

Networks – Aligning Objectives and Strategies for Mitigation, Prevention, Response and Recovery

Networks in Canada and Abroad Tackle Public Health Challenges



PROTECTING CANADIANS FROM ILLNESS



Public Health
Agency of Canada

Agence de la santé
publique du Canada

Canada

Presentation Objectives

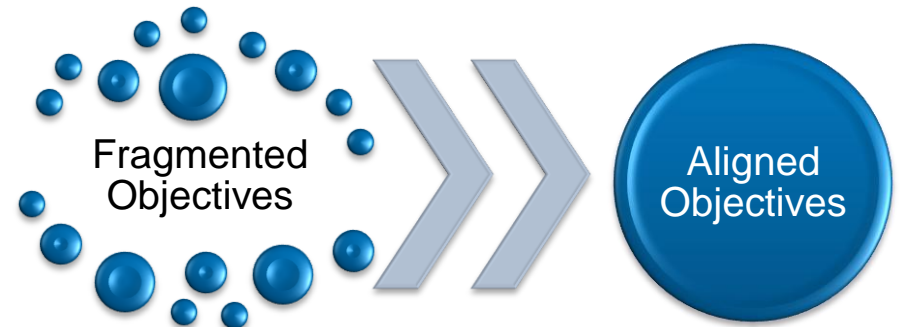
- Describe the history, successes, and objectives of the Canadian Public Health Laboratory Network (CPHLN) and recognize how it has evolved over the years
- Recognize current International Lab Networking activities involving Canadian Infectious Disease Experts and how they link to the CPHLN
- Discuss the role of lab networks in reagent and strain sharing when preparing for emerging infectious diseases
- Recall examples of how International Lab Networks have responded to a Public Health Emergency of International Concern [PHEIC] involving emerging Infectious diseases

Networking is Powerful - Investment in Networks Always Pays Off

NETWORKING 101

NETWORKS ALIGN OBJECTIVES TO MANAGE CHANGE

- **Strengthen Relationships**
- **Foster Productive Discussion**
- **Foster Business Needs Alignment**
- **Based on Trust and Reciprocity**
- **Focus on Long-term Perspectives**

