

PCORI Dissemination & Implementation

Toolkit



Appendix Materials

February 2015

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APPENDIX A
TOOLKIT WORKSHEETS

APPENDIX A. TOOLKIT WORKSHEETS

The D&I Toolkit worksheets can be used to develop D&I plans for CER or PCOR evidence. Each worksheet addresses an action step for dissemination or implementation by identifying questions for PCORI and its partners to address when planning D&I efforts. These action steps emphasize stakeholder engagement and the contextual factors related to the evidence, target audiences, and settings in which evidence may be used.

In addition to the worksheets for each action step, this appendix also includes a roadmap and a high-level summary worksheet (on the next two pages) to provide users with guides for developing D&I efforts. The roadmap and summary worksheet are designed to underscore that:

- **Every D&I effort will be unique.** Because the context of evidence, audience, and settings differs from one effort to another, there is no one-size-fits-all plan. The roadmap provides an overview of the planning required to take each effort all the way from stakeholder engagement to the evaluation of D&I activities.
- **Every D&I effort will be complex but the basic questions to answer are the same.** There are many details to consider for each multifaceted D&I plan. This is reflected in the number of questions in the Toolkit worksheets. The summary worksheet simplifies D&I planning by identifying the high-level questions that each D&I plan should ultimately answer, providing users with a big-picture perspective.
- **Every D&I effort may not require every worksheet.** What PCORI and partners will need from the worksheets will differ from one effort to another because, for example, some information may already be available from previous efforts. As such, every worksheet may not be needed for every D&I planning effort. The roadmap provides the opportunity for planning teams to note existing information to help streamline the planning process.

D&I Toolkit Worksheet Roadmap

Some Toolkit exhibits and figures (in parentheses) may be helpful when completing worksheets. Use the Progress column to track whether the team has not started (NS), partially discussed (PD), or completed that worksheet (CW), or to indicate the worksheet is not applicable (NA).

Evidence Assessment. Document the context of the evidence to be shared.	Progress
EA1: Put Evidence in Context (Exhibit III.2, p. 18)	
EA2: Determine Why the Evidence Matters	
EA3: Anticipate Barriers to Dissemination	
Stakeholder Engagement. Exhibit III.1 (Toolkit, p. 15) provides example engagement methods.	
SE1: Engage Stakeholders in Evidence Assessment	
SE2: Engage Stakeholders in Audience Identification and Partner Engagement	
SE3: Engage Stakeholders in Dissemination	
SE4: Engage Stakeholders in Implementation Activities	
SE5: Engage Stakeholders in Evaluation	
Audience Identification and Partner Engagement. Refine the target audiences and partners. Document contextual factors for the audiences.	
AP1: Identify the Target Audiences (Figure IV.1, p. 27)	
AP2: Partners with Whom to Collaborate (Exhibit IV.1, p. 29; Figure IV.2, p. 30)	
AP3: Establish PCORI and Partner Roles	
AP4: Audiences' Needs, Values, Motivations, and Expectations (Exhibit IV.2, p. 35)	
AP5: Environmental Context	
AP6: Audience Incentives for Change (Exhibit IV.3, p. 40)	
Dissemination. Identify the dissemination strategy and methods; to be completed after SE, EA, and AP series worksheets are completed.	
DIS1: Defining Goals for Dissemination	
DIS2: Information Needs Related to the Use of Evidence	
DIS3: Targeting Tactics (Exhibits V.1 and V.2, pp. 52 and 53)	
DIS4: Tailoring Tactics (Exhibits V.1 and V.2, pp. 52 and 53)	
DIS5: Make the Case for the Evidence	
DIS6: Enhance the Accessibility and Usability of the Evidence	
Implementation. Refine implementation activities; to be completed after SE, EA, and AP series worksheets are completed.	
IMP1: Technical Assistance for Implementation (Exhibit VI.1, p. 72)	
Evaluation. Identify the evaluation strategy to assess the effectiveness of D&I efforts; to be completed at the same time as the DIS or IMP worksheets.	
EVAL1: Evaluation Planning (Figure VII.1, p. 77)	
EVAL2: Evaluation Methods (Exhibit VII.1, p. 80)	
EVAL3: Evaluation Metrics (Exhibit VII.2, p. 83)	
EVAL4: Summary of Evaluation Design	

Summary Worksheet: Overview of the D&I Plan

Fill in each section of this worksheet when the D&I team has completed all worksheets for the relevant area of the D&I plan.

Brief summary of the evidence and dissemination goals.

-
- **Evidence Assessment:** Is the evidence appropriate for broad dissemination? What stakeholder priorities, needs, and concerns does the evidence address?
-
- **Stakeholder Engagement:** Which stakeholders will collaborate on D&I activities? How will stakeholder engagement be part of each step in the D&I process?
-
- **Audience Identification and Partner Engagement:** Who will benefit from having this information to make decisions? Who can help reach the audiences?
-
- **Dissemination:** What information about the evidence will help people make decisions? In what ways can that information be provided?
-
- **Implementation:** What contextual factors support implementation and sustainability and how can they be addressed? What are potential strategies for widespread implementation?
-
- **Evaluation:** What data sources and methods will be used to assess success? What outcomes will be measured to assess the effectiveness of D&I strategies?
-

Worksheet EA1. Put Evidence in Context

Goal of this Worksheet. Identify the similarities and differences of new CER or PCOR evidence to existing evidence in the same research area and assess the generalizability of the evidence.

Context. Briefly describe the scope of the evidence or research findings.

-
- **How many studies have been conducted that address the research question(s)? How large were the studies?**
-
- **What was known about this issue before these findings? How does the new evidence offer an advantage over existing evidence? To what extent does it corroborate or counter established evidence, practice, or policy?**
-
- **What differences in measurement and methodology are there among other studies compared with the study in question?**
-
- **How consistent are the results of the other studies with the results of the study in question in direction and magnitude of effect?**
-
- **Are findings generalizable beyond the population(s) studied? To which populations or settings are the findings most relevant?**
-

Worksheet EA2. Determine Why the Evidence Matters

Goal of this Worksheet. Identify why the evidence is important to the stakeholder groups for which the evidence might address priorities and needs.

Context. Briefly describe the scope of the evidence or research findings.

→ Who might want to learn about this evidence (that is, who are the potential end users)?

→ What problem(s) faced by potential audiences does the evidence address?

→ What implications does the evidence have for current practice or policy that might either detract from or support adoption or use of the evidence?

Worksheet EA3. Anticipate Barriers to Use in Decision Making

Goal of this Worksheet. Develop a list of potential barriers to inform dissemination or implementation activities.

Context. Briefly describe the scope of the evidence or research findings.

- Does the evidence counter previously held beliefs or established practices? If so, which groups, if any, might resist the evidence?
- If evidence points to uncertainty about effectiveness or is limited for certain subgroups of patients, how might this affect use or adoption of the evidence?
- What potential risks does the evidence involve for patients or patient subpopulations?
- To what extent do end users and other stakeholders consider the outcomes associated with the evidence to be important enough to warrant the resources required for dissemination and implementation? What might hinder the adoption and use of evidence?
- Is the evidence significant enough to justify potential costs associated with adoption by end users? And for whom? If it is not significant enough, what additional evidence would be needed by end users to shift the balance toward adoption?

Worksheet SE1. Engage Stakeholders in Evidence Assessment

Goal of this Worksheet. Identify the stakeholders with whom to collaborate, their information needs and ways to fill those needs, and the frequency of collaboration.

Context. Briefly describe the scope of the evidence or research findings.

-
- **Which stakeholders involved in selecting research topics and in conducting the research can help assess the evidence?**
-
- **Who else can help assess the evidence? Whose perspectives are relevant to the evidence?**
-
- **What information will stakeholders need before they can help to assess the evidence? In what ways can this information be provided to stakeholders (e.g through educational activities)?**
-
- **In what ways can collaboration with stakeholders happen? How often should stakeholders be brought together to assess the evidence?**
-

Worksheet SE2. Engage Stakeholders in Audience Identification and Partner Engagement

Goal of this Worksheet. Identify the stakeholders with whom to collaborate and the modes of collaboration.

Context. Briefly describe the scope of the evidence or research findings.

→ **Which stakeholders can help in audience identification and partner engagement? Are these the same stakeholders who helped to assess the evidence?**

→ **What is the best way to involve them?**

→ **Which other stakeholders should be included?**

Worksheet SE3. Engage Stakeholders in Dissemination

Goal of this Worksheet. Identify the stakeholders with whom to collaborate, the ways in which the stakeholders will collaborate, and the frequency of the collaboration in planning dissemination of the evidence.

Context. Briefly describe the scope of the evidence or research findings.

→ **How will PCORI and various stakeholders work together to develop a dissemination plan? Which groups or individuals are most likely to influence the audiences and help encourage adoption of the evidence?**

→ **Are these the same stakeholders who have been involved in other D&I activities? If not, who else should be included in this work? Are end users (including patients and caregivers) represented?**

→ **At what points in the process will stakeholders meet? What are the objectives of the meetings?**

Worksheet SE4. Engage Stakeholders in Implementation Activities

Goal of this Worksheet. Identify the stakeholders with whom to collaborate and the modes of collaboration.

Context. Briefly describe the scope of the evidence or research findings.

-
- **Who could collaborate with PCORI and its partners to share information on implementation facilitators and barriers and the local contexts of the target audiences?**

 - **Are these the same stakeholders collaborating in other D&I activities? If not, who else should be included in this work? Are end users (including patients and caregivers) represented?**

 - **In what ways will PCORI, its partners, and stakeholders collaborate on implementation activities?**

 - **In what ways could PCORI and partners encourage long-term stakeholder engagement to promote sustainability?**

 - **How often will everyone meet to discuss the work and share information?**
-

Worksheet SE5. Engage Stakeholders in Evaluation

Goal of this Worksheet Identify the stakeholders with whom to collaborate, ways to gather input throughout the evaluation process, and the modes of collaboration.

Context. Briefly describe the scope of the evidence or research findings.

