Dissemination and stakeholder engagement practices among dissemination & implementation scientists: Results from an online survey

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Abstract

Introduction

There has been an increasing focus on disseminating research findings, but less about practices specific to disseminating and engaging non-researchers. The present project sought to describe dissemination practices and engagement of stakeholders among dissemination & implementation (D&I) scientists.

Methods

Methods to disseminate to and engage non-research stakeholders were assessed using an online survey sent to a broad, diverse sample of D&I scientists.

Results

Surveys were received from 210 participants. The majority of respondents were from university or research settings in the United States. (69%) or Canada (13%), representing a mix of clinical (28%) and community settings (34%). 26% had received formal training in D&I. Respondents indicated routinely engaging in a variety of dissemination-related activities, with academic journal publications (88%), conference presentations (86%), and reports to funders (74%) being the most frequent. Journal publication was identified as the most impactful on respondents' careers (94%), but face-to-face meetings with stakeholders were rated as most impactful on practice or policy (40%). Stakeholder involvement in research was common, with clinical and community-based researchers engaging stakeholder groups in broadly similar ways, but with critical differences noted between researchers with greater

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seniority, those with more D&I training, those based in the United States vs. Canada, and those in community vs. clinical research settings.

Conclusions

There have been increases in stakeholder engagement, but few other practices since the 2012 survey, and some differences across subgroups. Methods to engage different stakeholders deserve more in-depth investigation. D&I researchers report substantial misalignment of incentives and behaviors related to dissemination to non-research audiences.

Introduction

Dissemination, defined as "an active approach of spreading evidence-based interventions to the target audience via predetermined channels using planned strategies" [1, 2], is the critical process linking research findings to practitioners who can implement them, leading to benefits among the people or communities of interest. Frequently recommended dissemination practices to reach non-research audiences include "Designing for Dissemination" [1, 3, 4], use of multiple channels, development of guides to program implementation, and engagement of multiple types of stakeholders in the development and evaluation of interventions and dissemination plans. The number of publications on dissemination has increased dramatically over the years [5–7] since classic work on diffusion of innovations [8]. What is less known is the extent to which there have been increases in the use of evidence based and best practices among dissemination and implementation (D&I) researchers, and if there are differences in dissemination practices across different types of D&I researchers.

Differences in preferred sources of information between researchers and practitioners have been documented and researchers are increasingly urged to "go beyond" academic publication and presentations at major professional conferences [1, 3, 9]. It is not known more specifically what avenues and strategies researchers, and especially D&I researchers, use to facilitate translation of their findings into practice and policy.

There has been a strong encouragement to meaningfully engage patients and community stakeholders in research from PCORI, NIH, and other organizations [10]. Two relatively recent developments of interest have been use of social media and stakeholder engagement practices [11, 12]. While each of these has existed for decades, most health care and public health researchers have not been early adopters of these approaches, and we were interested in what specific engagement strategies D&I researchers use and the extent to which they used them.

The use of a variety of dissemination practices to non-research audiences (e.g., publication, meetings, webinars) has previously been described by Brownson et al. (2013). They surveyed a sample of public health researchers in 2012 concerning their dissemination practices, including which dissemination practices the researchers rated as most impactful, and which were most aligned with incentives for career advancement. This survey provided valuable information, but was seven years ago and we hypothesize that there have been significant increases since then due to trends encouraging dissemination, due in part to the number of newly trained D&I scientists [13–18]. Additionally, the 2012 survey did not extensively assess practices such as designing for dissemination or stakeholder engagement, nor did it include clinical researchers or non-U.S. researchers. At that time, few researchers had received formal D&I

training. Thus, an updated and expanded assessment of current dissemination practices was warranted.

The purposes of this current project were to: 1) conduct a survey conceptually similar to the Brownson et al. 2012 survey by characterizing current practices among D&I researchers regarding research dissemination to non-research audiences; 2) include a broader sample of D&I scientists; 3) include additional dissemination and stakeholder engagement practices; and 4) investigate potential researcher characteristics associated with greater use of various dissemination strategies.