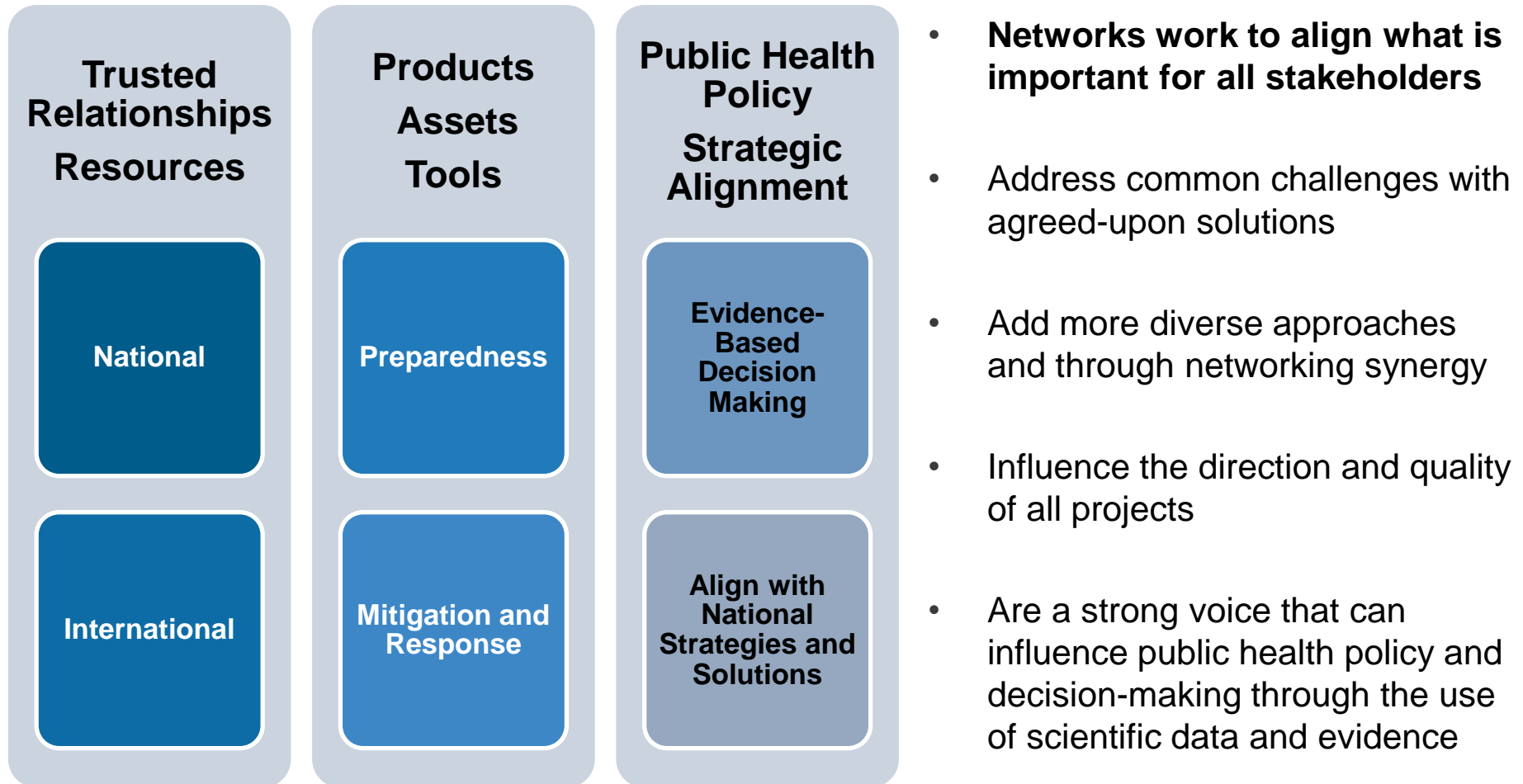


No Trusted
Network

Trusted
Network



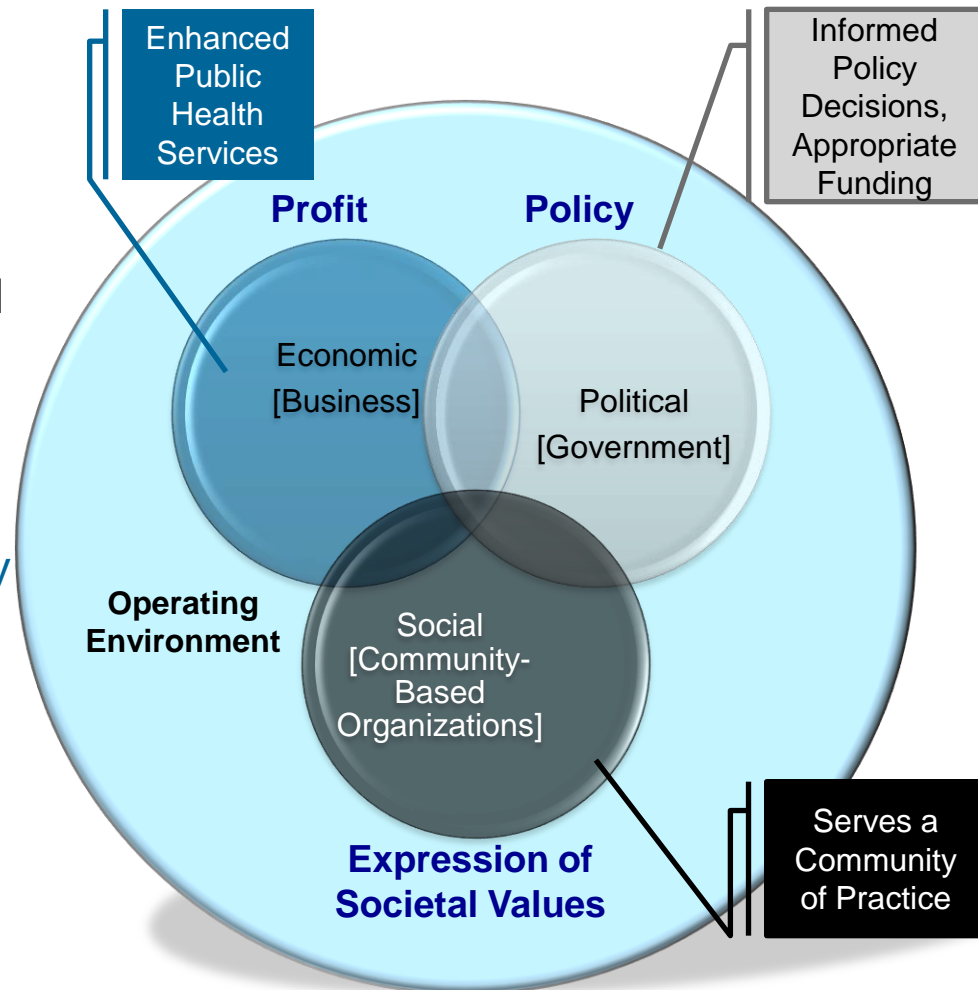
NETWORKS - THE FOUNDATION FOR STRONG PUBLIC HEALTH PREPAREDNESS/RESPONSE TO EMERGENT EVENTS



