1. Introduction

Over the last decade there has been widespread interest in the Organization for Economic Co-operation and Development (OECD) countries in ensuring that the best available evidence underpins policymaking process and the ways in which health services are organized and delivered (Lavis, Rottingen et al. 2012). The rational underlining this paradigm is of two perspectives: an economic one that supports a return of investment from public funded research and a social one that supports a better care and better health outcomes for individuals and the entire population. In Canada, this is reflected in the structure of the federal and provincials’ health systems (introduction of research and development units to support policy and decision making) and the specific programs of funding agencies (grants for systematic reviews projects, for knowledge dissemination activities, for collaborative and applied research, and the investment in CADRE program) (CIHR 2007).

The emergence of the evidence based paradigm and the actual policy discourse of the knowledge economy offer an ideal platform for collaborative research. Considering particularities of academia and public health professionals one can imagine that new challenges have to be addressed by academics (Limb 2012): 1) how to produce operational outputs and 2) How to transfer them effectively to public health policy makers? In the healthcare sector, knowledge and scientific evidence flow are now considered critical for health system development and for population health status (Ettelt and Mays 2011). For public health sector, the remaining question is: how to effectively integrate evidence on modifiable risk factors and cost-effectiveness of population-based interventions designed to reduce these
risks in public health programs and policies development? Governments around the world had developed public capital ventures to support applied and fundamental research to improve the impact of publicly funded research, seen as a public good, and increase the return on investment for a much more cost-effective health system, a better population health status and the reduction of health inequalities (Orton, Lloyd-Williams, et al. 2011; Waters 2011). In short, this perspective puts universities as key actors to drive societies towards the knowledge economy. For public health sector, universities produce evidence, expertise and knowledge through various traditional channels of information i.e. human resources training (graduate and post-graduate), applied research, translational research and academic consulting. Recently, universities have been encouraged to develop links with governmental institutions in a series of new modes of partnership: collaborative research, participative action research, evaluative research, experts groups on specific topics and academic policy informing (policy briefs). “Policy briefs are a relatively new approach to packaging research evidence for policymakers.” (Lavis, Permanand et al. 2009).

However, during the last two decades, the health sector has been under tremendous pressure in responding to the ongoing global political situation, economic constraints, ecologic changes and social and demographic challenges. Thinking new ways to support decision making, in such rapidly changing context, calls for proactive strategies and timely actions. Evidence-based public health policy informing through academic policy briefings provision is different from evidence based medicine, in which gold standards evidence, is mainly systematic reviews, meta-analysis and randomized controlled trials. Public health policy process is complex, involves series of actors (institutions and individuals) and decision levels (micro, meso and macro level) and requires evidence from different research domains policy sciences, economics, epidemiology, community health or healthcare management that may offer sometimes conflicting information.

Literature on public health policy making process and impact of evidence and research findings on this process is not optimal and calls for rethinking knowledge transfer strategies in this domain, especially through the perspective of health academics. Indeed, traditionally health and medical academics role was exclusively centred on teaching and leading research on clinical practices, patients’ behaviour and healthcare management with a major focus on evidence based decision making in clinical practices. Less attention had been paid to public health policy informing and evidence-based public health. Therefore, public health policy informing requires not only the production of useful knowledge, which relates to the needs of public health, but also to ensure its transfer to policy makers in timely, easy and ready to use format. According to authors (Carroll, Cooke et al. 2006; Jetha, Robinson et al. 2008; Lavis, Moynihan et al. 2008), informing public health policymaking through academic policy briefings (APB) is an effective strategy to improve healthy policies formulation and to consolidate the strategic interface between academics and the governmental organizations. Canada has promoted knowledge brokers and health policy analysts as key actors (or intermediaries) to close the university-government gap. However, these new roles are still to develop and to better clarify for an optimal effectiveness. Public health policies as an evidence informed policy making process has implication for researchers, who should be striving to be
more involved with policy making and studying the implications of policies on public health care interventions and programs (De Palma 2002; Hanney and Block 2009; Lomas and Brown 2009). Major researches had been done to better understand what determine decision makers’ utilization of research results and evidence. However, we still not know much on what makes health and medical academics perform knowledge translation activities, especially in terms of APB. Indeed, implementing academic policy informing as a new role for health and medical academics will need strategic approaches to support its performance and maintenance as a routine strategy to foster public health knowledge translation into health policies. Thus, in this paper, we propose to explore determinants of health and medical academics involvement in preparing and presenting APB to public health policy makers, as part of their contribution to the knowledge translation process.

