The state of health economics in Alberta
A review of need, capacity, and action

May 2015
INSTITUTE OF HEALTH ECONOMICS

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This report was supported by a financial contribution from Alberta Health through the Health Funding and Economics Capacity (HFEC) Grant, and the Svare Chair in Health Economics, University of Calgary.

The views expressed herein do not necessarily represent the official policy of Alberta Health.
Acknowledgements

The Institute of Health Economics is grateful to

- Alberta Health, who supported this project through the Health Funding and Economics Capacity (HFEC) Grant. For more information on the HFEC Grant, please see http://www.ihe.ca/research-programs/health-economics/health-funding-and-economics-capacity-grant
- The Svare Chair in Health Economics at the University of Calgary who provided financial support for the needs assessment survey

The views expressed in this report are of the Institute of Health Economics.

Corresponding Author

Please direct any inquiries about this report to Jasmine Brown, Senior Policy Associate, Institute of Health Economics, at jbrown@ihe.ca.

Funding

This report was supported by a financial contribution from Alberta Health (AH) through the Health Funding and Economics Capacity (HFEC) Grant.

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Declared Competing Interest of Authors

Competing interest is considered to be financial interest or non-financial interest, either direct or indirect, that would affect the research contained in this report or create a situation in which a person’s judgement could be unduly influenced by a secondary interest, such as personal advancement.

The authors of this publication claim no competing interest.

Suggested Citation (ICMJE or Vancouver Style)


Web Address

This publication is available for free download from the IHE website at http://www.ihe.ca.
Executive Summary

Introduction

The discipline of health economics can provide important information that can form part of the evidence-base for health care decision-making in Alberta. This work, conducted by the Institute for Health Economics (IHE) and the University of Calgary (Health Economics group), was performed to better understand the unmet educational needs and health economics products that could support people in the province, and to determine the current capacity for conducting health economics in Alberta. This paper seeks to understand the needs of health care decision-makers for health economics knowledge, where health economics education may be needed, what products could meet those needs, and what specific topics should be the main focus for teaching about health economics in the province. It also seeks to determine current capacity for conducting health economics in Alberta.

Objectives

a) Assess the current needs of health system decision-makers in Alberta and the extent to which they use health economics in their policy decisions.
b) Assess the capacity in Alberta to conduct applied health economic analysis.
c) Assess the current gaps based on the assessment of a) and b) above.

Key Findings

1. Overview of results from needs assessment

Health system decision-maker key informant interviews

- There is significant heterogeneity across health care decision-makers in Alberta around their knowledge and use of health economics.
- A significant proportion of respondents did not have enough knowledge of health economics to know what it could (or could not) do for them.
- There was general agreement regarding the need to build receptor capacity for health economics evidence.
- While it may appear that there is little consensus across decision-makers on the needs of health economics users, it is clear that health care decision-makers agree that consideration of cost within health care decision-making is important.

Needs assessment survey results

- The vast majority of respondents feel that they use health economics, most commonly to provide evidence for decision-making. (Figures ES1 and ES2).
- Respondents see value to health economics, and there is a strong desire to use health economics information across a variety of areas.
- At present, most respondents lack the ability to use in depth health economics information given lack of timeliness and other issues, as well as because the receptor nodes are not firmly established. (Figure ES3).
FIGURE ES1: PROPORTION OF RESPONDENTS THAT USE HEALTH ECONOMICS IN CURRENT WORK

- Yes: 83.87%
- No: 14.52%
- Don’t know: 1.61%

FIGURE ES2: WAYS IN WHICH RESPONDENTS USE HEALTH ECONOMICS IN CURRENT WORK

- Background for day-to-day work
- Answer specific questions
- Provides evidence for decisions
- Provides evidence to support my engagement with other stakeholders
- Other
2. Overview of results from capacity assessment survey

- Health economic evaluation (68%) was found to be the largest area of expertise among respondents.
- In terms of economic activities, the greatest area of activity was in the area of economic evaluation (68%), followed by economic modeling (66%), health service utilization (63%), and costing (56%).
- The clinical content area with the greatest proportion of respondents was in diabetes and health promotion (37%), followed by primary care and cardiology (27%) and obesity (24%).
- 70.7% of respondents indicated that one of their areas of focus during their studies was economics, whereas only 58.5% listed health economics.

3. Overview of gap analysis

The health economics needs and capacity assessments revealed the following three major “gaps” between the needs of policy makers and the capacity of health economics in Alberta:

- **A systems or organizations process gap**: Although need and capacity for health economics exist in the province, networks are not yet adequately established or developed between those that derive and interpret health economics data and those that generate policy based on derived and interpreted data. The further development of these connection pathways would expedite the transmission and receipt of timely, relevant health economics information to support evidence-based policy decisions.
• **A health economics literary and expertise gap:** According to the needs assessment study, policy-makers see the value of health economics, and there is a strong desire to use health economics information across a variety of areas. One of the leading justifications for the underutilization of health economics data, however, is attributed to a general lack of policy-maker/end-user knowledge and comprehension of health economics. The further development of basic health economics literacy would assist policy-makers to further communicate and support the utilization and uptake of health economics in evidence-informed decisions making.

• **A knowledge translation gap:** There is a disconnect between what policy-makers need and expect, and what health economics analysts study and produce. Greater communication and more appropriate products would lead to greater utilization of health economics data/information in public policy synthesis and uptake/contracting of health economics specialist services.

**Observations/Recommendations**

• Alberta has an opportunity to be a leading jurisdiction in applied economic analyses supporting health system decisions. Health system leaders should identify this as a clear goal and dedicate sustained efforts to make that possible. Attracting, growing, and retaining capacity in health economics is essential for improved health system decision-making.

• There is a need for the further development of networked and linked capacity to support government and health delivery organizations. A more coordinated and sustained approach is needed to build and utilize specialized units that can support networked existing in-house capabilities. Specialized skills and knowledge are needed along with embedded capacity. In order to develop a sustained provincial network, a clear mandate is needed to indicate who will support that development.

• Sustained and formal collaborative arrangements should be put in place to link appropriate capacity to decision-maker needs. The goal should be sustained capacity to allow for greater, more efficient, and effective responsiveness. New models of networked capacity should be explored (for example, secondments or jointly-funded positions).

• Some secretariat support for a provincial network of health economists would be useful to ensure sustained attention towards the development and implementation of a provincial strategy for health economics. Such skills are needed not only for health system management, but also for research and attraction of external investment from health system innovators.

• A clear provincial strategy is needed for capacity building, and central to that will be developing a longer term commitment from Alberta’s universities to support health economics and related disciplines as a priority. Mapping out attractive career paths in Alberta in the field of health economics, both academic and professional, will be increasingly important to support various evidence-based health and innovation agendas in the future.

• The IHE is in a natural position to serve as a catalyst for and convener of provincial discussions, with participation from all partners (universities, government, health care providers including Alberta Health Services, and primary care networks). A health economics network could support more consistent career paths, allow for potential joint
work to be identified, and build a consistent approach to educational and training opportunities for decision-makers that would avoid duplication of efforts and potentially attract partnership funding.

- The next phase of a needs assessment could be the distillation of specific health economics priority topics, based on the results of this work and provincial policy priorities.
- While there is already strong capacity in economic evaluation and in economic modeling in Alberta, health economics expertise and capacity building in funding model development and examination of the impact of incentives is needed.
- A health economics literacy campaign is important to ensure health economics information can be utilized to its full potential by health policy leaders in evidence-informed decision-making. This could include tailored approaches for policy-makers (political, public service, health system managers), as well as provider organizations including labor unions and professional colleges.
- Developing receptor capacity for economic analysis is of particular importance among physician groups and Primary Care Networks, as there is a gap for health economics analysis, applied research, and the use of economic evaluation in management within the primary care settings.
- Approaches for communicating health economics needs and expectations between policy-makers and health economics providers are needed. Tools to support development of clear questions and requests for analyses should be developed and relationships built to broker those request.
- Existing health economics resources and databases need to be organized in a more coordinated and accessible way to be useful to health care decision-makers.
- Consideration should be given to the development of a health economics specific repository of systematic reviews and syntheses of evidence. This should include knowledge translation resources that could be assembled to assist health economics specialists in linking and formatting research documents to policy-makers/end-users.
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INTRODUCTION

Health economics is a branch of academia that studies a broad range of issues including values, incentive mechanisms, efficiency, effectiveness, value for money, budget impact, economic burden of disease, and health system sustainability. It therefore provides critical information that directly informs health care decision-making and policy. The need for health economic information is increasing, given both the cumulative demand for access to health care by patients and the public, and the financial challenges of providing high quality and equitable care in an already constrained health care system.

Different health economic tools are available to address specific types of policy questions, and it is important that the existing capacity to conduct health economic analyses is aligned with the needs of decision-makers. It is also important to recognize that the types of policy questions and needs may differ across multiple organizations and sectors such as government, Alberta Health Services, academic research organizations, and the private sector.

Accordingly, the objectives of this report, conducted jointly by the Institute for Health Economics (IHE) and the University of Calgary (Health Economics group), were as follows:

a) **Assess the current needs of health system decision-makers in Alberta and the extent to which they use health economics in their policy decisions.**

   This was performed to understand the current use of health economics within Alberta, the unmet educational needs of decision-makers, and the health economics products that could better inform health care policy.

b) **Assess the capacity in Alberta to conduct applied health economic analysis.**

   This was conducted to assess the capacity in Alberta and the level of expertise in the range of applied health economic techniques, given that different health economic techniques address different policy questions.

c) **Assess the current gaps based on the assessment of a) and b) above.**

   This was conducted to help inform a strategy to improve access to health economic capacity and promote the use of appropriate health economic information in decision-making.

METHODS

Needs Assessment

The needs assessment was conducted in two phases. The first phase involved a set of key informant interviews with 12 senior decision-makers across 6 key stakeholder groups in the province including Alberta Health (AH), Alberta Health Services (AHS), Auditor General, Innovation and Advanced Education (Ministry), Primary Care Networks, the Strategic Clinical Networks, and the Alberta Medical Association (AMA).

Interviews were conducted over the telephone, were 30 to 60 minutes in duration, and took place over a two-month period. They were conducted independently by two interviewers using a pre-developed interview guide. Interviewees were encouraged to provide as many examples as possible regarding their use of health economics, and, if necessary, the interviewers asked follow-up questions to clarify. All interviews were recorded and then subsequently transcribed.
In the second phase, the results of the key informant interviews were used to develop and conduct a comprehensive online survey of those involved in the use of health economics in supporting decision-making, in order to help identify where health economics education is most needed and what specific topics should be the main focus for health economics in the province. Although respondents did not need to identify which specific organization they worked for (to ensure anonymity), they did indicate their general sector of employment, and their role within that organization. The majority of participants came from either government or health care management. There were 62 respondents who completed the survey.

**Capacity Assessment**

An online survey was sent to a list of pre-identified health economists in the province, inquiring about their academic training, areas of expertise, and current research. Potential health economists were identified through searches of government and university websites and a scan of known health economic research projects. Decision-makers within Alberta Health and Alberta Health Services were also asked to identify health economists and to forward the survey to appropriate departments and individuals. The survey was conducted between February 4th to March 3rd, 2015, with three reminder emails sent February 20th, 25th, and March 3rd.

**Gap Analysis and Recommendations**

Findings from the needs assessment were contrasted with those from the capacity assessment using a descriptive (that is, non-empirical) approach. Key gaps were identified based on the assessment, and were organized into common themes.

**KEY FINDINGS**

**Needs Assessment**

**Key Informant Interviews**

There is significant heterogeneity across health care decision-makers in Alberta around their knowledge and use of health economics.

Levels of experience between respondents in their overall exposure and general use of health economics varied and ranged from some form of prior training, exposure, or guidance in economics, to no understanding on how to use health economics.

Respondents had difficulty prioritizing specific health economic issues and instead identified general issues.

Since there was a significant portion of respondents who did not have a strong working knowledge of health economics, it was difficult for people to identify and prioritize the specific areas that they either: a) would like more information on; or b) could use health economics to address. As such, general issues in health economics, such as health economics literacy, health innovation strategies, health care professional reimbursement, and the evolution of clinical networks were often identified as priorities by participants.

“In some ways there is a stigma attached to ignorance of a subject and a need to find ways to increase the familiarity with the discipline so that people feel they can engage in the subject more appropriately.”
Many respondents did not have enough knowledge of health economics to know what it could (or could not) do for them.

While there seems to be universal agreement that health economics is an increasingly important part of delivering health care in the province, there is no single level of understanding of what health economics can and can not do to support decision-making. This issue of health economics literacy for decision-makers, or current lack thereof, seems key to address.

"Don't need another decision maker, but need a structured approach to informing decision makers."

There was general agreement regarding the need to build capacity for health economics evidence.

Respondents identified that, even if they were able to locate, analyze, and incorporate health economics evidence, they would not necessarily have the ability to translate the value of that evidence to other decision-makers due to the reduced capacity among the people who are most in need of understanding good health economics evidence. This health economics literacy issue is seen as a major barrier to moving forward with health economics for decision-making in the province.

Health economics information needs to be provided in a timely fashion in order to best support decision-making.