21st CENTURY NETWORKING IDEALS

Networks seek to:

- Work to address pressing challenges
- Create ~~societal~~ public health good by implementing system-wide changes
- Be collaborative by linking organizations and utilizing ~~cultural jurisdictional~~ and ~~ethnic~~ community of practice diversity
- Be entrepreneurial and innovative
- Be committed to pushing boundaries to improve ~~social and environmental~~ public health issues
- Be transparent and productive

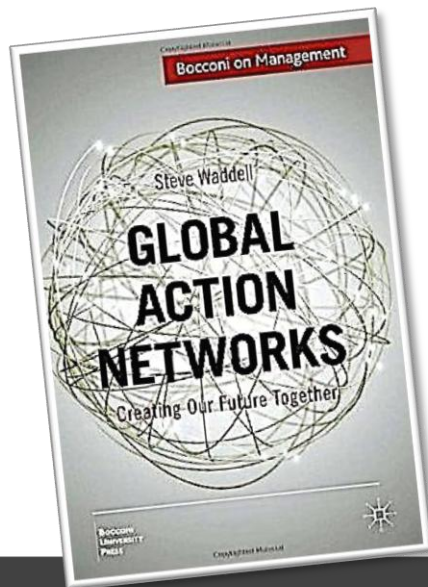


<http://networkingaction.net/networks-change/global-action-networks/>

GLOBAL NETWORKING INITIATIVES ARE DOING GOOD

- **Global Action Networks** of the 21st Century work to solve **global** and **local** challenges

- The way of the future, networks are becoming '**GLOCAL**'



10 Examples of 'Glocal' Networking Activities

1. Changing the Logic of Finance
2. Transforming the Forestry Industry
3. Addressing AIDS
4. The Rio Declaration on Environment
5. Changing the Face of Labour
6. Taking on Corruption
7. Creating Sustainable Fisheries
8. Raising Up the Poorest of the Poor
9. Transforming the Funding of War
10. Changing the Definition of Success

Steve Waddell

GLOBAL ACTION NETWORKS - Creating Our Future Together
Bocconi on Management; Bocconi University Press - 2011

Understanding the Successes and Objectives of the CPHLN

FACTS ABOUT CPHLN

WHY WAS THE CPHLN FORMED?

Started out as the **Technical Advisory Committee (TAC)**

- Convened in 1949 following a *National Health and Welfare Order in Council (May 20th 1947)* and requiring the creation of a *Technical Advisory Committee on Public Health Laboratory Services*
- Established to ensure maximum efficiency in public health laboratory services



CPHLN MEMBERSHIP FOSTERS MANY KEY RELATIONSHIPS

- **Core Members**

- National Microbiology Laboratory
- Laboratory for Foodborne Zoonoses
- 10 Provincial Public Health Laboratories