→ Which stakeholders can help in the evaluation of dissemination or implementation activities? Are these the same stakeholders engaged in other D&I activities?

→ How can stakeholders provide input during the different phases of the evaluation?

→ How will PCORI and stakeholders work together during the evaluation activities?

→ At what points in the process will the stakeholders meet to discuss the evaluation?

Worksheet AP1. Identify the Target Audiences

Goal of this Worksheet. Develop a list of potential target audiences by level of the healthcare system (people, communities, and organizations) who would benefit from receiving information about the evidence to make health and healthcare decisions.

Context. Briefly describe the scope of the evidence or research findings.

- **Who are potential audiences for this evidence?** (List audiences in Column A below)
- **How is the evidence or the research findings relevant to the audience(s)?** (Note in Column B)
- **What are PCORI's connections to the audience?** (Note in Column C)

Column A
Audiences

Column B
Relevance of the Evidence

Column C
Existing PCORI Connections

Worksheet AP2. Partners with Whom to Collaborate

Goal of this Worksheet. Develop a list of partners with whom to collaborate.

Context. Briefly describe the scope of the evidence or research findings.

→ **Who are the potential partners for this work?** (List partners in Column A below)

→ **What audience(s) can the partners reach?** (List audiences in Column B)

→ **What are PCORI's existing connections to each partner?** (Note in Column C)

→ **What are potential roles for each partner?** (Note in Column D)

Column A
Partners

Column B
Audiences

Column C
Connections

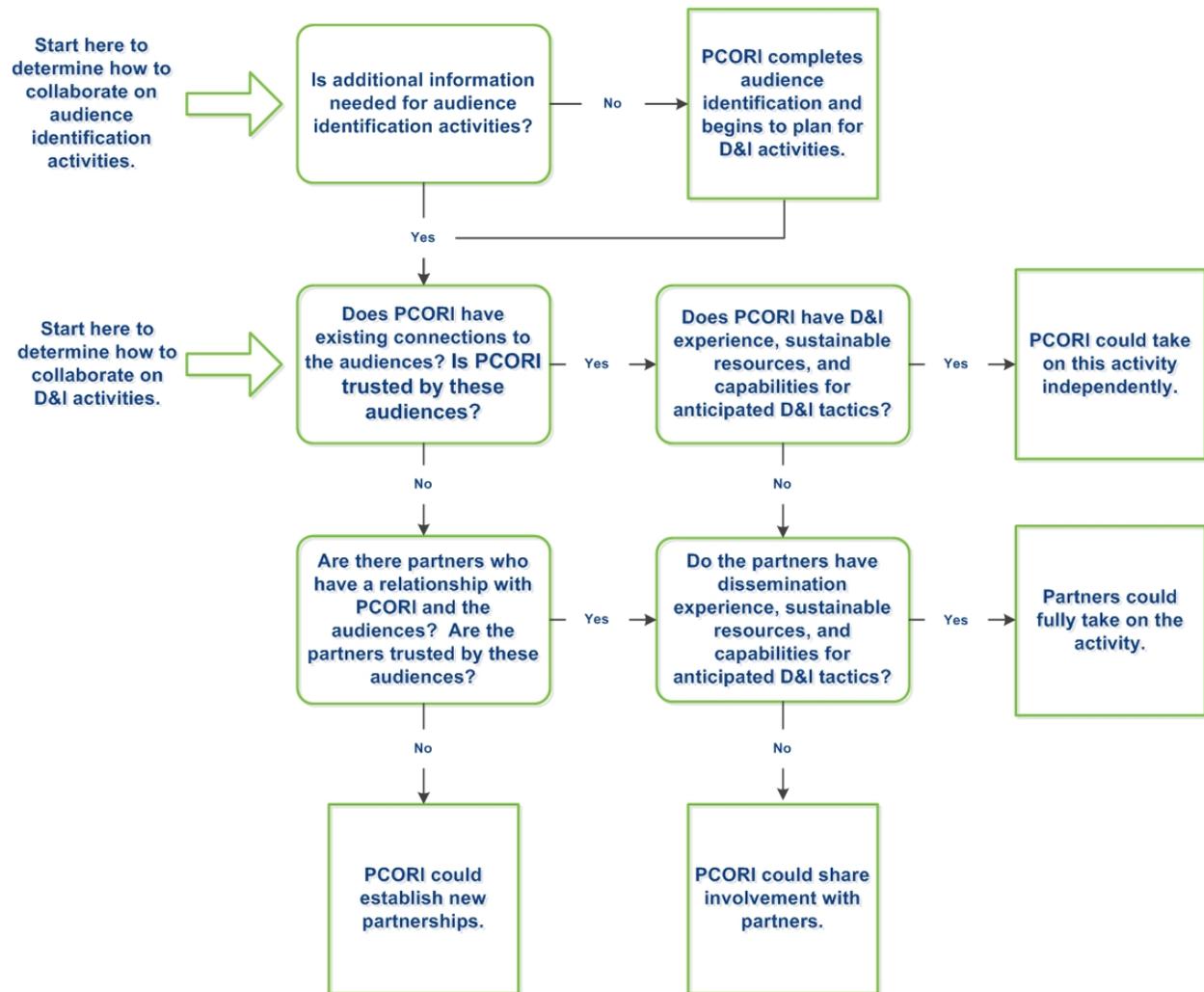
Column D
Roles

Note: See Appendix F for a list of potential organizational partners.

Worksheet AP3. Establish PCORI and Partner Roles

Goal of this Worksheet. Identify the extent to which and the ways in which PCORI and partners could collaborate on specific D&I activities.

Context. Briefly describe the scope of the evidence or research findings.



Note: This decision tree is a general guide that is meant to be adapted for specific situations. Actions for dissemination and implementation are explored in later chapters and can also inform how PCORI and its partners collaborate.

Worksheet AP4. Audiences' Needs, Values, Motivations, and Expectations

Goal of this Worksheet. For each audience, identify their needs for information about the evidence and for how and when the evidence is communicated.

Context. Briefly describe the scope of the evidence or research findings.

→ **How are the audiences' needs met by the evidence? What was identified during evidence assessment about the relevance and usefulness of the evidence to audiences' needs?**

→ **How do the audiences access information? Who or what do the audiences view as trusted sources of information?**

→ **What linguistic, cultural, or other factors might be relevant when communicating about the evidence with these audiences?**

→ **When are the audiences most or least likely to act on the evidence given competing priorities?**

Worksheet AP5. Environmental Context

Goal of this Worksheet. Identify the contextual factors associated with potential audiences that can inform dissemination and implementation strategies.

Context. Briefly describe the scope of the evidence or research findings.

→ **In what settings will the evidence be shared? How is the evidence relevant to those settings?**

→ **To what extent do the audiences have resources (such as finances or personnel) to adopt evidence? What is the business case for the audiences to adopt evidence?**

→ **Do the settings contain champions for the evidence? Does the team have established connections to those champions?**

→ **To what extent do the environment, social, and organizational contexts encourage, allow, or facilitate change?**

→ **What are the primary environmental, social, or organizational barriers to adopting evidence?**

Worksheet AP6. Audience Incentives for Change

Goal of this Worksheet. Develop a list of potential incentives and disincentives among target audiences to inform dissemination and implementation strategies.

Context. Briefly describe the scope of the evidence or research findings.

→ **How do the costs compare to the benefits across the various audiences?**

→ **What economic and noneconomic incentives might motivate the audiences to adopt or use the evidence? What has been effective with these audiences in the past?**

→ **Who can encourage adoption? Can partners' existing formal or informal networks be leveraged to reach decision makers?**

→ **What incentives might work against adoption?**

→ **To what extent do the audiences and those who reach the audiences, such as partners, have similar interests in encouraging the adoption of the evidence?**

Worksheet DIS1. Defining Goals for Dissemination

Goal of this Worksheet. Develop goals for the dissemination strategy pertaining to reach, knowledge and understanding, and use of evidence.

Context. Briefly describe the scope of the evidence or research findings.

- **What share of the target audiences should receive information about the evidence (or reach) and over what time period?**
- **What do the target audiences need to know and understand about the evidence to be able to use it? What do they want to know? How does this correspond to what was learned about the relevance and usefulness of the evidence during Evidence Assessment?**
- **How widely should the evidence be adopted or used, and over what period of time?**
- **How might the evidence affect practice, policy, or decision making among members in each of the target audiences?**

Worksheet DIS2. Information Needs Related to the Use of Evidence

Goal of this Worksheet. Develop a working list of elements that should be incorporated into messages about the evidence to increase the likelihood of adoption and use.

Context. Briefly describe the scope of the evidence or research findings.

→ **What should messages say to address factors that may help or prevent the adoption and use of evidence?**

→ **What should messages include for decision makers and organizations that might adopt the evidence?**

→ **Does the evidence need to be adapted to make adoption easier or more appropriate, and if so, for which groups or settings does it need to be adapted?**

→ **What should messages include about how the benefits compare to the risks associated with use or adoption? What are the potential consequences of not adopting the evidence and for whom? How should the messages address these consequences?**

→ **What is known about the benefits and risks to patients across various subgroups addressed by the evidence? How should the messages address the tradeoffs or limitations relevant to subgroups?**

→ **What are the costs (transaction, opportunity, or financial) associated with adoption? How can messages about the evidence address these costs?**

Worksheet DIS3. Make the Case for the Evidence

Goal of this Worksheet. For each target audience, develop a list of elements that identify the case to make for the evidence and identify how partners and stakeholders can help develop messages.

Context. Briefly describe the scope of the evidence or research findings.

→ **What is different about the new evidence compared with existing evidence and what should the message include about these differences to help people make decisions?**

→ **Based on stakeholder input, why is the evidence important? How does the evidence affect patient health, decision making or healthcare choices, policy, or practice? How can the message reflect this?**

→ **How can partners and stakeholders help to develop messages that are meaningful and personal to the audiences?**

Worksheet DIS4. Enhance the Accessibility and Usability of the Evidence

Goal of this Worksheet. For each target audience, identify ways to tailor the dissemination strategy to make the evidence more comprehensible and easier to use.

