



*Bridging Public Health and Health Care*

**Developing Public Health Policy Research  
Frameworks with Concept Mapping**

*Research In Progress Webinar*

*Wednesday, July 6, 2016*

*12:00-1:00pm ET/ 9:00-10:00am PT*

*Funded by the Robert Wood Johnson Foundation*

# Agenda

**Welcome:** **C.B. Mamaril, PhD**, RWJF [Systems for Action](#) National Coordinating Center, Research Asst. Professor, U. of Kentucky

Developing Public Health Policy Research Frameworks  
with Concept Mapping

**Presenters:** **Marjorie MacDonald, RN, PhD**, Professor, Co-Director of Research in Public Health Systems & Services [marjorie@uvic.ca](mailto:marjorie@uvic.ca) and **Bernadette (Bernie) M. Pauly, RN, PhD**, Associate Professor, Associate Director of Research and Scholarship [bpaul@uvic.ca](mailto:bpaul@uvic.ca) School of Nursing, University of Victoria, British Columbia

**Commentary:** **Wanda Martin, RN, MN, PhD**, Assistant Professor, University of Saskatchewan [wanda.martin@usask.ca](mailto:wanda.martin@usask.ca)

**Victoria Lee, MD, MPH, MBA, CCFP, FRCPC**, Vice President of Population Health, Chief Medical Health Officer, Fraser Health Authority, British Columbia [victoria.lee@fraserhealth.ca](mailto:victoria.lee@fraserhealth.ca)

## Questions and Discussion

# Presenters



## **Marjorie MacDonald, RN, MSc, PhD**

Co-Director, Research in Public Health Systems and Services  
(formerly [Core Public Health Functions Research Initiative](#))

Professor and former CIHR/PHAC Applied Public Health  
Chair, School of Nursing

Research Affiliate, Centre for Addictions Research of BC  
University of Victoria, British Columbia

Past-President, Public Health Assn. of British Columbia

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research in public health systems and services

# **Developing Public Health Policy Research (and Practice) Frameworks with Concept Mapping**

**Research in Progress Webinar, July 6, 2016**

**Bridging Health and Health Care**

**Marjorie MacDonald and Bernie Pauly**

**Research in Public Health Systems and Services Initiative**

**University of Victoria, Victoria, BC Canada**



research in public health systems and services



Public Health Association of BC



# PARTNERS



Sudbury & District Health Unit

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## PUBLIC HEALTH SERVICES & SYSTEMS RESEARCH PRACTICE-BASED RESEARCH NETWORKS



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Centre de collaboration nationale des déterminants de la santé



Public Health Agency of Canada

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CPHA ACSP CANADA'S PUBLIC HEALTH LEADER LE LEADER CANADIEN EN SANTÉ PUBLIQUE



University of Victoria



- Background of RePHSS Initiative (formerly CPHFRI) in Canada
- Methodological innovation for studying complex systems and interventions as a cross cutting theme in our research program
- A complex adaptive system lens
- Concept mapping as a “complexity method”
- What is concept mapping?
- Two studies presented as examples of the method



- Core Functions Framework developed in BC as the centerpiece of PH system renewal
- CPHFRI, an interdisciplinary team of PH decision makers, practitioners and researchers established to develop PHSSR in BC/Canada
- Think Tank held in 2007 to develop initial PHSSR priorities, a framework to guide our research, and a set of collaboration principles

# GOALS OF CPHFRI

- Public health systems renewal in BC and Canada
- Advancing PHSSR in BC and Canada
- *Methodological development for studying complex public and population health interventions within complex systems*
- Training public/population health researchers
- Contributing to evidence-informed practice and public health practice improvement
- Improving the health of the population & promoting health equity



# KEY COMPLEXITY CONCEPTS

- **Non-linearity** — recursive, non-linear progression, sensitivity to initial conditions
- **Emergence** — patterns emerge from self-organization
- **Dynamical** — interactions among, within, between sub-systems are turbulent and unpredictable
- **Adaptive** — interacting elements and agents respond and adapt to each other
- **Uncertainty** — under conditions of complexity, processes and outcomes are unpredictable
- **Co-evolutionary** — as interactive and adapting agents self-organize they co-evolve

# RELEVANT METHODS

- Case study design
- Situational analysis mapping
- Social network analysis
- Systems dynamic modelling
- GIS mapping
- Causal loop diagrams
- Concept mapping

# WHAT IS CONCEPT MAPPING?

- A participatory, mixed-method structured conceptualization process used to develop a conceptual framework of ideas from a diverse group of participants
- Results are displayed as a concept map – a visual representation of the group’s ideas that shows how the ideas are inter-related, and can illustrate which ideas are most relevant, important, or appropriate for the purpose

# WHAT IS CONCEPT MAPPING?

- Most often, aims to provide concrete and specific guidance to PH practitioners and decision makers dealing with complex PH programs and issues
- Engages participants throughout the process
- Combines qualitative brainstorming and unstructured sorting with multivariate methods to construct maps

# PURPOSES FOR CONCEPT MAPPING

- Guide planning or create a framework for evaluation
- Generate hypotheses and build theory
- Develop measures, indicators, or scales
- Assess fidelity of a program model's transfer from program developers to program staff
- As an appropriate research method that meets ethical guidelines for studying indigenous communities
- Develop a research agenda
- Conceptually clarify ambiguous/contested concepts

# CONCEPT MAPPING AND COMPLEXITY

Trochim (2005) argues that concept mapping is related to complexity in at least 3 distinct ways:

- concept mapping is itself a complex adaptive system (CAS);
- the maps that result are useful for identifying the properties of complex systems in policy contexts;
- the maps can be used to manage human systems toward a goal while at the same time leveraging the dynamic, adaptive, evolutionary and emergent potential of complex systems