2. Overview of the existing literature

One of the greatest challenges facing evidence informed policymaking is not necessarily the accessibility to evidence but actually getting it used while the process is under a series of internal and external pressures such as stakeholders influences (lobbying and administrative bureaucracy), economic factors (cost containing, efficiency and systems performance), and professionals (corporative pressure and clinical autonomy) (Moore 2006; Bowen, Erickson, et al. 2009). More recently, with the spreading of the evidence informing policy paradigm, universities and academics are seen as an additional major pressure (Clancy et al. 2012). The Canadian health care system, like those in OECD countries, confronts continued pressures (cost constraints; systems performance and services quality challenges; population health demographics and epidemiology). Public health researchers can influence policy making in different ways. Providing valuable information to policy makers is a challenging process for researchers. It implies not only the demonstration of lab or pilot effectiveness but also their transferability at large, their flexibility to contextualization, the clarification of needed resources and the anticipation of impacts on the system and the population. Such type of information requires clear understanding of policy formulation process, public health programs development and management, health professionals’ constraints and population and social values and expectations. Involving health researchers in policy makers’ informing through APB calls for rethinking academics’ social role and a major shift from “Neutral technicians” to “Issue Advocate” (Sabatier and Jenkins-Smith 1999). Knowledge transfer literature shows that APB should be thought of as a set of rules and institutional arrangements designed to encourage transparent and balanced use of evidence and research results in health policy making (Cookson 2005). In a dynamic world where contingencies and crisis are constant the evidence and research results are to inform rather to shape the process. Thus, researchers have to engage in better highlighting information that is relevant for decision and policymaking (Lavis, Davies et al. 2005). But a range of barriers to knowledge and/or evidence utilization in health policy making process still exist such as the system bureaucratization, the decision-making centralization, the conflict of evidences/values/culture, the nature of evidence and knowledge (qualitative research…), policymakers attributes (lack of research culture, compe-
tencies, skills and resources) and the persistent asymmetry of information between researchers
and policy makers (Hanney, Gonzalez-Block et al. 2003, Thacker et al. 2005). Nutley and al.
(2003) summarise the four key requirements that are necessary for improving evidence use in
policy and one of them is the effective dissemination of evidence to where it is most needed and
the development of effective means of providing wide access to knowledge. Politicians utilize
evidence depending on related benefits and risks that they are ready to take during decision-
making process (Walshe and Rundall 2001). A large literature exists on policy makers’
determinants and especially on the procedural components of their utilization of evidence (e.g.
information systems, capacity building, structural organization, organizational factors,
utilization types....) (Dobrow, Goel et al. 2004; Mitton and Donaldson 2004; Ouimet, Landry
et al. 2006; Jbilou, Amara et al. 2007; Lavis et al. 2012). But less is known on health researchers’
contribution in this process. It will go beyond rehearsing the challenges, and question some of
our basic assumptions about how health researchers could help to achieve a more equitable
and a more efficient health policymaking? The answer to this question is closely dependant
on the answer to: What factors challenge or help health academics performing Academic Policy
Briefings (APB)?

3. Conceptual framework

The move to more informed policy making has been a recent and much-advocated feature of
public policy, especially in health and social care. An essential element of this approach is to
make available synthesis of evidence in an accessible format. APB the most studied formats,
had been explored under policy analysts’ perspective but never under health academics’
perspective. A range of issues limit research results use in policy making process. Two broad
areas of issues: the format in which the results are presented and the forum for whom the
results are designated. The format issues include the manner, the time and the philosophy in
which research reports are presented. The forum issues involve undertaking a clear response
to specific problems or concerns, so as to guide decision and action. I did an extended review
of the literature to clarify the concept of APB performance by health academics. There is a wide
consensus on the fact that APB should be better approached as a personal behavior. Literature
presents APB as a dual phenomenon based on two conceptual components: 1) the structural
component that depends closely on both organizational and individual characteristics and 2)
the relational component that depends on networks and links. Thus, we extracted from the
literature a range of factors that have a confirmed or potential effect on APB performance by
academic researchers (Figure 1): Relational capital (governmental health organizations),
domain of research (health policy, health services, population health) and orientation of
research (applied or basic research), self perceptions (efficacy, credibility, barriers to research
utilization), personal area of interests (systematic review, clinical guidelines), Existence of a
clear strategy of research dissemination, availability of electronic channel for information flow
(such as Internet, weekly published newsletters, electronic Websites), participation in expert
groups and committees (consultancy), radicalness of research results and individual charac-
teristics (gender, education, university position, diversification of workplace).
This paper considers the role of health academics as actors in social and health development, and the implications for approaches to knowledge, through knowledge transfer and exchange (KT&E) activities. It will determine the major factors that explain why health academics write and transmit APB to policy makers and derive incentives and strategies to put in place to support them perform this KT&E activity that consolidate the Triple Helix interface between universities and governments.

