dentists, pharmacists etc., especially with the expanding roles under various types of provincial legislation
- Policy
 - Need to explore coordinated workplace policy options for HCW Immunization
- Real-time and from year to year estimates of morbidity, mortality and vaccine effectiveness, and joint analysis of laboratory and epidemiological real-time data
- Better understanding of dynamics of transmission in different populations
- Better understanding of other viruses causing ILI
- Better understanding of the correlation between results from influenza hemagglutination inhibition assays and actual vaccine effectiveness. Role of virus sequencing.

APPENDIX D – Breakout Session

Thinking about the solutions that we just identified, what are the important elements that should be included (processes and/or products)?

Issue Group #1

Problem: Canadian morbidity and mortality due to influenza are sub-optimally impacted by available influenza vaccine immunization programs.
<u>Solution/Activity:</u> 1) Develop a synthesis of the evidence supporting use of influenza vaccine – including use of targeted vaccines for specific populations (children, the elderly, HCW, pregnant women etc), at the individual and population levels, to inform policy decision making for influenza immunization programs. 2) Facilitate an expert consultation to identify the research/process/infrastructure necessary to address knowledge gaps. 3) Develop an inventory of Canadian and international resources to address knowledge gaps.
What are we trying to accomplish through this solution/activity?
<u>Objectives</u> 1) Bring attention to available knowledge and critical information gaps to inform decision making including lack of resources/infrastructure to generate necessary effectiveness data. 2) Identify strategies and mechanisms to address knowledge gaps. 3) Build capacity within Canada for vaccine effectiveness research – fellowships, practicum etc.
What are some specific elements that the final knowledge product should include?
<u>Specific components of the final product</u> • Synthesis of existing knowledge • Consultation – needs assessment/prioritization of gaps to be addressed • Inventory of influenza immunization research/researchers • Inventory of influenza immunization programs, HCW immunization policies • Knowledge exchange opportunities – papers, webinars, consultations • Networking opportunities • Establishment of centralized hub for coordination and collaboration of influenza vaccine effectiveness related knowledge generation, translation, exchange etc. <u>Who are the target audience(s)</u> • Public health practitioners, policy-makers, decision-makers
What should the process look like for creating the knowledge product?
<u>Specific components of the process</u> • Establishment of a steering/advisory committee to guide initiative. Secretariat to be provided by NCCs. <u>Who are the key stakeholders?</u> • Federal/Provincial/Territorial governments – policy/decision makers • Industry <u>Who should collaborate and who should be consulted in the process?</u> • CCMOH • Federal/Provincial/Territorial governments • Research Networks – PCIRN, BC/ON/QC/MN/AB Sentinel Network, academic centres

- International researchers/colleagues
- NCCs
- Industry

Issue Group #2

Problem: In addition to vaccination, other methods of primary prevention should be emphasized.
Sub-point to consider: Which barrier methods to disease transmission (e.g. masks; environmental conditions such as environmental cleaning, airflow, sanitizers etc.) should be considered/evaluated/re-evaluated?

- 1) Messaging for the public around respiratory viruses with respect to respiratory etiquette, environmental cleaning (hand washing, cover your cough) at the individual/personal level.
 Need for additional evidence on the effectiveness of these measures.
 Is environmental cleaning effective? If yes, how do we frame/communicate this evidence?
- 2) Social distancing (stay home from work, restricting public gatherings, school closures) at the community level.
 Effectiveness of personal protective equipment (masks) – what is the evidence on wearing masks?
 (There is more evidence on effectiveness of masks for healthcare institutions.) How do we communicate this evidence? (e.g. Which type of mask to wear? Does this provide protection to you or to people around you?)
- 3) Health care: Is isolating/cohorting patients with influenza effective?
 Long-term care institutions using antivirals for staff and patients (when vaccines have not been available) promotes resistance.
 Health care associated infections
 Stay home from work, patients are isolated, use of masks to protect staff and patients
 Use of antiviral to disrupt chain of transmission
 Cleaning of facilities – infection prevention and control for daycares and facilities, schools
 PPE – Which type of mask you wear is effective? Evidence on effectiveness of PPE?
- 4) More research on spread of influenza (super-spreaders, environmental measures). There is no data on super-spreaders. (out of scope for NCC's)
- 5) Controversy on masks (50-60% effective). What should be used in hospitals?
- 6) Animal health – Veterinarians at provincial level need to talk to public health colleagues (petting zoos, etc)

Solution/Activity:

- 1) Synthesis of available research evidence (on a periodic, regular basis):
 Effectiveness of respiratory etiquette (hand washing, cover your cough), extra cleaning of environmental surfaces, social distancing.