- **International Partnerships**

- » **USA:** HHS, CDC, APHL
- » **MEX:** Salud, InDRE, RNLSP

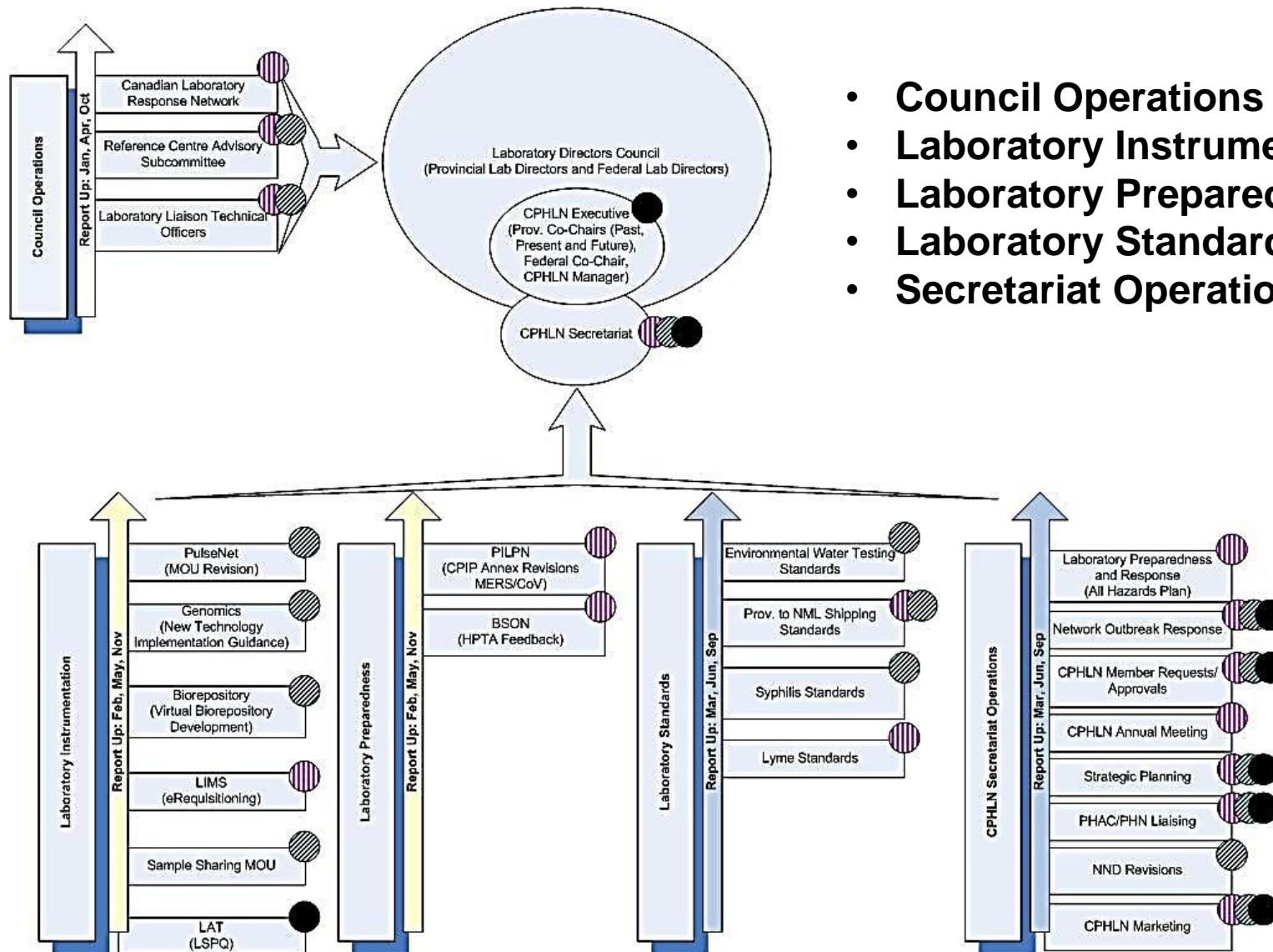
- **International Activities**

- » Beyond the Border (CAN/USA)
- » NAPAPI (CAN/USA/MEX)

- **Associate Members**

- Centre for Biosecurity (PHAC)
- Centre for Food-Borne, Environmental and Zoonotic Infectious Diseases (PHAC)
- Centre for Emergency Preparedness and Response (PHAC)
- Centre for Immunization and Respiratory Infectious Diseases (PHAC)
- Centre for Communicable Diseases and Infection Control (PHAC)
- Bureau of Microbial Hazards (HC)
- Defence Research and Development Canada (DND)
- National Centre for Foreign Animal Diseases (CFIA)
- Food Safety Information Network (CFIA)
- Canadian Association of HIV Clinical Laboratory Specialists
- Canadian Blood Services and Héma-Quebec

CPHLN HAS EXPANDED AND REFORMATTED CONSIDERABLY IN ITS WORK AND DIRECTIONS



- **Council Operations**
- **Laboratory Instrumentation**
- **Laboratory Preparedness**
- **Laboratory Standards**
- **Secretariat Operations**

What are some of CPHLN's Successes?