4. Methodology and data

4.1. Population under study

The project titled “Factors that incite researchers in the health sciences to engage in KT activities leading to the utilization of their results in Canadian health care system.” Ad concerned a representative sample (health research domains and Canadian provinces) of researchers from all Canadian medical schools and faculties (medicine, nursing, pharmacy, community medicine, healthcare management and policy). Names and addresses of researchers were collected from provincial registries of health researchers and from the websites of all the 16 Canadian medical schools with no regard to their status as faculty members or other categories of researchers, since provincial registries do not specify this information. We selected a stratified random sample of 3814 health researchers from the 5712 that have been identified, with stratification designed to ensure a regional distribution in line with the distribution of the Canadian population and the distribution of Canadian medical school revenues for
biomedical and health care research. Among the 3814 individuals in the original sample, 2207 were deemed ineligible. The reasons for their ineligibility are the following: the language used was different from English or French (n=11), part of an over-sample in a single province that had been requested by a financing partner (n=120), impossible to reach either an individual or voice mail after more than 25 calls (n=707), and other reasons (n=1369) such as not a faculty member, not conducting research anymore, on sabbatical vacation or in an administrative post, moved, retired, or incorrect or discontinued telephone numbers. From the 1607 faculty members eligible to be included in the final sample, 10 asked to be interviewed later but were never reached again, 23 ended the call before the questionnaire had been completed, and 596 refused to participate (after a recall). The survey generated 978 adequate responses to the questionnaires for a net response rate of 60.86%. The regional distribution of respondents is very close to what was originally targeted in the sampling strategy.

4.2. Instrument for data collection

Based on an extended review of the literature and on a previous questionnaire developed by authors to explore knowledge transfer activities among social sciences researchers (Landry and Amara 2001), we built a comprehensive questionnaire to map knowledge translation activities and their predictors. The questionnaire was assessed by an advisory committee comprised of health researchers, clinicians, health system managers and policymakers. They reviewed its preliminary drafts in regard of its feasibility (length), its appropriateness (concordance with academic professional context) and its intelligibility (clarity of questions). The questionnaire includes close-ended questions and was administered by telephone by a survey firm that uses computer-assisted telephone interviewing (CATI) technology, which allows for simultaneous data entry and data coding.

4.3. Data analysis

A range of issues limit the research results used in the policymaking process (Gregrich, 2003). There are two broad areas of issues: those linked to the format and those related to the forum. The format issues include the manner, the time and the philosophy in which research reports are presented. The forum issues involve undertaking a clear response to specific problems or concerns, so as to guide decision and action (Gregrich, 2003). Based on those two assumptions, we built a question to measure PMI. We considered that involvement in PMI is accomplished when both actions are completed: preparing and presenting targeted reports on specific health topics. The question that measures the PMI is the following: ‘Do you prepare and present targeted reports on specific health topics to policy makers?’ The answers were: Yes =1 or No=0.

The analysis plan is based on the estimation of an econometric model through a Logistic regression model applied to identify predictors of APB among public health academics.

\[
\text{APB} = \beta_0 + \beta_1 \text{INFOCHAN} + \beta_2 \ln(\text{UNSIZ}) + \beta_3 \text{STRATKET} + \beta_4 \text{RELCADM} + \\
\beta_5 \text{HOSP}&\text{UNIV} + \beta_6 \text{PERCRED} + \beta_7 \text{PEREFFIK} + \beta_8 \text{EXPERPRO} + \beta_9 \text{RESPECIA} + \beta_{10} \text{MOSDEG} + \beta_{11} \text{PROFES} + \beta_{12} \text{GENDER} + \beta_{13} \text{USRECAP} + \beta_{14} \text{APPLYRES} + \beta_{15} \text{INNOVAT} + \epsilon
\]
Where, 

\[ \beta_i (i=0 \ldots 15) \] are the coefficients to estimate.

5. Results

5.1. Descriptive statistics

Of the 978 respondents who participated in the survey, the average number of researchers that had undergone APB is 35%. Among the 978 respondents, 91.6% had a PhD/MSc and 8.4% had only a professional degree such as medical doctor, nurse or pharmacist. However, 78.5% of the respondents were men. Among the respondents, 85.6% carry their work at university, 60.6% at a teaching hospital and 8.0% in other type of organizations. The population repartition of the study by fields of activity reveals that 44.3% declare working in fundamental health sciences, 43.8 % in clinical sciences and 12.0% in public health or population health sciences (Health policy research, health services research, health promotion research).

Only 35% of the respondents consider that they perform APB. While 72% of them declared that they are active in applied research and 14% active in political sciences research. The sample is made of 78.5% of men, 83.6% hold a PhD, 25.7% hold a clinical certification (MD, Nurse, pharmacist…) and 46.1% are professors or assistant professors.

5.2. Logistic regression model estimation

The econometric model used here to estimate the predictors of APB performance among health academics show that there are seven facilitators and two barriers. Having a clear and well defined strategy for KT&E is a predictor of APB. The KT&E strategy as measured in this work relate on 4 activities: to define the intended users or beneficiaries of the project’s results, the description of dissemination goals and strategies, the researcher personal follow-up with users to assess how useful project information is and the personal follow-up with users to assess how easily project information could be applied. Such an approach is drawn on the participatory action research perspective.

The results presented here show that effective collaboration between academics and governments institutions is based on the relational aspects (relational capital with government has a positive impact on APB) but also on structural aspects (KT&E formal strategy). More, health academics’ research profile is important in terms of APB performance. For example, being active researcher in political sciences, combination of research settings (at the hospital and at the university) and developing innovative research are predictors of APB. The perceived credibility has also a positive impact on APB. The past professional experience, as health administrators, has also a positive and significant impact on APB. However, the results show that being active in applied research and the availability of electronic channels of research information flow are inhibitors of APB performance by health academics.
Independent variables

<table>
<thead>
<tr>
<th>Coeff. β</th>
<th>EXP β</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Organizational factors</strong></td>
<td></td>
</tr>
<tr>
<td>Availability of electronic channels of information flow (INFOCHAN)</td>
<td>-.630***</td>
</tr>
<tr>
<td>Size of research unit (LnUNSIZ)</td>
<td>.1398NS</td>
</tr>
<tr>
<td>Formal Strategy for KE&amp;T (STRATKET)</td>
<td>.467***</td>
</tr>
<tr>
<td><strong>Individual factors</strong></td>
<td></td>
</tr>
<tr>
<td>Relational capital with Government (RELACADM)</td>
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</tr>
<tr>
<td>Combination of research settings (HOSP&amp;UNIV)</td>
<td>.410*</td>
</tr>
<tr>
<td>Perceived credibility (PERCRED)</td>
<td>.865***</td>
</tr>
<tr>
<td>Perceived efficacy on policy decision making (PEREFFIK)</td>
<td>.169 NS</td>
</tr>
<tr>
<td>Administrative Experiential Assets (EXPERPRO)</td>
<td>.019*</td>
</tr>
<tr>
<td>Health Policy Research (RESPECIA)</td>
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<tr>
<td>Cognitive Assets (MOSDEG)</td>
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<tr>
<td>Academic position (PROFES)</td>
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<tr>
<td>Gender (GENDER)</td>
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</tr>
<tr>
<td><strong>Research users' factors</strong></td>
<td></td>
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<tr>
<td>Users' receptive capacity (USRECAP)</td>
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<tr>
<td><strong>Research project factors</strong></td>
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<tr>
<td>Applied research projects (APPLYRES)</td>
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<tr>
<td>Innovativeness of research (INNOVAT)</td>
<td>.260*</td>
</tr>
<tr>
<td>Constant</td>
<td>-.5.031***</td>
</tr>
<tr>
<td>Total number of cases:</td>
<td>606</td>
</tr>
<tr>
<td>Chi-square (d.f.):</td>
<td>171.626 (15)</td>
</tr>
<tr>
<td>Nagelkerke R² (Pseudo R Square):</td>
<td>.351</td>
</tr>
<tr>
<td>Percentage of correct prediction</td>
<td>77.9%</td>
</tr>
</tbody>
</table>

Table 1. Econometric model estimation

6. Conclusion and implications

With this contribution, we take a first step toward closing the gap in the literature concerning APB, with a special emphasis on the role of medical schools. The overarching hypothesis in this study, therefore, is: academic policy briefing development is a function of its endowments in financial, relational and intellectual capital with the two first being provided by the university and the others by the researcher. We test this hypothesis on a pan Canadian sample of researchers affiliated to medical schools.
Strong relationships between academics and policymakers appear to increase the prospects for research use (Lavis, Moynihan et al. 2008). Many research projects have been undertaken to address the factors that increase the prospects for research use by public policymakers and encourage partnerships between researchers and policymakers that allow for their interaction around the tasks of asking and answering relevant policy questions (Lavis 2006). Much less progress has been made understanding what factors impact on academics involvement in the triple helix model and especially in its non commercial part as for developing academic policy briefings (APB). We still need to address APB performance determinants among public health academics to improve the evidence informed policy making process. An important proportion of public health research is related to social and welfare care dimensions and topics and has no impact on patenting or copyright which may inhibit its dissemination to policymakers and may rely exclusively on researchers’ involvement in research push activities, such as APB performance.

The results presented here show that APB performance is an individual behavior that is under specific professional orientation, organizational structural factors and personal motivation rather than individual social and demographic characteristics such as gender, most advanced education degree or academic position. Indeed, public health academics seem to be of traditional culture since they still relate on personnel relational capital (the relational capital with governmental institutions through face-to-face meetings and collaborative research) rather than electronic interface (through websites and electronic newsletters) to disseminate their research results. Moreover, organizational factors are of major relevance to support APB performance among public health academics. Having a formal strategy of knowledge exchange and transfer is an important factor for facilitating evidence flow from academic department to policymakers’ offices. Universities have to support and stimulate administrative involvement of public health researchers. This type of activities may raise more awareness about stakes of policy decision making context and helps academics understand the contingencies of administrative decision process and the relevance of developing APB to improve the follow of research results to support this process. Moreover, researchers how carried out their research in different research settings, at the university and at the clinical settings, performed APB more than those having a single setting of research, at the university. This result lets us suggest that public health researchers need to be exposed to different realities and contingencies to better perform APB. Bilateral collaboration between university and government institutions had been developed extensively these last two decades and resulted, unfortunately, in innovations that lacked a context to be put to use. Health sector had beneficed largely from these collaborations with little accountability since intellectual property and its translation into policies, services products and process had been called the “death valley”. The emergence of public health entrepreneurs called for more accountability and more knowledge translation among public health researchers. Thus, developing effective multi-sectors networks is a critical activity to improve and innovate in teaching and training for strategic knowledge transfer competencies among public health researchers.

In terms of research related factors, being involved in health policy research and developing innovative research are major factors of APB performance. However, those involved in applied
research were less likely to perform APB. These results let us suggest that more efforts have to be invested to support applied research academics and show them how to develop and how to disseminate APB to improve utilization of their research results. Finally, we found out that the perceived credibility has a positive impact on APB performance. In fact, the more the researcher believes that his research is useful and is used to support policymaking the more he gets involved in APB development and dissemination to targeted audiences.

In knowledge transfer literature, less attention had been paid to the existing differences between academics, political analyst and knowledge brokers in terms of roles, legitimacy and inputs in developing policy briefings. Indeed, policy briefings had traditionally been prepared by policy analysts. The evidence based paradigm has raised new concerns about who would analyze and synthesize research results. In Canada, “a knowledge broker (KB) is a popular knowledge translation and exchange (KT&E) strategy emerging in Canada to promote interaction between researchers and end users, as well as to develop capacity for evidence-informed decision making.” (Dobbins, Robeson et al. 2009) However, APB by health academics is a new concept (Carroll, Cooke et al. 2006). Health and health research is complex and diversified; thus, it is hard to propose a standard approach for research push. APB is an individual behavior that needs a cultural change among health academics. To improve the performance of APB among health academics the university has to make intrinsic efforts. For example, a new system of awards has to be developed to value and support KT&E activities. In terms of capacity building, health academics have to be supported to build an effective KT&E strategy (Pope, Mays et al. 2006). Since, it is not only important to disseminate but also to evaluate the usefulness, the utility and the impact of the APB (Field et al. 2012; Kurko et al. 2012; Lavis, Rottingen, et al. 2012). There is also a major challenge for low and middle income countries where there is a need for implementing effective structured policymaking processes, establishing functional KT&E platforms and leveraging policymakers and researchers’ engagement in KT&E activities (Collender et al. 2012; El-Jardali et al. 2012; Uneke, Ezeoha, et al. 2012). We explored the perspective of researchers from medical schools through a cross-sectional survey, which allowed us to control for faculties and schools idiosyncrasies and for time. However this approach necessarily limits the generalizability of these results cross other university departments. Future research should attempt to test the model predicting APB across a larger number of departments, especially those who carry public health research, to enhance the external validity of the presented model. We speculate that disciplinary specificities in terms of predictors will be identified.

Acknowledgements

Authors would like to thank the Canadian Institute for Health Research (CIHR) for the financial support provided to Pr Réjean Landry, director of the CIHR Chair on knowledge transfer and innovation (Université Laval). Dr. Jalila Jbilou contribution was supported by the CIHR Team in Familial Risks of Breast Cancer Grant (CRN-8752-1) and the Ministry of Economic Development, Innovation and Export Trade of Quebec – Supporting grant (PSR-SIIRI-701).
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