 Disseminated in a 2-3 pager for PHAC, media, government, etc. Update on ILI in April in time for planning for September. Provinces can reflect on these best practices.
- 2) Messaging on complications of secondary smoke (how to protect yourself and your family as smokers as a high risk group).

What are we trying to accomplish through this solution/activity?

Objectives

What are some specific elements that the final knowledge product should include?

Specific components of the final product

- Regular literature summary on current evidence
- How effective are health communication messages (based on which communication strategies are effective) –

have they been evaluated? • Health care setting – environmental cleaning (Accreditation Canada could make appropriate influenza guidelines as part of their accreditation process) • Synthesis of available evidence on effectiveness of environmental cleaning • Accreditation Canada would implement this through accreditation process and NCC's would funnel correct information to development of practice guidelines <u>Who are the target audience(s)?</u>
What should the process look like for creating the knowledge product?
<u>Specific components of the process</u> <i>Additional feedback from plenary discussion:</i> • <i>To what degree have infection control practitioners looked at this? We should find ways to access their knowledge.</i> • <i>Avoid duplication – find mechanism to identify existing research/resources (e.g. PHO has conducted a systematic review on the effectiveness of public health measures post-pandemic.)</i> • <i>Find a more systematic way to identify who is doing what in Canada</i> <u>Who are the key stakeholders?</u> • Specific NCCs vs. the general NCCPH program • Health care institutions (strong infection control group already institutionalized) vs. community (may not be effective use of NCCs' resources) • Other stakeholders outside of NCCs could be involved <u>Who should collaborate and who should be consulted in the process?</u>

Issue Group #3

Problem: There is a need to clarify the role of rapid diagnostics for influenza. Sub-point to consider: How can rapid diagnostics be used to assess antiviral effectiveness?
<u>Solution/Activity</u> Emphasize the role of rapid diagnostics for improving surveillance, assessment of vaccine effectiveness and antiviral treatment of influenza from a public health perspective.
What are we trying to accomplish through this solution/activity?
<u>Objectives</u> • Clarification of rapid diagnostic tests (self-collected and tested vs. self-collected-lab tested vs. provider collected-provider tested) • Examination of test characteristics, starting with the available literature and identifying gaps (not just on rapid tests, but also on current diagnostic modalities – what level of test sensitivity is needed to assess vaccine effectiveness vs. to make clinical decision with regard to antiviral therapy?) • Endorsement of the need to prioritize rapid diagnostics as an area for research and development through national peer-reviewed funding (CIHR) (areas for research also include sample collection and testing methodologies) <i>Additional feedback from plenary discussion:</i> • <i>Clarification of the role of rapid tests in different respiratory virus seasons</i> ○ <i>If a respiratory viral season is dominated by influenza, rapid test would not likely be helpful, as opposed to a season with a mix of respiratory pathogens.</i> ○ <i>In pandemic situations, the use of rapid diagnostics in sentinel clinics could inform the scaling-up or scaling-down of testing by public health laboratories. This could also shorten the reporting cycle.</i>

What are some specific elements that the final knowledge product should include?