Context. Briefly describe the scope of the evidence or research findings.

Target Audience:

- What is known about the audiences' needs for information? What are their needs related to accessing, understanding, and interpreting health information in general and the evidence in particular? How can these needs be met in dissemination?
- What would enhance the interpretability of the evidence for these groups? What actions can be taken to address this? What role can partners play in doing so?
- What knowledge or skills do end users need to use the evidence? How can the messages address these needs? What role can partners play to address these needs?
- What tools could be developed to support use of the evidence (for example, checklists)?

Worksheet DIS5. Targeting Tactics

Goal of this Worksheet. For each target audience, develop a list of tactics that can be used to share information to that target audience.

Context. Briefly describe the scope of the evidence or research findings.

- **What challenges or difficulties in reaching the target audience exist? How might these be overcome?**

- **What broad-based tactics should be used? Are they effective with this audience? What more targeted tactics are effective with this audience? How can the tactics be used together?**

- **What other tactics or channels have been effective with this audience? Are any appropriate and feasible now?**

Worksheet DIS6. Tailoring Tactics

Goal of this Worksheet. For each target audience, identify factors that will inform the tailoring of the dissemination tactic to that specific target audience.

Context. Briefly describe the scope of the evidence or research findings.

→ **To what extent does the evidence address needs of the target audience? Where the evidence is not addressing a need or gap but stakeholders view it as appropriate for broad dissemination, how can attention be drawn to the evidence and its importance?**

→ **How does the evidence address the audience's concerns, values, motivations, and expectations? How can the dissemination strategy be tailored with these in mind?**

→ **What are the communication needs of the target audience (for example, language needs), and how can information about the evidence be tailored to meet those needs? What strategies (messages, modes, ways of conveying the information, and so forth) help to make the information appropriate and accessible?**

→ **What tools does the audience need to address barriers to use and its environment? Who could develop those tools, and how could end users be included in their development?**

Worksheet IMP1. Technical Assistance for Implementation

Goals of this Worksheet. Identify the factors needed to adapt an intervention to a new setting and develop guidance on piloting and sustainability that implementers can use in new settings.

Context. Briefly describe the scope of the evidence or research findings.

Addressing Implementation Context

→ How does the context or setting differ from the context or setting in which the evidence was generated?

→ What adaptations would increase the relevance and usability of the evidence for these target audiences and settings? What adaptations are needed to meet the needs of the audiences?

→ What essential components of the intervention should be preserved to maintain fidelity?

Encouraging Piloting and Sustainability

→ What guidance can PCORI provide about the evidence to inform other healthcare organizations considering new pilot programs?

→ What guidance can PCORI or its partners provide on assessing resources and other factors needed to sustain long-term change?

→ How can PCORI and its partners support implementation through ongoing assistance and monitoring?

Worksheet EVAL1. Evaluation Planning

Goal of the Worksheet. Outline a plan for the evaluation of D&I activities.

Context. Briefly describe the scope of the evidence or research findings.

-
- **What are the goals of the D&I activities? What are the research questions about adoption and use of the evidence related to those goals that an evaluation should address?**

 - **What resources are available to conduct the evaluation and who will provide those resources? Who will be included on the team to conduct the evaluation?**

 - **What is the time frame for the evaluation and how often will data be collected to assess effects of D&I activities? How will early and ongoing monitoring be achieved?**

 - **What challenges might be encountered and how can those challenges be mitigated?**

 - **How will a feedback loop be incorporated to support continuous improvement of D&I activities?**
-

Worksheet EVAL2. Evaluation Methods

Goal of the Worksheet. Identify evaluation methods to be used to assess the effectiveness of D&I activities.

Context. Briefly describe the scope of the evidence or research findings.

-
- **How can the evaluation be designed to assess whether the D&I activities have met their goals on process, short-, and long-term outcomes?**

 - **What quantitative methods can be used to evaluate D&I activities? How do they address the research questions of interest? Who will participate in data collection?**

 - **What qualitative methods can be used to evaluate D&I activities? How do they address the research questions of interest? Who will participate in data collection?**

 - **What data sources can be used to conduct each evaluation activity? How will quantitative and qualitative data sources be combined to address research questions?**

 - **What is the sequence of evaluation activities? When will outcomes be measured?**

Worksheet EVAL3. Evaluation Metrics

Goal of the Worksheet. Develop a list of measures to assess the effectiveness of D&I activities.

Context. Briefly describe the scope of the evidence or research findings.

- **What metrics can be used to measure progress on D&I activities to share PCOR evidence?**
- **What short- and long-term outcomes can be measured during the time frame of the evaluation?**
- **How do the previously identified data sources correspond to process metrics, short-term outcomes, and long-term outcomes? Do additional data sources need to be identified or additional data collected?**
- **How will metrics be analyzed and measures collected?**

Worksheet EVAL4. Summary of Evaluation Design

Goal of the Worksheet. Summarize the evaluation design for the dissemination or implementation activity based on answers to questions from Worksheets EVAL1, EVAL2, and EVAL3.

Context. Briefly describe the scope of the evidence or research findings.

Goals or Objectives (from EVAL1)	Outcomes or Metrics (from EVAL3)	Data Sources (from EVAL2)	Evaluation Methods (from EVAL2)
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APPENDIX B
METHODS

APPENDIX B. METHODS

This appendix describes the methods used to develop the D&I Framework and Toolkit. It includes information on the data sources used, the literature review conducted, the stakeholder interviews conducted, the crowd-sourcing tool used to identify stakeholder input, the exemplar interviews conducted, the activities of the stakeholder feedback phase, and analysis methods used.

- **Data Sources**

The PCORI D&I Framework and Toolkit are based on a Landscape Report that identified best practices in dissemination and implementation in health and healthcare and on feedback from more than 300 people representing 15 different stakeholder groups.

Landscape Report literature and key informant interviews

The July 2014 version of the Framework and Toolkit, which was distributed to PCORI and the Stakeholder Council for feedback, utilized literature from the nearly 200 peer-reviewed articles and grey literature sources addressing dissemination and implementation in health and healthcare included in the Landscape Report. Input from 27 key informants and crowd sourced input using **Codigital** also informed the Landscape Report. Where appropriate, the team identified and included supplemental literature for the Toolkit.

Exemplar interviews

The spotlights in the Toolkit are based on interviews with healthcare and non-healthcare exemplars in dissemination and implementation. The team conducted 16 interviews between May and July of 2014. Based on interview content and supplemental research as necessary, the team developed the spotlights to highlight real-world examples pertaining to the D&I Framework and lessons for PCORI and its partners.

Stakeholder feedback

The team shared the July draft documents for feedback with the Evidence Dissemination and Implementation Committee, the Stakeholder Council, and 251 stakeholders (representing 15 stakeholder groups) via webinars (6), in-person focus groups (7), virtual focus groups (8), and telephone interviews (44). These activities were conducted from August through October 2014. Given the large number of stakeholder groups engaged in activities, recruitment methods were highly diverse. For example, the team utilized focus group facilities for lay consumers and unaffiliated clinicians; for others, internal team and PCORI contacts were leveraged to identify participants.

- **Literature Review**

The team conducted a literature review in April 2014 to identify definitions of dissemination and implementation, D&I best practices, D&I strategies, facilitators and barriers to D&I effectiveness, and approaches to the evaluation of D&I strategies. The literature review was not intended to be a systematic review; understanding that the field of implementation science is under development; rather, it sought to scan the environment, be more inclusive, and to prioritize existing literature reviews and syntheses of the literature in the review.

Search terms, databases, and process for cataloguing references

The search strategy included peer-reviewed and grey literature, as well as seminal texts and other pieces that were recommended for inclusion by stakeholder interviewees and team members (referred to as ad hoc literature). To identify peer-reviewed literature related to dissemination or implementation, a search of PubMed and EBSCO (Academic Search Complete) was conducted. Searches were limited to articles published in English from 2000 to 2014. A librarian developed search strings, specific to each database. The following sections present the final versions of the search strings applied in April 2014 for each of the databases (Table B.1).

Process for screening literature

Once the literature was collected, at least two members of the project team reviewed the titles and abstracts of returned literature and screened the literature against a set of inclusion and exclusion criteria (Table B.2). All retrieved literature was maintained in an EndNote library.

Results of literature search and screening

Exhibit B.1 presents the results of searching the two literature databases (PubMed and EBSCO), presented by topic: dissemination or implementation. This distinction was often blurred in that many of the retrieved documents dealt with dissemination and implementation as parts of a continuum. Exhibit B.1 also shows the numbers of articles and reports (grey literature) obtained through the custom Google Search Engine as well as documents included as ad hoc literature provided by team members or suggested by stakeholders. Because the grey literature search strategy was not specific to dissemination or implementation and the ad hoc literature was obtained unsystematically, these types of literature are classified as “dissemination” or “implementation.”