- **PRODUCTS DEVELOPED**

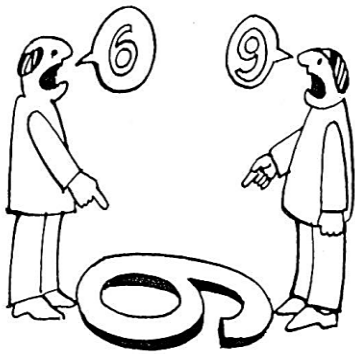
- » **Laboratory Assessment Tool**
- » **Modelling the Effects of Public/Animal Health Emergencies on Laboratories**
- » **Standardized Laboratory Case Definitions for 50 Nationally Notifiable Diseases**
- » **CPIP Laboratory Annex**
- » ***Core Functions of Canadian Public Health Laboratories***
- » **CPHLN Communications Strategy**

- **ORGANIZATIONAL INVOLVEMENT**

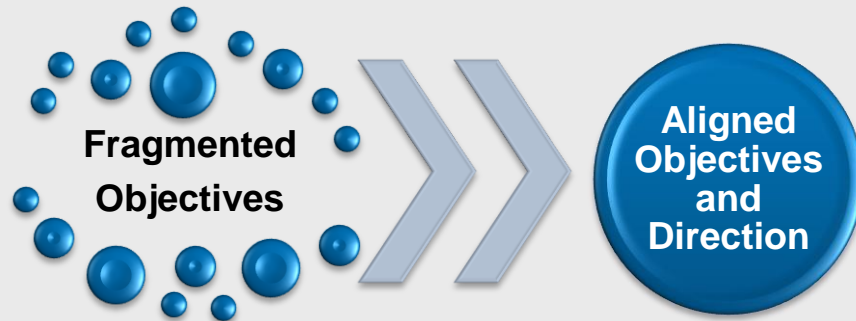
- » **PulseNet Canada and The Canadian Laboratory Surveillance Network**
- » **National Enteric Surveillance Program**
- » **Reference Services Advisory Subcommittee**
- » **Biosafety Officers Network**
- » **Canadian Laboratory Response Network**

- **CAN/USA Bilateral Influenza Summit (2008) Toronto**
- **CAN/USA/MEX Trilateral Influenza Summit (2010) Vancouver**

NETWORKS - SUCCESSFUL BECAUSE OF TRUSTED RELATIONSHIPS



- **The most important role that a federal institution can perform is to:**
 - » Create strong and trusted relationships
 - » Facilitate and fund ongoing collaborative dialogue
 - » Create a national vision and objectives that meet needs at all levels of government



No Trusted
Network

Trusted
Network

NATIONAL IMPACT OF CPHLN LABORATORIES RESPONDING TO AND PREPARING FOR PUBLIC HEALTH THREATS IN CANADA

SARS (2003)

- **A Defining CPHLN Collaborative Opportunity**
 - » CPHLN Members
 - Personal protective and safety standards for lab staff
 - List of Dx test specimens
 - » NML Staff/Scientists
 - CPHLN Communication
 - Primers/probes and protocols
 - Secure on-line database
 - SARS research collaborations with CPHLN Labs

H1N1 (2009)

- **CPHLN Secretariat**
 - » *CPIP Laboratory Annex*
 - (2006-2008)
 - » Coordinated sharing H1N1 test results to CNPHI online database
 - » Canada and Mexico
 - » *H1N1 Lessons Learnt*

Similar approaches were used to prepare for possible H7N9, H5N1, and MERS-CoV events in Canada

STRONG RELATIONSHIPS ARE LEVERED AND ARE THE FUTURE IN CANADA AND ABROAD

- Networking partners work together in a number of different, but related capacities
 - » GHSAG
 - » Beyond the Border [CAN/USA]
 - » North American Plan for Avian and Pandemic Influenza [CAN/USA/MEX]
 - » Global Health Security Agenda
- Work is being done to create a North American network of lab networks
- Weatherill Recommendations #33 and #34 to create food safety networks
 - » A Food Safety Information Network [FSIN]
 - » A Network of Laboratory Networks that will share data and information:
 - CPHLN (public health)
 - CAHSN (animal health)
 - FSIN (food safety)
 - » CPHLN and NML are strong partners in this CFIA-driven process

WHAT COULD/WOULD WE HAVE DONE DIFFERENTLY?