Specific components of the final product

- Examination of the range of capabilities of rapid tests (in different settings and different respiratory virus seasons) and the effectiveness of these tests (to eliminate influenza from the other ILI viruses)
- Assessment of providers' knowledge, attitudes and practices relating to the role of influenza diagnostics in individual and public health
- Knowledge translation relating to the acceptance of testing by the public/consumers
- Economic aspects, including implementation issues relating to family doctors' offices
- Linking rapid testing with rapid and easy reporting to augment real-time surveillance
- Development of rapid and cost-effective tests for non-influenza viruses
- Use of rapid diagnostics to optimize antiviral effectiveness
- Use of rapid diagnostics in assessing vaccine effectiveness

Additional feedback from plenary discussion:

- *With regard to primary care, explore the expanded scope of practices of pharmacists, RNs, nurse practitioners, and physician assistants – if an appropriate rapid diagnostic test is available, can these tests be used to triage patients? (e.g. triage in pharmacies to refer only those sick patients who require medical attention to family doctors)*
- *The usefulness and effectiveness of rapid tests should be evaluated against traditional clinical diagnosis. (i.e. How accurate are the current traditional clinical diagnostic methods? What are the best practices? How good do rapid tests have to be in order to be useful?)*

Who are the target audience(s)?

- Public Health practitioners
- Health care providers
- Policy makers
- Funding agencies
- General public
- Industry

What should the process look like for creating the knowledge product?

Specific components of the process

- Summarizing literature and existing information
- Identification of gaps
- Creation and testing knowledge translation material
- Target consultation and stakeholder input

Who are the key stakeholders?

- Public Health practitioners
- Health care providers
- Policy makers
- Funding agencies
- General public
- Industry

Who should collaborate and who should be consulted in the process?

- NCC (to coordinate)
- Public Health Agency of Canada
- AMMI and other professional societies
- Health care providers
- Consumers
- Provincial public health laboratories

Issue Group #4

Problem: There is a need for more useful and consistent F/P/T surveillance data, including case definitions, syndromic surveillance, and appropriate triggers for action. Sub-point to consider: In addition to the above, we need better estimates of burden of illness, including morbidity, severity and mortality.
<u>Surveillance</u> Currently, there are lots of ILI surveillance activities – How do we sort through data from all these activities? Which is most useful? (i.e. How can we meaningfully answer the question “How bad will the influenza season be this year?”) <u>Case definitions</u> Definition of influenza death? Definition of morbidity from influenza? How are these measured? How do we ensure consistency on what is being measured? What is the proportion of mortality/morbidity attributable to influenza? <u>Dissemination of information</u> How can we integrate electronic health records systematically as a means to collect information as well as to disseminate information? How do we disseminate very good surveillance data in a meaningful way?
Solution/Activity: Start with what has already been done.
What are we trying to accomplish through this solution/activity?
<u>Objectives</u> • Develop practical useful knowledge for the area of surveillance and burden of illness
What are some specific elements that the final knowledge product should include?
<u>Specific components of the final product</u> • Streamlining the methods for ILI surveillance. There are multiple methods through which ILI is tracked: surveillance vs. prospective studies vs. indirect statistical methods. - o Which are the most useful in terms of accuracy of what is going on and timeliness? - o How can we more effectively use what we have? - o When does research become surveillance? • Research on “how bad is it going to be?” (The media asks every year) – the association between matched-ness of vaccine to circulating strains and implications on surge capacity in health care facilities; emergency disaster management; business continuity planning • Case definitions – consistency between all jurisdictions • Proportion of morbidity and mortality attributable to influenza (the true numbers) (Conversely, what is the proportion of morbidity and mortality that is attributable to other respiratory viruses?) • Electronic sharing of information between primary care and public health <i>Additional feedback from plenary discussion:</i> • <i>Keeping in mind that many respiratory outbreaks in long-term care homes are caused by pathogens other than influenza, there is a need to examine existing data from these healthcare facilities on ILI severity, and pattern of morbidity and mortality.</i> <u>Who are the target audience(s)?</u> In terms of utilization of data: Primary care, hospital, ER, public health (all levels), media, schools
What should the process look like for creating the knowledge product?
<u>Specific components of the process</u> • Survey key stakeholders to determine what type of information are needed for action <u>Who are the key stakeholders?</u> <u>Who should collaborate and who should be consulted in the process?</u>