Table B.1. Search Strings Implemented in PubMed, EBSCO, and Custom Google Search Engine

Dissemination	Implementation
Source: PubMed	
<p>"Comparative Effectiveness Research"[Mesh] OR "comparative effectiveness" OR (comparative[tiab] AND effectiveness[tiab]) OR (("Evidence-Based Practice"[Mesh] OR "patient centered outcomes" OR "evidence based" OR evidence-based[tiab] OR patient-centered[tiab]) AND research)</p> <p>AND</p> <p>"Information Dissemination"[Mesh] OR "Health Communication"[Mesh] OR "Diffusion of Innovation"[Mesh] OR "dissemination" OR "health communication" OR dissemination[tiab] OR diffusion[tiab] OR communication[tiab] OR ((information[tiab] OR knowledge[tiab] OR technology[tiab]) AND (transfer[tiab] OR translat*[tiab]))</p> <p>AND</p> <p>(systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR (systematic review [tiab] AND review [pt]) OR cochrane database syst rev [ta] OR (evidence based[ti] OR evidence-based medicine [ti] OR evidence synthesis [tiab]) OR (systematic [tw] OR systematically [tw]) AND (survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR reviews [tiab] OR search* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR appraisal [tw]) AND (literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR unpublished [tw])) NOT (letter [pt] OR newspaper article [pt] OR comment [pt]) AND ("2000/01/01"[PDat] : "2014/12/31"[PDat]) AND English[lang])</p>	<p>"Comparative Effectiveness Research"[Mesh] OR "comparative effectiveness" OR (comparative[tiab] AND effectiveness[tiab]) OR (("Evidence-Based Practice"[Mesh] OR "patient centered outcomes" OR "evidence based" OR evidence-based[tiab] OR patient-centered[tiab]) AND research)</p> <p>AND</p> <p>Implement*[tiab] AND (method*[tiab] OR process*[tiab] OR practice*[tiab] OR strateg*[tiab] OR innovation*[tiab])</p> <p>AND</p> <p>(systematic review [ti] OR meta-analysis [pt] OR meta-analysis [ti] OR systematic literature review [ti] OR (systematic review [tiab] AND review [pt]) OR cochrane database syst rev [ta] OR (evidence based[ti] OR evidence-based medicine [ti] OR evidence synthesis [tiab]) OR (systematic [tw] OR systematically [tw]) AND (survey [tiab] OR surveys [tiab] OR overview* [tw] OR review [tiab] OR reviews [tiab] OR search* [tw] OR handsearch [tw] OR analysis [ti] OR critique [tiab] OR appraisal [tw]) AND (literature [tiab] OR articles [tiab] OR publications [tiab] OR publication [tiab] OR bibliography [tiab] OR bibliographies [tiab] OR published [tiab] OR unpublished [tw])) NOT (letter [pt] OR newspaper article [pt] OR comment [pt]) AND ("2000/01/01"[PDat] : "2014/12/31"[PDat]) AND English[lang])</p>
Source: EBSCO	

Dissemination	Implementation
<p>S1: "Comparative Effectiveness Research" OR "comparative n3 effectiveness" OR "Evidence-Based Practice" OR "patient centered outcomes" OR (("evidence-based" OR "patient-centered") AND research)</p> <p>AND</p> <p>S2: "Information Dissemination" OR "Health Communication*" OR "Diffusion of Innovation" OR diffusion OR ((information OR knowledge OR technology) AND (transfer OR transl*))</p> <p>S3: S1 and S2</p> <p>S3 AND ("systematic review" OR "meta-analysis" OR meta-analyses OR "systematic literature review" OR "literature review" OR "systematic review" OR "evidence based" OR "evidence synthesis" OR review OR search* OR handsearch OR analysis OR critique OR appraisal)</p>	<p>S1: "Comparative Effectiveness Research" OR "comparative n3 effectiveness" OR "Evidence-Based Practice" OR "patient centered outcomes" OR (("evidence-based" OR "patient-centered") AND research)</p> <p>S2: Implement* AND (method* OR process* OR practice* OR strateg* OR innovation*)</p> <p>S3: S1 and S2</p> <p>S4: Search 3 NOT (letter OR newspaper article OR comment)</p>

Source: Custom Google Search Engine (used for both dissemination and implementation)

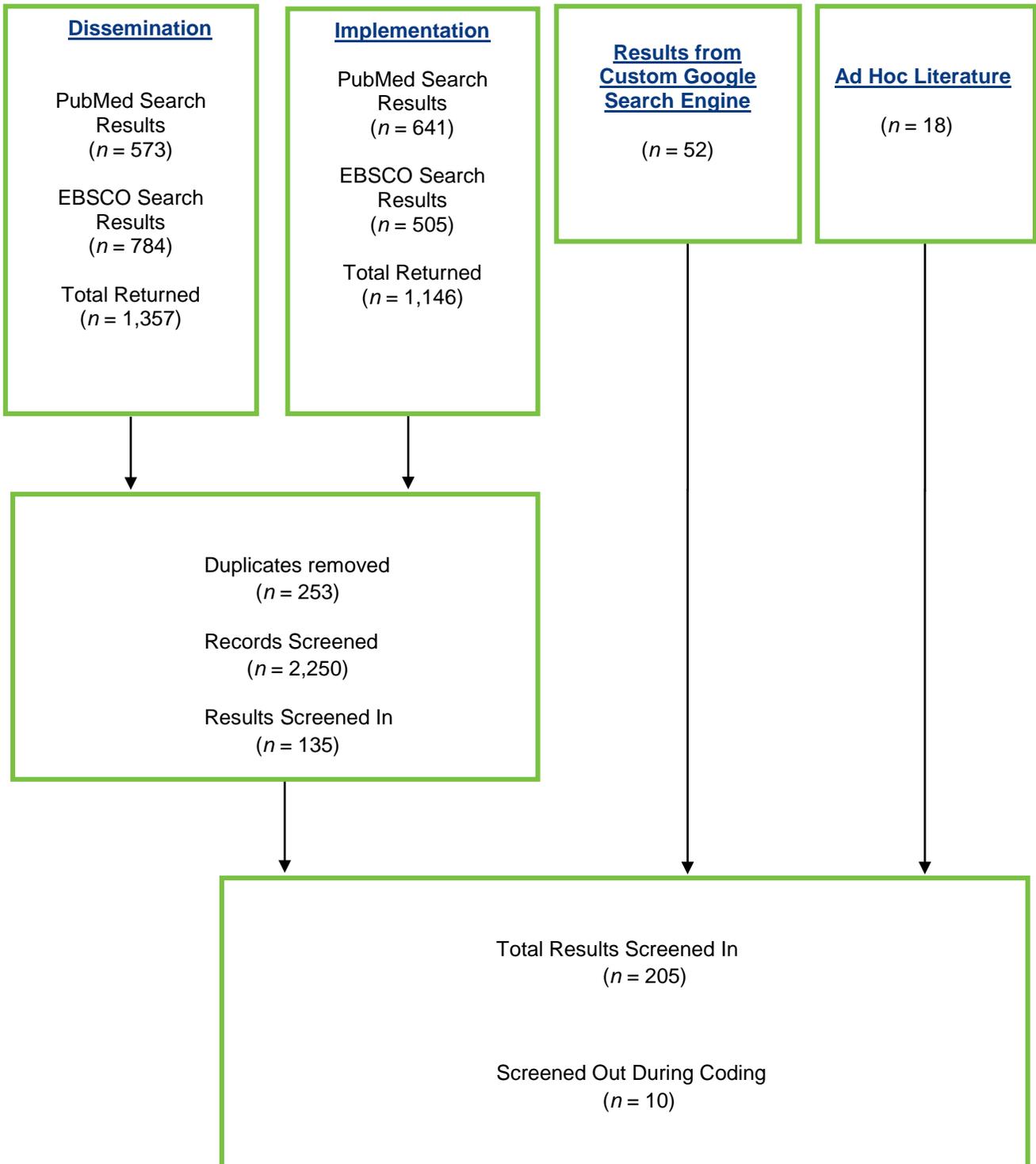
“comparative effectiveness” dissemination, evidence-based dissemination, “patient-centered outcomes” dissemination, “comparative effectiveness” communication, evidence-based communication, “patient-centered outcomes” communication, “comparative effectiveness” implementation, “evidence-based” implementation, “patient-centered outcomes” implementation, “comparative effectiveness” diffusion, “evidence-based” diffusion, “patient-centered outcomes” diffusion, “comparative effectiveness” “technology transfer”, “evidence-based” “technology transfer”, “patient-centered outcomes” “technology transfer”, “comparative effectiveness” translation, “evidence-based” translation, “patient-centered outcomes” translation, “comparative effectiveness” “improvement science”, “evidence-based” “improvement science”, “patient-centered outcomes” “improvement science”

Note: All searches were limited by date (2000-2014) and language (English). Sources for the Custom Google Search Engine included www.effectivehealthcare.ahrq.gov/, www.academyhealth.org/, forces4quality.org/, www.cdc.gov/, www.cms.gov/, http://obssr.od.nih.gov/scientific_areas/translation/dissemination_and_implementation/index.aspx, www.rwjf.org/, www.beaconcommunityprogram.com/, www.chcf.org/, <http://ama-assn.org/>, www.va.gov/, and www.iom.edu. Because Google does not use Boolean logic, a series of 21 two-phrase search strings was run.

Table B.2. Inclusion and Exclusion Criteria for Review of Relevant Literature

Inclusion criteria	Exclusion criteria
<ul style="list-style-type: none"> → Pieces published between 2000 to present, or seminal pieces determined to be relevant → Domestic pieces, except for targeted relevant international pieces → Examples of dissemination or implementation activities pertaining to health and healthcare evidence, including public health and health system programs, public awareness and other campaigns, programmatic or policy decision making, public reporting, and accountability programs, among other potential examples → Examples of dissemination or implementation activities beyond health that involve the use of evidence to inform policy, programmatic decisions, communication strategies, and other potential examples 	<ul style="list-style-type: none"> → Pieces exclusively limited to comparative effectiveness research or patient-centered outcomes research that do not address dissemination or implementation → Examples of dissemination or implementation that are not specific to research or evidence

Exhibit B.1. Literature Search Results



- **Stakeholder Interviews**

Through consultation with PCORI, the Stakeholder Council, and team members, a list of potential candidates for participation in the stakeholder interviews was identified. Representation of patients, clinicians, payers, purchasers, hospitals and health systems, researchers, and health information technology experts was sought. Interviewees were recruited via email and subsequent telephone calls when necessary. A total of 35 individuals were contacted; five declined due to having too many other commitments to accommodate an interview, one referred two colleagues at the same organization who ultimately participated; and five never responded after three attempts to contact. A total of 24 interviews, involving 27 individuals and representing 24 organizations, were conducted. Table B.3 presents the representation of each stakeholder group.

