

Scoping Population Health in Impact Assessment (ScopHIA) Realist Review:

Identifying Best Practices for Equity in Scoping of Major Natural Resource Developments and Large-Scale Infrastructure Projects

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National Collaborating Centre for Environmental Health

Environmental Health Seminar

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The background of the slide is a photograph of a modern, multi-story building with a distinctive facade of horizontal rainbow-colored stripes. The building is surrounded by greenery and a clear blue sky. A semi-transparent white oval is overlaid on the image, containing the main text.

The University of Alberta acknowledges that we are located on Treaty 6 territory, and respects the histories, languages, and cultures of First Nations, Métis, Inuit, and all First Peoples of Canada, whose presence continues to enrich our vibrant community.



Background: Major Projects



Background: Population Health Equity

The absence of avoidable differences in health determinants, status, and outcomes between geographic, socio-economic, political, or demographic communities and/or sub-populations.



Background: New Legislation



Victor Diamond Mine

Canadian Environmental Assessment Act, 2012

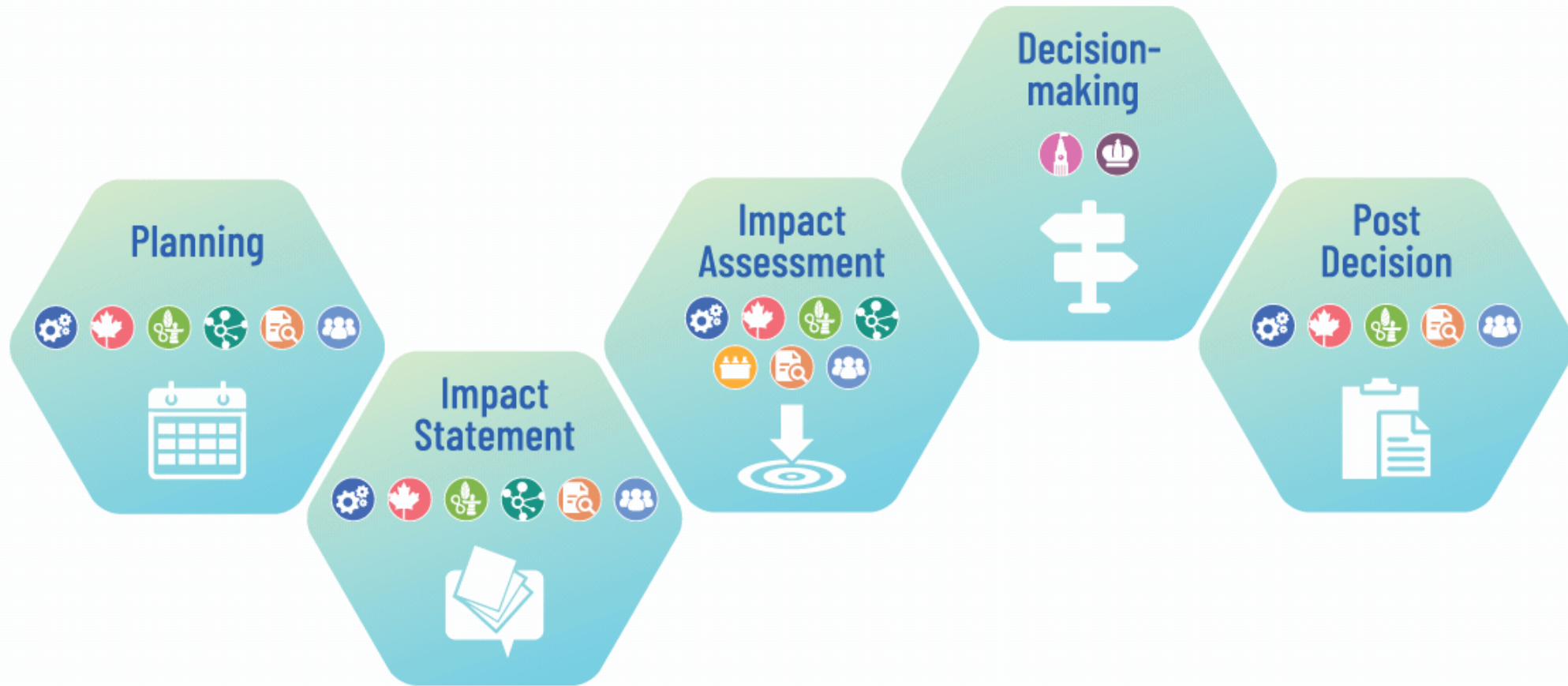
*Canadian Environmental
Assessment Agency*

Impact Assessment Act, 2019

*Impact Assessment
Agency of Canada*



Background: Impact Assessment Act

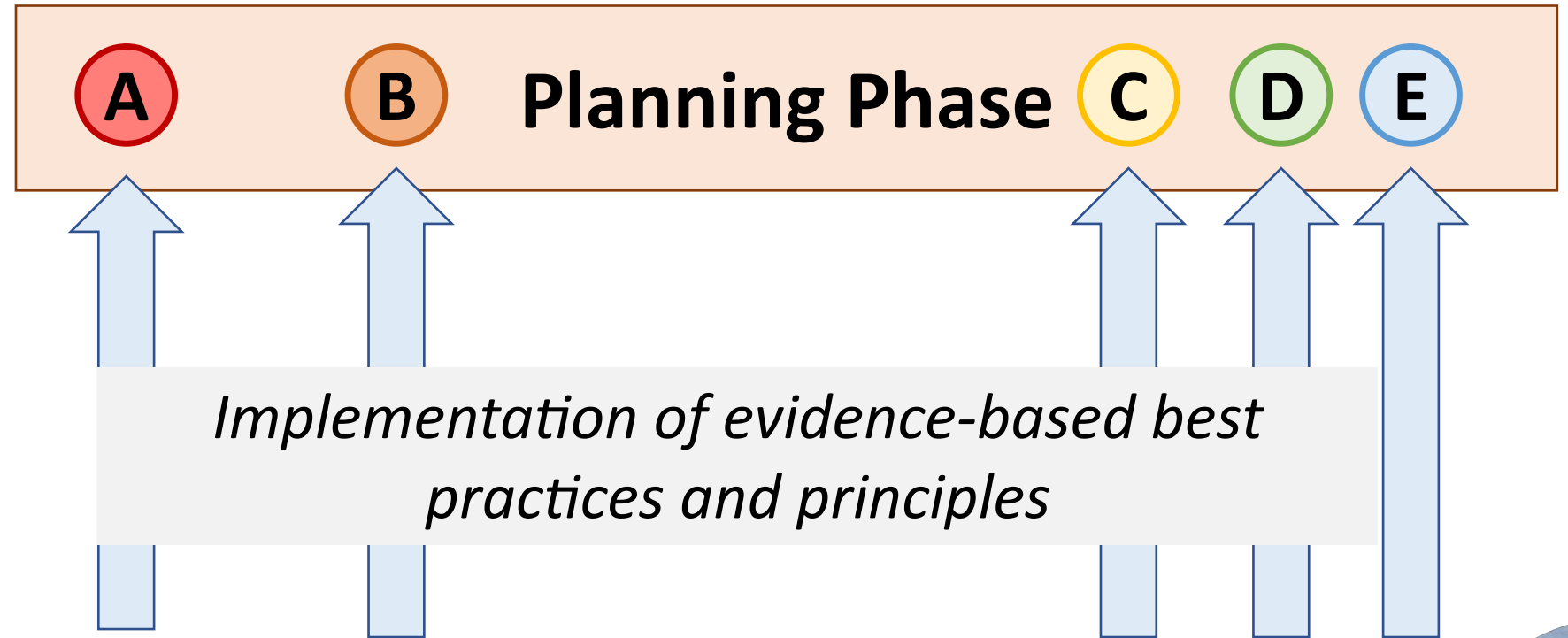


Graphic by Impact Assessment Agency of Canada



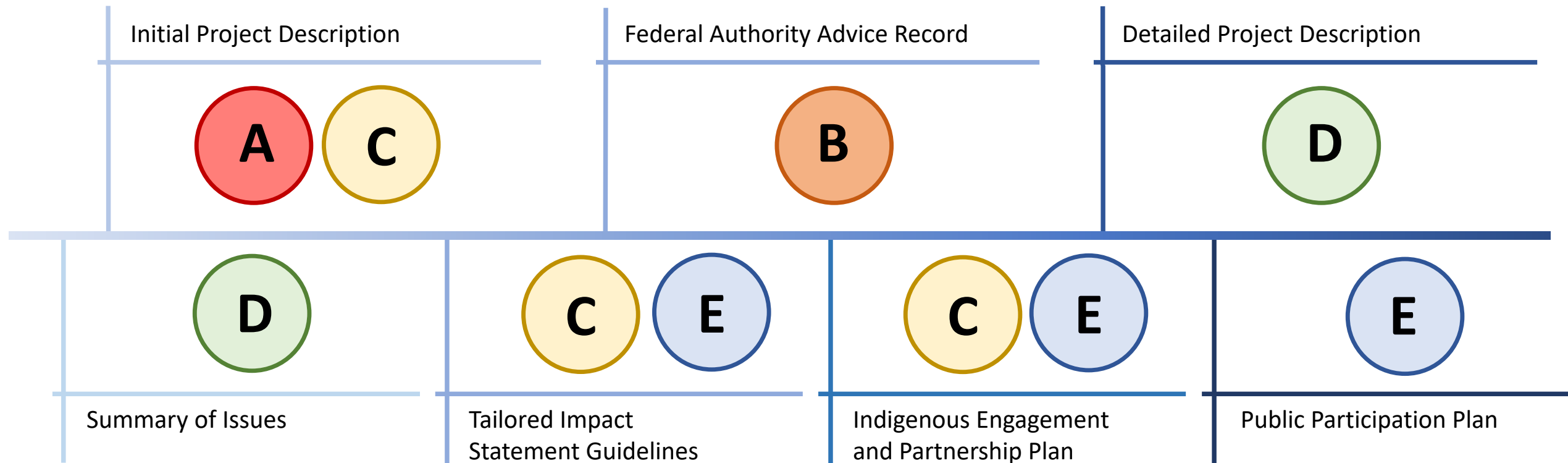
Goals and Objectives

Identify key leverage points = 



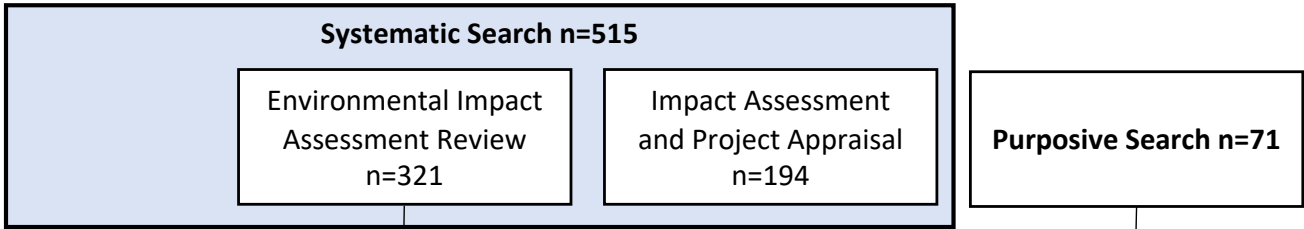
Promote population health equity as a defining priority within federal impact assessments

Goals and Objectives

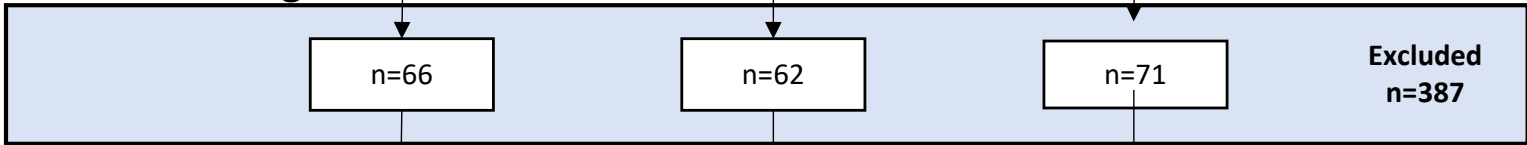


Methods: Document Flow Diagram

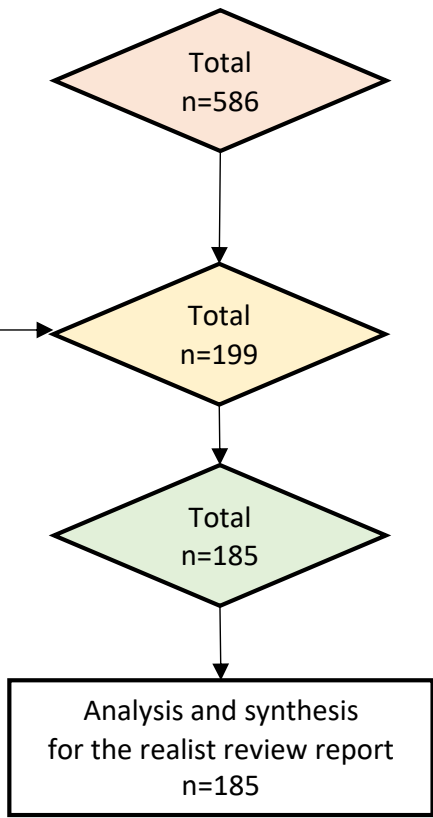
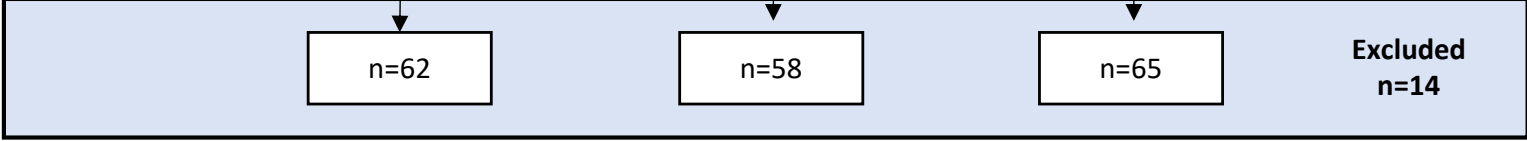
Retrieval

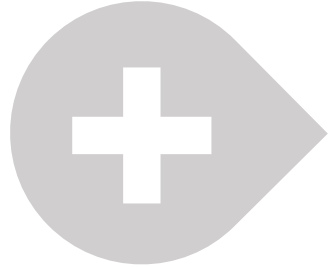


Initial Screening



Full Data Extraction





Health Factors as Valued Components



Multiple Value Systems and Ways of Knowing



Building Capacity for Engagement and Partnership



Methods: Citation System

| | | |
|--|---|--------------------------------------|
| A1 Aalhus 2020 | H9 Harris & Haigh 2015 | O5 Okagunju & Gunn 2015 |
| A2 Aashukan Declaration 2017 | H10 Harris & Spickett 2011 | O6 Orenstein et al. 2010 |
| A3 Allais & Gobert 2019 | H11 Harris & Viliani 2018 | O7 Orenstein et al. 2019 |
| A4 Anderson et al. 2013 | H12 Harris-Roxas & Harris 2013 | P1 Parke et al. 2019 |
| B1 Bacerla-Nicolas et al. 2018 | H13 Harris-Roxas & Harris 2011 | P2 Parke 2015 |
| B2 Baldwin 2015 | H14 Harris-Roxas et al. 2012 | P3 Parsons & Moffat 2014 |
| B3 Baldwin & Rawstorne 2019 | H15 Health Canada 2015 | P4 Partidario & Sheate 2013 |
| B4 Baumgart et al. 2018 | H16 Hebert et al. 2012 | P5 Pavlyuk et al. 2017 |
| B5 Bhatia et al. 2009 | H17 Heiner et al. 2019 | P6 Pennock & Ura 2011 |
| B6 Bhatia & Seto 2011 | H18 Hserc et al. 2018 | P7 Peterson & Kosatsky 2017 |
| B7 Bhatia & Wernham 2008 | I1 IPECA 2016 | P8 Petrova & Marinova 2015 |
| B8 Boerchers et al. 2018 | J1 Johnston et al. 2019 | P9 Pfeiffer et al. 2017 |
| B9 Bond et al. 2013 | J2 Jones et al. 2014 | P10 Pfeiffer et al. 2010 |
| B10 Bond et al. 2014 | J3 Joseph et al. 2015 | P11 Pollack et al. 2015 |
| B11 Bond et al. 2018a | J4 Joseph et al. 2017 | P12 Pope et al. 2013 |
| B12 Bond et al. 2018b | K1 Kågström 2016 | P13 Porter 2014 |
| B13 Bonnell 2020 | K2 Kågström et al. 2013 | P14 Poulet & Godbout 2014 |
| B14 Borgert et al. 2019 | K3 Kågström & Richardson 2015 | P15 Prystay et al. 2014 |
| B15 Borioni et al. 2017 | K4 Kantamaturapoj et al. 2018 | R1 Rehu & Morgan 2012 |
| B16 Bourcier et al. 2015 | K5 Kemp & Vancley 2013 | R2 Reschmy et al. 2018 |
| B17 Brauer 2018 | K6 Khan et al. 2020 | R3 Retief et al. 2014 |
| B18 Brueckner et al. 2014 | K7 Kirchoff & Tsuji 2014 | R4 Retief et al. 2013 |
| B19 Bullock et al. 2019 | K8 Know et al. 2010 | R5 Riley et al. 2019 |
| B20 Buse et al. 2018 | K9 Kwatkowski 2009 | S1 Sánchez & Mitchell 2017 |
| B21 Buse et al. 2019 | K10 Kwatkowski 2011 | S2 Sarkar et al. 2019 |
| B22 Byambaa et al. 2014 | L1 Larkin et al. 2018 | S3 Schirmer et al. 2011 |
| C1 Cameron et al. 2011 | L2 Larsen 2018 | S4 Schuchter et al. 2014 |
| C2 Canter & Ross 2014 | L3 Lelissen et al. 2017 | S5 Schuchter et al. 2015 |
| C3 Cashmore & Richmond 2013 | L4 Leuenberger et al. 2019 | S6 Sinclair & Diduck 2017 |
| C4 Chanchitpricha & Bond 2018 | L5 Leung et al. 2015 | S7 Sinclair et al. 2018 |
| C5 Claudio et al. 2018 | L6 Linzalone et al. 2019 | S8 Sinclair et al. 2012 |
| C6 Clément-Gil et al. 2018 | L7 Loomis & Dziedzic 2018 | S9 Snell & Cowell 2006 |
| C7 Conservation of Arctic Flora & Fauna 2019 | L8 Lovton et al. 2013 | S10 Snyder et al. 2012 |
| C8 Coutinho et al. 2019 | L9 Lyhne & Kærnø 2013 | S11 Spickett et al. 2012 |
| D1 Dare et al. 2014 | M1 Mahboubi et al. 2015 | S12 State of Alaska HIA Program 2015 |
| D2 Day et al. 2019 | M2 McGill 2005 | S13 Storey 2016 |
| D3 den Broeder et al. 2016 | M3 McCallum et al. 2017 | S14 SOWG Arctic Council 2019 |
| D4 den Broeder et al. 2017 | M4 McCallum et al. 2015 | T1 Tamburrini et al. 2011 |
| D5 Doebe & Sinclair 2019 | M5 McGetrick et al. 2017 | T2 Therivel 2019 |
| D6 Dominguez-Gómez 2016 | M6 McGetrick et al. 2015 | T3 Tobias & Richmond 2014 |
| E1 Ehrlich & Ross 2015 | M7 McKay & Johnson 2017 | T4 Tsuji et al. 2011 |
| E2 Equator Principles 2020 | M8 Meuleman 2015 | U1 Udofia et al. 2016 |
| F1 Fehr et al. 2016 | M9 Midgley et al. 2018 | U2 Udofia et al. 2017 |
| F2 FNIGC 2014 | M10 Morgan 2017 | U3 UNDRIP 2017 |
| F3 First Nations Major Project Coalition 2019a | M11 Morgan 2012 | V1 Vancley 2019 |
| F4 First Nations Major Project Coalition 2019b | M12 Morgan 2011 | V2 Vancley et al. 2013 |
| F5 Freeman 2019 | M13 Morgan & Fa'auli 2018 | W1 Walker 2010 |
| G1 Gaber & Overacker 2012 | M14 Morrison-Saunders & Pope 2013 | W2 Wernham 2007 |
| G2 Gamu et al. 2015 | M15 Muir 2018 | W3 Wessels et al. 2015 |
| G3 Gibson 2017 | M16 Mulvihill 2003 | W4 Westman & Joly 2019 |
| G4 Gibson & Klink 2004 | M17 Mulvihill & Baker 2001 | W5 Westwood & Orenstein 2016 |
| G5 Glasson & Coens 2011 | M18 Mulvihill & Jacobs 1998 | W6 White et al. 2009 |
| G6 Government of the NWT 2019 | N1 Nogue 2012 | W7 Winkler et al. 2019 |
| G7 Green et al. 2019 | N2 Nogue et al. 2013 | W8 Winkler et al. 2012 |
| G8 Grieg & Duinker 2011 | N3 Niyekyer & Dannenberg 2019 | W9 Wong & Ho 2015 |
| H1 Hackett et al. 2018 | N4 Noble & Birk 2011 | W10 World Health Organization 1999 |
| H2 Haigh et al. 2012 | N5 Noble & Bronson 2005 | Y1 Yap 2016 |
| H3 Hanna & Noble 2012 | N6 Noble & Bronson 2006 | Y2 Yearworth & White 2018 |
| H4 Hanna & Vancley 2013 | N7 Noble et al. 2019 | Z1 Zhang et al. 2018 |
| H5 Hanna et al. 2014 | D1 Odparik & Köppel 2013 | |
| H6 Hanna et al. 2016 | D2 Office Chief Medical Office of Health 2012 | |
| H7 Hansen et al. 2019 | D3 Office of the Wet'suwet'en | |
| H8 Hansen & Wood 2016 | D4 O'Faircheallaigh 2010 | |

“Many authors have recognized the importance of proponents assembling an appropriately qualified multi- disciplinary team of consultants responsible for assessing population health equity in the impact statement phase of IAs,^{B14,B16,L9} with expertise in public engagement and assessment methodologies^{K3,Z1} and a strong foundation in reflective and ethical practice.^{D2,H2,H9,J1,K1,P14,R4,V2,W1,W10}”

A1 Aalhus 2020
A2 Aashukan Declaration 2017
A3 Allais & Gobert 2019
A4 Anderson et al. 2013

APPENDIX B

- A1. Aalhus M, Oke B, Fumerton R. The social determinants of health impacts of resource extraction and development in rural and northern communities: A summary of impacts and promising practices for assessment and monitoring [Internet]. Prince George (BC): Northern Health and the Provincial Health Services Authority (Canada); 2018 [cited 2020 Feb 26]. 84 p. Available from: https://www.northernhealth.ca/sites/northern_health/files/services/office-health-resource-development/documents/impacts-promising-practices-assessment-monitoring.pdf.
- A2. Aashukan Declaration. 2017 Apr 2 [Internet; cited 2020 Jan 15]. Available at: <https://aashukandotcom.files.wordpress.com/2017/04/the-aashukan-declaration.pdf>.
- A3. Allais R, Gobert J. Conceptual framework for spatio-temporal analysis of territorial projects. *Environ Impact Asses* [Internet]. 2019;77: 93-104.
- A4. Anderson PJ, Yoder S, Fogels E, Krieger G, McLaughlin J. The State of Alaska's early experience with institutionalization of health impact assessment. *Int J Circumpol Heal* [Internet]. 2013;72(1): 22101.



Results: Key Leverage Points

A

Preparing for Impact Assessments

B

Collaborating with Federal Authorities in Public Health

C

Providing Funding to Indigenous Peoples for Participatory Processes

D

Engaging to Identify Broad Issues and Concerns

E

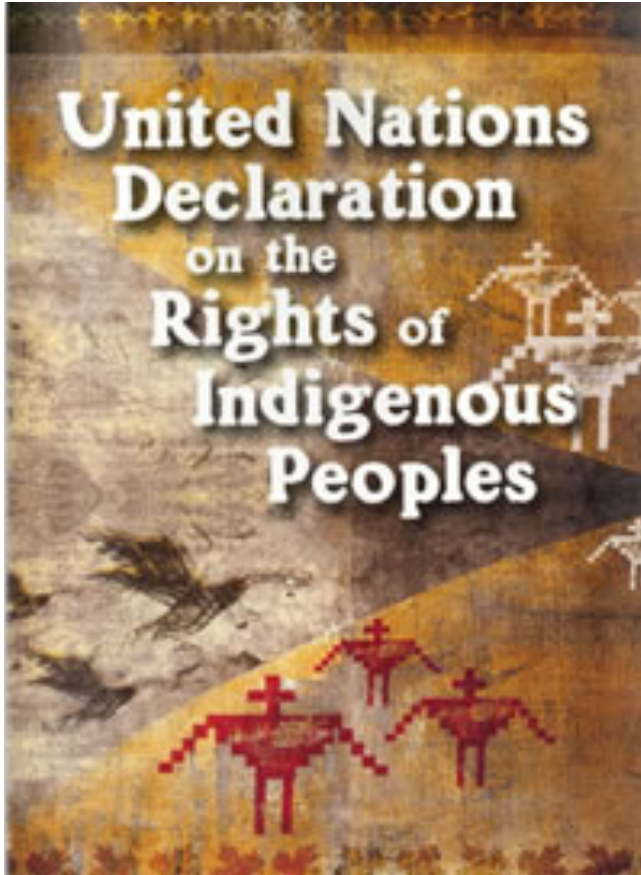
Developing Guidance for Impact Assessment



A

Results: Preparing for Impact Assessments

(i) Pre-Planning Capacity Building Can Help Foster Self-Determination



- United Nations Declaration on the Rights of Indigenous Peoples as a national standard for meaningful consultation
- Ongoing capacity building recognizing, supporting, and promoting leadership in Indigenous political, customary, and boundary organizations

A

Results: Preparing for Impact Assessments

(ii) Transparent Protocols are Necessary for Appropriate Engagement



Victor Diamond Mine

- Recognize and respect customary stewardship models and practices
- Appropriately engage diverse and/or marginalized sub-populations
- Transparently document procedures and assumptions as protocols

A

Results: Preparing for Impact Assessments

(iii) Public Health Authorities Should be Involved from Early on



- Develop comprehensive and shared understanding of population health equity impacts
- Develop regional structures and/or networks linking impact assessment with public health and healthcare systems

B

Results: Collaborating with Federal Authorities in Public Health

(i) Federal Authorities in Public Health Can Provide Key Resources and Guidance



- Fund impact assessment research
- Provide advisory assistance and guidance in the planning phase
- Support field development for public health professionals

B

Results: Collaborating with Federal Authorities in Public Health

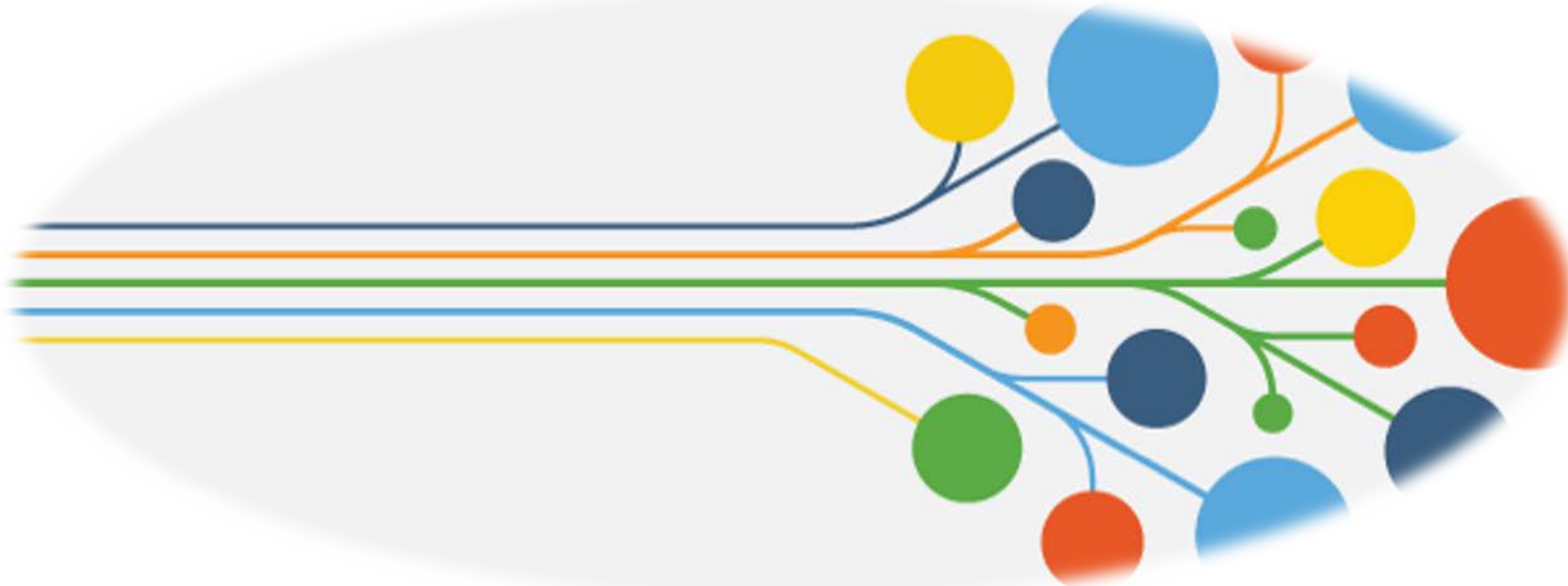
(ii) Both Publicly Available and Community-Driven Data will be Required

- Employ both publicly available and community-driven data sources
- Encourage uptake of public health surveillance information in impact assessment

B

Results: Collaborating with Federal Authorities in Public Health

(iii) Promoting Scientific Standards Could Improve Key Areas of Practice



- Address methodological diversity
- Provide criteria for assessing significance
- Validate means for addressing, reporting, and communicating uncertainty

C

Results: Providing Funding to Indigenous Peoples for Participatory Processes

(i) Funding Should Support Community-Driven Research and Development Processes



- Link participation and documentary review to broader community-driven research and development processes
- Facilitate the use of indicators, models, and thresholds that are meaningful to affected communities

C

Results: Providing Funding to Indigenous Peoples for Participatory Processes

(ii) Communities Should have a Meaningful Level of Influence in Decision-Making



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Société Makivik

Makivik Corporation

- Fully communicate population health implications of projects
- Facilitate Indigenous-led assessments and knowledge translation



C

Results: Providing Funding to Indigenous Peoples for Participatory Processes

(iii) Community Stewardship of Knowledge Products Generated

Example of a Stewardship Policy:

**First Nations Information Governance
Committee:**

*Ownership, Control, Access, and
Possession (OCAP®) Principles*

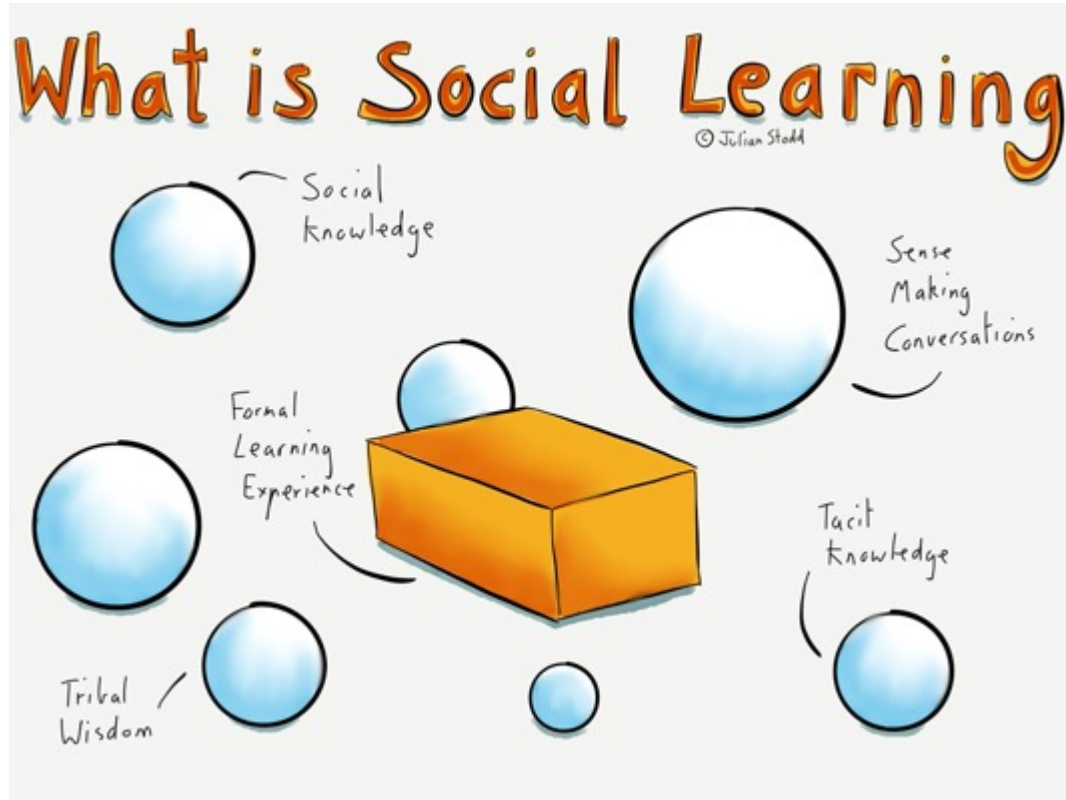
- Indigenous knowledge appropriately understood within impact assessments
- Local control of knowledge products



D

Results: Engaging to Identify Broad Issues and Concerns

(i) Early Engagement Should Foster Social Learning across Participants



- Converse within cultural dynamics
- Clear terms and translation into Indigenous languages
- Improved literacy in the “imagery, methodology, and epistemology” of Indigenous peoples and affected communities

D

Results: Engaging to Identify Broad Issues and Concerns

(ii) Multiple Forums Can Help Prioritize Issues and Concerns



Ivvavik, Nunavut

- Follow existing cultural protocols
- Recognize seasonal activities and scheduling constraints on participation
- Embrace multiple techniques and ways of understanding issues
- Respect risk perceptions and emotional reactions
- Ensure online resources are accessible and searchable

D

Results: Engaging to Identify Broad Issues and Concerns

(iii) Public Health Frameworks Can Support Comprehensiveness



- Use appropriate public health frameworks to help ask “the right questions” and ensure comprehensiveness of baseline profiles, predicted impacts, and mitigations
- Frameworks can be used summarize issues, bolster parallel data streams, and support conversations about public health and healthcare system collaborations within regions



E

Results: Developing Guidance for the Impact Assessment

(i) Promoting Population Health Equity Expertise within a Multi-Disciplinary Project Team



- Reflective and ethical practice
- Expertise in public engagement and assessment methodologies
- Impact assessment education and training across academic curriculum, institutional accreditation, and professional credentialling

E

Results: Developing Guidance for the Impact Assessment

(ii) Co-Development and Co-Management through Plans and Guidance



Tanu, Haida Gwaii, British Columbia

- Co-development and co-management mechanisms
- Data and information management plans

E

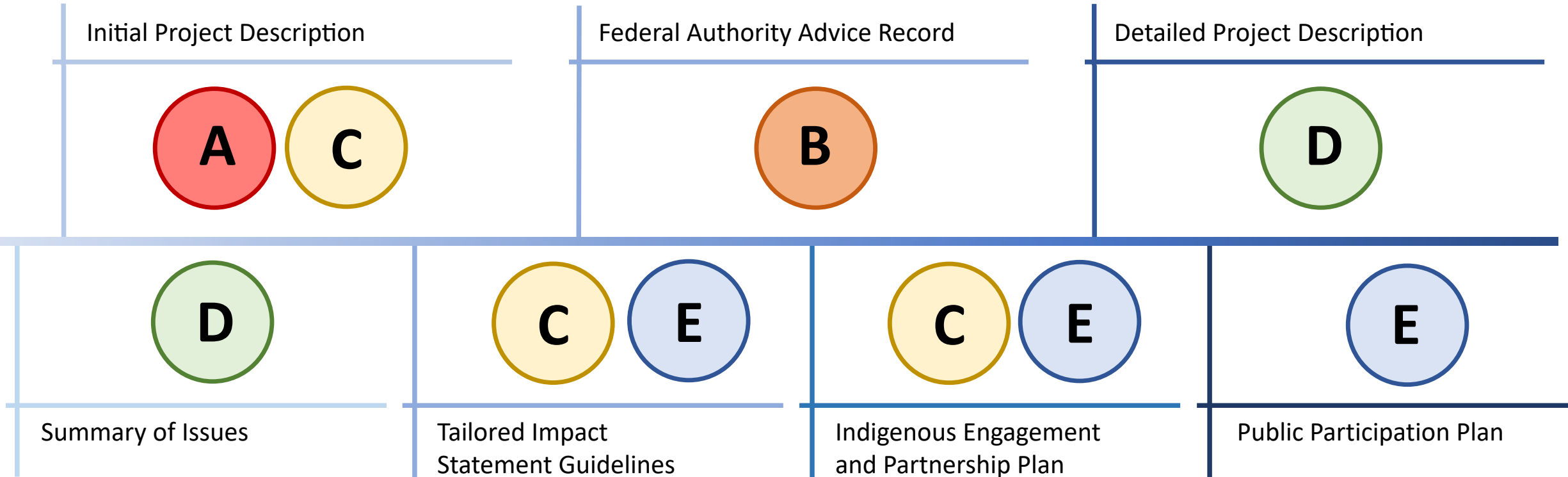
Results: Developing Guidance for the Impact Assessment