Issue Group #5

Problem: There is a continued need to improve communications and health messaging related to influenza and the influenza vaccine.
<u>Solution/Activity</u> 1) Environmental scan of countries with productive health messaging approaches 2) Clarity of messaging around specific target populations 3) Trust between public health and the general public, and with the media 4) Risk communication different than other types of communication (i.e. communication methods before vs. during an outbreak) 5) Allied health professionals need to be engaged 6) Educate the media about influenza and about public health in general 7) Better way to interact and communicate with the media
What are we trying to accomplish through this solution/activity?
<u>Objectives</u>
What are some specific elements that the final knowledge product should include?
<u>Specific components of the final product</u> • Trust communication • Risk communications • Risk management courses (e.g. U Waterloo) – it is more than just media relations when public health is communicating with the media about outbreaks. <u>Who are the target audience(s)?</u> We need to segment our audiences carefully – need to use different communication channels with different audience. We need to understand our audience: How they understand health messages? How they access health information? What type of health messages resonate with them in order to bring a change in behaviour? • Public • Health care workers • Politicians • Key media folks • Elders • New comer communities
What should the process look like for creating the knowledge product?
<u>Specific components of the process</u> • Training for influential media folks – Harvard course (one example) • Message needs to be more about reducing severe illness rather than preventing influenza illness • Engage with experts in communication like Terry O'Reilly from "The Age of Persuasion" <u>Who are the key stakeholders?</u> • Politicians • Acute care facilities • Long-term care facilities <u>Who should collaborate and who should be consulted in the process?</u> • Media and communication experts

APPENDIX E – Consultation Evaluation Form

1.	To what extent did we meet the objectives of the consultation?	Did not meet	Partially met	Fully met
	To assess the knowledge gaps and other knowledge translation needs related to prevention and control of influenza-like illness in Canada	1	2	3
	To organize these issues into a logical framework of achievable, practical products	1	2	3
	To prioritize these issues and to recommend to NCCID a limited number of achievable projects including projects for collaborative action by all NCCs	1	2	3
	Through the process of the meeting, to improve collaborative networks for knowledge translation and exchange in public health	1	2	3

2.	Please rate your level of agreement with the following statements.	Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
	The correct mix of participants was present to fully discuss the issues.	1	2	3	4	5
	The sequence of activities was appropriate for this consultation.	1	2	3	4	5
	My interest was sustained throughout the consultation.	1	2	3	4	5
	There was plenty of opportunity to connect with people that I can collaborate with.	1	2	3	4	5
	The use of audience response units (i.e. clickers) in the prioritization exercise was helpful.	1	2	3	4	5

3.	Please rate the following items.	Very poor	Poor	Adequate	Good	Excellent
	Meeting location	1	2	3	4	5
	Meeting facilities	1	2	3	4	5
	Duration of consultation	1	2	3	4	5
	Format of plenary discussions	1	2	3	4	5
	Format of breakout session	1	2	3	4	5

4. What was the most valuable aspect of this meeting?

5. What was the least valuable aspect of this meeting?

6. How could this meeting be improved?

7. Other comments and suggestions:

8. Overall, how would you rate this consultation?

Very Poor	Poor	Adequate	Good	Excellent
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9. Specific comments for the facilitator, Anneliese Poetz:

*Thank You for completing this evaluation form!
It will help us improve the design and execution of future meetings.*

APPENDIX F – Summary of Consultation Evaluation Results

Total number of participants (excluding NCC staff) = 26

Total number of completed evaluation forms = 14

Response rate = 54%

Question 1: To what extent did we meet the objectives of the consultation?

	Did not meet		Partially met		Fully met	
	n	%	n	%	n	%
To assess the knowledge gaps and other knowledge translation needs related to prevention and control of influenza-like illness in Canada	0	0%	5	36%	9	64%
To organize these issues into a logical framework of achievable, practical products	0	0%	9	64%	5	36%
To prioritize these issues and to recommend to NCCID a limited number of achievable projects including projects for collaborative action by all NCCs	0	0%	7	50%	7	50%
Through the process of the meeting, to improve collaborative networks for knowledge translation and exchange in public health	0	0%	5	36%	9	64%

Question 2: Please rate your level of agreement with the following statements.