Table B.3. Stakeholder Representation In Stakeholder Interviews

Stakeholder group affiliation	Number Interviewed
Patients and consumers	5
Clinicians	5
Health information technology	1
Hospitals and health systems	4
Payers	2
Pharmaceutical industry	1
Purchasers	2
Researchers	4
Total	24

The interview protocol was developed to address the primary content areas of interest. The protocol originally addressed dissemination and implementation as separate topic areas; however, after an initial interview, it was clear that interviewees view dissemination and implementation as distinct yet overlapping activities. The protocol was revised to address dissemination and implementation concurrently to facilitate a more natural conversation and engagement. Interviewers asked interviewees to speak about their perception as representatives of a stakeholder group, as well as in terms of their observations and expertise on dissemination and implementation in general.

- **Crowd-sourcing for Stakeholder Input**

While conducting the literature review and interviews, the team also used Codigital, an online crowd-sourcing tool, as another method of gathering stakeholder input. The project team posed questions to stakeholders using a separate website for each of the following three groups: patients and their family members, nurses, and physicians. Codigital allows participants to add responses, suggest edits of existing responses, and rank existing responses. Questions addressed the following: (1) how the participant preferred to get information to help make healthcare decisions (or help their patients make healthcare decisions); (2) what factors make it hard to get or use information to help make healthcare decisions (or help patients make healthcare decisions); and (3) what types of patients are not adequately served by current methods of letting patients and providers know about healthcare research findings. All responses to the questions were synthesized and incorporated into the analysis conducted for the report.

Third parties sent informational emails on the team's behalf to invite their members to participate in the crowd-sourcing effort. In two cases, organizations used Facebook or Twitter to invite members to participate. Through project team members' and Stakeholder Council members' professional connections, communications with members of the following organizations were arranged: American Association of People with Disabilities; Consumers United for Evidence-Based Healthcare, US Cochrane Center; Consumer Partnership for eHealth, National Partnership for Women and Families; Campaign for Better Care, National Partnership for Women and Families; Consumer Patient Research Roundtable, AcademyHealth; Physician Consortium for Performance Improvement, American Medical Association; AcademyHealth nursing interest group; Interdisciplinary Nursing Quality Research Institute, Robert Wood Johnson Foundation; and a host of nursing organizations, such as the American Nurses Association.

- **Exemplar Interviews**

Similar to the process of identifying stakeholders for the Landscape Report interviews, candidates were identified for the exemplar interviews through a variety of channels, including PCORI staff, the Stakeholder Council, and through leads identified during the stakeholder interviews. To inform the identification of exemplars, a series of criteria were defined, including:

- Uses evidence, research findings, or data analysis to inform the dissemination or implementation strategy; new evidence is the impetus for action.

Rationale: To draw conclusions that are meaningful for CER and PCOR examples of dissemination and implementation that involved evidence were needed.

- Seeks to change knowledge/awareness, behavior, and practice or standards.

Rationale: The exemplar's activities need to be focused on effecting change in order to be analogous to the goals of dissemination and implementation of evidence in public health and healthcare.

- Serves public wellbeing and/or safety.

Rationale: Exemplars that face similar dilemmas and challenges in disseminating and implementing evidence for the purposes of public wellbeing or safety and who recognize an imperative to act on behalf of the public good are important. Therefore, exemplars serving commercial or private interests are not relevant.

The following were considered in identifying exemplars but were not selection criteria.

- Involves the principal-agent relationship, where one entity (an agent) is acting on behalf of another (a principal, for example, clinicians for patients), versus activities that directly reach consumers or other principals.

Rationale: A mix of exemplars involving the principal-agent relationship were important because the strategies or tactics used to influence principals may vary from those used to influence agents.

- Variation in the perceptions of value of the evidence and the immediacy with which it takes hold.

Rationale: Because the length of time between which evidence is generated and then adopted can be long, exemplars that demonstrate examples of evidence that had immediate traction and perceived value were important, as well as exemplars where the importance of new evidence was less salient or took time to be adopted.

- Variation in success of the dissemination and implementation activity.

Rationale: There is value in learning from ineffective D&I activities, specifically to draw lessons learned and to gain insights into the circumstances influencing success.

A total of 16 interviews were conducted, 10 with individuals within the health and healthcare sector and six with individuals in fields outside of health and healthcare, such as environmental science and education.

- **Stakeholder Feedback**

The team engaged 251 people from 15 different stakeholder groups to provide feedback on the draft Framework using a number of outreach methods (Appendix A), including webinars (6 in total), in-person focus groups (7 in total), virtual focus groups (8 in total), and telephone interviews (with 42 people). The team used several methods to recruit stakeholders. For example, focus group facilities recruited patients for five in-person focus groups and WebMD recruited patients, caregivers, and clinicians for webinars and virtual focus groups. For other activities and different stakeholder groups, the team leveraged its own contacts along with PCORI's to identify participants. Members of the Engagement, Dissemination, and Implementation Committee also helped identify some people to interview in a couple of stakeholder groups. Modest incentives were offered to specific groups.

The team developed two types of protocols to guide discussions. The first requested feedback on various aspects of the draft Framework and was used for groups whose members were already familiar with the concepts of dissemination and implementation. This version of the protocol solicited feedback from participants on each specific component of the draft Framework and invited suggestions for revision and opportunities for PCORI. We refer to this version as the core protocol. The second version used a case study-based approach that engaged stakeholders in a hypothetical scenario in which new research evidence was available for dissemination. The questions in this protocol mirrored the Framework components but were applied in the context of a real-world dissemination effort. The protocols are included in Appendix C. All case study scenarios were hypothetical and portrayed new research findings in the following areas: (1) alternative medications for diabetes, (2) a public health smoking-cessation program directed toward first-time smokers, (3) alternative stroke treatment options, and (4) enhanced support for adherence to existing guidelines for computed tomography (CT) scans in children with head injuries.

Both protocols focused on soliciting feedback to the following core questions and related concepts:

- What should the PCORI D&I Framework achieve and for whom?
 - Proposed definition and operationalization of dissemination and implementation
 - Goals of dissemination and implementation
 - Needs of various populations for dissemination and implementation
- How should PCORI undertake dissemination and implementation?
 - Proposed considerations and approaches for dissemination and implementation
 - Successful tactics, promising practices, and facilitators of and barriers to dissemination and implementation
- How should PCORI's D&I efforts be assessed?
 - Proposed strategies for evaluation of D&I efforts, including metrics used, perspectives included, and time frames considered

All stakeholder feedback activities began with an overview of the project and an orientation to PCORI, its mission, and its interest in dissemination and implementation. Most participants received the draft Framework document in advance and most indicated that they reviewed it (at least in a cursory way) before the discussion. All stakeholders were invited to provide general impressions of the draft Framework narrative and visual, to identify gaps or needs and concerns specific to their stakeholder perspective, and to share ideas or suggestions for PCORI's consideration.

For all stakeholder interactions, team members recorded conversations (when consent was granted to do so) and took notes that were deidentified to ensure participants' anonymity. Teams used these notes to complete a summary feedback form for each stakeholder group and subgroups. Near the end of the stakeholder feedback phase, the team met to discuss findings from each feedback activity; to consider areas of consensus or dissent in feedback and implications for revisions to the draft Framework; and to discuss alternative approaches for reflecting suggested changes.

Table B.4 summarizes the stakeholder feedback activities. Appendix C lists individuals who provided feedback.

Table B.4. Stakeholder Feedback Activities

Stakeholder group	Number of people
In-person focus groups	
Clinician associations	9
Consumer and patient advocacy groups	8
Health bloggers	5
Consumers, low-income Spanish speakers	10
Consumers, low-income English speakers	9
Consumers, multiple chronic conditions, Spanish speakers	9
Consumers, multiple chronic conditions, English speakers	10
Consumers, minority groups	12
Virtual focus groups	
Researchers	7
Peer-reviewed journal editors	10
Research funders, private foundations	6
Technology companies	10
Payers, public and private separately	8
Individual physicians	10
PCORI Partners and Ambassadors (patients/consumers)	5
Telephone interviews	
Policymakers, national and state separately	9
Delivery systems leaders	6
Implementation and knowledge transfer experts	4
Life sciences industry leaders and experts	8
Community organization representatives: YMCA	6

Stakeholder group	Number of people
Hospital leaders	4
Employers and employer groups	7
Webinars	
Primary care physicians	14
Nurses	9
Pharmacists	16
Unaffiliated consumers, ages ≥ 50	12
Unaffiliated consumers, ages < 50	14
Unaffiliated consumers, caregivers of children	15
Total Number of Persons Interviewed	247

- **Analysis**

Stakeholder interviews

Interviews were audio recorded with the permission of the interviewee (all interviewees consented to being audio recorded), and near-verbatim notes were taken to capture the discussion. All notes were uploaded into the NVivo database for coding. A team of three coders coded the interview notes. Because the interview protocol addressed dissemination and implementation concurrently, the code list used in the literature review was adapted to align with the data collection instrument. After initial training on the code list, the team underwent two cycles of piloting the code list with one set of notes and meeting to discuss discrepancies in coding before the team formally coded the notes.

Exemplar interviews

Interviews were audio recorded with the permission of the interviewee, and near-verbatim notes were taken to capture the discussion. After conducting interviews, team members identified potential candidates for spotlights. Team members authored spotlights based on notes and supplemental research as necessary.

Identification of best practices and action steps for PCORI

In writing the Landscape Report, the team identified a series of best practices for each component of the D&I process. Best practices were identified based on the synthesis of literature and interviews that included evidence supporting the practice. The best practices for the purposes of the Landscape Report were framed for a general audience. In revising the Framework and Toolkit, best practices were reframed as action steps for PCORI and outlined actions that PCORI can take for each component. Stakeholder feedback was incorporated to further describe the action steps so that PCORI's Toolkit reflects stakeholder input throughout the D&I process.

Analysis of stakeholder feedback and incorporation into the Framework and Toolkit

For all interactions with stakeholders, team members recorded conversations (when consent was granted to do so) and took detailed notes, which were then de-identified to ensure participant anonymity. Teams used these notes to complete a summary feedback template to capture themes and major takeaways for each stakeholder group. The team also debriefed to discuss major findings by stakeholder group and identify consensus themes heard across stakeholder groups. Where themes were identified, the team considered the implications to the Framework and Toolkit and implemented some major and minor revisions. The team was also attentive to comments that were not themes but were unique to particular stakeholder groups. To ensure the stakeholder feedback for each component of the framework is prominent in the Toolkit, we created callout boxes at the start of each component chapter to highlight stakeholders' input and perspectives.

APPENDIX C
STAKEHOLDER ACKNOWLEDGEMENTS

APPENDIX C. STAKEHOLDER ACKNOWLEDGEMENTS

More than 300 people from many stakeholder groups and organizations from throughout the country provided feedback on draft versions of the Framework and Toolkit. This appendix acknowledges them by name (alphabetically) and form of engagement. Each list contains people's names only (organizational affiliations are available upon request).

PCORI Engagement, Dissemination, and Implementation Committee members (10 total)

Naomi Aronson, Debra Barksdale, Lawrence Becker, Allen Douma, Howard Holland, Gail Hunt, Robert Jesse, Richard Kronick, Sharon Levine, Brian S. Mittman

Project Stakeholder Council members (25 total)

Andrew Baskin, Kathleen Blake, Henry Claypool, Kristen Cox Santiago, Linda Cummings, Joyce DuBow, Marjorie Ginsburg, Jessie Gruman, George Isham, Marguerite Koster, Julie Krowiak, David Lansky, Sanne Magnan, Newell McElwee, Michael Millenson, Judy Mohr Peterson, Margaret Murray, Robert Phillips, Anne Sales, John Santa, Gary Schwitzer, Dwayne Spradlin, Elizabeth Yano, Richard Zaldivar, Judy Zerzan

Patient and consumer advocacy organizations (8 total)

Janice Buelow, Nicole Duritz, Steve Findlay, Anna Hyde, Ayanna Johnson, Cary Sennet, Ariel Tazkargy, Peter Thomas

Primary care physicians who participated in focus groups (24 total)

Thang An, Robert Balentine, Brett Blaser, Ronald Borg, Anthony Cioce Jr., Charles Davant, John Egan, Jeffrey Elfenbein, Raymond Elsayed, Mark Faron, Karen Flannery, Marjorie Fuchs, Gintare Gecys, John Hargraves, Zohair Hasan, Paris Kharbat, David Lin, Carlos Mayer-Costa, Brad Mouse, Mary Kay Mroz, Jill Ostranger, Ashesh Patel, Nanan Selvon, Randall West

Nurses who participated in a focus group (9 total)

Jennifer Armstrong, Jeanne Brockway, Kira Bruce, Kathy Domiano, Danielle Haynes, Kim Johnson, Kenon Kildew, Luann Richardson, Rena Scates

Nurses who participated in a focus group (15 total)

Adrian Barker, Esther Burke, Anne Daprano, Alex Evans, William Gellen, Gloria Giles, Kim Herring, Carla McEwen, Marco Mennucci, Nicole Rohrbeck, Mehdi Salavati, Claire Sawicz, Nancy Shapiro, Kelly Smith, Stephen Stanton

Clinician associations (9 total)

Philip Alberti, Cynthia Brown, William Lang, Tony Miller, Eve Moscicki, Lynn Olson, Alexander Ommaya, Penelope Solis, Deborah Trautman

Researchers (11 total)

Laura Damschroder, Manisha Desai, Rowena Dolor, Nancy Dunton, Ian Graham, Trisha Greenhalgh, Gary Kreps, Raj Srivastava, Janet Tennison, Martin Wegman, Sandra Zelman Lewis

Health care delivery systems leaders who participated in interviews (6 total)

Kathy Davis, Ed Havranek, Charles Milligan, Ron Parton, Rob Reid, Renee Robinson

Hospital leaders who participated in interviews (4 total)

Carol Freeman, Ella Giles, Anna Riegle, John Voss

Representatives from employers and employer groups (7 total)

Nebeyou Abebe, Cathy Baase, Mary Bradley, Becky Lyons, Laurel Pickering, Bruce Sherman, Sally Welborn

YMCA National Diabetes Prevention Program representatives (6 total)

Tim Blenco, Mamta Gakhar, Ann Graves, Judy Ouziel, Addey Rascon, Jennifer Tucker-Mogensen

Bloggers who participated in a focus group (4 total)

Yevgeniy Feyman, Austin Frakt, Don Taylor, Brad Wright

Representatives from health care funders (6 total)

Anne-Marie Audet, Ned Calonge, Marcus Escobedo, Dominick Frosch, Claire Gibbons, Marian Mulkey

Journal editors (10 total)

Michael Barnett, Virginia Brennan, James Burgess, Sarah Dine, Sheldon Greenfield, Michelle Issel, Catarina Kiefe, Edward Livingston, Patrick Romano, William Wadland

Private payers (3 total)

Michael Kolodziej, Alan Rosenberg, Thomas Simmer

Public payers—Medicaid medical directors (5 total)

James Bush, Arvind Goyal, Nancy Henley, Carolyn Langer, Doris Lotz

Life sciences industry representatives (8 total)

Chandra Branam, Steve Brotnman, Donald May, Elanor Perfetto, Sara Radcliffe, Clara Soh, Laurel Todd, Krishan Viswanathan

Health technology companies (8 total)

Nicholas Altebrand, Robert Caldwell, Ron Goetzel, Kimberly Gray, Danielle Lloyd, Vicky Mahn, Sylvain Milet, Greg Simon

National policymakers (4 total)

Sharon Arnold, John Blum, Marjorie Kanof, Curt Mueller

State policymakers (5 total)

Andy Allison, William (Tripp) Jennings, Tony Keck, Ben Steffen, John Supra

PCORI partners and ambassadors (5 total)

Regina Greer-Smith, Amy Kratchman, Ivis Sampayo, Eleni Tsigas, Andrea Williams

Patients and caregivers (90 total)

We acknowledge the feedback of patients and caregivers who participated in one of eight focus groups or webinars. These people included both the young and old; people from underserved or underrepresented populations (those with low average incomes, African Americans, and Latinos); people with multiple chronic conditions; and Spanish-speaking consumers.

Individuals and organizations providing comments on the draft materials (7 total)

We acknowledge the feedback from the following individuals and organizations who provided feedback on the draft versions of the D&I Framework and Toolkit. Individuals included Doug Landsittel, Tara Adams Ragone, Michael Barry, and Don Kemper. Organizations included the Partnership to Improve Patient Care, BIO, and PhRMA.

Participants in the December 10, 2014 Stakeholder Workshop (7 total)

Gregory Aarons, Carla Amato-Martz, Naomi Aronson, Debra Barksdale, Michael Barry, Ethan Basch, Larry Becker, Chandra Branham, Betty Grimmett, Andrew Hu, Nancy Hughes, Gail Hunt, John Lovelace, Brian Mittman, Erica Mobley, Wynne Norton, Adam Obley, Lynn Olson, Enola Proctor, Alan Rosenberg, Monika Safford, Lewis Sandy, Jessica Scott, Chad Shearer, Lisa Simpson, Mark Skinner, Kristen Sloan, Andrew Sperling, Sheila Sweeney, Donna Thompson, Sara Traigle van Geertruyden, Morris Weinberger, Harlan Weisman, and Nicole Wilson

APPENDIX D

DEFINING DISSEMINATION AND IMPLEMENTATION

APPENDIX D. DEFINING DISSEMINATION AND IMPLEMENTATION

To develop definitions of dissemination and implementation for the PCORI D&I Framework and Toolkit, definitions from the literature were gathered and feedback was solicited during 24 stakeholder interviews on two working definitions posited at the PCORI July 2013 Roundtable on Dissemination and Implementation.

Dissemination

Definitions from the Literature

Fundamental aspects of dissemination in the peer-reviewed literature include (1) the **intention and deliberateness** of dissemination matter, (2) the **target audiences are identified and sought out**, and (3) the channels and messages used are **tailored to those audiences**. The literature, for example, contrasts dissemination with diffusion, which is characterized as “a passive, unplanned process that lacks targeted receivers” (Soydan 2009). Alternatively, “Dissemination is an intentional process in which the information is tailored and adapted to the needs of the targeted group and then actively communicated to them” (Soydan 2009). As described by others:

- “Dissemination involves a more **active**, tailored process of communication, with a goal of persuading users to adopt the innovation” (Carpenter et al. 2005).
- “Dissemination is the **active** approach of spreading evidence-based interventions to the target audience via determined channels using planned strategies” (Tabak et al. 2012).
- “Dissemination of research evidence has been defined as **actively** spreading evidence-based interventions to target audiences via specified channels using planned strategies” (Rabin et al. 2008).

The literature underscores the focus of dissemination on adoption and use of the information:

- Harmsworth et al. (2000) write that dissemination should be thought about as dissemination for awareness, understanding, and action, or a change of practice resulting from the adoption of evidence.
- “Dissemination occurs when the state of the art – what practitioners do – affects the state of the science – what researchers do, and vice versa” (Dearing 2008).
- “To many in the public health community, disseminating means alerting audiences...to new information....However, we use the term dissemination to mean a series of planned activities intended to encourage and enable adoption and implementation of proven approaches” (Maibach et al. 2006).
- “We define dissemination as **a planned process** that involves consideration of target audiences and the settings in which research findings are to be

received, and where appropriate, communicating and interacting with wider policy and health service audiences in ways that will facilitate research uptake in decision-making processes and practice” (Wilson et al. 2010).

Definitions Emerging from Stakeholder Discussions

During interviews, stakeholders were asked to define dissemination in their own words and react to a working definition. In general, stakeholders considered dissemination **deliberate, targeted, and tailored** – similar to the literature – and focusing on adoption and use of the information, moving beyond awareness to **communicating why the evidence matters in practice**.

Working Definition of Dissemination

Dissemination refers to the intentional, active communication and distribution of information to increase awareness, often targeting and tailoring the communication to specific audiences. Dissemination aims to “help it happen.”

A sample of stakeholder reactions:

- “That sounds a bit passive to me. It strikes me that the real use of comparative effectiveness research is to help future decision makers, both clinicians and people, working together to make better decisions and to make sure that those decisions are evidence-based, consistent with patient preferences. Awareness is great; that is an important first step, maybe necessary but not sufficient.” [clinician]
- “The important thing about dissemination is that it’s intentional, active, evidence-based and looks to spread the uptake to different settings.” [clinician]
- “If dissemination is: bring an issue forward for priority awareness, it is really part of a spectrum from dissemination and implementation and scaling up and sustaining.” [hospitals and health system representative]
- “It’s a planned and very conscience and deliberate communication strategy, aiming to get results out to the people [who] need to know it...I really think that dissemination is getting information out to people who actually do things.” [hospitals and health system representative]
- “I think [the definition] is okay as a standalone, but it is part of a bigger process...I think a lot of organizations see the process as wanting to do more than that and wanting to see what they can do towards the implementation part during dissemination.” [hospitals and health systems]
- “What I like about the definition is the reference to targeting and tailoring the information. We certainly do that here.” [purchaser representative]

- “Dissemination of information is meaningless unless you have programs to implement. Knowledge is not sufficient.” [patient representative]
- “My only quibble is: it’s really not about awareness, it’s about action. You really want an outcome. You want the implementation of a new approach; you don’t just want people to know about it.” [health technology representative]

• Implementation

Definitions from the Literature

The literature defines implementation as an iterative process of translating information or evidence to contexts or settings with the goal of changing decision making, behavior, and practice. Implementation follows the decision to adopt the evidence and requires adaptation and iteration. The literature emphasizes the intention for change and routinization of new behaviors in implementation:

- “Implementation describes a much more **active** process [than diffusion or dissemination], referring to a set of activities designed to **put an activity or a program into practice**....For example, Lomas (1993) distinguishes the concepts of diffusion, dissemination, and implementation as progressively more active steps in the process of flowing valid and reliable research information into clinical practice” (Cucciare et al. 2008).
- “Implementation’ goes beyond dissemination and aims at making an intervention work by **identifying and facilitating mechanisms** that promote or impede utilization of an intervention” (Soydan 2009).
- Implementation is the “translation and application of innovations, recommended practices or policies. A process of interaction between the setting of goals and the actions geared toward achieving them” (Green et al. 2009).
- “Implementation is the constellation of processes intended to get an intervention into use within an organization; it is the means by which an intervention is assimilated into an organization. Implementation is the critical gateway between an organizational decision to adopt an intervention and the routine use of that intervention; the transition period during which targeted stakeholders become increasingly skillful, consistent, and committed in their use of an intervention” (Damschroder et al. 2009).
- Implementation is “the **introduction of an innovation in daily routines**, demanding effective communication, and removing hindrances” (van Achtenberg et al. 2008).

The literature also describes efforts to translate and adapt evidence, as appropriate, as being part of implementation:

- “Implementation is ‘the use of strategies to adopt and integrate evidence-based health interventions and change practice patterns within specific settings’” (Glasgow et al. 2012).
- “Implementation or ‘program installation’ in terms of how a new intervention is configured, used, and adapted (or not) within a setting also tends to proceed in multiple phases, often in a nonlinear, stop-start-and-replay fashion” (Mendel et al. 2008).
- “Institutionalization [part of translation research and implementation] is the process by which evidence-based programs are applied across settings, populations, and conditions not previously applied” (Prohaska and Etkin 2010).

Definitions Emerging from Stakeholder Discussions

During interviews, stakeholders were asked to define implementation in their own words and react to a working definition. Stakeholders described implementation as the process of adopting evidence into practice and underscored the need for adaptation to the decision-making context and the critical role of context.

Working Definition of Implementation

Implementation refers to the intentional, active communication of information and additional actions to overcome barriers to achieve use of the information. Implementation aims to “make it happen.”

A sample of stakeholder reactions:

- “Implementation may be linked to more adoption of findings in the local setting, so the difference between scaling up in the current setting and spreading to the other settings is recognizing that context is important.” [clinician]
- “I think [implementation] is a matter of putting something into practice but in a way that balances the unique setting in which it is being implemented but also the fidelity of the research.” [hospitals and health systems representative]
- “[Implementation is] not only one-time use [of new research findings], but incorporating that research into practice.” [clinician]
- “I think of it as an art and a science. And so that science part is to define the scope to identify the evidence-based change element and then to agree on a measureable evaluation strategy. Then the art is to take evidence that is proven and understand the context and culture of the organizations,

- providers, communities, or whatever level of focus you're working at and then ensure the fidelity of the science but allow accommodation for the local culture, infrastructure, priorities, etc.” [health technology representative]
- “I believe an implementation isn't only about the information that is at hand [being disseminated]. Implementation is about ensuring that the information that is being disseminated is part of the overall decision-making process.” [pharmaceutical company representative]
 - “Implementation then is taking something...that has a protocol or evidence base that's really strong and developing a very specific protocol around it. And then figuring out in implementation what you're going to measure that's relevant to the providers in a way that they can understand the story because that's where the change is actually occurring, and giving them the information, both the protocol and knowing there's some accountability on the other end of it—not necessarily punitively. Then figuring out what the lever is that you're going to use. Those three, maybe four, parts of having the evidence-based protocol, having a measurement, some sort of implementation plan with a lever can make implementation work.” [payer representative]

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APPENDIX E

EXISTING FRAMEWORKS AND MODELS INFORMING THE PCORI DISSEMINATION AND IMPLEMENTATION FRAMEWORK

APPENDIX E. EXISTING FRAMEWORKS AND MODELS INFORMING THE PCORI DISSEMINATION AND IMPLEMENTATION FRAMEWORK

Based on our review of the literature, we identified the key components of a dissemination and implementation process for CER and PCOR. Table E.1 presents the existing frameworks and models that informed the Framework and Toolkit. In addition to incorporating concepts and elements of these frameworks and models, we reviewed the syntheses of models for dissemination and implementation conducted by Wilson et al. (2010) and Tabak et al. (2013).

Table E.1. Existing Frameworks and Models Informing the PCORI Dissemination and Implementation Framework

Existing framework or model	Evidence assessment	Audience identification and partner engagement	Dissemination	Implementation	Evaluation
<u>Diffusion of Innovations</u> : model of the dissemination and adoption of innovations, developed for sociology but adapted for public health and health services, that posits fundamental attributes of innovations that facilitate adoption and use (Rogers 1995; Greenhalgh et al. 2004; Cain and Mittman 2002)	✓	✓	✓	✓	
<u>Promoting Action on Research Implementation in Health Services (PARIHS)</u> : conceptual framework for health services that includes three primary elements: evidence, context, and facilitation (Kitson et al. 1998; Stetler et al. 2011; Rycroft-Malone et al. 2013)	✓			✓	✓
<u>RE-AIM Evaluation Framework</u> : an evaluative framework consisting of measure constructs: Reach, Efficacy, Adoption, Implementation, and Maintenance (Glasgow et al. 1999)			✓	✓	✓

Existing framework or model	Evidence assessment	Audience identification and partner engagement	Dissemination	Implementation	Evaluation
<u>Conceptual Model for Considering the Determinants of Diffusion, Dissemination, and Implementation of Innovations in Health Service Delivery and Organization</u> : a conceptual model of the facilitators to diffusion and adoption of innovations in the context of health services (Greenhalgh et al. 2004)	✓	✓	✓	✓	
<u>Interactive Systems Framework for Dissemination and Implementation</u> : conceptual framework for dissemination and implementation consisting of three systems or sets of activities: (1) Prevention Synthesis and Translation System, (2) Prevention Support System, and (3) Prevention Delivery System, developed for the Centers for Disease Control and Prevention (Wandersman et al. 2008)	✓			✓	
<u>Consolidated Framework for Implementation Research (CFIR)</u> : a framework for implementation of health services evidence into practice, consisting of five domains: (1) the intervention, (2) inner setting, (3) outer setting, (4) the individuals involved, and (5) the process by which implementation is achieved (Damschroder et al. 2009)	✓	✓	✓	✓	✓
<u>University of Washington Health Promotion Research Center (HPRC) Dissemination Framework</u> : a framework for the dissemination of evidence-based public health interventions, focusing on environmental and systems changes (Harris et al. 2012)	✓	✓	✓	✓	✓

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APPENDIX F
POTENTIAL PARTNER ORGANIZATIONS

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This table lists organizations that work with target audiences for PCOR evidence. These are suggestions for D&I partners for PCORI. The organizations listed here are mainly national-level organizations or those with a national reach (for example, the table includes the American Hospital Association, rather than state hospital associations). However, national-level D&I partners may be able to help PCORI identify additional state and local partners to better localize D&I efforts.

Advocacy organizations representing patients	
AARP	Lupus Foundation of America
Alpha-1 Foundation	March of Dimes
Alzheimer's Association	Michael J. Fox Foundation
American Association of People with Disabilities	Myasthenia Gravis Foundation of America
American Autoimmune Related Diseases Association	National Alopecia Areata Foundation
American Cancer Society	National Association for the Deaf
American Diabetes Association	National Association for the Blind
American Federation for the Blind	National Down Syndrome Society
American Foundation for Suicide Prevention	National Eczema Foundation
American Heart Association	National Foundation for Ectodermal Dysplasias
American Kidney Fund	National Hemophilia Foundation
American Liver Foundation	National Marfan Association
Amputee Coalition	National Multiple Sclerosis Society
Arthritis Foundation	National Osteoporosis Foundation
Asthma and Allergy Foundation of America	National Patient Advocate Foundation
Barth Syndrome Foundation	National Psoriasis Foundation
C-Change	Osteogenesis Imperfecta Foundation
Center for Medical Consumers	Parkinson's Action Network
Colorado Citizens for Accountability	Partnership to Improve Patient Care
Consumers Advancing Patient Safety (CAPS)	Patient Advocate Foundation
Consumer's Union	Patient Services Inc.
DiagKNOWsis	Patients Like Me
Easter Seals	PKD Foundation
Epilepsy Foundation	Prevent Blindness America
Every Patient's Advocate	PULSE: Persons United Limiting Substandards and Errors
Everyday Health	Reduce Infection Deaths (RID)
FasterCures – The Center for Accelerating Medical Solutions	RESOLVE: The National Infertility Association
Global Healthy Living Foundation	Sjogren's Syndrome Foundation
Guide Dog Foundation for the Blind, Inc.	SmartPatients.org

HealthyHIV	Spina Bifida Association
Huntington's Disease Society of America	The ALS Association
Hydrocephalus Association	The Empowered Patient Coalition
Immune Deficiency Foundation	The LAM Foundation
LIVESTRONG Foundation	The National Patient Safety Foundation`
Organizations that provide information to patients and consumers	
A.D.A.M.	Hollywood, Health & Society
CDC Entertainment Education Program	Popular Lay Press, for example Woman's Day
The Cochrane Collaboration	Staywell
Consumers United for Evidence Based Healthcare (part of the US Cochrane Center)	WebMD
HealthWise	
Physician associations	
American Academy of Pediatrics	American College of Radiology
American Association of Family Practitioners	American College of Surgeons
American Board of Family Medicine	American Medical Association
American Board of Internal Medicine/ABIM Foundation	American Society of Clinical Oncology
American College of Obstetrics and Gynecology (ACOG)	Association of American Medical Colleges
American College of Physicians	Family Physicians Inquiries Network
Nonphysician clinician associations	
American Association of Diabetes Educators	National Association of Rural Health Clinics
Association of American Cancer Institutes	National Hospice and Palliative Care Organization
Frontline Health Workers Coalition	Oncology Nurses Society
National Association of Community Health Centers	
Hospitals and health systems	
American Hospital Association	Kaiser Permanente (also a payer)
America's Essential Hospitals	National Association of Urban Hospitals
Catholic Health Association	National Rural Health Association
Children's Hospital Association	TRICARE
Federation of American Hospitals	Veteran's Health Administration
Payers (public or private insurance companies)	
America's Health Insurance Plans	Blue Cross and Blue Shield of America
Association for Community Affiliated Plans (ACAP)	Centers for Medicare & Medicaid Services (CMS)

Purchasers (employers and employer coalitions)	
Fortune 50 companies (such as Wal-Mart, General Electric, Google)	National Business Group on Health
The Leapfrog Group	Pacific Business Group on Health
Pharmaceutical companies, medical device manufacturers, and health technology firms	
BIO	HMISS EHR Association (includes individual vendors such as Cerner, GE Healthcare, McKesson)
Healthcare Information and Management Systems Society (HIMSS)	PhRMA
Health Level Seven International	
Policy and research community, including agencies, advocates, research funders, research disseminators, and conveners	
Private or quasi-governmental	
American Public Health Association	Kaiser Family foundation
Center for Health Education Dissemination and Implementation Research	MediSync
Guidelines International Network	National Committee for Quality Assurance (NCQA)
Health Partners Institute for Education and Research	National Health Policy Forum
Institute for Clinical Systems Improvement	National Quality Forum
Institute for Healthcare Improvement	New Zealand BPAC
Institute of Medicine	Partnership to Improve Patient Care (PIPC)
International Committee of Medical Journal Editors	U.S. Preventive Services Task Force
State policy organizations	
Association of State and Territorial Health Officials	National Association of Medicaid Directors
National Academy for State Health Policy	National Association of State Legislatures
Federal agencies	
Agency for Healthcare Research & Quality (AHRQ)	KT Clearinghouse (Canada)
Health Resources and Services Administration (HRSA)	National Institute of Mental Health
John M. Eisenberg Center for Clinical Decisions and Communications Science (AHRQ)	

APPENDIX G

SUPPLEMENTAL DISSEMINATION TACTICS TABLES

APPENDIX G. SUPPLEMENTAL DISSEMINATION TACTICS TABLES

In this appendix, three supplemental tables on dissemination tactics to expand on the discussion included in Chapter V. In the first table, we identify those tactics with evidence of effectiveness which suggests that context matters in the extent of effectiveness. The second table identifies tactics with evidence of effectiveness that is strong and the third identifies those tactics with limited evidence of effectiveness.

Exhibit G.1. Dissemination Tactics with Evidence of Effectiveness Suggesting that Context Matters

Dissemination tactic	Evidence of effectiveness
Audit, data monitoring, and feedback on performance	<ul style="list-style-type: none"> → Reviews suggest mixed evidence of effectiveness, with small to moderate positive effects. There is limited evidence on the attributes of audit and feedback that are effective (Grimshaw et al. 2012; Prior et al. 2008; Robertson and Jochelson 2006; Grol and Grimshaw 2003). → Attributes that may affect effectiveness include who provides the feedback, its timeliness, data quality, relevance, level of clinician buy-in, and how actionable the information provided is (Robertson and Jochelson 2006). → Can be useful in creating “cognitive dissonance” in providers regarding how they believe they practice and their actual adherence to clinical recommendations—which can motivate behavior change (Grimshaw et al. 2012).
Clinical care guidelines	<ul style="list-style-type: none"> → The manner in which guidelines are developed and their content can affect their effectiveness. For example, guideline compliance is affected by perceptions of both the organization developing the guidelines and the quality of the evidence, the complexity of the content (having an inverse relationship with compliance), and whether end users played a role in constructing the guidelines (Prior et al. 2008).
Educational materials	<ul style="list-style-type: none"> → Evidence shows mixed effects or that educational materials are ineffective as a sole dissemination strategy in changing behavior across health care professionals, including physicians, nurses, midwives, and allied health professionals (Grimshaw et al. 2012; Robertson and Jochelson 2006). → One review indicates, “Education is a necessary but not sufficient condition for behaviour change and is more effective if combined with other reinforcing strategies to form part of a multifaceted intervention” (Robertson and Jochelson 2006, p. 8). → Earlier findings suggest a modest impact on clinician behavior and the importance of using educational materials as part of a multifaceted strategy (Grol and Grimshaw 2003). → The format, layout, and content of the materials can affect their efficacy. More effective formats and content include guidelines that were simple, included direction about the respective roles of health care professionals, and provided guidance on changes required to adopt the evidence (Robertson and Jochelson 2006). → Some evidence indicates that consumer tailored educational materials are more effective – but not always more effective – than nontailored materials (Kreuter et al. 2000).

Dissemination tactic	Evidence of effectiveness
Large-scale educational conferences	→ Prior reviews find no to mixed evidence of effectiveness in changing clinician behavior, particularly when behavior is complex (Robertson and Jochelson 2006; Grol and Grimshaw 2003).
Learning collaboratives, Communities of Practice, practice-based research networks	<ul style="list-style-type: none"> → Qualitative evidence suggests the effectiveness of learning communities in large-scale quality improvement campaigns (Yuan et al. 2010). → One review finds mixed evidence of effects on patient outcomes, such as reduced length of stay, across a range of chronic conditions (Grol and Grimshaw 2003). → The following positive effects associated with Communities of Practice: increasing knowledge and skill; reducing professional, geographic and organizational barriers; reducing professional isolation, and facilitating the implementation of new processes and adoption of new behaviors (Ranmuthugala et al. 2011).
Mass media	<ul style="list-style-type: none"> → Evidence of effectiveness in changing clinician behavior is mixed: Prior et al. (2008) found that mass media is ineffective in changing clinician behavior; Grol and Grimshaw (2003) suggested mass media was associated with improvements in care; and another found that the evidence was inconclusive (Oxman et al. 1995). → Evidence of effectiveness of mass media in targeting health behaviors was mixed, although it was shown to be effective when combined with other modes (Brown et al. 2012; Robinson et al. 2014).
Reminder systems and computer-based clinical decision support (CDS)	<ul style="list-style-type: none"> → One review found evidence of mixed effectiveness but noted the evidence primary comes from highly computerized environments and may not be generalizable (Grimshaw et al. 2012). → Modest effectiveness for outpatient and primary care settings and specific clinician behaviors, including prescribing, provision of preventive care services, clinical management, adherence to test ordering guidelines, and disease management (Robertson and Jochelson 2006). → Effectiveness is influenced by: (1) simplicity of the reminder system; (2) use of a reminder system as part of a larger, multifaceted strategy; and (3) delivery of the decision support at the point of decision making (Grimshaw et al. 2012). Some evidence suggests they are more effective for professionals in training than for established professionals (Robertson and Jochelson 2006). → Oral, written, and computer-based reminders can be effective (Robertson and Jochelson 2006). → The long-term effectiveness of reminder systems on sustained behavior change after the reminders stop is unknown (Robertson & Jochelson 2006).
Shared decision making	→ One systematic review found evidence of effectiveness in terms of patient cognitive-affective outcomes, such as increased understanding and reduced decisional conflict—in instances when patients reported that shared decision making (SDM) occurred; however, the reviewers concluded that evidence of positive associations between SDM and patient behavioral and health outcomes are lacking (Shay and Elston Lafata 2014).

Exhibit G.2. Dissemination Tactics with Evidence of Effectiveness

Dissemination tactic	Evidence of effectiveness
Academic detailing or educational outreach	<ul style="list-style-type: none"> → Literature demonstrates effectiveness in changing clinician practice prescribing behavior (for example of unnecessary antibiotics); delivery of preventive services; and management of common conditions in primary practice (Vinnard et al. 2013; O'Brien et al. 2008 Robertson and Jochelson 2006). → When used with other tactics, such as reminders and feedback, academic detailing has been shown to be effective (Robertson and Jochelson 2006). → There is limited evidence on the effect of this tactic on complex clinical behaviors (Grol and Grimshaw 2003).
Clinical care bundles	<ul style="list-style-type: none"> → Care bundles can be effective in improving patient outcomes and reducing mortality in adult and pediatric patient population across a variety of patient safety issues (Resar et al. 2012; Lachman and Yuen 2009; Robb et al. 2010; