



**VICTORIA UNIVERSITY**  
MELBOURNE AUSTRALIA

*Six public policy recommendations to increase the translation and utilization of research evidence in public health practice*

This is the Accepted version of the following publication

Klepac, Bojana, Krahe, Michelle, Spaaij, Ramon and Craike, Melinda (2022)  
Six public policy recommendations to increase the translation and utilization of research evidence in public health practice. Public Health Reports. ISSN 0033-3549 (In Press)

The publisher's official version can be found at  
<https://journals.sagepub.com/doi/10.1177/00333549221129355>  
Note that access to this version may require subscription.

Downloaded from VU Research Repository <https://vuir.vu.edu.au/44483/>

1    PHR/Volume 137, Issue  
2    MS# 22-0168  
3    Section Header: Commentary  
4    Keywords: public policy, research translation, research utilization, public health practice, evidence-  
5    informed practice

6  
7    **Six Public Policy Recommendations to Increase the Translation and Utilization of Research**  
8    **Evidence in Public Health Practice**

9  
10    **Bojana Klepac, PhD<sup>1</sup>; Michelle Krahe, PhD<sup>2</sup>; Ramon Spaaij, PhD<sup>3,4</sup>; and Melinda Craike, PhD<sup>1,3</sup>**

11  
12    <sup>1</sup> Mitchell Institute for Education and Health Policy, Victoria University, Melbourne, Australia  
13    <sup>2</sup> Health Group, Griffith University, Brisbane, Australia  
14    <sup>3</sup> Institute for Health and Sport, Victoria University, Melbourne, Australia  
15    <sup>4</sup> School of Governance, Utrecht University, Utrecht, The Netherlands

16  
17    **Corresponding author:**  
18    Melinda Craike, Victoria University, Institute for Health and Sport and Mitchell Institute for Education  
19    and Health Policy, 70/40 Ballarat Rd, 3001 Footscray, Melbourne, Victoria, Australia.  
20    Email: [melinda.craike@vu.edu.au](mailto:melinda.craike@vu.edu.au)

21  
22    ©2022 Association of Schools and Programs of Public Health

Widespread adoption of evidence-informed public health is vital to improving population health.<sup>1-3</sup> However, the inconsistent use of research evidence in public health practice is a challenge.<sup>3-5</sup> Despite strong advocacy for evidence-informed public health, public health practice is often not based on the best available research evidence.<sup>6,7</sup> In this commentary, we focus on how public policy can support the translation and utilization of research evidence in public health practice.

Evidence-informed public health requires the effective translation and utilization of research evidence in practice. Several interrelated barriers hinder research evidence translation and utilization in practice, including insufficient capacity among public health practitioners, decision makers, and organizations to integrate research evidence into practice; research evidence that does not address the needs of practitioners and decision makers; and research findings that are not communicated or disseminated in ways that reach decision makers and practitioners.<sup>8-14</sup> While we acknowledge that each barrier needs to be addressed to improve research evidence translation and utilization in practice, in this commentary we focus on barriers in the production, communication, and dissemination of research. We highlight these barriers because we have experienced them as researchers who seek to translate our research into practice.

Public policy can help to address barriers by creating enabling environments for research evidence translation and utilization. Public policy influences research priority areas, the research produced, and the way it is communicated and disseminated.<sup>15-18</sup> Researchers respond to indicators from research funding bodies (who, in public health, are often governments) about what is (and what is not) expected to be funded.<sup>17,18</sup> Despite the influence of public policy on the translation of research evidence, few attempts have been made to propose public policy recommendations to support research evidence translation and utilization in practice. Rather, to date, literature has mainly focused on what individual researchers and research institutions should be doing to increase the likelihood of research evidence influencing practice. Consequently, policy makers lack guidance about which public policy initiatives are likely to increase research evidence translation and utilization.

To assist public health policy makers, we present 6 actionable public policy recommendations that address 2 barriers to research evidence translation and utilization in practice: (1) research evidence that does not address the needs of practitioners and decision makers and (2) research findings that are not communicated and/or disseminated in ways that reach practitioners and decision makers. We contend that if actioned, these public policy recommendations would support researchers to produce actionable evidence and communicate and widely disseminate their findings in accessible formats. These recommendations are based on our experience as researchers and supported by literature from knowledge translation and related areas.

56  
57  
58  
59  
60  
61  
62  
63  
64  
65  
66  
67  
68  
69  
70  
71  
72  
73  
74  
75  
76  
77  
78  
79  
80  
81  
82  
83  
84

**Recommendation 1: Public Policy Funding Priority Areas Should Promote Collaborative Research Across Disciplinary and Organizational Boundaries So That Research Addresses the Needs of Practitioners and Decision Makers**

Promoting collaborative research across disciplinary and organizational boundaries<sup>6</sup> has been proposed as one way to improve the relevance and applicability of research findings so that they address the needs of practitioners and decision makers.<sup>3,19,20</sup> Transdisciplinary research is one type of collaborative research that involves researchers from various disciplines working together to address complex problems, in partnership with those affected by the problem (people with lived experience) and those in a position to do something about the problem (ie, practitioners and decision makers). Community-based participatory research is another type of collaborative research that can help bridge the gap among research, practice, and policy through community engagement and attention to existing relationships, needs, and assets in a community.<sup>21</sup> Increasingly, academic institutions are exploring how to incentivize researchers’ engagement with practitioners and decision makers.<sup>22</sup>

Collaborative research is problem focused and shifts the paradigm from the researcher being considered the expert to researchers, practitioners, and decision makers as experts who all bring vital and complementary knowledge and skills to address complex problems.<sup>23</sup> Along with the production of relevant and actionable research findings, the involvement of practitioners and decision makers in collaborative research can increase the capacity of public health practitioners and decision makers to use research evidence through, for example, changes in attitudes toward research.<sup>24</sup> It can also encourage researchers to address problems that are of concern to practitioners and decision makers. Emerging literature supports the proposition that collaborative research may produce research that is useful to practitioners and decision makers, increase the adoption and application of research in practice and policy, and improve population health outcomes.<sup>19,25,26</sup> Although emerging, evidence for the effectiveness of collaborative research on the uptake of research evidence in practice and policy is in its infancy.<sup>27</sup> Therefore, research is needed that focuses on both the influence of collaborative research on the uptake of research evidence and subsequent health outcomes and the pathways by which these outcomes are achieved, such as attitudes toward research.

**Recommendation 2: Public Policy Funding Should Recognize and Support Strategies That Assist in Successful Collaborative Research, Such as Funding System Intermediary Roles or Supporting Professional Development for Researchers to Gain the Necessary Skills to Engage in Collaborative Research**

Creating successful collaboration across disciplines and organizational boundaries is challenging. Expectations of researchers who engage in collaborative research are high and include producing rigorous, high-quality research that contributes to community change.<sup>28</sup> Consequently, the researchers' role is not only to generate new research evidence but also to act as "change agents" (ie, participate in processes that aim to address real-world issues).<sup>29</sup> Furthermore, bringing together experts in various public health disciplines and working with diverse community partners (eg, community members, practitioners, industry partners, decision makers) requires a particular skill set to effectively engage community partners, appreciate diverse perspectives, integrate various forms of knowledge, and build trusting relationships.<sup>30,31</sup> Provision of funding for a "system intermediary" (also known as knowledge broker, boundary spanner partnership broker, knowledge integration specialist)<sup>30</sup> as part of collaborative research teams is a potential strategy to facilitate successful collaboration. These professionals have expertise in the integration of disciplinary expertise, research translation, and implementation.<sup>31,32</sup> They help bring together researchers, practitioners, and decision makers to generate new research findings and translate those findings into practice and policy.<sup>33</sup> Alternatively, public policy could support skill building/professional development of research students and researchers to engage in collaborative research, for example, in engaging diverse community partners, appreciating diverse perspectives, and building trusting relationships.

**Recommendation 3: Public Policy Funding Schemes Should Support Long-term Collaborations Among Researchers, Practitioners, and Decision Makers**

A long-term funding commitment beyond the life of a single research project is needed for meaningful collaborations among researchers, practitioners, and decision makers.<sup>34</sup> However, the focus of most research funding is single research projects. Institutional support, especially from government, for ongoing collaboration is required, and incentives and financial support are needed for activities that connect researchers, practitioners, and decision makers and enable knowledge translation activities, even after projects formally end.<sup>34</sup> Institutional and financial support may provide a foundation for follow-up research that is co-designed based on mutually identified needs and priorities, which in turn have the potential to further enhance research translation and utilization and population health outcomes. Examples include (1) after the formal end of a collaborative project, a memorandum of

118 understanding could be encouraged between the institutions or other interinstitutional agreements could  
119 be established to support postproject research translation events and activities, which will keep  
120 researchers, practitioners, and decision makers connected; or (2) allowance of funding requests could  
121 be included in project applications to support ongoing engagement beyond project delivery and  
122 continue actions toward implementation success and other opportunities for embedding evidence in  
123 practice.

124  
125 **Recommendation 4: Public Policy Funding Guidelines Should Recognize and Reward the**  
126 **Application of Research Designs and Methodologies That Are Conducive to the Production of**  
127 **Research Evidence That Is High Quality, Relevant, and Actionable in Practice**

128 Addressing the complex issues faced by practitioners and decision makers requires the application of  
129 research methodologies that can attend to complexity. Practitioners and decision makers require  
130 research evidence that is appropriate to their settings and populations and that helps in understanding  
131 complex causal pathways to population health outcomes. Although incentives within the academic  
132 research environment generally favor designs with strong internal validity, these designs sometimes do  
133 not address questions of transferability (how well the intervention works in different contexts) and  
134 generalizability (how well the intervention can be scaled up).<sup>35,36</sup> For research evidence to be used in  
135 practice and policy, researchers need to apply designs and methods that strengthen the internal and  
136 external validity of findings, including those that elicit understandings of the relationship between  
137 intervention and context.<sup>37,38</sup> A shift is needed from the current situation—in which funding schemes  
138 often reward researchers for interventions that have potential for large effect sizes in a highly  
139 controlled research setting, rather than their potential feasibility and scalability<sup>35,37</sup>—to research  
140 designs that seek to balance internal and external validity.<sup>37,39</sup>

141 To maximize research translation and utilization in practice, a need exists to recognize research  
142 designs and methodologies that are conducive to both the production of high-quality research evidence  
143 and its translation and utilization into policy and practice.<sup>36,37</sup> The value of research designs that  
144 consider effectiveness, the contexts of implementation, and the interrelated and nonlinear mechanisms  
145 that lead to outcomes has been recognized.<sup>39-41</sup> Examples of such approaches include the following:

- 146 • Case study research, which is increasingly recognized as a desirable approach to evaluating  
147 complex interventions.<sup>39-41</sup> A distinguishing feature of case study research is that it pays attention to the  
148 contextual factors that interact with interventions to produce outcomes.<sup>41</sup> Case studies consider context,  
149 complexity, and mechanisms for understanding how, where, and why interventions have their observed  
150 outcomes,<sup>41</sup> providing useful and actionable research to guide practice and policy.<sup>35,42</sup> However, in

terms of hierarchy of evidence, grading instruments generally rely on traditional evidence hierarchies that place randomized controlled trials at the top of the hierarchy, regardless of the research problem being addressed, and other types of research placed lower in the hierarchy.<sup>43</sup>

- Research designs that integrate a range of methods in an iterative way. For example, Green et al proposed an integration of quasi-experimental and inductive designs to evaluate complex public health interventions.<sup>44</sup> These types of designs facilitate the production of evidence of interest to researchers, practitioners, and decision makers and avoid trade-offs between external and internal validity.

- Hybrid effectiveness-implementation designs, which blend design components of effectiveness and implementation research. It has been suggested that blended designs can provide benefits such as rapid translational gains, effective implementation strategies, and useful information for decision makers.<sup>45</sup>

Public policy funding criteria for public health interventions should include, as a part of the assessment matrix, matters relating to implementation, such as feasibility and scalability along with the potential for efficacy. Funding criteria could include the development and application of quality indicators for research that seeks to have an impact on society and advance science. Furthermore, funding guidelines should ensure that expert reviewer panels include sufficient representation of specialists with expertise in various study designs and specify that study designs should fit the research problem being addressed, rather than favoring a particular study design. Training could also be provided to funding reviewers to enhance their competencies in assessing the knowledge translation component of funding applications.<sup>46</sup>

### **Recommendation 5: Public Policy Should Fund Dissemination Costs Beyond Peer-reviewed Journals Through Full Funding of Knowledge Translation Activities So That Research Findings Are Communicated and Disseminated to Reach Practitioners and Decision Makers**

One of the main barriers to the translation and utilization of research evidence in public health practice is a disconnection between how researchers communicate and disseminate their findings (ie, peer-reviewed publications/academic journals and conferences)<sup>47</sup> and how practitioners and decision makers learn about the latest research evidence (eg, webinars and workshops, individual communication, social media).<sup>47-50</sup> Research findings are often not easily accessible, tailored, or effectively disseminated or readily shared with practitioners.<sup>51-53</sup> Often, research findings are (1) presented in a way that does little to demonstrate their relevance and applicability to local circumstances and (2) not easily accessible to nonacademic audiences because of language and communication style focused on discipline-based

184 readership (eg, practitioners may have limited understanding of statistical terms and jargon used in  
185 research<sup>54</sup>). Research findings may not always be timely and actionable because of lengthy timelines  
186 for publication in academic journals and books, which makes it difficult for decision makers and  
187 practitioners to use them.<sup>6,37</sup> Furthermore, researchers are often not incentivized to engage in research  
188 evidence translation activities.<sup>22</sup>

189 For research evidence to be used in practice and policy, it needs to be relevant, accessible, and  
190 available in a form that practitioners and decision makers can use (eg, webinars, conferences,  
191 workshops, advocacy groups, social media, newsletters).<sup>47-50</sup> For example, research evidence  
192 dissemination needs to target practitioners and decision makers through tailored messaging and  
193 appropriate mediums, such as summary briefings with clear statements of implications for practice and  
194 policy, tools and guidance, interactive educational sessions, and media engagement. For effective  
195 dissemination to occur, researchers need to be trained and/or incentivized to make their research more  
196 accessible to nonacademic audiences, such as decision makers and practitioners, and to disseminate  
197 their research findings through a range of channels and to a range of audiences beyond academic  
198 journals and scientific conferences.<sup>22</sup> Synthesis and translation should be co-created with practitioners  
199 and decision makers to ensure that language and messaging is appropriate, reinforcing the importance  
200 of support for collaboration beyond the research project and for translation activities to be resourced.  
201 Funding schemes need to support dissemination through fully resourcing knowledge translation plans  
202 and recognize dissemination activities in funding timelines (eg, dissemination is likely to occur during  
203 and after the project’s conclusion). Furthermore, mechanisms for monitoring dissemination activity  
204 from funded projects should be examined to ensure researcher accountability for research translation  
205 activities.

206

207 **Recommendation 6: Countries Should Establish a “One-Stop” Centralized and Interactive**  
208 **Public Health Knowledge Exchange Portal to Communicate and Disseminate Research Evidence**  
209 **in a Way That Meets the Needs of Public Health Practitioners**

210 A potentially effective strategy for disseminating research evidence is the establishment of a  
211 centralized national public health knowledge exchange portal. Such a web platform would support  
212 access by practitioners, decision makers, researchers, and the public to evidence-informed literature  
213 and resources and serve as a forum for knowledge exchange across sectors and organizational  
214 boundaries.<sup>8</sup> Knowledge exchange portals usually allow user-friendly, integrated access to relevant  
215 content and resources in one place.<sup>8</sup> They bring together practitioners, decision makers, and researchers  
216 for knowledge exchange and encourage the sharing and dissemination of evidence-informed



information.<sup>8</sup> Formative evaluation studies suggest that practitioners and decision makers require easily accessible, clear, and concise information and collaborative features to engage in knowledge exchange.<sup>8</sup> When combined with other translation strategies such as tailored and targeted messaging, knowledge exchange portals can influence the use of research evidence in public health practice.<sup>8,55</sup>

Based on our knowledge, these types of portals are becoming more popular, especially in high-income countries,<sup>8</sup> but their establishment and maintenance seem to depend on institutions and project-by-project funding, which results in many smaller-scale portals that are not regularly updated and maintained. Thus, it may be difficult for researchers, practitioners, and decision makers to use them because of the fragmentation and lack of systemic effort to (1) integrate and/or connect similar portals, (2) continuously fund portal maintenance, and (3) promote the use of knowledge exchange portals. Therefore, a commitment to long-term funding of such portals is integral to their success as a mechanism for research evidence dissemination.

## Conclusion

In this commentary, we have provided recommendations to policy makers who seek to support the translation and utilization of research evidence in public health practice. We included public policy recommendations important for the production of relevant and actionable research evidence, effective communication, and wide dissemination of research findings. The suggested policy recommendations are complementary and, as such, can work toward closing the research-to-practice-and-policy gap and improving population health outcomes. Although our evidence suggests that policy recommendations could be applicable across various contexts and settings, we acknowledge that applicability and relevance of these recommendations depends on country-specific political, legal, academic, economic, and overall public health contexts and that decisions related to public health policy development, policy implementation, and funding may be made at different levels and in different settings, which may limit generalizability of the recommendations. Finally, given the importance of evaluation of public policies and policy initiatives, if these policy recommendations were to be implemented, we recommend rigorous evaluation of their effectiveness and impact.

244     **Acknowledgments**

245     Some of the ideas in this commentary are based on the work in a policy evidence brief developed for  
246     the Australian Department of Health. The authors thank the following experts and acknowledge their  
247     contribution to the policy evidence brief: Lauren Ball, PhD (Menzies Health Institute, Griffith  
248     University, Brisbane, Australia); Fiona Druitt, PhD (Institute for Sustainable Industries and Liveable  
249     Cities, Victoria University, Melbourne, Australia); Bree Nicholas, BA, GraDip (Research Services,  
250     Victoria University, Melbourne, Australia); Ingrid Penberthy, B.OccThy (National Disability Insurance  
251     Scheme Governance Branch, Department of Social Services, Canberra Australia); Yael Perry, PhD  
252     (Telethon Kids Institute, University of Western Australia, Perth, Australia); and Rosemary Calder, BA,  
253     LLD h.c. (Mitchell Institute for Education and Health Policy, Victoria University, Melbourne,  
254     Australia).

255             Additionally, a poster entitled “Increasing the translation and utilization of research evidence in  
256     public health: suggestions for public policy” was presented at the International Union for Health  
257     Promotion and Education World Conference on Health Promotion in May 2022, Montreal, Quebec,  
258     Canada.

259

260     **Declaration of Conflicting Interests**

261     The authors declared no potential conflicts of interest with respect to the research, authorship, and/or  
262     publication of this article.

263

264     **Funding**

265     The authors received the following financial support for the research, authorship, and/or publication of  
266     this article: The Australian Department of Health and Victoria University cofunded the development of  
267     a policy evidence brief that examined increasing research evidence translation and utilization to  
268     improve population health outcomes. Some of the ideas in this commentary are based on the work in  
269     this policy evidence brief.

## References

1. Brownson RC, Baker EA, Deshpande AD, Gillespie KN. *Evidence-Based Public Health*. 3rd ed. Oxford University Press; 2017.
2. Brownson RC, Fielding JE, Maylahn CM. Evidence-based public health: a fundamental concept for public health practice. *Annu Rev Public Health*. 2009;30:175-201. doi:10.1146/annurev.publhealth.031308.100134
3. Graham ID, Kothari A, McCutcheon C. Moving knowledge into action for more effective practice, programmes and policy: protocol for a research programme on integrated knowledge translation. *Implement Sci*. 2018;13(1):22. doi:10.1186/s13012-017-0700-y
4. Orton L, Lloyd-Williams F, Taylor-Robinson D, O'Flaherty M, Capewell S. The use of research evidence in public health decision making processes: systematic review. *PloS One*. 2011;6(7):e21704. doi:10.1371/journal.pone.0021704
5. Bauer MS, Kirchner J. Implementation science: what is it and why should I care? *Psychiatry Res*. 2020;283:112376. doi:10.1016/j.psychres.2019.04.025
6. Smith K. *Beyond Evidence-Based Policy in Public Health: The Interplay of Ideas*. Palgrave Macmillan UK; 2013. doi:10.1057/9781137026583
7. Hämäläinen RM, Aro AR, van de Goor I, et al. Exploring the use of research evidence in health-enhancing physical activity policies. *Health Res Policy Syst*. 2015;13(1):43. doi:10.1186/s12961-015-0047-2
8. Quinn E, Huckel-Schneider C, Campbell D, Seale H, Milat AJ. How can knowledge exchange portals assist in knowledge management for evidence-informed decision making in public health? *BMC Public Health*. 2014;14:443. doi:10.1186/1471-2458-14-443
9. Revere D, Turner AM, Madhavan A, et al. Understanding the information needs of public health practitioners: a literature review to inform design of an interactive digital knowledge management system. *J Biomed Inform*. 2007;40(4):410-421. doi:10.1016/j.jbi.2006.12.008
10. LaPelle NR, Dahlen K, Gabella BA, Juhl AL, Martin E. Overcoming inertia: increasing public health departments' access to evidence-based information and promoting usage to inform practice. *Am J Public Health*. 2014;104(1):77-80. doi:10.2105/AJPH.2013.301404
11. LaPelle NR, Luckmann R, Simpson EH, Martin ER. Identifying strategies to improve access to credible and relevant information for public health professionals: a qualitative study. *BMC Public Health*. 2006;6:89. doi:10.1186/1471-2458-6-89

12. Jacobs JA, Dodson EA, Baker EA, Deshpande AD, Brownson RC. Barriers to evidence-based decision making in public health: a national survey of chronic disease practitioners. *Public Health Rep.* 2010;125(5):736-742. doi:10.1177/003335491012500516

13. Singh KK. Evidence-based public health: barriers and facilitators to the transfer of knowledge into practice. *Indian J Public Health.* 2015;59(2):131-135. doi:10.4103/0019-557X.157534

14. Schleiff MJ, Kuan A, Ghaffar A. Comparative analysis of country-level enablers, barriers and recommendations to strengthen institutional capacity for evidence uptake in decision-making. *Health Res Policy Syst.* 2020;18(1):78. doi:10.1186/s12961-020-00546-4

15. Sibbald SL, Tetroe J, Graham ID. Research funder required research partnerships: a qualitative inquiry. *Implement Sci.* 2014;9:176. doi:10.1186/s13012-014-0176-y

16. Boswell C, Smith K. Rethinking policy ‘impact’: four models of research-policy relations. *Palgrave Commun.* 2017;3:44. doi:10.1057/s41599-017-0042-z

17. Ranson MK, Bennett SC. Priority setting and health policy and systems research. *Health Res Policy Syst.* 2009;7:27. doi:10.1186/1478-4505-7-27

18. Smith K. Research, policy and funding—academic treadmills and the squeeze on intellectual spaces. *Br J Sociol.* 2010;61(1):176-195. doi:10.1111/j.1468-4446.2009.01307.x

19. Kneale D, Rojas-García A, Thomas J. Obstacles and opportunities to using research evidence in local public health decision-making in England. *Health Res Policy Syst.* 2019;17(1):61. doi:10.1186/s12961-019-0446-x

20. Ross S, Lavis J, Rodriguez C, Woodside J, Denis JL. Partnership experiences: involving decision-makers in the research process. *J Health Serv Res Policy.* 2003;8(Suppl 2):26-34. doi:10.1258/135581903322405144

21. Wallerstein N, Duran B. Community-based participatory research contributions to intervention research: the intersection of science and practice to improve health equity. *Am J Public Health.* 2010;100(Suppl 1):S40-S46. doi:10.2105/AJPH.2009.184036

22. Jessani NS, Valmeekanathan A, Babcock CM, Ling B. Academic incentives for enhancing faculty engagement with decision-makers—considerations and recommendations from one school of public health. *Humanit Soc Sci Commun.* 2020;7(1):148. doi:10.1057/s41599-020-00629-1

23. Gagliardi AR, Berta W, Kothari A, Boyko J, Urquhart R. Integrated knowledge translation (IKT) in health care: a scoping review. *Implement Sci.* 2016;11:38. doi:10.1186/s13012-016-0399-1

24. Nyström ME, Karlton J, Keller C, Andersson Gäre B. Collaborative and partnership research for improvement of health and social services: researcher’s experiences from 20 projects. *Health Res Policy Syst.* 2018;16(1):46. doi:10.1186/s12961-018-0322-0

25. Tabak RG, Padek MM, Kerner JF, et al. Dissemination and implementation science training needs: insights from practitioners and researchers. *Am J Prev Med*. 2017;52(3 Suppl 3):S322-S329. doi:10.1016/j.amepre.2016.10.005
26. Jagosh J, Macaulay AC, Pluye P, et al. Uncovering the benefits of participatory research: implications of a realist review for health research and practice. *Milbank Q*. 2012;90(2):311-346. doi:10.1111/j.1468-0009.2012.00665.x
27. Boland L, Kothari A, McCutcheon C, Graham ID. Building an integrated knowledge translation (IKT) evidence base: colloquium proceedings and research direction. *Health Res Policy Syst*. 2020;18(1):8. doi:10.1186/s12961-019-0521-3
28. Schöpke N, Stelzer F, Caniglia G, et al. Jointly experimenting for transformation? Shaping real-world laboratories by comparing them. *Gaia Ecol Perspect Sci Soc*. 2018;27(Suppl 1):85-96. doi:10.14512/gaia.27.S1.16
29. Wittmayer JM, Schöpke N. Action, research and participation: roles of researchers in sustainability transitions. *Sustain Sci*. 2014;9:483-496. doi:10.1007/s11625-014-0258-4
30. Branch S, Riley T, Krahe M, Klepac P, Milovic B, Craike M. *System Intermediaries: A Brief Literature Review*. Pathways in Place; 2021. Accessed May 27, 2022. <https://www.pathwaysinplace.com.au/our-research/system-intermediaries-brief-literature-review>
31. Bammer G, O'Rourke M, O'Connell D, et al. Expertise in research integration and implementation for tackling complex problems: when is it needed, where can it be found and how can it be strengthened? *Palgrave Commun*. 2020;6:5. doi:10.1057/s41599-019-0380-0
32. Bammer G. *A Systematic Approach to Integration in Research*. Integration Insights. Australian Government; 2006. Accessed May 27, 2022. [https://i2s.anu.edu.au/wp-content/uploads/2009/10/integration-insight\\_1.pdf](https://i2s.anu.edu.au/wp-content/uploads/2009/10/integration-insight_1.pdf)
33. Gerrits RG, Kringos DS, van den Berg MJ, Klazinga NS. Improving interpretation of publically reported statistics on health and healthcare: the Figure Interpretation Assessment Tool (FIAT-Health). *Health Res Policy Syst*. 2018;16(1):20. doi:10.1186/s12961-018-0279-z
34. Meagher L, Lyall C. The invisible made visible: using impact evaluations to illuminate and inform the role of knowledge intermediaries. *Evid Policy J Res Debate Pract*. 2013;9(3):409-418. doi:10.1332/174426413X14818994998468
35. Green LW, Glasgow RE. Evaluating the relevance, generalization, and applicability of research: issues in external validation and translation methodology. *Eval Health Prof*. 2006;29(1):126-153. doi:10.1177/0163278705284445

- 366 36. Perry Y, Bennett-Levy J. Delivering the 'H' in NHMRC: the case for implementation research in  
367 mental health. *Aust N Z J Public Health*. 2014;38(5):411-413. doi:10.1111/1753-6405.12275
- 368 37. Ammerman A, Smith TW, Calancie L. Practice-based evidence in public health: improving reach,  
369 relevance, and results. *Annu Rev Public Health*. 2014;35:47-63. doi:10.1146/annurev-publhealth-  
370 032013-182458
- 371 38. Coldwell M. Reconsidering context: six underlying features of context to improve learning from  
372 evaluation. *Evaluation*. 2019;25(1):99-117. doi:10.1177/1356389018803234
- 373 39. Woolcock M. Using case studies to explore the external validity of 'complex' development  
374 interventions. *Evaluation*. 2013;19(3):229-248. doi:10.1177/1356389013495210
- 375 40. Grant A, Bugge C, Wells M. Designing process evaluations using case study to explore the  
376 context of complex interventions evaluated in trials. *Trials*. 2020;21(1):982. doi:10.1186/s13063-020-  
377 04880-4
- 378 41. Paparini S, Green J, Papoutsis C, et al. Case study research for better evaluations of complex  
379 interventions: rationale and challenges. *BMC Med*. 2020;18(1):301. doi:10.1186/s12916-020-01777-6
- 380 42. Green LW. Making research relevant: if it is an evidence-based practice, where's the practice-  
381 based evidence? *Fam Pract*. 2008;25(Suppl 1):i20-i24. doi:10.1093/fampra/cmn055
- 382 43. Irving M, Eramudugolla R, Cherbuin N, Anstey KJ. A critical review of grading systems:  
383 implications for public health policy. *Eval Health Prof*. 2017;40(2):244-262.  
384 doi:10.1177/0163278716645161
- 385 44. Green J, Roberts H, Petticrew M, et al. Integrating quasi-experimental and inductive designs in  
386 evaluation: a case study of the impact of free bus travel on public health. *Evaluation*. 2015;21(4):391-  
387 406. doi:10.1177/1356389015605205
- 388 45. Curran GM, Bauer M, Mittman B, Pyne JM, Stetler C. Effectiveness-implementation hybrid  
389 designs: combining elements of clinical effectiveness and implementation research to enhance public  
390 health impact. *Med Care*. 2012;50(3):217-226. doi:10.1097/MLR.0b013e3182408812
- 391 46. Scarrow G, Angus D, Holmes BJ. Reviewer training to assess knowledge translation in funding  
392 applications is long overdue. *Res Integr Peer Rev*. 2017;2(1):13. doi:10.1186/s41073-017-0037-8
- 393 47. McVay AB, Stamatakis KA, Jacobs JA, Tabak RG, Brownson RC. The role of researchers in  
394 disseminating evidence to public health practice settings: a cross-sectional study. *Health Res Policy*  
395 *Syst*. 2016;14(1):42. doi:10.1186/s12961-016-0113-4
- 396 48. Fields RP, Stamatakis KA, Duggan K, Brownson RC. Importance of scientific resources among  
397 local public health practitioners. *Am J Public Health*. 2015;105(Suppl 2):S288-S294.  
398 doi:10.2105/AJPH.2014.302323

- 399 49. Pizzuti AG, Patel KH, McCreary EK, et al. Healthcare practitioners' views of social media as an  
400 educational resource. *PLoS One*. 2020;15(2):e0228372. doi:10.1371/journal.pone.0228372
- 401 50. Dobbins M, Jack S, Thomas H, Kothari A. Public health decision-makers' informational needs  
402 and preferences for receiving research evidence. *Worldviews Evid Based Nurs*. 2007;4(3):156-163.  
403 doi:10.1111/j.1741-6787.2007.00089.x
- 404 51. Kessler R, Glasgow RE. A proposal to speed translation of healthcare research into practice:  
405 dramatic change is needed. *Am J Prev Med*. 2011;40(6):637-644. doi:10.1016/j.amepre.2011.02.023
- 406 52. Kreuter MW, Wray RJ. Tailored and targeted health communication: strategies for enhancing  
407 information relevance. *Am J Health Behav*. 2003;27(Suppl 3):S227-S232. doi:10.5993/ajhb.27.1.s3.6
- 408 53. Campbell DM, Redman S, Jorm L, Cooke M, Zwi AB, Rychetnik L. Increasing the use of  
409 evidence in health policy: practice and views of policy makers and researchers. *Aust New Zealand*  
410 *Health Policy*. 2009;6:21. doi:10.1186/1743-8462-6-21
- 411 54. Majid S, Foo S, Luyt B, et al. Adopting evidence-based practice in clinical decision making:  
412 nurses' perceptions, knowledge, and barriers. *J Med Libr Assoc*. 2011;99(3):229-236.  
413 doi:10.3163/1536-5050.99.3.010
- 414 55. Dobbins M, Hanna SE, Ciliska D, et al. A randomized controlled trial evaluating the impact of  
415 knowledge translation and exchange strategies. *Implement Sci*. 2009;4:61. doi:10.1186/1748-5908-4-61