	Strongly Disagree		Disagree		Neither Agree nor Disagree		Agree		Strongly Agree		Agree + Strongly Agree	
	n	%	n	%	n	%	n	%	n	%	n	%
The correct mix of participants was present to fully discuss the issues.	0	0%	1	7%	0	0%	8	57%	5	36%	13	93%
The sequence of activities was appropriate for this consultation.	0	0%	0	0%	0	0%	9	64%	5	36%	14	100%
My interest was sustained throughout the consultation.	0	0%	0	0%	0	0%	8	57%	6	43%	14	100%
There was plenty of opportunity to connect with people that I can collaborate with.	0	0%	0	0%	2	14%	9	64%	3	21%	12	86%
The use of audience response units (i.e. clickers) in the prioritization exercise was helpful.	0	0%	2	14%	5	36%	5	36%	2	14%	7	50%

Question 3: Please rate the following items.

	Very Poor		Poor		Adequate		Good		Excellent		Good + Excellent	
	n	%	n	%	n	%	n	%	n	%	n	%
Meeting location	0	0%	0	0%	1	7%	7	50%	6	43%	13	93%
Meeting facilities	0	0%	0	0%	0	0%	7	50%	7	50%	14	100%
Duration of consultation	0	0%	0	0%	3	21%	5	36%	6	43%	11	79%
Format of the plenary discussions	0	0%	0	0%	0	0%	9	64%	4	29%	13	93%
Format of the breakout session	0	0%	0	0%	2	14%	6	43%	5	36%	11	79%

Question 4: What was the most valuable aspect of this meeting?

- Collaboration (x2)
- Information sharing, brainstorming sessions, plenary discussions
- Opportunity for open discussion
- Breakouts
- Open discussion
- Network
- Discussions
- Plenary discussions were very helpful to hear issues.
- The logic of the meeting – established on a reasonable starting point, process to rapidly move forward. Breakout /plenary excellent. Really liked the opportunity for input to breakout session by others to inform breakout discussion.
- I got several new ideas from this discussion.
- Engagement of participants in discussion of important object for prevention and control of influenza

Question 5: What was the least valuable aspect of this meeting?

- Had difficulty with final group work. Maybe our group? It was hard to apply?
- Vagueness of next steps
- Could tell that the clicker activity was new(er) technology
- Would have been helpful to prioritize on paper, giving the time to think prior to using the clicker to vote
- Use of clicker for prioritization was not indicative of importance of the topic
- I'm not sure it was overall an enjoyable experience in attempting to tackle difficult topics.
- More clarity was needed for focusing on a knowledge product
- Priority/ranking exercise was perhaps not as successful.
- People on the conference calls were not able to fully participate.

Question 6: How could this meeting be improved?

- Trialing technology
- Group work earlier
- More time could have been allocated for breakout sessions
- More basic and translational scientists
- Include more clinicians
- Spend more time on the breakout session, rather than the voting/prioritization activity although it was good for

generating ideas

- Well coordinated
- Hopefully continued feedback for participants
- Keep doing it ☺
- Clearer definition of choices being voted on
- Would have liked to have others present to contribute – PCIRN, research networks may have been invited but unable to attend.
- I can't think of anything.

Question 7: Other comments and suggestions

- It would be helpful to have discussion on the scope of NCCID activities and NCCID interactions/collaborations with other public health partners
- Excellent
- Kudos
- This was a valuable exercise from my point of view and much/most of the credit goes to the Chair, Dr. Kettner, whose agility as the Chair shone through in the maintenance of a clear focus. My only reservation is that there should have been more clinicians even though the goal is a public health one.
- Need to remind people (even more frequently) to use the microphones
- This gave me visibility on NCC, which I really knew little about prior to this conference.
- This was a novel approach and well done. I was happy to take part.
- Thank you for the invite!
- Very interesting, useful session
- Organization and progression of meeting very well thought out

Question 8: Overall, how would you rate this consultation?

Very Poor		Poor		Adequate		Good		Excellent		Good + Excellent	
n	%	n	%	n	%	n	%	n	%	n	%
0	0%	0	0%	0	0%	11	79%	3	21%	14	100%

Question 9: Specific comments for the facilitator, Anneliese Poetz

- Well done