Methods

Survey development

The survey was developed by beginning with the Wilson et al, Brownson et al., and Tabak et al. surveys [1, 19]. We adopted and, in many cases, modified questions and/or response options in this survey to address 2018 priorities, evolution of the field, and a greater number of dissemination practices. We also added several items related to investigator characteristics and stakeholder engagement practices. The primary domains assessed included dissemination practices; impressions of the impact and importance of different practices for a) impact and b) promotion; stakeholder engagement practices; and respondent characteristics. Due to the different and expanded sample, we also needed to modify several items (e.g., to address medical as well as public health researches; Canadian and other researchers in addition to U.S. researchers). Initial drafts of the survey were iteratively developed and refined by team members, reviewed by original 2012 researchers, and reactions from members of members of the University of Colorado Dissemination & Implementation Science Program works in progress group. We also deleted several items to keep the survey to a reasonable length. A copy of the survey, which is publicly available for others to use, is presented in S1 File.

Sampling frame

Participants were recruited to take part in an online survey assessing self-reported practices related to dissemination of findings to non-research audiences, as well as methods by which respondents engage stakeholders in research to enhance translation. Potential survey respondents were identified by being listed as a corresponding author on an original research article published in the journal *Implementation Science* between 1/1/2014 and 12/31/2017, having completed recent training related to D&I science, or had been funded to conduct D&I research (see Table 1 for details). Training in D&I science was defined as having completed training in one or more of several prominent US D&I and Canadian Knowledge Translation training programs (Table 1) since the programs' inception. When possible, participant names and contact information were provided by program directors, and in other cases, invitations were sent to program listservs. As described below, it was not possible to determine a denominator of scientists invited or an accurate return rate because: a) several organizations did not allow us access to mailing lists or to send individual e-mails so we did not know the number of invitations sent, b) the number of incorrect e-mails, or especially c) the degree of overlap among the different sampling sources. We expect that the latter was very large due to the number of scientists who may well have been funded, published in *Implementation Science*, and been trained in D&I research. The survey was powered through Qualtrics online survey software.

Table 1. Sampling frame by source.

Sample Description	Time Frame Included	Approximate N invited
Corresponding authors in *Implementation Science*	January 2015- December 2017	225*
PCORI grantees with D&I foci	2015–2017	111*
CIHR KT grantees	2015–2017	55*
IRI fellows	2011–2017	63*
MT-DIRC fellows	2014–2017	55*
CDC Prevention Resource Center leaders	2017	47*
VA QUERI listserv	April 2018	Unknown
KT Canada listserv	May 2018	Unknown
NCI D&I listserv	April 2018	Unknown
TIDRH listserv	April 2018	313*

*Sample n's do not account for likely overlap among sources

https://doi.org/10.1371/journal.pone.0216971.t001

Survey implementation

Surveys were distributed through Qualtrics (when individual e-mail addresses were available) or through electronic listservs as appropriate. Listserv distributions were conducted by managers of those listservs rather than by our study personnel due to confidentiality requirements. Potential participants for whom we had individual e-mail addresses received up to three reminder emails at one-week intervals from April-May 2018. Responses were collected anonymously and respondents did not receive any incentive for participation. The project was approved by the local Institutional Review Board, including a waiver of written consent.

Analyses

Primary analyses followed an *a priori* analytic plan, consisting primarily of descriptive statistics, percentages, frequencies, and narrative comparisons. In instances when the analytic plan called for subgroup comparisons, independent samples T-test, chi squares, and chi square likelihood ratio tests were used as appropriate. Finally, logistic regression analyses were performed to evaluate independent contributions of several potential respondent characteristic predictors of use of high levels of stakeholder engagement. A priori predictions were that: 1) the 2018 sample would report greater use of dissemination practices in addition to the usual publications and presentation strategies than the 2012 sample; 2) those receiving formal D&I research training would engage in more dissemination practices and more stakeholder engagement activities than those not; and 2) that Canadian researchers would make greater use of stakeholder engagement practices than U.S. researchers. The majority of remaining analyses were descriptive and exploratory in nature.

Results

Respondents

Surveys were received from 210 total participants, 69 (148) employed by U.S.-based universities, conducting research in a number of contexts and with a variety of training and professional experiences (Table 2). While we were able to determine that no single individual completed the survey more than once, we were unable to calculate a response rate due to 1) the unknown denominator information for listservs, and 2) an unknown quantity of individuals who were likely in two or more of our target groups.

Table 2. Characteristics of survey respondents.