- **Science vs. Policy:** Very different languages, but their continual dialoguing is absolutely critical....
 - » Enhance linkage of laboratories into decision-making processes
 - » Enhanced mechanisms to inform F/P/T leadership on the importance of investing in laboratory infrastructure
 - » More frequent science/policy discussions with F/P/T bodies regarding evidence-based decision-making



CRITICAL CPHLN ISSUES NEEDING POLICY SUPPORT

- Policy-Level Discussions
 - » Enhance Laboratory Infrastructure
 - » Develop a laboratory-based surveillance strategy for emerging and re-emerging pathogens
 - » Develop a biorespository system for Canada's laboratory samples
 - » Research on how to better use new 'omics' technologies for R&D and Dx
 - » Implement a system for lab assessments and the addressing of gaps
 - » Review of decision-making tools and applications, e.g. various TRA tools

Outbreak Preparedness and Response in Canada and Abroad

NETWORKING SUCCESSES

SUPPORTING OTHERS IN NETWORK DEVELOPMENT

CANADA

- CFIA-led Lab Network Development
 - » Food Safety Information Network
 - » Network of Laboratory Networks
 - CPHLN
 - FSIN
 - CAHSN

ABROAD

- CPHLN experiences support networking activities abroad
 - » GHSAG Laboratory Network
 - » CAREID
 - Philippines
 - Viet Nam
 - Cambodia
 - » Ukrainian HIV/AIDS Laboratory Network



International Collaboration Through Networking

GLOBAL HEALTH SECURITY ACTION GROUP LAB NETWORK



- **GLOBAL HEATH SECURITY INITIATIVE [GHSI]**
 - » Global Health Security Initiative (GHSI): Formed Nov 2001
 - » Informal, international partnership to strengthen health preparedness and response globally to biological, chemical, and radio-nuclear terrorism (CBRN) threats
 - » Pandemic influenza was added to the list of threats in 2002
- **GLOBAL HEATH SECURITY ACTION GROUP [GHSAG]**
 - » A coalition of senior officials from the GHSI nations
 - » Charged with the development and implementation of measurable actions to improve global health security
 - » Serves as a network of rapid communication/reaction in the event of a crisis

MINISTERS

SENIOR OFFICIALS
and
WORKING GROUPS

Visit: <http://www.ghsi.ca/english/index.asp>

GHSI and GHSAG

MEMBERSHIP AND ACTIVITIES



MEMBER NATIONS/ORGANIZATIONS

- Canada, France, Germany, Italy, Japan, Mexico, the United Kingdom and the United States
- The European Commission, World Health Organization

WORKING GROUPS/NETWORKS

- Risk Management and Communications
- Pandemic Influenza
- Radio/Nuclear Threats
- Chemical Events Preparedness
- [Global Laboratory Network](#)
 - » [Co-chaired by Canada's NML and Mexico's InDRE](#)
 - » [Secretariat Managed by Canada's NML](#)

ALIGNMENT OF DRIVERS AND MANDATES

LINKING GHSI INITIATIVES TO IHR IMPLEMENTATION

GHSI Mandate

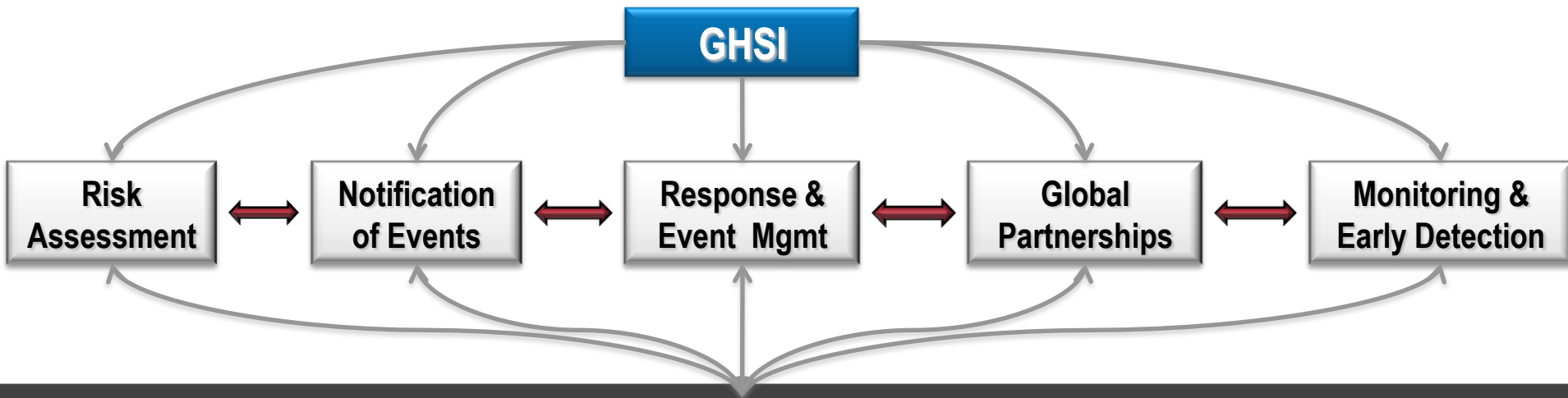
- Global action to strengthen public health preparedness and response to public health and security threats

IHRs

- A framework for improving international public health security which prevents, protects against, and controls the international spread of disease

Opportunities and Benefits of Linking GHSI and IHRs

- Using IHRs as a common framework to guide GHSI priorities and future work
- Enlisting GHSI member countries to support IHR implementation in Lower and Middle Income Countries
- Developing networks and/or working groups which span GHSI representatives and IHR focal points
- Improving communications and better exchange of information including best practices through regular meetings of GHSI and IHR representatives



GHSAG LABORATORY NETWORK ACTIVITIES

Current Global Laboratory Network Work Plan Objectives

Key Objectives	Activities
External Quality Assurance and Performance Assessment	<ul style="list-style-type: none">• Exchange of EQA results among GHSAG Labs• Discussions of Best Practice
Technical Cooperation	<ul style="list-style-type: none">• Hosting and participating in technical workshops and exercises• Research collaborations
Emergency Communications	<ul style="list-style-type: none">• Ongoing testing of Lab Network ability to convene discussions in a short time to manage emerging events
IHR Implementation Support	<ul style="list-style-type: none">• Participation of non-GHSAG Labs in GHSAG Lab Network technical workshops• Sharing of GHSAG-developed tools with WHO and European Commission
Solving Barriers to Laboratory Response	<ul style="list-style-type: none">• Sharing information, best practice, samples, etc.• Sample Sharing agreements• Working toward GHSAG BSL4 cooperation and interoperability where possible

Laboratory Workshops and Exercises

- Hosted by GHSAG Labs
- Several workshops are run each year
- Invite non-GHSAG participants whenever possible
- Many EQA programs are run as well



INTERNATIONAL IMPACT OF NETWORKED LABORATORIES RESPONDING TO GLOBAL PUBLIC HEALTH THREATS

H1N1 2009

- The GHSAG Lab Network is a trusted and close-knit family
 - » NML was approached by the Mexican federal public health lab to help them in their laboratory response to H1N1
 - » Received >2600 samples flown to Canada on Mexico's presidential jet
 - » NML sent 5 staff to support Mexico
 - » NML sent 2 trainers after H1N1 to provide training on organizational approaches emergency response
 - » Used a CNPHI secure electronic online database to post test results directly to Mexico's lab

