CSPC

2nd National Symposium on Evidence-Based Decision Making
November 8, 2016 - Ottawa

Moving from Theory to Practice

SUMMARY REPORT

Organized by:

Council of Canadian Academies
Conseil des académies canadiennes

Canadian Academy of Health Sciences
Académie canadienne des sciences de la santé

The Canadian Academy of Engineering
Leadership in Engineering Advice for Canada
L'Académie canadienne du génie
Chef de file en matière d'expertise-conseil en génie pour le Canada

RSC SRC
The Royal Society of Canada
The Academies of Arts, Humanities and Sciences of Canada
La Société royale du Canada
Les Académies des arts, des lettres et des sciences du Canada

2ND NATIONAL SYMPOSIUM ON EVIDENCE-BASED DECISION MAKING: MOVING FROM THEORY TO PRACTICE

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2ND NATIONAL SYMPOSIUM ON EVIDENCE-BASED DECISION MAKING: MOVING FROM THEORY TO PRACTICE

ADVISORY COMMITTEE:

Paul Dufour, Principal, PaulicyWorks; Adjunct Professor, University of Ottawa; Research Fellow, Insitute for Science, Society and Policy, University of Ottawa

Kamiel Gabriel, FCAE, Professor, Department of Automotive, Mechanical and Manufacturing Engineering, Faculty of Engineering and Applied Science, University of Ontario Institute of Technology

Monica Gattinger, Director, Institute for Science, Society and Policy, University of Ottawa; Chair, Positive Energy; Associate Professor, School of Political Studies, University of Ottawa

Mehrdad Hariri, CEO and President, Canadian Science Policy Conference

Rees Kassen, Professor and University Research Chair in Experimental Evolution, University of Ottawa

Eric M. Meslin, FCAHS, President and CEO, Council of Canadian Academies

SPEAKERS (listed alphabetically):

André Albinati, Principal, Earnscliffe Strategy Group

Julie Cafley, Senior Vice-President, Policy and Partnerships, Public Policy Forum

Tijs Creutzberg, Director of Assessments, Council of Canadian Academies

Rainer Engelhardt, Former Assistant Deputy Minister, Chief Science Officer, Public Health Agency of Canada

Kamiel Gabriel, FCAE, Professor, Department of Automotive, Mechanical and Manufacturing Engineering, Faculty of Engineering and Applied Science, University of Ontario Institute of Technology

Kathryn Graham, Executive Director, Performance Management & Evaluation, Alberta Innovates – Health Solutions

Jean Gray, C.M., FCAHS, Professor Emeritus, Medical Education, Medicine, Pharmacology, Dalhousie University

Kevin Keough, FCAHS, Executive Director, Alberta Prion Research Institute

André Lapierre, FRSC, Member of the Faculty of Graduate and Postdoctoral Studies, and Emeritus Professor, Department of Linguistics, University of Ottawa

Jason Pearman, Lead, Innovation Hub, Natural Resources Canada

Douglas W. Ruth, FCAE, President, Canadian Academy of Engineering; Professor, Faculty of Engineering, University of Manitoba

Robyn Tamblyn, FCAHS, Professor, Department of Medicine and Department of Epidemiology and Biostatistics, McGill University, Faculty of Medicine; Scientific Director, CIHR – Institute of Health Services and Policy Research

Christina Weise, CEO, Research Manitoba

Dee Williams, Deputy Director, USGS Alaska Region; Canada-US Fulbright Research Chair in Science and Society, University of Ottawa

WITH ASSISTANCE FROM:

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CSPC 2nd National Symposium

Evidence-Based Decision Making (EBDM): Moving from Theory to Practice

Tuesday, November 8, 2016 - Shaw Centre, Ottawa

7:00-8:00am **REGISTRATION & COFFEE**

8:00-8:10am **WELCOME** by **Tijs Creutzberg**, Director of Assessments, Council of Canadian Academies

8:10-8:25am **SETTING THE STAGE** *(Session 1)*

Speaker will reflect briefly on last year's Symposium, where we've come since then, and how we can move forward.

Kamiel Gabriel, FCAE, Professor, Department of Automotive, Mechanical and Manufacturing Engineering, Faculty of Engineering and Applied Science, University of Ontario Institute of Technology

8:25-8:45am **WHY POLICY-MAKERS NEED EVIDENCE** *(Session 2)*

Speaker will discuss why evidence is an important component of the decision-making process.

Rainer Engelhardt, Former Assistant Deputy Minister, Chief Science Officer, Public Health Agency of Canada

8:45-10:30am Introduction of Panel by **Douglas W. Ruth**, FCAE, President, Canadian Academy of Engineering; Professor, Faculty of Engineering, University of Manitoba

WHAT CONSTITUTES EVIDENCE AND HOW DO YOU WEIGH DIFFERENT TYPES? *(Session 3)*

Speakers to discuss different types of evidence – including expert opinion and traditional knowledge – and how to weigh different types of evidence in the decision-making process.

Moderator: **Rees Kassen**, Professor and University Research Chair in Experimental Evolution, University of Ottawa

Panel: **Tijs Creutzberg**, Director of Assessments, Council of Canadian Academies

Dee Williams, Deputy Director, USGS Alaska Region; Canada-US Fulbright Research Chair in Science and Society, University of Ottawa

Christina Weise, CEO, Research Manitoba

Kathryn Graham, Executive Director, Performance Management & Evaluation, Alberta Innovates – Health Solutions

Jason Pearman, Lead, Innovation Hub, Natural Resources Canada

10:30-10:45am **COFFEE BREAK** (15 min)

10:45-12:15pm Introduction of Panel by **Jean Gray**, C.M., FCAHS, Professor Emeritus, Medical Education, Medicine, Pharmacology, Dalhousie University

GETTING THE EVIDENCE IN FRONT OF DECISION-MAKERS *(Session 4)*

Speakers to discuss to the best methods for getting evidence in front of the right people at the right time – including decision-makers, the media, and the public.

Moderator: **Monica Gattinger**, Director, Institute for Science, Society and Policy, University of Ottawa; Chair, Positive Energy; Associate Professor, School of Political Studies, University of Ottawa

Panel: **Julie Cafley**, Senior Vice-President, Policy and Partnerships, Public Policy Forum

Robyn Tamblyn, FCAHS, Professor, Department of Medicine and Department of Epidemiology and Biostatistics, McGill University, Faculty of Medicine; Scientific Director, CIHR – Institute of Health Services and Policy Research

André Albinati, Principal, Earnscliffe Strategy Group

Kevin Keough, FCAHS, Executive Director, Alberta Prion Research Institute

12:15-1:00pm **LUNCH BREAK** (45 min)

1:00-2:30pm Introduction of Panel by **André Lapierre**, FRSC, Member of the Faculty of Graduate and Postdoctoral Studies, and Emeritus Professor, Department of Linguistics, University of Ottawa

INTERACTIVE SESSION: TURNING DISCUSSION INTO ACTION *(Session 5)*

Speakers to wrap up the symposium with an engaging discussion on the day's key actionable takeaways.

Moderator: **Paul Dufour**, Principal, PaulicyWorks; Adjunct Professor, University of Ottawa; Research Fellow, Insitute for Science, Society and Policy, University of Ottawa

Panel: **Rainer Engelhardt,** Former Assistant Deputy Minister, Chief Science Officer, Public Health Agency of Canada

Monica Gattinger, Director, Institute for Science, Society and Policy, University of Ottawa; Chair, Positive Energy; Associate Professor, School of Political Studies, University of Ottawa

Rees Kassen, Professor and University Research Chair in Experimental Evolution, University of Ottawa

CLOSING REMARKS by **Tijs Creutzberg**, Director of Assessments, Council of Canadian Academies