(iii) Anticipating Post-Approval Management, Monitoring, and Follow-Up Programs

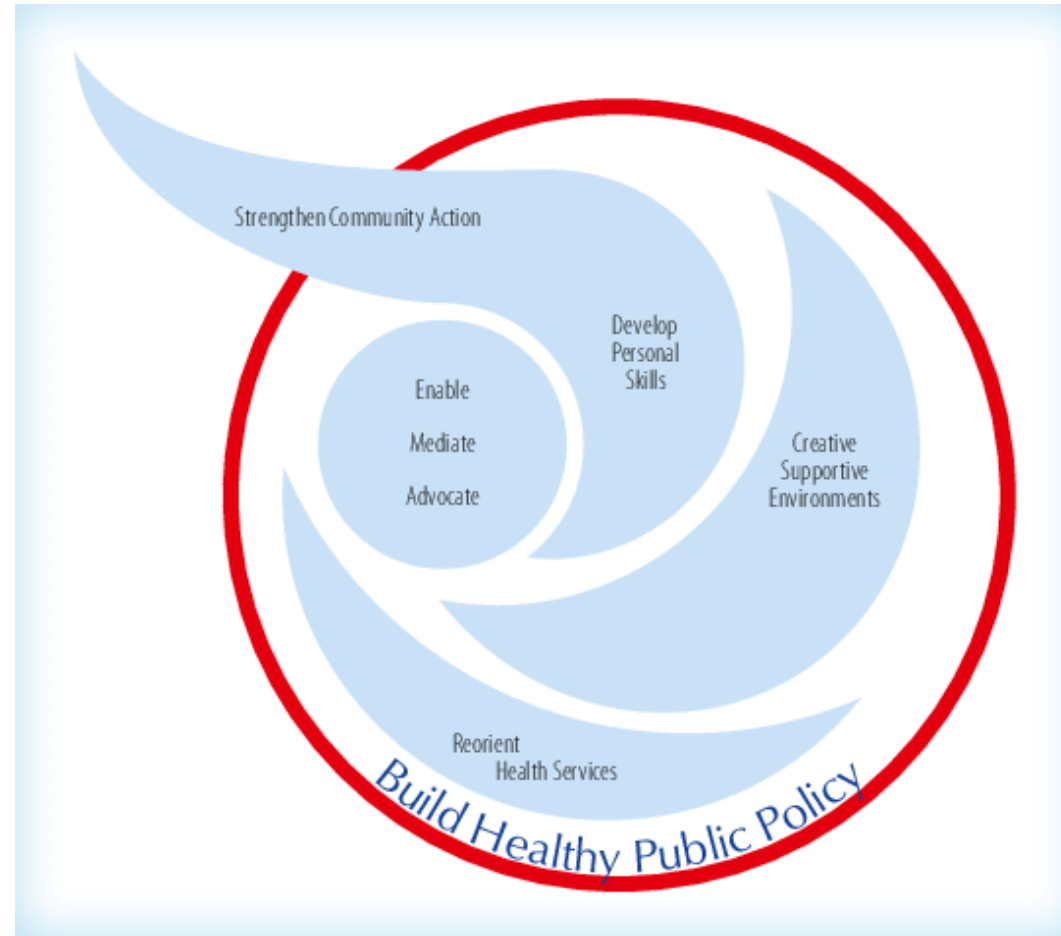


- Anticipate study contributions to post-approval management, monitoring, and follow-up
- Ensure appropriate accountability and grievance mechanisms
- Data repositories and community networks

Results: Mapping Leverage Points to Key Activities and Deliverables



Implications



Graphic by Sheriff et al., 2014



Conclusions

- The planning phase can provide critical pathways to promote population health equity through impact assessments, helping ensure projects make a net contribution to the public interest and sustainability.



Acknowledgements

SSHRC  CRSH

Social Sciences and Humanities Research Council of Canada
Conseil de recherches en sciences humaines du Canada

ACME
Association Canadienne
des Médecins
pour l'Environnement



CAPE
Canadian Association
of Physicians
for the Environment



ALBERTA INNOVATES



CIHR IRSC



Canadian Institutes of Health Research
Instituts de recherche en santé du Canada



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Scoping Population Health in Impact Assessment (ScopHIA) Realist Review:

Identifying Best Practices for Equity in Scoping of Major
Natural Resource and Large-Scale Infrastructure Projects

Thank you!

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| 21 | Image 1: https://i1.wp.com/akejt3lcvz-flywheel.netdna-ssl.com/wp-content/uploads/2019/10/Makivik_126.jpg?resize=460%2C148&ssl=1 |
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