# STEPS IN THE PROCESS

**Preparation** – selecting participants and developing the focus prompt

**Generating Statements** – brainstorming

**Structuring Statements** – sorting and rating

**Representing Statements** – computing maps with multidimensional scaling, cluster analysis, pattern matching

**Interpreting Maps** – with participants

**Using Maps** – for planning, evaluation or other purposes

# THREE CONCEPT MAPPING STUDIES

1. Identifying effective strategies for incorporating evidence into practice and decision making
2. Identifying effective strategies for integrating health equity into practice and decision making?
3. Developing practical criteria for assessing health equity tools



# Applying an Equity Lens to Public Health Practice: Concept Mapping to Identify Strategies and Challenges



- To understand what Public Health decision makers and practitioners identify as important to enable them to integrate health equity into practice and decision making

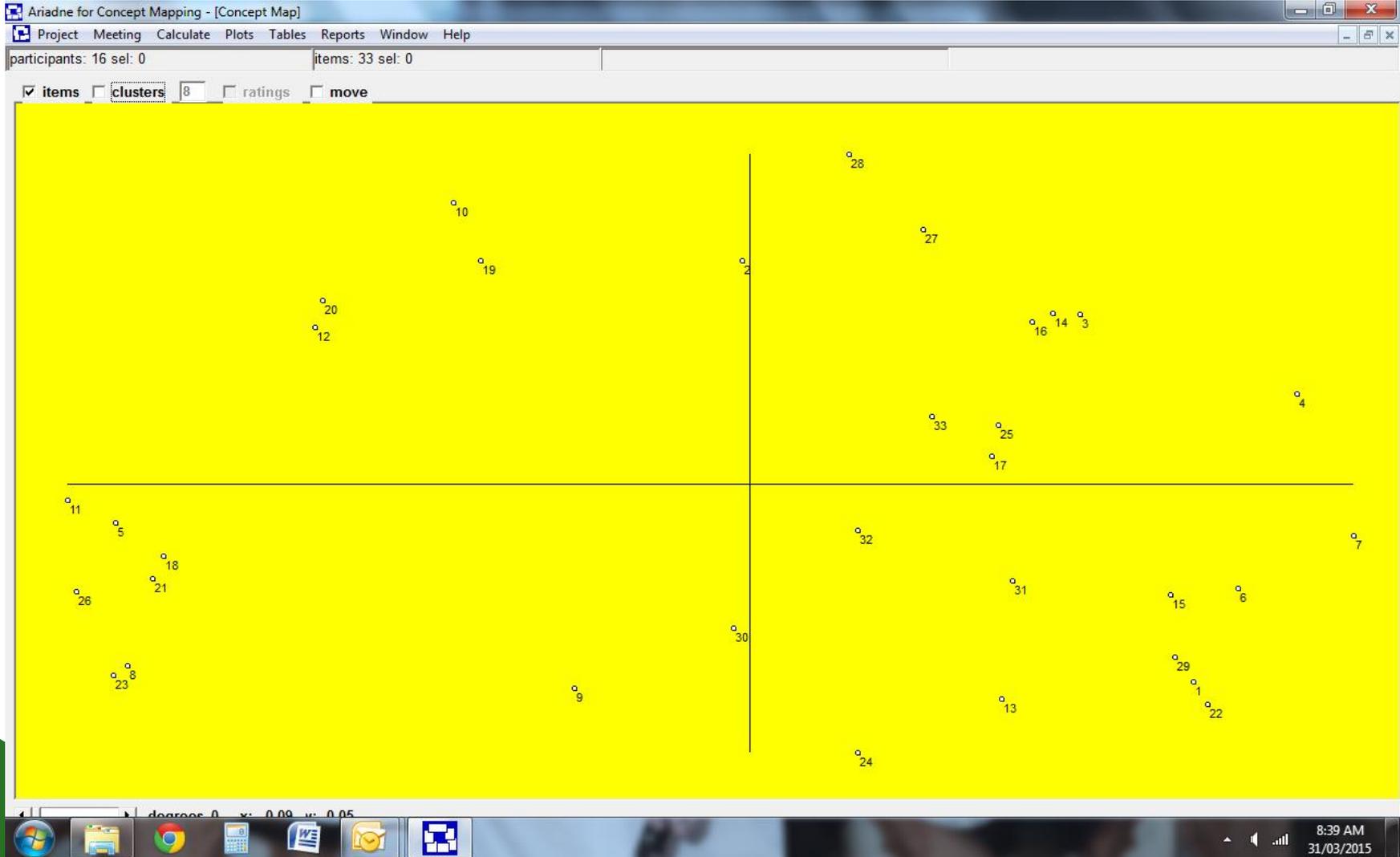
- Prompt: **Equity can be incorporated into public health practice and/or decision-making by...**
- 15 people from BC and 45 people from ON responded to the brainstorming survey
- Total participants = 60
  - BC: all roles and 5 of 6 HAs
  - ON: all roles and 6 of 6 HUs + Ministry + PHO represented
- Brainstorming statements were synthesized resulting in 33 statements

- Knowledge users' requested that members of the research team (academics and knowledge users) do the sorting, 16 people participated in the sorting phase
- Purpose is to sort statements based on similarity into unique groups with each statement only going into one group
- No value or priority is assigned

- The rating was done online and sent out to all knowledge users.
  - 17 people from BC and 51 people from ON
- Total participants = 68
- Participants were asked to rate each of the 33 statements on importance and feasibility
- Used a 5 point Likert scale – 1 not important or feasible to 5 very important or feasible