Domain	Category	n(valid %)
Work venue	University or Research Org (U.S.)	148(68.8)
	University or Research Org (Canada)	28(13.0)
	University or Research Org (other)	14(6.5)
	Private nonprofit	6(2.8)
	NIH, CIHR, CDC, National or Regional PH Org	2(0.8)
	VA (from "other")	11 (4.0)
	Other	1 (0.5)
Primary Research Setting	Clinical (In- or Outpatient)	59(27.7)
	Community	73(34.3)
	Health Department	4(1.9)
	Health Delivery Systems	42 (19.7)
	Policy	4(1.9)
	Academic	21(9.9)
	Other	10(4.7)
Training	<4 years out	22(10.9)
	5–9 years out	64(31.7)
	10–14 years out	40(19.8)
	15–19 years out	33(16.3)
	20< years out	43(21.3)
	Behavioral Health	96(34.7)
	Medicine	33(11.9)
	Public Health	94(33.9)
	Health Services Research	69(24.9)
Support	CDC Prevention Research Centers Affiliate	14
	NIH or CIHR Funding	90
	PCORI Funding	25
	Other Funding	85
Experience	Have Worked in Setting Where Their Research Would be Implemented	144(67.9)

https://doi.org/10.1371/journal.pone.0216971.t002

As seen in Table 2, the majority of respondents were from university or research settings in the U.S. (69%) or Canada (13%). They were from a mix of clinical (28%) and community settings (34%). The majority were from behavioral health (35%) or public health disciplines (34%); 26% had received formal training in D&I and there was a wide distribution in years since highest academic degree.

Perceived impact on career and practice/policy

When prompted to respond with their level of agreement with the statement "It is an obligation of researchers to disseminate their research to those who need to learn about it and make use of the findings", 56% of current respondents indicated that they strongly agree, compared to 51% in 2012. This difference was not statistically significant. When asked "how often do you involve stakeholders", Brownson et al's survey highlighted stakeholder engagement frequency at the project level, with 34% of participants saying they always or usually involved stakeholders, 49% sometimes or rarely, and 17% never. Individuals in our sample reported upon the *frequency* with which they typically engage non-research stakeholders *within* projects, with 55% of respondents indicating that they did so four or more times, 34% two to three times, 4% once, and 7% reported zero contacts with stakeholders.

Reported dissemination activities

Respondents indicated routinely engaging in a variety of dissemination-related activities, with academic journals and conferences (88% in our survey vs. 86% in 2012 respectively), and reports to funders (74%, not included in 2012 survey) being the most frequent. Among these activities, publication in academic journals was identified as the most impactful on respondents" careers (94%), while face-to-face meetings with stakeholders are seen as most impactful on practice or policy (40%: Table 3).

Stakeholder engagement

We asked several new questions related to stakeholder engagement in the 2018 survey. Stakeholder involvement in the research process was frequently reported, with clinical and community-based researchers engaging patients in similar ways (see Table 3) including focus groups and advisory committees. In terms of practitioner engagement, however, there were marked differences noted in that clinical researchers were more likely to include practitioners on user panels (47.5% vs. 24.4%, $p < .01$), as formal team members (62.7% vs. 45.5%, $p < .05$), and in interpreting data (59.3% vs. 38.2%, $p < .05$), but less likely than community researchers to use them in focus groups (43.9% vs. 10.5%, $p < .01$).

With respect to training, respondents who had more D&I training (defined as completing a D&I training program, university course, or fellowship) reported utilizing stakeholders differently than those with less (including workshops, other shorter trainings, or no formal D&I training). Those with more training were more likely to report using stakeholders in focus groups (including direct practitioners, organizational decision-makers, and policymakers). Similarly, those with more training were more likely to engage policymakers at all, being more likely to report engaging policymakers in focus groups, on advisory committees, as formal team members, and to help interpret data (Table 3).

Compared to their counterparts in the United States, university-based researchers in Canada reported engaging patients/consumers and direct practitioners in generally similar ways. However, Canadian researchers reported engaging organizational and policy-level stakeholders much more extensively than scientists in the U.S., with rate differences of greater than 25% observed between the two groups in terms of engagement of policymakers in focus groups (11.5 to 46%, $p < .05$), on advisory committees (33.1 to 61%, $p < .05$), on user panels (3.4 to 29%, $p < .05$), and as formal team members (8.8 to 43%, $p < .05$) (Table 4).

In response to a question regarding stage(s) within the research process during which stakeholders are involved, participants indicated that 28% involve them during the proposal phase

Table 3. Dissemination method & priorities (all valid %).