Mexico's request to NML was driven by trust inspired by GHSAG collaboration



Mexico's presidential jet in Winnipeg April 2009

Canada's Role in the Global Scenario

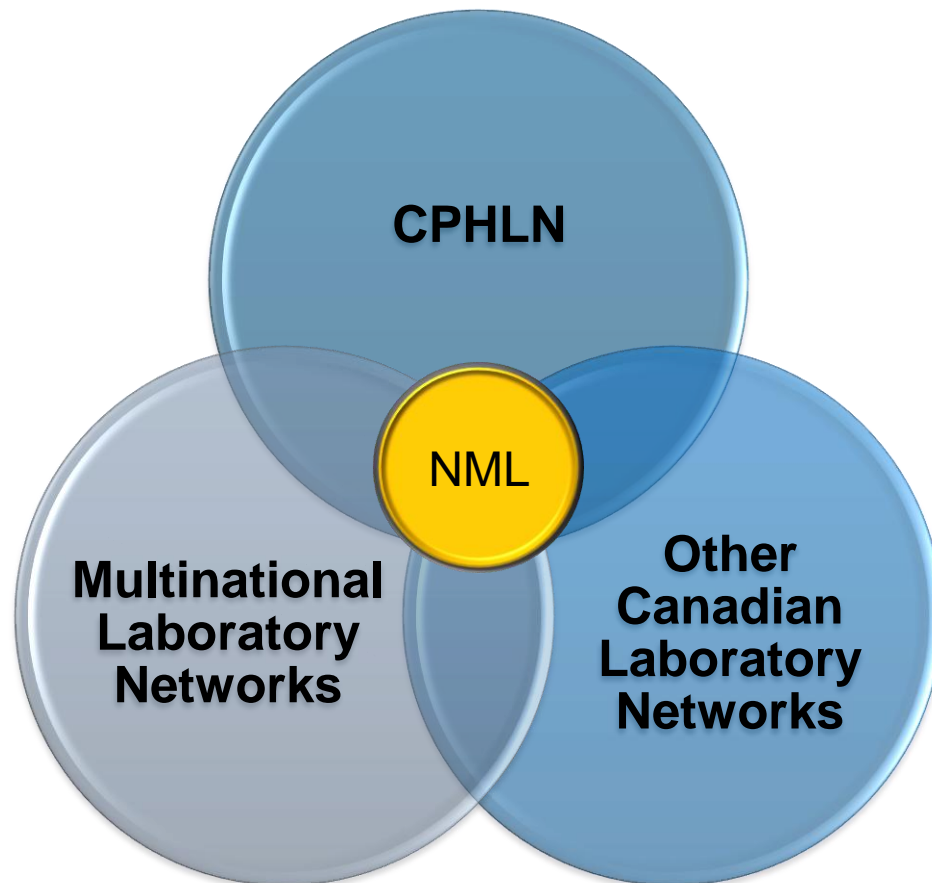
BIG PICTURE ISSUES

INTERNATIONAL IMPACT OF NETWORKED LABS RESPONDING TO AND PREPARING FOR GLOBAL PUBLIC HEALTH THREATS

- Difficulties in acquiring MERS-CoV samples led to great difficulties in developing diagnostic tools and medical counter-measures
- Led the GHSAG to begin developing sample sharing agreements for highly pathogenic non-influenza agents
- Complex issues surface in sample sharing discussions:
 - » Most issues are beyond laboratory influence: Legal, regulatory, intellectual property challenges and questions
 - IHR vs. bio-piracy vs. viral sovereignty
 - National Border Security
 - National Transport Regulations
 - Other...

NML IS IN A GREAT POSITION TO BUILD SYNERGY

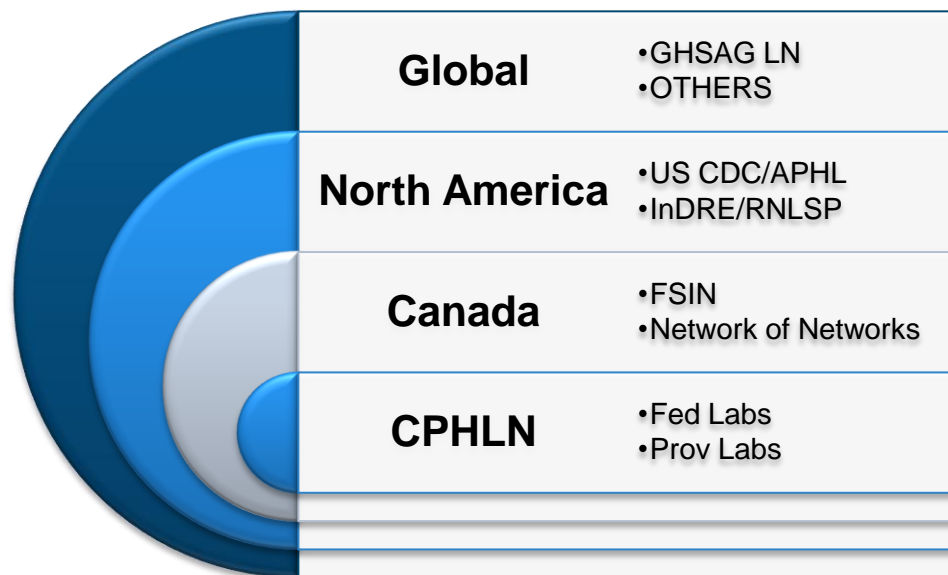
- The NML is positioned to create laboratory and network synergy
 - » Leads Canadian and multinational lab network activities
 - » Supports Canadian and international network development
 - » Links activities among various national and international networks



NETWORKS ARE POSITIONED TO BUILD SYNERGY

- Network members and organizations often overlap
- Networks' needs are often the same
- Networks often lever each other's work, documents, and even processes

- » Core Functions
- » Lab Assessment Tool
- » Sample Sharing
- » Surge Modeling Tool
- » Lab Capacity Mapping
- » Lab Network Mapping



- NML is not a one-centre show
- NML works with Health Portfolio stakeholders
- NML works beyond labs too

Concluding Remarks and Thanks!

- Successful Networks are built on trust, relationships and reciprocity
- Networks are powerful tools for creating change, leveraging diverse ideas and influencing policy
- Networks can effectively manage risks and plan mitigation, preparedness, response and recovery strategies
- Networks create national and international vision and direction



GHSAG Lab Network - Rome - Dec 2013
(L-R) ITA, USA, UK, UK, CAN, MEX, JAP, MEX, GER

THANKS!/QUESTIONS!



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