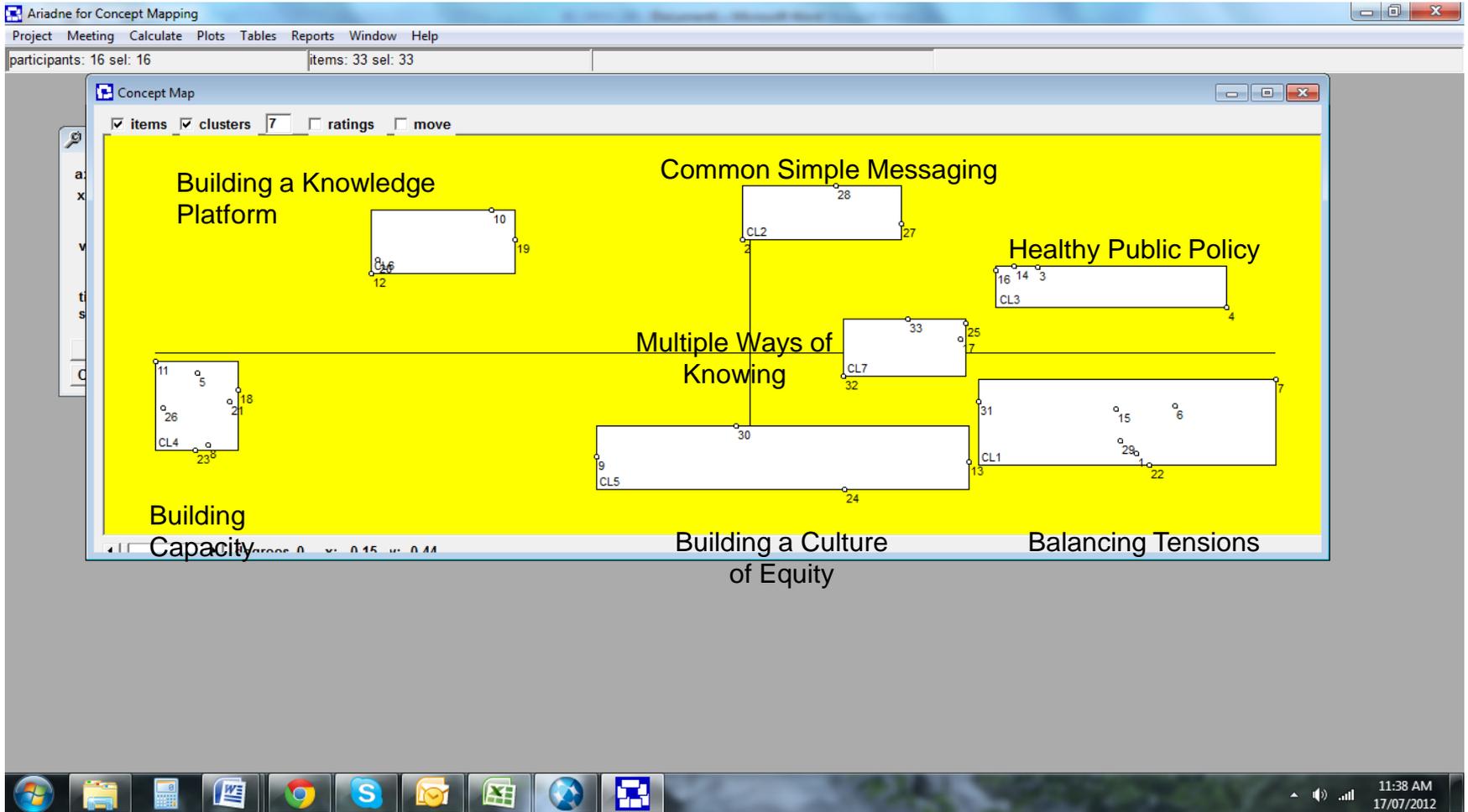
# MULTIDIMENSIONAL SCALING

- Each sort converted to a 0,1 co-occurrence matrix and summed across participants providing the input for the MDS analysis
- MDS takes the (dis)similarity data and represents them as distances in two dimensional space, entering them into a bivariate plot that is the basic point map



# HIERARCHICAL CLUSTER ANALYSIS

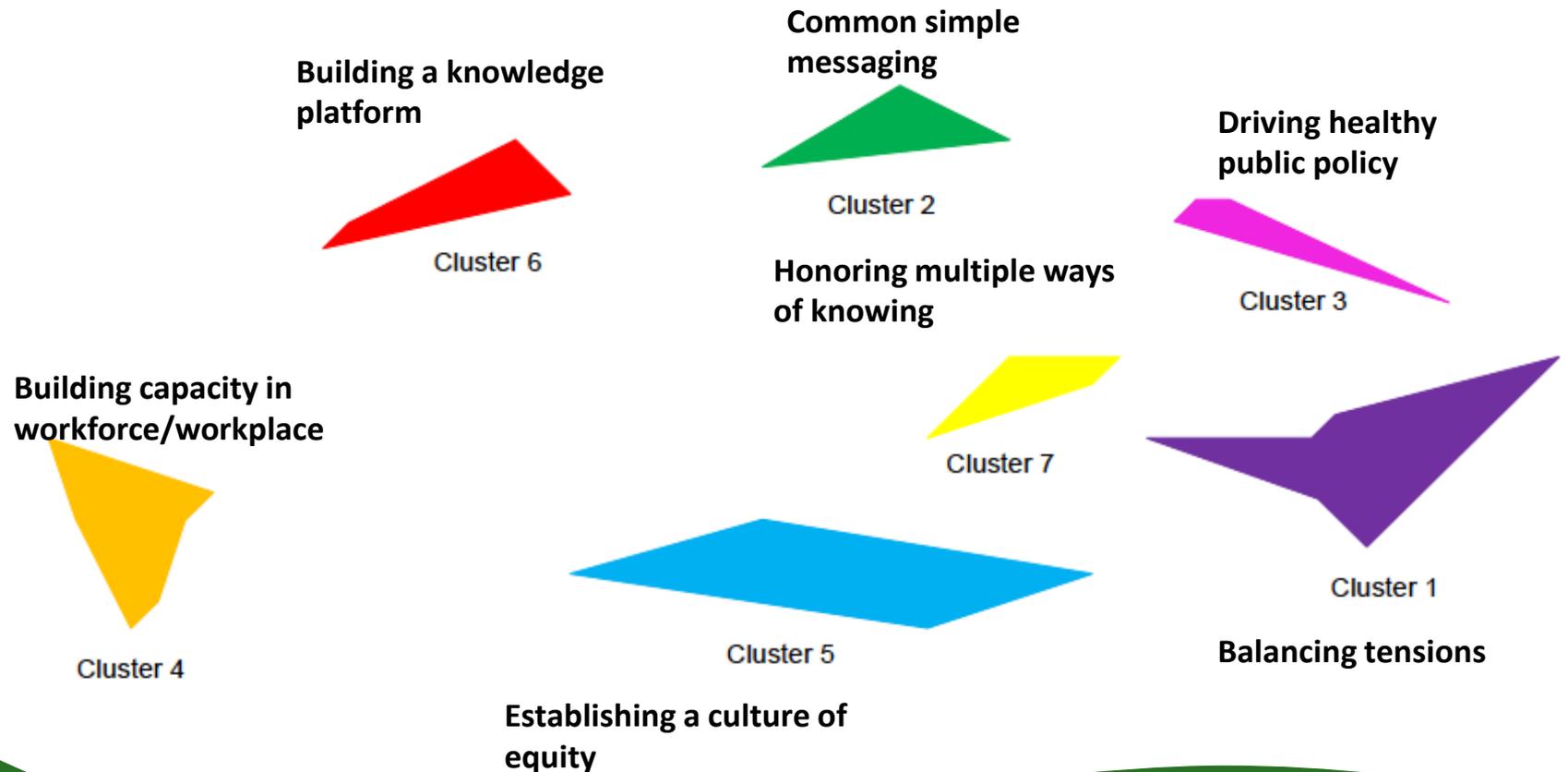
- Cluster analysis partitions the MDS statement map hierarchically into non-overlapping clusters
- Cluster arrangement is superimposed on the point map to produce a cluster point map
- Some clusters may be merged if it makes sense to do so, and they are named by participants



# EQUITY CONCEPT MAP

## Concept Map:

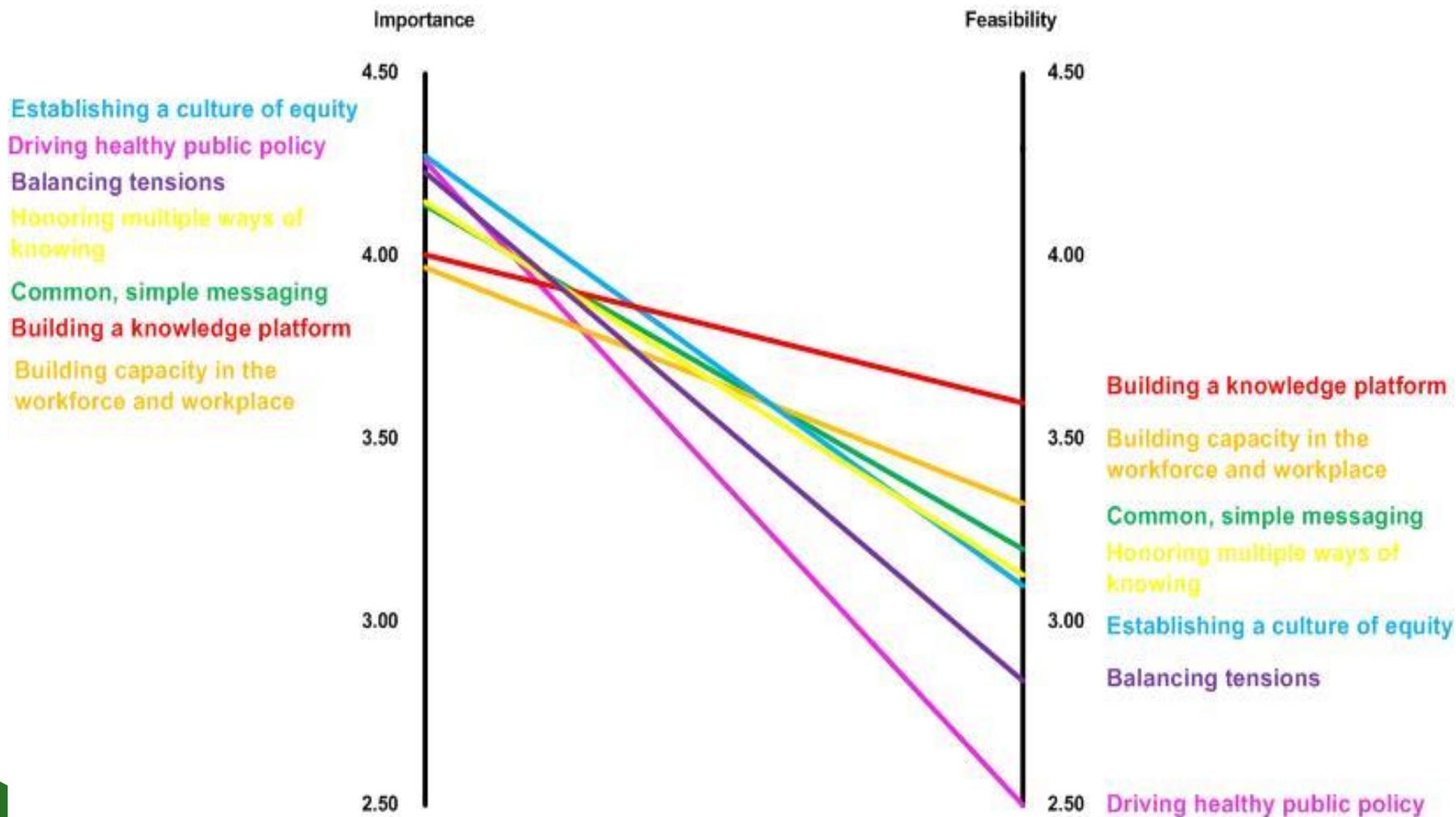
Equity can be incorporated into public health practice and/or decision-making by...



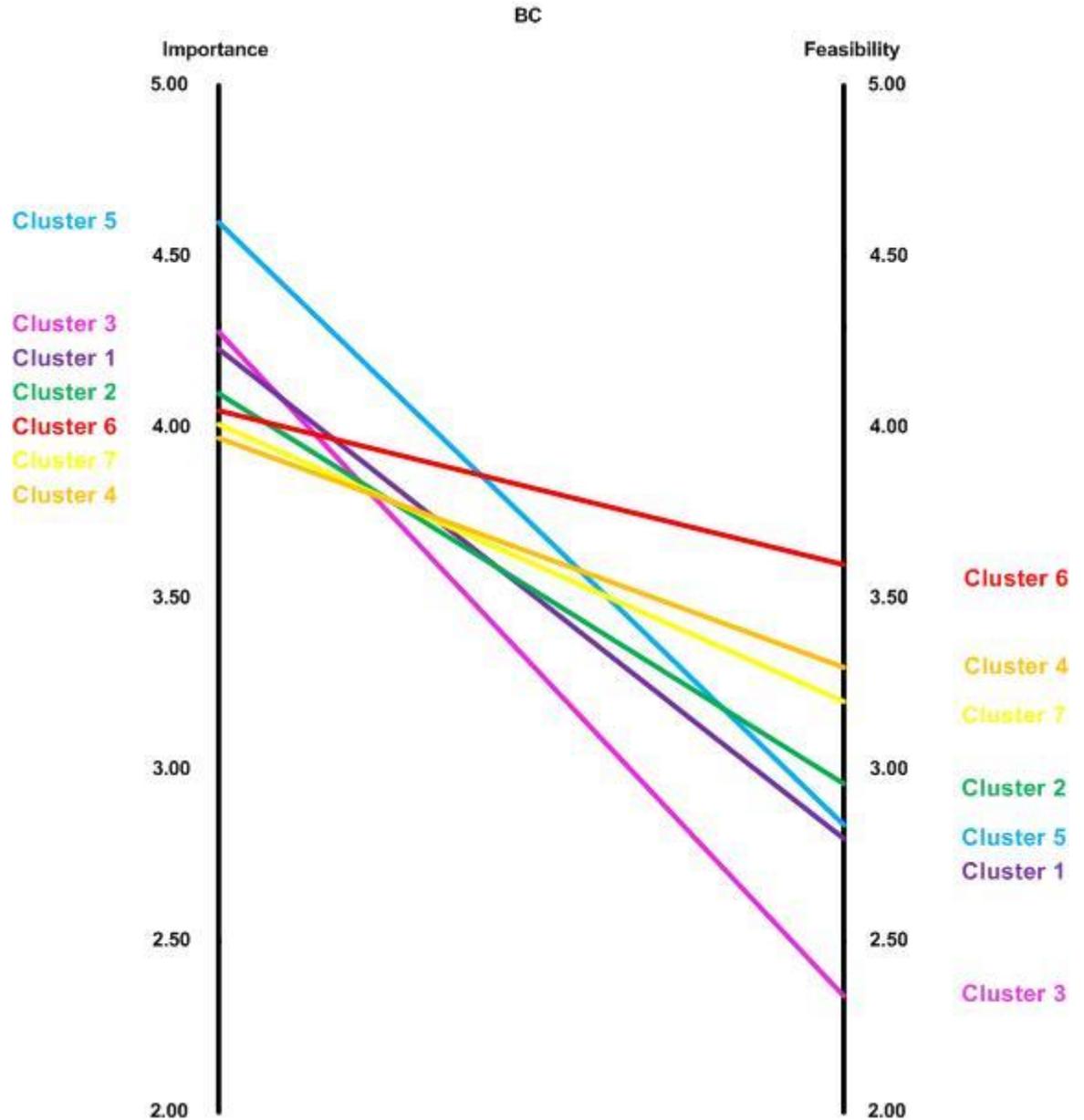
# CLUSTER 3: DRIVING HEALTHY PUBLIC POLICY

- 3 Investing dollars into policies that address equity issues and the social determinants of health
- 4 Considering the political, social and economic factors.
- 14 Working with policymakers to integrate equity in all policies.
- 16 Advocating for policy change at all organizational and political levels with the goal to reduce inequities.

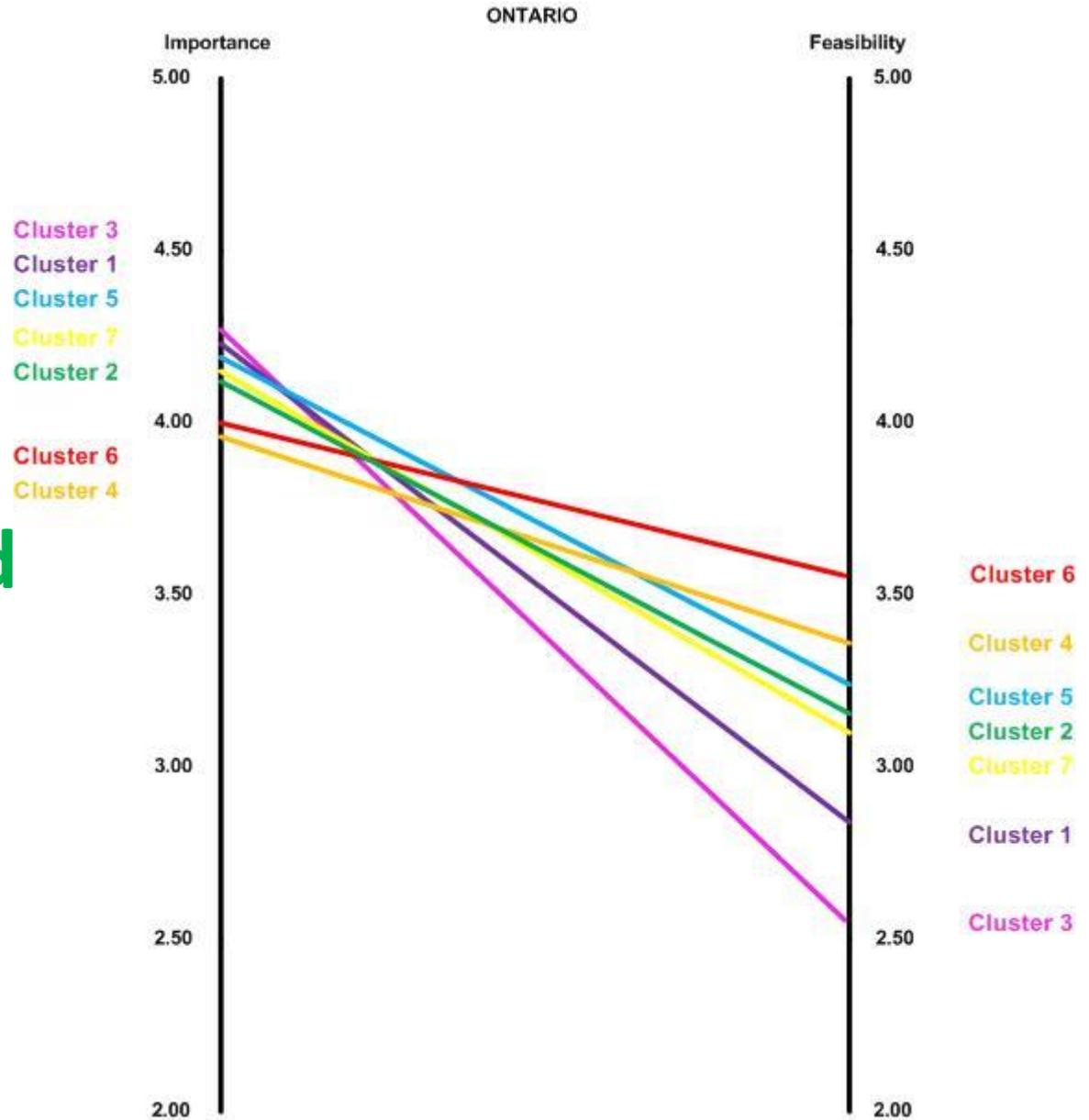
# IMPORTANCE AND FEASIBILITY: BC AND ONTARIO COMBINED



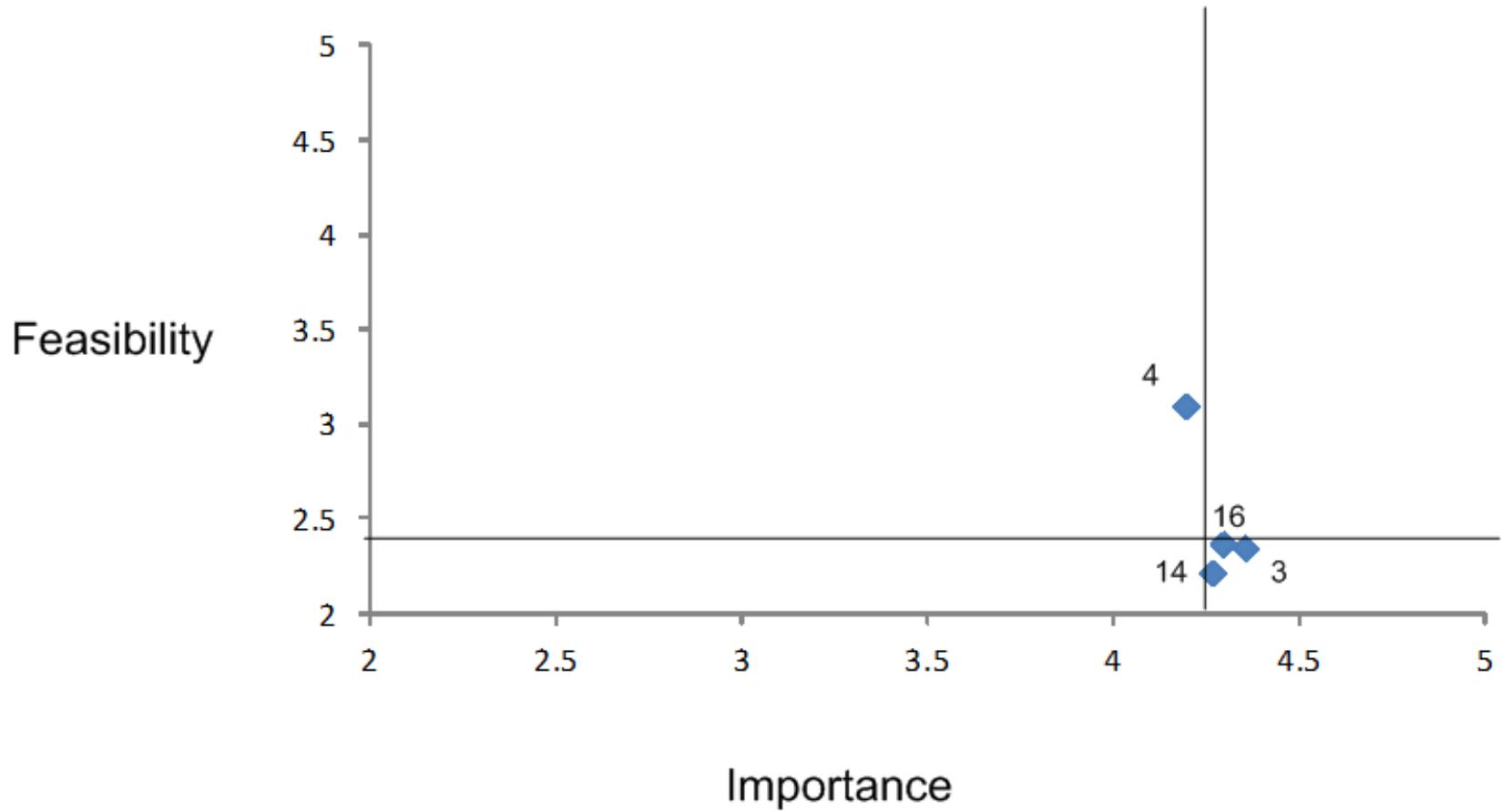
# Importance and Feasibility: BC



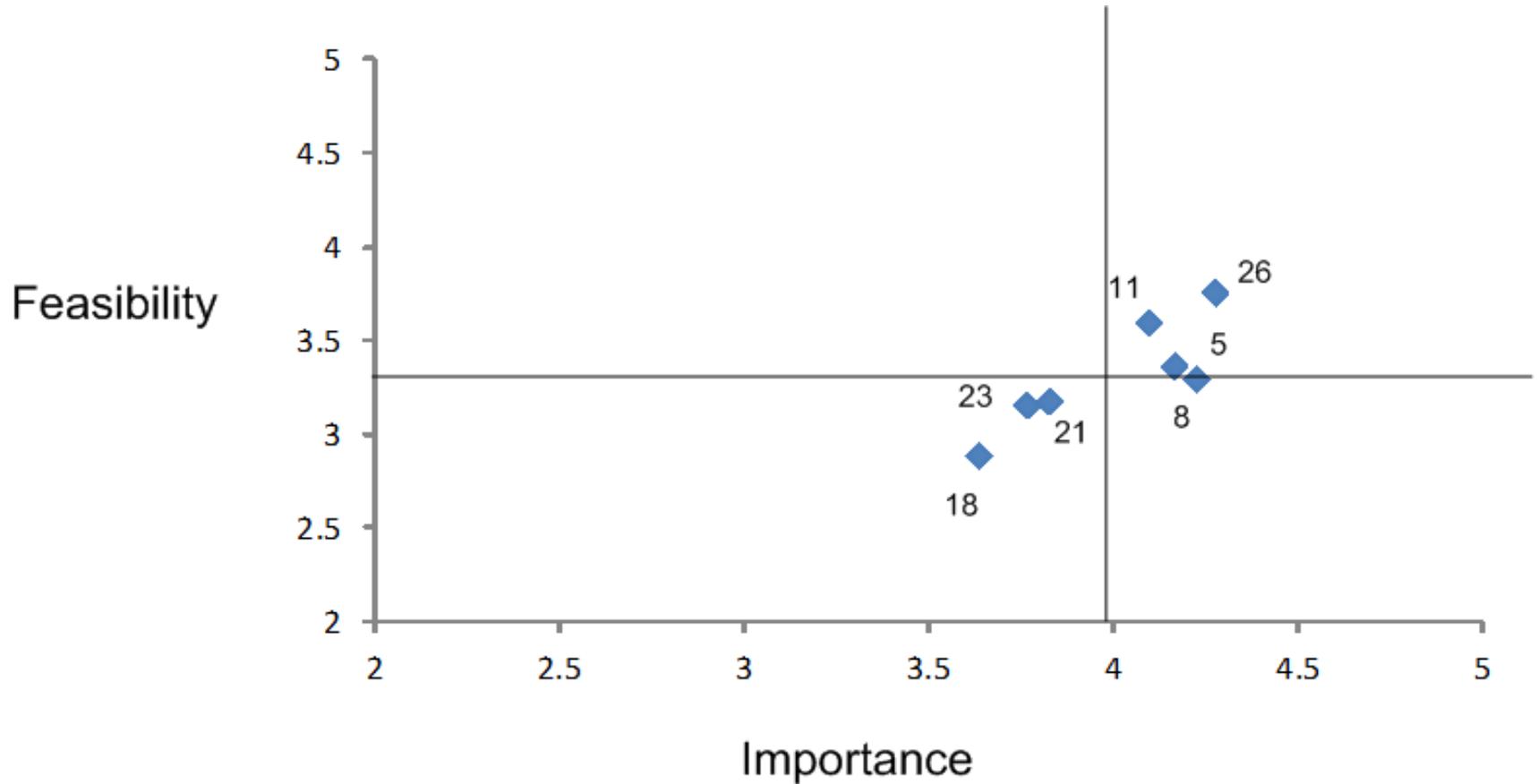
# Importance and Feasibility: Ontario



# GO-ZONE 3: DRIVING HEALTHY PUBLIC POLICY



# GO-ZONE 4: BUILDING CAPACITY IN THE WORKFORCE/WORKPLACE



# CONCLUSIONS

- Strong evidence that developing healthy public policy is important strategy for reducing health inequities, and PH practitioners agree that it is important
- Yet, they are sceptical that this can happen and do not perceive it as feasible
- If practitioners do not see this work as feasible, they may not be inclined to seek out opportunities to work with policy makers on this issue, or to advocate for policies to address health equity

- At the same time, this study, grounded in the experiences of both practitioners and decision makers, provides some concrete direction about potential actions that are identified as both feasible and important.
- These strategies are congruent with emerging literature on effective action to address health inequities, with the exception that intersectoral collaboration was not identified

# ELPH Concept Mapping: Developing Practical Criteria

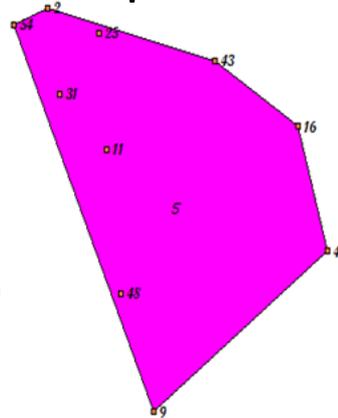
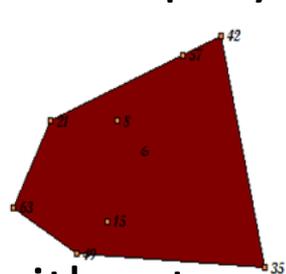
**Objective:** What is the practical utility of available tools?

**Prompt:** To be useful, a health equity tool should...

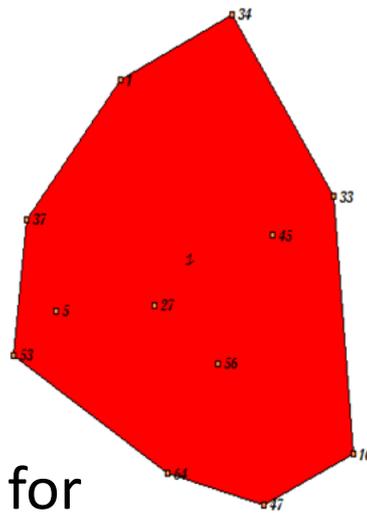
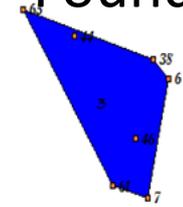


## Equity Competencies

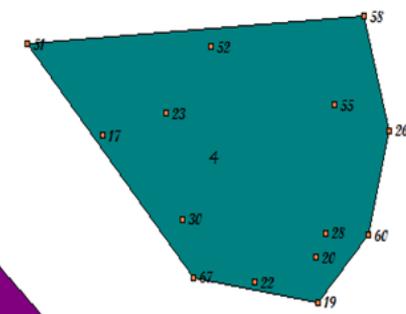
Nothing About ME without me



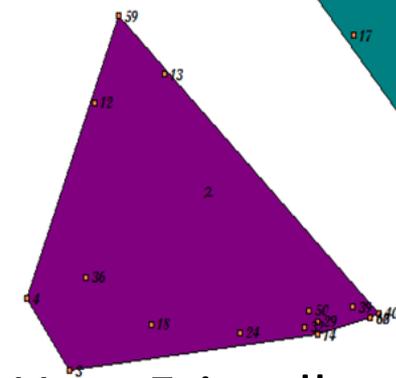
Explicit Theoretical  
Foundations



Evaluation for  
Improvement



Practical Resources  
To Guide Use



User Friendly

# Is this tool **Practical**?

- Will the tool contribute to improvements in programs and/or policies?
- Will the tool contribute to the identification of specific actions to improve health equity?
- Is there a step in the tool that engages or calls for participation of the community or people affected by health inequities?
- Is the tool easy to use and understand?
- Is the tool quick to use and short?
- Is there a clear set of steps that guide the use of the tool?

# Conclusions

- Concept mapping may be
  - Used for a variety of purposes
  - Employs visual analytics
  - Engages a variety of individuals and groups in the analysis
  - Provides practical information for enhancing PHSS



research in public health systems and services

# CONTACT INFORMATION

## Equity Lens in Public Health

<http://www.uvic.ca/research/projects/elph/>

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# Commentary



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# Questions and Discussion

# Webinar Archives & Upcoming Event

go to: <http://www.publichealthsystems.org/phssr-research-progress-webinars>

## Upcoming Webinar

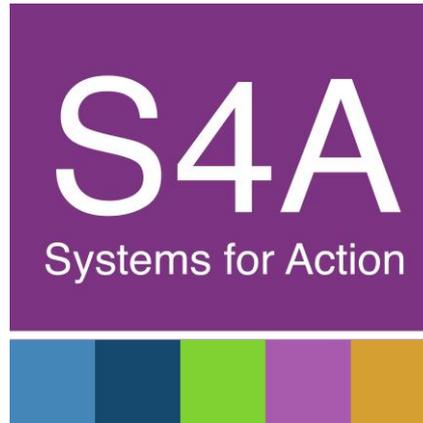
July 13, 2016 (12-1p ET/ 9-10a PT)

**LOCAL PUBLIC HEALTH AND PRIMARY CARE COLLABORATION: A PRACTICE-BASED APPROACH**

Elizabeth Gyllstrom, PhD, MPH, Research Scientist, Minnesota Department of Health and

Rebekah Pratt, PhD, Assistant Professor, Family Medicine and Community Health, University of Minnesota School of Medicine

Thank you for participating in today's webinar!



For more information about the webinars, contact:  
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# Speaker Bios

**Marjorie MacDonald, RN, MSc, PhD** is a Professor in the School of Nursing at the University of Victoria in British Columbia (BC), and also teaches in the School of Public Health and Social Policy. She is co-director of the Research in Public Health Systems and Services Initiative to develop a PHSSR agenda for Canada. For the past six years Dr. MacDonald held an inaugural Canadian Institutes of Health Research (CIHR) Applied Public Health Research Chair. Her research interests include public health systems renewal, health equity, public health and primary care collaboration, public health human resources planning and implementation science in public health. Currently, she co-leads two CIHR funded research programs with Dr. Bernie Pauly; one that is exploring implementation of public health systems renewal in BC and Canada and another examining the public health contribution to promoting health equity. [marjorie@uvic.ca](mailto:marjorie@uvic.ca)

**Bernadette (Bernie) M. Pauly, RN, PhD** is an Associate Professor in the School of Nursing and a Scientist in the Centre for Addictions Research of BC. She is a member of the Research in Public Health Systems and Services Research Collaborative, and co-leads two CIHR-funded studies of implementation of public health systems and services and integration of health equity in public health. Dr. Pauly is an inaugural University of Victoria Provost's Community Engaged Scholar and received national awards for her work in promoting health equity and social justice. [bpaul@uvic.ca](mailto:bpaul@uvic.ca)

**Wanda Martin, RN, MN, PhD** is an Assistant Professor at the College of Nursing, University of Saskatchewan in Saskatoon, Canada. Her research lies within a socio-ecological approach to reducing health inequities brought on through material deprivation, and in systemic issues related to climate change. This includes areas of community food security, housing quality, and ecosystem approaches to health. [wanda.martin@usask.ca](mailto:wanda.martin@usask.ca)

**Victoria Lee, MD, MPH, MBA, CCFP FRCPC** currently serves as Chief Medical Health Officer and Vice-President, Population Health in the Fraser Health Region of British Columbia, Canada. As the Chief Medical Health Officer, her primary mandate is to prevent disease, protect health and promote wellness in populations and communities in the Fraser region. She also provides executive leadership and strategic oversight in the areas of population health, prevention of non-communicable diseases, communicable disease prevention and control, environmental health, licensing of community care facilities, Aboriginal Health, South Asian Health Institute, Mental Health and Substance Use and population health surveillance. [victoria.lee@fraserhealth.ca](mailto:victoria.lee@fraserhealth.ca)