Respondents reported that timeliness of evidence to support decision-making was an issue, including: 1) that it was not possible to perform novel health economics research in time for their decision-making needs; and 2) the format of current health economics evidence is not timely, since traditional academic papers often take too long to be useful in the decision-making process.

The Institute of Health Economics and in-house health economists are the most likely sources of additional health economics information.

Currently, there is a broad range of potential resources and contacts for people to draw from when they feel they need further information or support on health economics. While some groups such as the IHE and in-house health economists groups in government were mentioned repeatedly as trusted sources of information, not all decision-makers knew to look to these groups. For example, some respondents identified that, if they needed health economics evidence, they would look for it themselves in the literature or online; another respondent suggested that they would first go to a representative group such as the Alberta Medical Association for support on health economics.

There is a need for a diverse set of knowledge translation approaches for health economics evidence to decision-makers in Alberta.

Significant variation in preferences or needs around learning more on health economics was seen among the decision-makers, though most identified that shorter, more general summaries of health economics information and evidence would be useful.

Needs Assessment Survey Results

Respondents

Over 95% of the respondents indicated that they worked in the area of government or health care management, with a minority noting that they were health professionals or academics. Though nearly half of the respondents were senior executives or executives/senior management (see
Appendix A, Figure A.1), there were no differences in responses across types of employment positions, and as such, the results presented herein are for all respondents.

**Overview of main results**

- Respondents considered a wide variety of activities as part of health economics (see Appendix A, Figure A.2).
- The vast majority of respondents (84%) use health economics in their current work, most commonly to provide evidence for decision-making.
- Respondents see value to health economics, and there is a strong desire to increase the use of health economics information across a variety of areas.
- At present, respondents identified the lack of ability to use health economics information given lack of timeliness and relevance, as well as because the receptor nodes are not firmly established.

**Other results**

The majority of respondents use health economics, most commonly to provide evidence for decision-making. Respondents also use health economics to seek answers for specific questions or to provide background information for day-to-day work. Other reasons provided included using health economics as part of a research program, and providing evidence for policy or strategies. For the nine individuals who noted that they do not use health economics, the main issues noted were an inability to access relevant information, a lack of understanding of health economics, and an inability to interpret and use the information.

The vast majority of individuals agreed that there were areas of their work that could benefit from more health economics input. In particular, they identified efficiency, health care financing, and equity as the top three areas they would like more information on (see Appendix A, Figure A.3).

Respondents were asked which health economics tools could be of use to them in their work and identified the following two most frequently: cost-effectiveness (or cost-utility analysis) and cost-benefit analysis (see Appendix A, Figure A.4).

With respect to barriers to the use of health economics, several important barriers were noted including the lengthy timeline to get appropriate health information, and the lack of relevant information and access to health economics information. Other barriers to the use of health economics information included the inability of end-users to understand the information (see Appendix A, Figure A.5). With respect to facilitators, respondents noted that interest from colleagues in health economics was a major enabler of health economics data, as was the ability to use/access health economics information in a timely fashion (see Appendix A, Figure A.6).

With respect to the specific areas where further information within health economics was requested, the most popular topics included how to access existing evidence, how to package health economics evidence to best inform policy-makers, and how to build capacity in health economics evidence within their organization (see Appendix A, Figure A.7). Respondents were specifically interested in health economics information in the following areas: efficiency, health care financing, and the optimal way to pay physicians.
When seeking health economics evidence, respondents noted that they would most commonly turn to health economists in their own organization, academics in Alberta, the IHE, or peer-reviewed evidence (see Appendix A, Figure A.9). Given the demands on time, it was not surprising that respondents requested more information on health economics topics to be provided as short summaries, or one-on-one consultations (see Appendix A, Figure A.8).

**Capacity Assessment**

The survey was distributed to 46 health economists. It is unknown how many potential respondents were forwarded the survey from contacts within AH and AHS. A total of 43 respondents completed the survey: 10 from AHS and the University of Calgary (U of C), 7 respondents from the University of Alberta (U of A) and the IHE, 6 respondents from other organizations (such as the AMA, and consultants), and 3 respondents from AH.

The majority of economists are prepared at the graduate level, but are not all trained specifically in health economics.

63% of the health economists surveyed are prepared at the Masters level, with 56% being prepared at the doctorate level. 15% of the health economists surveyed were also physicians. The majority of respondents were trained specifically in health economics (56%). Other areas of training included health service research (24%), public health (22%), and clinical epidemiology (20%), and 10% were trained in patient reported outcome measures, health administration, and biostatistics.

There is diversity in health economic expertise and activities.¹

The largest area of expertise was in health economic evaluation (68%), concentrated at the IHE (17%), U of A/AHS (15%), and U of C (12%). This was followed by other organizations (10%) and AH (7%).

59% of respondents reported having expertise in administrative database analysis, forecasting, health systems research, health technology assessment, simulation modeling (for example, Markov or mathematical), meta-analysis, patient reported outcomes, physician reimbursement, and policy analysis. This expertise was concentrated at the IHE (17%) and U of C (17%), followed by AHS (12%), U of A (7%), other organizations (7%), and AH (5%).

49% of respondents reported having expertise in budget impact analysis, stated preference valuation, and value of perfect information analysis. Expertise in budget impact analysis was concentrated at the IHE (17%), followed by AHS/other organizations (12%), U of C (10%), U of A (7%), and AH (0%). Stated preference valuation and value of perfect information were concentrated at AHS/other organizations (12%), followed by U of C (10%), IHE (7%), and U of A (7%).

In terms of economic activities, the greatest area of activity was in the area of economic evaluation (68%), followed by economic modeling (66%), health service utilization (63%), costing (56%), systematic review (36%), funding (34%), forecasting (34%), patient reported outcomes (32%), behavioral economics (27%), and stated preference studies (20%).

¹ Types of health economic studies were not defined. Hence, it is uncertain whether economic evaluation for example met the criteria of being a true economic evaluation.
Expertise is applied to a wide range of clinical areas

The clinical content area with the greatest proportion of respondents was in diabetes and health promotion (37%). This was followed by:

- primary care & cardiology (27%);
- obesity (24%);
- oncology (22%);
- pediatrics & nutrition (19.5%);
- surgery, rheumatology, mental health, maternal-fetal health, gastroenterology & emergency medicine (17%);
- musculoskeletal & internal medicine (15%);
- psychiatry, orthopedics, infectious disease, gerontology & endocrinology (12%);
- respiratory medicine, rehabilitation, ophthalmology, nephrology, gynecology/obstetrics & anesthesiology (10%);
- reproductive medicine, renal, radiology, pathology, otorhinolaryngology, neurology, hepatology and hematology (7%); and
- urology, plastic surgery, dermatology, dementia, genetics, clinical chemistry & immunology (5%).

Gap Analysis and Recommendations

The needs and capacity assessments revealed that a system or organizational process gap exists between producers of health economic information and decision-makers.

**A systems or organizations process gap**

Timeliness of health economic information was identified as a barrier to policy makers, as often the information was provided after the decision time frame. Respondents also indicated that when seeking health economic information they primarily relied on their in-house capacity. This is an interesting finding as the health economic competency to conduct the types of applied analyses needed to address their particular questions of interest (e.g. value for money, efficiency, budget impact) is available at the IHE and the universities. Hence policy makers are not utilizing the existing health economic capacity to the maximum benefit of the system, suggesting a gap in systems or organizational processes between proponents of evidence informed policy synthesis.

Gaps in systems or organizational processes can be bridged in several ways. Further development of networked capacity, rooted in government and health delivery organizations and linked with the greater utilization of specialized units to support existing in-house capabilities, could establish a networked but also embedded capacity in health economics. In addition to this, sustained and formal collaborative arrangements should be put in place to link appropriate expertise to decision-maker needs, and to allow for greater, more efficient responsiveness. New models of networked capacity should be explored (for example, secondments or jointly-funded positions).

Some secretariat support for a provincial network of health economics would be useful to ensure sustained attention to development and implementation of a provincial strategy for health economics. Such skills are needed not only for health system management, but also for research and
attraction of external investment from health system innovators. This secretariat could be co-chaired by AHS. Work is underway in this regard at the direction of the IHE board.

To develop a sustained provincial network requires a clear mandate for actors to support that development. A clear provincial strategy is needed for capacity building, and central to that will be developing a longer term commitment from Albertan universities to support health economics and related disciplines as a priority. This includes mapping out attractive career paths in Alberta in the field of health economics to support various evidence-based health and innovation agendas in the future. This also includes identifying and focusing on provincial priorities. The IHE is in a natural position to serve as a catalyst for and convener of provincial discussions, with participation from all partners (universities, government, health delivery).

The needs assessment survey revealed that efficiency, health care financing, and equity were the top three areas respondents identified as areas that they would like more information on. This suggests that health economics expertise and capacity building in funding model development and examination of the impact of incentives should be considered as leading areas of focus. In addition to this, the next phase of a needs assessment could be the identification of health economics priority topics based on provincial policy priorities.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Group(s) involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>Development of networked capacity is needed, both in-house and linked with the specialized units.</td>
<td>AH, AHS, Alberta Innovates – Health Solutions (AIHS), IHE</td>
</tr>
<tr>
<td>Secretariat support should be created for a provincial network of health economics.</td>
<td>AHS, IHE</td>
</tr>
<tr>
<td>A clear provincial strategy for capacity building should be developed.</td>
<td>IHE, U of A, U of C</td>
</tr>
</tbody>
</table>

**Health economics literacy and expertise gap**

According to the needs assessment results, 84% of respondents articulated that they use health economics in their current work, and 82% of those respondents said that they specifically used health economics to provide evidence to their decisions. However, the key informant interviews identified a lack of knowledge among policy-makers as to what health economics could (or could not) do to support decision-making. Furthermore, of the 14% of respondents in the survey who identified that they do not use health economics data, a “lack of understanding of health economics by those using their work” was listed as one of the top barriers to health economics use. The top three facilitators listed for greater health economics use were identified as: the ability to make health economics evidence relevant to respondents work; greater interest from colleagues in health economics evidence; and the ability to use health economics evidence in decision-making.

The capacity assessment results suggest that there is capacity for health economics support in the province at the IHE and the universities; however, capacity building in health economics expertise should be further developed in both academic and professional channels to foster greater utilization. Health economics literacy for health policy decision-makers and health economics expertise training is imperative to ensure health economics information can be utilized to its full potential by public policy leaders in evidence-informed decision-making. A health economics literacy campaign would
help educate health policy-makers. Expertise training could be implemented at both academic and professional levels, including within physician groups and Primary Care Networks. This could include tailored approaches for policy-makers (political, public service, health system managers), as well as provider organizations including labor unions and professional colleges.

<table>
<thead>
<tr>
<th>Recommendation</th>
<th>Group(s) involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>A health economics literacy campaign for health policy decision-makers.</td>
<td>All</td>
</tr>
<tr>
<td>Development of health economics expertise among physician groups and Primary Care Networks.</td>
<td>AMA, AHS, IHE, U of A, U of C</td>
</tr>
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**Knowledge translation gap**

Lack of access to health economics, lack of relevant health economics evidence, and tardiness in dissemination were identified as top barriers to health economics work. In the key informant interviews, respondents indicated generally that there was need to build receptor capability for health economics evidence; similarly, respondents of the needs assessment survey indicated that there is a strong desire to use health economics information across a variety of areas, but that the lack of receptor capability hinders their ability to use health economics information to its full potential.

The needs assessment results identified that health economics documents are often presented in a format that is too large for the prompt consumption required by policy-makers who are working under time constraints. The study also revealed that short-summaries and one-on-one consultations were preferred by policy experts. Although one-on-one meetings are not always feasible, short-summaries typically are and can be applied to any health economics research or report. A more obvious response to ensure that short-summaries are used with greater frequency in the appropriate settings and written in a user-friendly format would be to ensure the lines of communication between policy-maker and health economics provider are open and expectations made clear. Health economics academics and analysts must understand health system decision-maker needs and product expectations, while decision-makers need to understand analyst/research capacity and capability. According to Levis 2009, after conducting a review of a series of systematic reviews on increasing the utilization of systematic reviews in policy-making, the issue of communication (or lack thereof) emerged with frequency, in that “interactions between researchers and policymakers increased the prospects for using research evidence, particularly when the interactions were based on informal relationships.” Greater communication and more appropriate products would lead to greater utilization of health economics data in public policy synthesis and in the contracting of health economics specialists. Tools to support development of clear questions and requests for analyses should be developed and relationships built to broker those requests.

78% of respondents articulated that they were interested in learning more about how to access existing health economics evidence (top response). Existing health economics resources and

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2 Levis JN. How can we support the use of systematic reviews in policy making? *PLOS Medicine* 2009; 6(11):e1000141.

3 Levis JN. How can we support the use of systematic reviews in policy making? *PLOS Medicine* 2009; 6(11):e1000141 (pg.5).
databases need to be organized in a more coordinated and accessible way to be useful to health care decision-makers. Policy-makers must also be made aware of what databases already exist. A health economics sharing service should be developed that disseminates executive summaries of health economics priority topics (such as efficiency, health care financing, and physician pay) to policy-makers. A service of this nature would link health economics users and providers in an efficient, effortless, time-effective manner. This would also assist in developing the appropriate receptor nodes to ensure success in the dissemination of health economics in supporting evidence-informed decision-making.

Consideration should also be given to the development of a health economics specific repository of systematic reviews and syntheses of evidence. This should include knowledge translation resources and should be assembled to assist health economics specialists in linking and formatting research documents to policy-makers/end-users, with a description of a diverse set of knowledge translation approaches and policy-maker preferences.

### Recommendation | Group(s) involved
--- | ---
Better develop the lines of communication between policy maker and health economics provider. | All
Create a health economics sharing service, which disseminates executive summaries of health economics priority topics. | IHE, U of A, U of C, Evidence-Informed Health Care Renewal (EIHR) Portal, Canadian Institute for Health Information (CIHI)
Consideration should be given to the development of a health economics specific repository of systematic reviews and syntheses of evidence. | IHE, AIHS, EIHR Portal, CIHI, U of A, U of C

### CONCLUSION

Alberta has an opportunity to be a leading jurisdiction in applied economic analyses supporting health system decisions. Health system leaders should identify this as a clear goal and dedicate sustained efforts to make that possible. Attracting, growing and retaining capacity in health economics is essential for improved health system decision-making.
Appendix A: Survey Results

What level best describes your employment position?
Figure A.1: Employment position of respondents, n=59 .................................................. 11

Which of the following do you consider as part of ‘health economics’?
Figure A.2: Activities considered by respondents as part of health economics, n = 62
(multiple responses allowed)............................................................................................. 11

Would information about the following areas within health economics be of use to you in
your work?
Figure A.3: Areas within health economics that respondents would like more information
on, n=62 .................................................................................................................................. 12

Which of the following tools in health economics research do you think could be of use to
you in your work?
Figure A.4: Tools in health economics research that respondents think could be of use, n=62
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Which of the following do you feel are major barriers to your use of health economics in
your current work?
Figure A.5: Factors considered by respondents to be major barriers to the use of health
economics, n=61 .................................................................................................................. 13

Which of the following do you feel are major facilitators to your use of health economics in
your current work?
Figure A.6: Factors considered by respondents to be major facilitators to the use of health
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What do you want to learn about in the area of health economics?
Figure A.7: Areas within health economics that respondents would like to learn about, n=59
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Please rank how useful each of the following formats would be in supporting your use of
health economics.
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If you wanted support on health economics for your current work, where would you go?
Figure A.9: Sources of support on health economics for respondents’ current work, n=59. 15
What level best describes your employment position?
Figure A.1: Employment position of respondents, n=59

Which of the following do you consider as part of ‘health economics’?
Figure A.2: Activities considered by respondents as part of health economics, n = 62 (multiple responses allowed)
Would information about the following areas within health economics be of use to you in your work?

Figure A.3: Areas within health economics that respondents would like more information on, n=62

<table>
<thead>
<tr>
<th>Area</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health and health care systems</td>
<td>80</td>
</tr>
<tr>
<td>Efficiency</td>
<td>80</td>
</tr>
<tr>
<td>Equity</td>
<td>70</td>
</tr>
<tr>
<td>Demand for health care / insurance</td>
<td>70</td>
</tr>
<tr>
<td>Health care financing</td>
<td>70</td>
</tr>
<tr>
<td>Hospitals and long term care</td>
<td>60</td>
</tr>
<tr>
<td>Prevention and public health</td>
<td>60</td>
</tr>
<tr>
<td>Methods of paying physicians/health care workers</td>
<td>60</td>
</tr>
<tr>
<td>Design of pharmaceutical plans</td>
<td>60</td>
</tr>
<tr>
<td>Other</td>
<td>20</td>
</tr>
</tbody>
</table>

Which of the following tools in health economics research do you think could be of use to you in your work?

Figure A.4: Tools in health economics research that respondents think could be of use, n=62

<table>
<thead>
<tr>
<th>Tool</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Detailed costing</td>
<td>80</td>
</tr>
<tr>
<td>Cost-effectiveness or cost-utility analysis</td>
<td>80</td>
</tr>
<tr>
<td>Cost-benefit analysis</td>
<td>80</td>
</tr>
<tr>
<td>Health technology assessment</td>
<td>70</td>
</tr>
<tr>
<td>Decision analysis</td>
<td>60</td>
</tr>
<tr>
<td>Econometric analysis</td>
<td>60</td>
</tr>
<tr>
<td>Comparative effectiveness analysis</td>
<td>60</td>
</tr>
<tr>
<td>Health services utilization</td>
<td>60</td>
</tr>
<tr>
<td>Market analysis</td>
<td>50</td>
</tr>
<tr>
<td>Risk analysis</td>
<td>50</td>
</tr>
<tr>
<td>Preference elicitation studies</td>
<td>20</td>
</tr>
<tr>
<td>Other</td>
<td>10</td>
</tr>
</tbody>
</table>
Which of the following do you feel are major barriers to your use of health economics in your current work?
Figure A.5: Factors considered by respondents to be major barriers to the use of health economics, n=61

<table>
<thead>
<tr>
<th>Factor</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lack of interest from colleagues in health economics evidence</td>
<td></td>
</tr>
<tr>
<td>Inability to use health economics evidence in decision making</td>
<td></td>
</tr>
<tr>
<td>Inability to make health economics evidence relevant to my work</td>
<td></td>
</tr>
<tr>
<td>Lack of access to health economics expertise</td>
<td></td>
</tr>
<tr>
<td>Lack of relevant health economics evidence being readily available</td>
<td></td>
</tr>
<tr>
<td>Timeline to get appropriate health economics evidence</td>
<td></td>
</tr>
<tr>
<td>Rigour of health economics evidence</td>
<td></td>
</tr>
<tr>
<td>Inability of end-users to understand health economics</td>
<td></td>
</tr>
</tbody>
</table>

Which of the following do you feel are major facilitators to your use of health economics in your current work?
Figure A.6: Factors considered by respondents to be major facilitators to the use of health economics, n=59

<table>
<thead>
<tr>
<th>Factor</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ability of end-users to understand health economics</td>
<td></td>
</tr>
<tr>
<td>Rigour of health economics evidence</td>
<td></td>
</tr>
<tr>
<td>Timeline to get appropriate health economics evidence</td>
<td></td>
</tr>
<tr>
<td>Relevant health economics evidence being readily available</td>
<td></td>
</tr>
<tr>
<td>Access to health economics expertise</td>
<td></td>
</tr>
<tr>
<td>Ability to make health economics evidence relevant to my work</td>
<td></td>
</tr>
<tr>
<td>Ability to use health economics evidence in decision making</td>
<td></td>
</tr>
<tr>
<td>Interest from colleagues in health economics evidence</td>
<td></td>
</tr>
</tbody>
</table>
What do you want to learn about in the area of health economics?

Figure A.7: Areas within health economics that respondents would like to learn about, n=59

<table>
<thead>
<tr>
<th>Topic</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>How to build capacity to use HE evidence in my org</td>
<td>70</td>
</tr>
<tr>
<td>How to build capacity to do HE in my org</td>
<td>40</td>
</tr>
<tr>
<td>How to link HE evidence to other forms of health care evidence</td>
<td>60</td>
</tr>
<tr>
<td>How to package evidence to engage/inform my stakeholders</td>
<td>70</td>
</tr>
<tr>
<td>How to access existing evidence</td>
<td>80</td>
</tr>
<tr>
<td>How to apply specific techniques</td>
<td>50</td>
</tr>
<tr>
<td>What HE could do for me</td>
<td>40</td>
</tr>
</tbody>
</table>

Please rank how useful each of the following formats would be in supporting your use of health economics.

Figure A.8: Useful formats for supporting use of health economics, according to respondents, n=59

<table>
<thead>
<tr>
<th>Format</th>
<th>Proportion of respondents (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health Economics infographics</td>
<td>60</td>
</tr>
<tr>
<td>One-on-one consultation</td>
<td>80</td>
</tr>
<tr>
<td>Online videos of presentations of HE evidence</td>
<td>50</td>
</tr>
<tr>
<td>Webinars</td>
<td>70</td>
</tr>
<tr>
<td>In person workshops</td>
<td>40</td>
</tr>
<tr>
<td>Regular in person seminars or videoconferences</td>
<td>30</td>
</tr>
<tr>
<td>Email blast with short descriptions of HE evidence</td>
<td>60</td>
</tr>
<tr>
<td>Short (1-2 page) evidence syntheses on specific topics</td>
<td>70</td>
</tr>
<tr>
<td>Short (1-2 page) summaries of health economics</td>
<td>50</td>
</tr>
<tr>
<td>Full written reports on topics of interest</td>
<td>40</td>
</tr>
</tbody>
</table>
If you wanted support on health economics for your current work, where would you go?

Figure A.9: Sources of support on health economics for respondents’ current work, n=59
Author Contribution Statements

Braden Manns contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.

Anderson Chuck contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.

Eddy Nason contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.

Lianne Barnieh contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.

John Sproule contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.

Jasmine Brown contributed to study conception and design, drafting and revision of the manuscript, and approval of the final version for publication.