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7 **Six Public Policy Recommendations to Increase the Translation and Utilization of Research**

8 **Evidence in Public Health Practice**

9

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23 Widespread adoption of evidence-informed public health is vital to improving population health.¹⁻³
24 However, the inconsistent use of research evidence in public health practice is a challenge.³⁻⁵ Despite
25 strong advocacy for evidence-informed public health, public health practice is often not based on the
26 best available research evidence.^{6,7} In this commentary, we focus on how public policy can support the
27 translation and utilization of research evidence in public health practice.

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

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

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

56

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

60 Promoting collaborative research across disciplinary and organizational boundaries⁶ has been proposed
61 as one way to improve the relevance and applicability of research findings so that they address the
62 needs of practitioners and decision makers.^{3,19,20} Transdisciplinary research is one type of collaborative
63 research that involves researchers from various disciplines working together to address complex
64 problems, in partnership with those affected by the problem (people with lived experience) and those in
65 a position to do something about the problem (ie, practitioners and decision makers). Community-
66 based participatory research is another type of collaborative research that can help bridge the gap
67 among research, practice, and policy through community engagement and attention to existing
68 relationships, needs, and assets in a community.²¹ Increasingly, academic institutions are exploring how
69 to incentivize researchers' engagement with practitioners and decision makers.²²

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

84

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

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

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

109 A long-term funding commitment beyond the life of a single research project is needed for meaningful
110 collaborations among researchers, practitioners, and decision makers.³⁴ However, the focus of most
111 research funding is single research projects. Institutional support, especially from government, for
112 ongoing collaboration is required, and incentives and financial support are needed for activities that
113 connect researchers, practitioners, and decision makers and enable knowledge translation activities,
114 even after projects formally end.³⁴ Institutional and financial support may provide a foundation for
115 follow-up research that is co-designed based on mutually identified needs and priorities, which in turn
116 have the potential to further enhance research translation and utilization and population health
117 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).^{35,36} 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.^{37,38} 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^{35,37}—to research
140 designs that seek to balance internal and external validity.^{37,39}

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.^{36,37} 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.³⁹⁻⁴¹ Examples of such approaches include the following:

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

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

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

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

162

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

172

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

176 One of the main barriers to the translation and utilization of research evidence in public health practice
177 is a disconnection between how researchers communicate and disseminate their findings (ie, peer-
178 reviewed publications/academic journals and conferences)⁴⁷ and how practitioners and decision makers
179 learn about the latest research evidence (eg, webinars and workshops, individual communication, social
180 media).⁴⁷⁻⁵⁰ Research findings are often not easily accessible, tailored, or effectively disseminated or
181 readily shared with practitioners.⁵¹⁻⁵³ Often, research findings are (1) presented in a way that does little
182 to demonstrate their relevance and applicability to local circumstances and (2) not easily accessible to
183 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 research⁵⁴). 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.^{6,37} Furthermore, researchers are often not incentivized to engage in research
188 evidence translation activities.²²

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).⁴⁷⁻⁵⁰ 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.²² 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.⁸ Knowledge exchange portals usually allow user-friendly, integrated access to relevant
215 content and resources in one place.⁸ They bring together practitioners, decision makers, and researchers
216 for knowledge exchange and encourage the sharing and dissemination of evidence-informed

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

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

229

230 **Conclusion**

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

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259

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