	Typically used	*Most impact on career trajectory*	*Most impact on practice/policy*
Academic journals	88	94	16
Reports to funders	74	0	6
Press releases	33	0	4
Newsletters	36	0	1
Policy briefs	21	0	8
Social media	42	0	3
Academic conferences	86	3	5
Seminars/workshops	51	1	9
Face to face meetings with stakeholders	55	0	40
Media interviews	22	0	1
Webinars/videos	30	0	0

https://doi.org/10.1371/journal.pone.0216971.t003

Table 4. Stakeholder engagement type using various strategies (%).

Stakeholder type and method		Venue		D&I Training		Nationality		Yrs. Since Training	
		Clinical n = 59	Commun n = 123	More# n = 73	Less n = 49	U.S. n = 148	Can n = 28	0–10 n = 97	≥10 n = 104
Patients/ Consumers	Focus Groups	61.0	56.1	60.3	55.1	61.5	50	48.5	62.5*
	Advisory Committees	59.3	61.0	61.6	53.1	57.4	75	55.7	58.7
	User Panels	33.9	27.6	28.8	20.4	30.4	32	23.7	34.6
	Team Members	32.2	34.1	34.2	16.3*	27.7	61	28.9	31.7
	Interpret Data	32.2	27.6	35.6	20.4	28.4	40	26.8	30.8
	Disseminate	47.5	38.2	41.1	36.7	36.5	57	37.1	41.3
	Total ≥ 2	68	61	64	51	62	75	57	64
Direct Practitioners	Focus Groups	10.5	43.9*	60.3	42.9*	50.7	57	45.4	48.1
	Advisory Committees	66.1	56.9	63.3	44.9*	59.5	68	56.7	57.7
	User Panels	47.5	24.4*	32.9	24.5	30.4	43	27.8	30.8
	Team Members	62.7	45.5*	50.7	51.0	27.7	61	47.4	50.0
	Interpret Data	59.3	38.2*	52.1	40.8	28.4	39	46.4	40.4
	Disseminate	62.7	48.0	53.4	59.2	36.5	57	52.6	51.9
	Total ≥ 2	80	64 *	71	61	70	75	65	68
Organizational Decision-Makers	Focus Groups	32.2	36.6	45.2	26.5*	35.1	50	37.1	27.9
	Advisory Committees	62.7	51.2	60.3	44.9	54.1	71	54.6	55.8
	User Panels	16.9	12.2	15.1	8.2	14.2	21	12.4	12.5
	Team Members	25.4	31.7	30.1	24.5	25.7	39	34.0	26.0
	Interpret Data	25.4	30.9	38.4	24.5	29.1	43	36.1	23.1*
	Disseminate	50.8	58.5	57.5	49.0	54.7	75	58.8	55.8
	Total ≥ 2	56	58	59	51	57	79*	62	55
Policymakers	Focus Groups	15.3	16.3	17.8	4.1*	11.5	46	18.6	10.6
	Advisory Committees	35.6	39.8	42.5	20.4*	33.1	61	43.3	32.7
	User Panels	5.1	6.5	8.2	0.0	3.4	29	7.2	3.8
	Team Members	10.2	15.4	19.2	0.0*	8.8	43	9.3	5.8
	Interpret Data	18.6	13.8	21.9	2.0*	12.8	36	15.5	15.4
	Disseminate	37.3	47.2	47.9	32.7	39.2	71	17.5	8.7
	Total ≥ 2	29	34	40	14*	28	64*	38	29

n varied from 122–182 across items

* = p < .05 (Fishers' exact)

#For the purpose of this analysis, the amount of training in Dissemination & Implementation Science was defined as More = university course or fellowship, while Less = workshop, single-day training, or lecture

https://doi.org/10.1371/journal.pone.0216971.t004

(vs. 27% in Brownson et al.), 28% (vs.14% in 2011) in data gathering and analysis, and 47% (vs. 24%) in final reporting. Additional questions asked only in the present survey found that: 18% involved stakeholders across all research phases, 18% did not typically involve non-researchers, and 51% did so after publication for the purpose of supporting dissemination.

Multivariable analyses

Finally, logistic regression analyses were conducted to evaluate the relative contributions of different respondent characteristics to deeper or more comprehensive engagement of stakeholders. These analyses indicated that research venue, nationality, amount of D&I training, and seniority (assessed continuously as years since the respondent completed their graduate training) did not significant relate to routinely engaging patients, direct practitioners, or organizational

decisionmakers in more than one way. None of these characteristics, significantly associated with an increased likelihood of engaging more than two stakeholder groups or routinely using more than the median number of total stakeholder engagement strategies [8].

Discussion

With the increasing focus on disseminating research to practice [20] and a rapidly changing landscape of dissemination strategies, it is helpful to periodically assess what strategies D&I scientists are using to communicate evidence to practitioners and policy makers. This report updated and expanded the survey conducted in 2012 by Brownson and colleagues, but also sampled a broader range of D&I researchers (clinicians and Canadian D&I (KT) scientists) in addition to the public health researchers included in the 2012 sample, and provided greater depth on the evolving area of stakeholder engagement. D&I scientists reported engaging in varied dissemination activities, some but not all of which have increased, since the 2012 survey of public health researchers.

Comparisons were made on results from items that were identical or very similar to those reported in Brownson et al.'s earlier survey of public health researchers. Specifically, respondents in both samples reported using a variety of strategies to disseminate their work, but most frequently used traditional methods of publications in scientific journals and presentations at scientific meetings. This method is likely to influence the work of fellow researchers, who consistently report learning about emerging science in these venues [21, 22], but often neglects the seminars, professional association meetings, and electronic newsletters that local and state-level practitioners are more apt to use in their efforts to stay up-to-date [23]. The ongoing predominance of these modes of dissemination today, despite believing other methods of dissemination (including face-to-face meetings, writing policy briefs, and presenting seminars or workshops) to be potentially more effective in reaching and engaging practitioners, is likely due to the reward system of academic institutions. The general sentiment that dissemination of findings to non-research partners is a core responsibility of those engaged in academic pursuits appears to be shared between the two samples, despite several differences in their respective characteristics.

Researchers in the 2018 sample still reported similar misalignment of incentives and behaviors related to dissemination of findings, as documented in the 2012 survey. One indication of the importance of reward structures can be seen in the details of the types and level of stakeholder engagement reported in the two samples. While the general rate of engaging stakeholders in research did not differ between the present survey and that reported by Brownson, the specific methods and depth of research engagement of stakeholders differed significantly between the two samples.

Even though both survey samples engaged stakeholders in similar ways, the stages at which stakeholders informed the research process differed. This was most apparent in the current sample, where 55% of respondents report that they typically engage stakeholders at least four times over the course of a project, whereas only 34% in Brownson's survey reported that they typically involved stakeholders at all. We hypothesize that this increase may be due in part to the intervening impact of PCORI and other patient-centered funders requiring stakeholder engagement for funding, although specific qualitative work is needed to understand these differences in greater detail.

Differences across respondent types

Researchers in clinical and community settings, as well as those with more D&I training versus less, reported engaging practitioners differently. Those with more D&I training were more

likely to use a variety of stakeholder groups in a number of different ways. This was most evident as the stakeholder group engaged moved up the organizational or contextual scale: those with more D&I training were more likely to engage organizational and policy-level decision makers. In the latter case, there appears to be an important distinction in that these researchers appeared more likely to engage higher-level stakeholders at all, but were less likely to engage them in multiple ways. Increased engagement of these types of stakeholders may speak to a more creative and inclusive conceptualization of engagement among those who have participated in more extensive D&I training It stands to reason that those without D&I training may not consider the perspectives of stakeholders other than clients/consumers or direct practitioners, while those who have more extensive training may have been exposed to more multi-level and comprehensive conceptualizations of stakeholder engagement strategies, especially those which explicitly seek the perspectives of policymakers and organizational leaders [24]. Future research and training should emphasize longitudinal involvement of organizational and policy-level stakeholders, including in varied roles (e.g. as members of the research team, providing feedback as beta-testers, as members of advisory panels, etc.).

Canadian researchers reported greater engagement, especially with policy makers. We speculate that this may be due to both closer interactions among healthcare, government and academic institutions in Canada and more multi-sectoral funding across these types of organizations [25,26]. Those trained longer ago did not illustrate an appreciably different pattern of stakeholder engagement than those who completed their training more recently. Future analyses with greater power to detect subgroup differences should focus on hypothesized differences between these groups.

Limitations and future directions

Although informative, this study has several limitations. These include the inability to determine a return rate given the unknown overlap among recruitment sources and the unknown number of researchers receiving invitations from listserv managers. This not only limited our ability to report aggregate rate of response, but it made assessments of differential response (according to geographic region, professional background, or other demographic indicators) impossible to conduct. Similarly, we asked respondents a very limited number of demographic questions, leaving out possible social covariates such as gender, race, and ethnicity. This left us unable to determine if dissemination or stakeholder engagement behaviors differed according to these groups. Although we made concerted efforts to obtain representation from additional groups beyond those sampled in the 2012 survey, the limited number of respondents (and consequent insufficient statistical power to detect differences) in some categories such as Canadian researchers limit conclusions. Despite efforts to include a reasonable sample size of VA researchers, we were unable to obtain a sufficient sample to conduct subgroup analyses.

The 2012 and 2018 sampling frames were purposively different and only a minority of the items directly replicated those on the 2012 survey. Other items were slight modifications and included additional dissemination response options that did not exist or were not applicable in 2012. As in any survey, our data are limited to respondents self-reported behavior and there may have been social demand characteristics to report, for example, greater levels of stakeholder engagement than are actually implemented. Despite these limitations, this study provided an important update on dissemination practices to non-research audiences and addressed a number of new questions such as the impact of D&I training on dissemination practices and assessment of the level and "depth" of stakeholder engagement practices.

Future directions include replication with larger samples and qualitative and mixed methods approaches to help understand some of the findings in greater depth. Gathering of data

from a broader audience of scientists might yield more divergent use of stakeholder engagement and dissemination practices, theoretically yielding significant multivariable predictors of what makes a "high-quality disseminator". Another question is how these and related findings [27] could buttress arguments for greater alignment between effective dissemination activities and academic incentives, including any relationships between researcher attributes and attitudes and beliefs regarding the effectiveness of various dissemination activities. This mis-alignment has persisted since the initial conference on dissemination and implementation [3], perpetuating a general heterogeneity of any dissemination efforts other than through traditional academic media. Finally, experimental comparisons of the actual effectiveness of different dissemination strategies on different outcomes (e.g., implementation of guidelines vs. policy change vs. de-implementation) are also indicated.

Conclusions

Despite limited incentives for dissemination to non-research audiences, D&I researchers engage in a variety of strategies. There has been increased use of some, but not all strategies since 2012, and greater in depth and multi-level stakeholder engagement. Greater understanding of which dissemination strategies are most effective for what purposes and how to increase and sustain effective strategies is important to facilitate more rapid and successful translation of research to practice.

Supporting information

S1 File. Survey of D&I scientists.
(DOCX)

Acknowledgments

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References

1. Brownson RC, Jacobs JA, Tabak RG, Hoehner CM, Stamatakis KA. Designing for dissemination among public health researchers: findings from a national survey in the United States. Am J Public Health. 2013; 103(9):1693–9. https://doi.org/10.2105/AJPH.2012.301165 PMID: 23865659

2. Rabin BA, Brownson RC. Terminology fo dissemination and implementation research. In: Brownson RC, Colditz GA; Proctor EK, editors. Dissemination and Implementation Research in Health: Translating Research to Practice. New York: Oxford University Press; 2018. p. 22.

3. Kerner JF. Integrating research, practice, and policy: what we see depends on where we stand. J Public Health Manag Pract. 2008; 14(2):193–8. https://doi.org/10.1097/01.PHH.0000311899.11197.db PMID: 18287927

4. Institute NC. Designing for Dissemination: Conference Summary Report. 2002.

5. Dissemination and Implementation Research in Health: Translating Science to Practice. 2nd Edition ed. Brownson RC, Coldtiz GA, Proctor EK, editors. New York: Oxford University Press; 2018.

6. Grimshaw JM, Eccles MP, Lavis JN, Hill SJ, Squires JE. Knowledge translation of research findings. Implementation Science. 2012; 7(50).

7. Purtle JD, Dodson E, Browson RC. Policy dissemination research. In: Brownson RC, Colditz GA, Proctor EK, editors. Dissemination and Implementation Research in Health: Translating Science to Practice. 2nd ed. New York: Oxford University Press; 2018. In press.

8. Rogers E. Lessons for Guidelines from the Diffusion of Innovations. Joint Commision J Qual Im. 1995; 21(7):324–28.

9. Rabin BA, Brownso RC, Kerner JF, Glasgow RE. Methodologic challenges in disseminating evidence-based interventions to promote physical activity. Am J Prev Med. 2006; 31:S24–34. https://doi.org/10.1016/j.amepre.2006.06.009 PMID: 16979467

10. Selby JV, Beal AC, Frank L. The Patient-Centered Outcomes Research Institute (PCORI): national priorities for research and initial research agenda. JAMA. 2012.

11. Lutz C, Hoffman C. The Impact of Social Media on Stakeholder Engagement. ICA Preconference "Governance through communication: stakeholder engagement, dialogue, and corporate social responsibility"; Edinburgh 2013.

12. Woolf SH, Zimmerman E, Haley A, Krist A. Authentic engagement of patients and communities can transform research, practice, and policy. Health Aff (Millwood). 2016; 35(4):590–94. https://doi.org/10.1377/hlthaff.2015.1512 PMID: 27044956

13. Melssner HI, Glasgow RE, Vinson CA, Chambers D, Brownson RC, Green LW. The U.S. training institute for dissemination and implementation research in health. Implementation Science. 2013; 8(12).

14. Brownson RC, Proctor EL, Luke DA, Baumann AA, Staub M, Brown MT, Johson M. Building capacity for dissemination and implementation research: one university's experience. Implementation Science. 2017; 12(1):104. https://doi.org/10.1186/s13012-017-0634-4 PMID: 28814328

15. Implementation Research Institute [Available from: http://iristl.org/]

16. Straus SE, Brouwers M, Johnson D, Lavis JN, Legare F, Majumdar SR, et al. Canada Training Initiative in Health Research (STIHR). Core competencies in the science and practice of knowledge translation: description of a Canadian strategic training initiative. Implementation Science. 2011(127).

17. Chambers DA, Proctor EK, Brownson RC, Straus SE. Mapping training needs for dissemination and implementation research: lessons from a synthesis of existing D&I research training programs. Transl Behav Med. 2017; 7(3):593–601. https://doi.org/10.1007/s13142-016-0399-3 PMID: 27030472

18. Padek M, Mir N, Jacob RR, Chambers DA, Dobbins M, Emmons KM, et al. Training scholars in dissemination and implementation research for cancer prevention and control: a mentored approach. Implementation Science. 2018; 13(1):18. https://doi.org/10.1186/s13012-018-0711-3 PMID: 29357876

19. Tabak RG, Stamatakis KA, Jacobs JA, Brownson RC. What predicts dissemination efforts among public health researchers in the United States? Public Health Rep. 2014; 129(4):361–8. https://doi.org/10.1177/003335491412900411 PMID: 24982539

20. Brownson RC, Eyler AA, Harris JK, Moore JB, Tabak RG. Getting the Word Out: New Approaches for Disseminating Public Health Science. J Public Health Manag Pract. 2018; 24(2):102–11. https://doi.org/10.1097/PHH.0000000000000673 PMID: 28885319

21. Brownson RC. Research translation and public health services & systems research. Keenland Conference: Public Health Services and Systems Research 2013; Lexington, KY.

22. Cargo M, Mercer SL. The value and challenges of participatory research: strengthening its practice. Annu Rev Public Health. 2008; 29:325–50. https://doi.org/10.1146/annurev.publhealth.29.091307.083824 PMID: 18173388

23. Jacob RR, Allen PM, Ahrendt LJ, Brownson RC. Learning about and using research evidence among public health practitioners. Am J Prev Med. 2017; 52(S):304–08.

24. Powell BJ, Powell BJ, Waltz TJ, Chinman MJ, Damschr'oder LJ, Smith JL, et al. A refined compilation of implementation strategies: results from the Expert Recommendations for Implementing Change (ERIC) project. Implementation Science. 2015 Dec; 10(1):21.

25. Jecker NS, Meslin EM. United States and Canadian approaches to justice in health care: a comparative analysis of health care systems and values. Theor Med. 1994 Jun 1; 15(2):181–200. https://doi.org/10.1007/bf00994024 PMID: 7997972

26. Globerman S, Hodges H, Vining A. Canadian and US health care systems performance and governance: elements of convergence. App Health Econ Health Pol. 2001 Jan 14; 1(2):75–88.

27. Brownson RC, Royer C, Ewing R, McBride TD. Researchers and policymakers: travelers in parallel universes. Am J Prev Med. 2006; 30(2):164–72. https://doi.org/10.1016/j.amepre.2005.10.004 PMID: 16459216