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2ND NATIONAL SYMPOSIUM ON EVIDENCE-BASED DECISION MAKING: MOVING FROM THEORY TO PRACTICE

SUMMARY REPORT:

On November 8, 2016, science policy experts, researchers, and professionals took part in the Canadian Science Policy Conference's (CSPC's) 2nd National Symposium on evidence-based decision-making. The pre-conference symposium was entitled: Evidence-Based Decision-Making (EBDM): Moving from Theory to Practice, and provided attendees with a broad view of the state of science policy in Canada and with an opportunity to reflect collectively on approaches for breaking down barriers between scientists and policy-makers; for rebuilding public trust in experts; and for promoting the value of EBDM in governments at all levels.

The title of this pre-conference symposium underscores the forward-thinking nature of the discussion, which sought actionable strategies to advance EBDM in Canada. Rather than expand on well-known challenges to implementing effective EBDM, therefore, this report focuses on solutions to each challenge that emerged from the session.

CHALLENGE 1: OPPOSING CULTURES

Scientists and policy-makers often lack an appreciation of each other's realities and objectives. Policy work is typically faster-paced than research and prefers several possible solutions from which to choose, whereas the scientist may be focused on a single solution. Scientific analysis zeroes in on targets whereas the policy environment must consider multiple inputs (e.g., community needs, health and safety, economic impact). Scientists work with probabilities, which is often unacceptable to the risk-averse policy-maker, who seeks a concrete and uncontroversial solution. In sum, technical solutions cannot always be easily implemented in the messy policy ecosystem.

Strategies and solutions discussed:

- A greater flow of people between academia and government would increase awareness of each sphere's function and needs. Mechanisms such as Mitacs, an organization that places researchers in business and government, have shown promise. Having scientists spend time in the policy environment builds partnerships, cooperation, and understanding between spheres.

- Science advice brokerages such as science academies, the Public Policy Forum, the Council of Canadian Academies, and the Science Media Centre of Canada act as knowledge translators for policy-makers and create links between governments, business, NGOs, unions, academia and other sectors.

- Knowledge sharing, which is critical to breaking down barriers between science and policy, should be prioritized. The CIHR model of knowledge sharing is successful; it leads programs such as the Best Brains Exchange (for rapid expert answers to pressing questions), funds cross-jurisdictional research, supports scientific op-eds, and promotes the value of public health chairs and innovative training. Elevate collective practice rather than hoard information, and ensure test results and innovations are looped back to policy-makers.

- A multipronged approach to knowledge sharing is required today. Different policy-makers require different forms of evidence from a variety of sources. This approach helps triangulate a diverse evidence landscape and makes evidence more visible to policy-makers and more viable.

- Opportunities for scientists and policy-makers to co-develop research questions can further close the divide between spheres. The sharing of knowledge, tools, and best practices allows scientists and policy-makers to be more aware of emerging ideas and priorities in each other's spheres. A bilateral effort is required; scientists should understand what policy-makers want and how they operate, and policy-makers should identify priorities directly with science advice brokerages.

- Policy-makers could develop better support for scientific leadership, and greater partnership between the spheres, by bringing more scientists to the table at global summits and economic forums.

- Building momentum around new evidence (e.g. in the media or through successful pilot projects) helps to "de-risk" concepts for policy-makers and better prepares them to receive new knowledge.

- Policy-makers need improved institutional capacity to evaluate and use evidence by having others accept it and getting recommendations pushed up the line. Government departments are still short on systems that encourage and support the use of evidence in decision-making.

CHALLENGE 2: BEING HEARD

Busy policy-makers are faced with competing interests, multiple financial requests, as well as government priorities or re-election strategies that may not accord with current science advice. Policy-makers may be unfamiliar with fields of knowledge so it can be challenging for them to value science advice or absorb it into their recommendations.

Strategies and solutions discussed:

- Fan the Government of Canada's renewed enthusiasm for EBDM and hold it to account.

- Know policy-makers' priorities so that requests for support are better timed and better suited to policy goals. If evidence can be fed into an issue already under consideration, it has a better chance of being heard. Refer to throne speeches, budgets, white papers, etc. and be aware of government constraints.

- As in advertising, message repetition is key. The more people echoing a concern, the better chance it has of being heard. A mobilized media and an engaged public writing letters to ministers can help scientists cut through the cacophony of the policy environment.

- Demystify evidence by removing it from the abstract. Be clear about its purpose and show how it can be useful for accountability, problem solving, and impact. People tend to tune out negative statements, so framing issues in positive ways can have more impact.

- When scientists can demonstrate capacity building, knowledge advancement, and social and economic impacts, "language" and priority barriers between scientists and policy-makers are broken down. Impact is heavily weighted in measures of research excellence in the UK (20%).

- Policy-makers are more interested in outcomes than process, so phrase processes in the language of outcomes. This helps to create a sense that science advice has a natural role in decision-making.

- Networks such as CERN have demonstrated success in getting funding for large scientific projects. Despite its enormous scale, CERN is a model of the best practice of inter-sectoral, inter-regional, and even international partnerships used to draw attention to science and to make a case for funding.

CHALLENGE 3: COMMUNICATION

Scientists and policy-makers can lack experience and expertise in each other's fields, which makes communication difficult. The metaphor of a wall between both groups, over which scientists toss information that policy-makers are not trained to interpret, was mentioned throughout the session.

Strategies and solutions discussed:

- This gap in communication will continue so long as there is no institutional interface to mediate between the science and policy spheres, such as government science advisors. Encourage governments at all levels to appoint chief science officers and/or advisory boards. These institutional mediators are having successes in other countries because their wider knowledge allows them to bridge communication gaps and align priorities. They help keep governments better informed about evidence and get evidence included in debates. CSOs at all levels of government would create a network of knowledge sharing. CSOs should ideally report to the most senior policy-maker (e.g., Prime Minister, Premiers) and have a staff.

- Train science students to convey findings more clearly and useably, and foster a willingness to step outside of their siloes. Information must be presented in a way that is tailored for policy-makers.

- Scientists and policy-makers can leverage new technologies and platforms (e.g. social media) to communicate between spheres, deal with the acceleration of knowledge, and democratize problem solving.

- Facts alone don't always persuade; what counts is telling a story. Presenting facts within a narrative helps to convey the value of research findings to policy-makers, reporters, and the public. These narratives should ideally resonate with the audience's own experiences, and should help them understand why they should care about an issue.

CHALLENGE 4: A CHANGING FIELD OF KNOWLEDGE

Both scientists and policy-makers face an epistemological challenge, in that "knowledge" is taking on a new—and more elusive—definition. Findings extracted through the scientific method in institutional settings and those emerging from expert panels compete with traditional knowledge (i.e., Indigenous knowledges) and democratized knowledge (i.e., informal research carried out by and shared among non-professionals in an unregulated framework). Scientists and policy-makers work in a more diverse society with various cultural knowledge practices, in a world of unprecedented knowledge acceleration.

Strategies and solutions discussed:

- Traditional and democratized knowledge are valuable supplements (not replacements) to institutional and expert forms of knowledge. The BP Northstar whaling study demonstrates the value of mixing traditional and institutional knowledge; its findings have become instrumental in guiding regulatory policy.

- Encourage the Government of Canada's interest in reconciliation and invite practitioners of non-traditional knowledge onto expert panels and to science policy forums such as the CSPC.

- Find ways to tap into non-professional knowledge. Many (young, untrained) practitioners are doing real science and publishing findings on blogs and in online forums rather than in peer-reviewed journals.

- Inclusiveness improves research quality by bringing fresh viewpoints and methods to the lab, and should ideally be built into the design of research methodologies, pilot projects, etc. Canada's science academies, which are composed of very senior researchers, require this diversity to better serve policy-makers.

CHALLENGE 5: PUBLIC MISTRUST

There is decreasing trust among the public of expertise and institutions such as government, medicine, and academia. There is also a growing preference for making choices based on emotion over knowledge.

Strategies and solutions discussed:

- Educate and engage the media, which often delivers findings to the public. The science policy community could better inform the public about the value of research and EBDM by inviting reporters to forums such as the CSPC and engaging them as panellists so that scientists, policy-makers, and reporters can share insights and strategies. The Centre for Disease Control's internship program for journalists is an excellent model.

- The training of young scientists to be better communicators (e.g., to find alternatives to jargon) would not only bridge the field between scientists and policy-makers but could also help make civil society feel more included in EBDM and help rebuild trust.

- Keep the public better informed about decisions and strive for more public input in EBDM (e.g., consultations, surveys, town halls, traditional knowledge, non-professional knowledge, intercultural exchange), which would allow civil society to feel more engaged in EBDM. The UK model of public engagement in policy-making has been shown to improve legitimacy of experts among civil society.

- The scientist trained to remain neutral while focusing on facts can get in the way of perceived "authenticity," which makes it harder to reach policy-makers, media, and the public. Clearer, briefer communication mitigates this and persuades the public to care more about evidence.

- Capitalize on Canadian scientific successes recognized the world over, such as Genome Canada. Broadcasting the value of Canadian research reminds the public about the importance of evidence and EBDM.

PHOTOS:


Evidence-Based Decision Making
Moving from Theory to Practice


KATHRYN GRAHAM
CHRISTINA WEISE


MONICA GATTINGER


des données


ANDRÉ ALBINATI


KATHRYN GRAHAM

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Moving from Theory to Practice

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WELCOME
What ☑
Why ☑
HOW

Level of Dialogue in Canada

Tijs Creutzberg
CCA

Kamiel Gabriel
UOIT

Rainer Engelhardt

Douglas W. Ruth
CAE Umanitoba

Moderator Rees Kassen
UofO

Tijs Creutzberg
CCA

Dee Williams
UofO

Christina Weise
Research Manitoba

Kathryn Graham
Alberta Innovates - Health Solutions

Jason Pearman
Innovation Hub
Natural Resources Canada

What Constitutes EVIDENCE and How do you weigh different types?

EXPERT PANELS

EVIDENCE
- Collection
- Vetting
- Weighing
- Interpret
- Improve

VS

ONE Decision maker
No new research

- Ability to work together + improve evidence

Alaska
Case Study:
Aboriginal Subsistence Whaling
- Co-production of evidence to affect policy around development in the North
- Data helped whalers be successful + reduce scouting time
- whalers avoided rig + it did not impede

Success Factors
1. SYSTEMIC PROCESS - Long term - Ethnographer
2. Transparent - report
3. Accurate representation of Indigenous knowledge
4. Triangulation - 3 streams of data

Q: Inclusion Quality BALANCE

- CCA - each committee decides best when inclusion is in the original design
- Science needs expertise - include at appropriate time
- Inclusion improves quality

Q: New Systemic model ? Complexity for science

JR - Capacity → pilot SCALE
start with practical work to build capacity

KG - Theory → Practice
OTHA Messier! = Co-Developing the framework helps!

Club - More than change management of doctor + nurse behaviour
↳ start to think about complex systems + talk

Funder Perspective

Complex System

Science — Policy
CLEARLY DEFINED Question
Bring parties to the table
Clinical Scientist make a big input
EVIDENCE
Needs System Capacity to recieve Evidence into policy process
GOOD POLICY

Policy
EBDM
Science
Society

Are we past the age of TRUTH?
truth
- Brexit
- U.S. Presidency Race
EMOTION!

Why EBDM

- BIG ISSUES TODAY ALL HAVE A SCIENTIFIC COMPONENT

Fire Dept improved outcomes 13% → 70% success by using data

Eco-system
EVIDENCE → POLICY
PROCESS
Science — Need for TRUST — Public

SCIENCE ADVISORS
INTERFACE
Science — Policy

Detailed - ANALYSIS - Broad
Longterm - TIMING - Fast
Right Answer - DECISIONS - Options for the political environment

PURPOSE of EVIDENCE
SCIENCE
REAL WORLD
Policy
REAL WORLD IMPACT

Measure
Evaluate
CAHS IMPACT FRAMEWORK
CO-DEVELOPED

Social R&D
- PROTECT STAFF TIME
- CONNECTIVITY - Sharing Knowledge
- Culture of try-fail-try

CCA
CAHS ACSS
CAE
RSC

#CSPC2016 #EBDM

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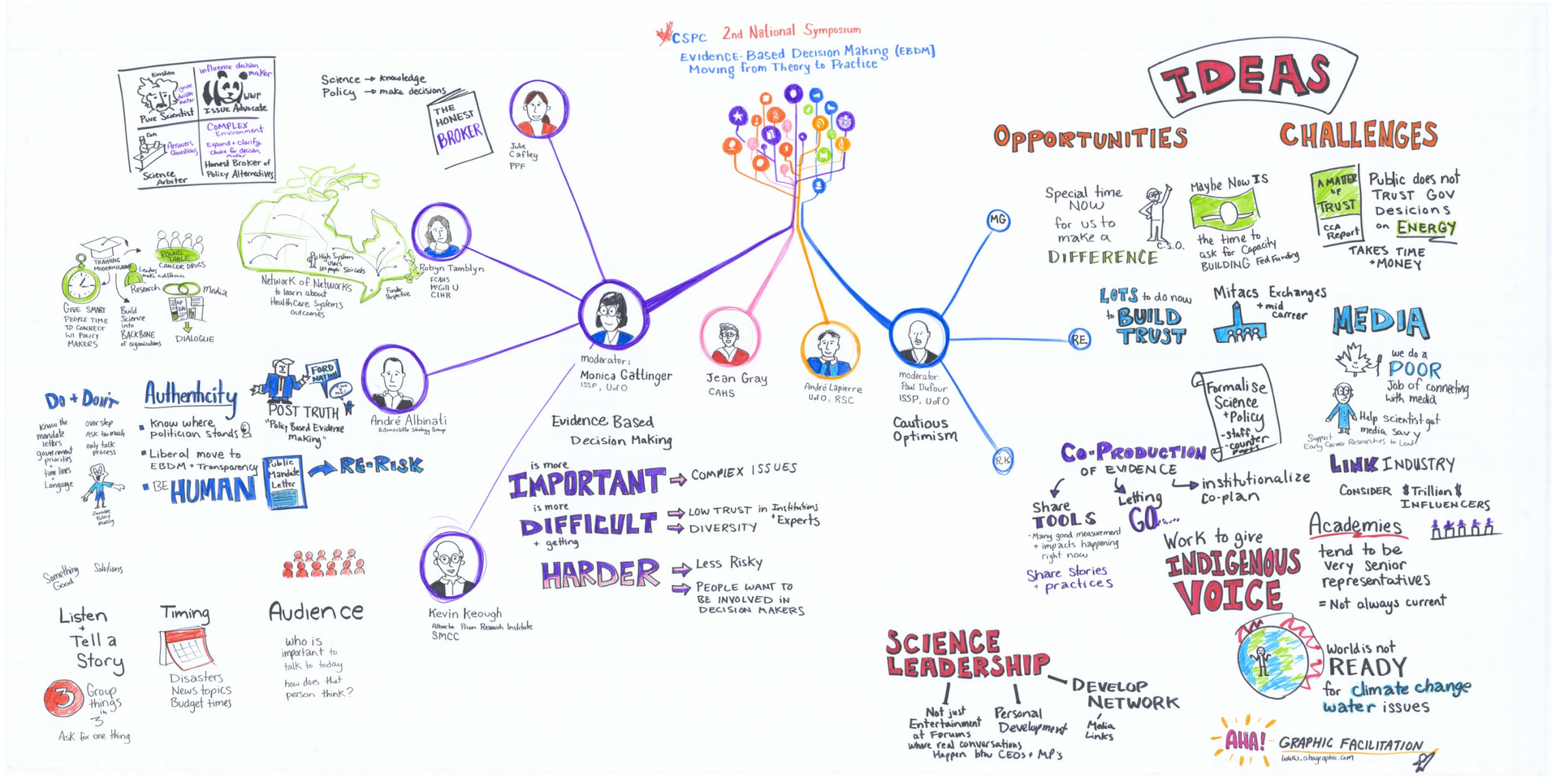
CSPC 2nd National Symposium
Evidence-Based Decision Making (EBDM)
Moving from Theory to Practice
IDEAS
OPPORTUNITIES
CHALLENGES
Science → knowledge
Policy → make decisions
THE HONEST BROKER
Julie Cafley
PPF
Pure Scientist
Science Arbiter
WWF
Issue Advocate
Honest Broker of Policy Alternatives
COMPLEX Environment
Network of Networks
to learn about Health Care Systems outcomes
Robyn Tamblyn
FCAHS
McGill U
CIHR
moderator:
Monica Gattinger
ISSP, U of O
Jean Gray
CAHS
André Lapierre
U of O, RSC
moderator:
Paul Dufour
ISSP, U of O
Cautious Optimism
MG
RE
R.K
Special time NOW for us to make a DIFFERENCE
C.S.O.
Maybe Now IS the time to ask for Capacity BUILDING Fed Funding
A MATTER of TRUST
CCA Report
Public does not TRUST GOV Desicions on ENERGY
TAKES TIME + MONEY
LOTS to do now to BUILD TRUST
Mitacs Exchanges + mid Carrer
MEDIA
we do a POOR Job of connecting with media
Help scientist get media savvy
Support Early Career Researchers to Lead
Formalise Science + Policy
- staff
- counter Facts
Co-PRODUCTION OF EVIDENCE
Share TOOLS
- Many good measurement + impacts happening right now
Share Stories + practices
Letting GO...
institutionalize Co-plan
LINK INDUSTRY
CONSIDER $Trillion$ INFLUENCERS
Academies
tend to be very senior representatives
= Not always current
Work to give INDIGENOUS VOICE
World is not READY for climate change water issues
SCIENCE LEADERSHIP
DEVELOP NETWORK
Not just Entertainment at Forums where real conversations Happen btw CEOs + MP's
Personal Development
Media Links
AHA! GRAPHIC FACILITATION
www.ahagraphic.com
Evidence Based Decision Making
is more IMPORTANT → COMPLEX ISSUES
is more DIFFICULT + getting → LOW TRUST in Institutions + Experts
→ DIVERSITY
HARDER → Less Risky
→ PEOPLE WANT TO BE INVOLVED IN DECISION MAKERS
Kevin Keough
Alberta Prion Research Institute
SMCC
Audience
Who is important to talk to today
how does that person think?
Timing
Disasters
News topics
Budget times
Listen + Tell a Story
Something Good
Solutions
3 Group things in 3
Ask for one thing
Do + Don't
Know the mandate letters government priorities + time lines + Language
Oversimplify
Ask too much
only talk process
Zombie Policy Making
Authenticity
Know where politician stands
Liberal move to EBDM + Transparency
BE HUMAN
POST TRUTH
"Policy Based Evidence Making"
FORD NATION
André Albinati
Edmonds Strategy Group
Public Mandate Letter
RE-RISK
Give SMART People time to connect w/ Policy Makers
Training Modernization
Round Table
Cancer Drugs
Leaders make a difference
Research
Media
Op Ed
Dialogue
Build Science into BACKBONE of organizations


9th Canadian Science Policy Conference
CSPC 2017
Nov. 1 - 3, 2017
Shaw Centre, Ottawa, ON
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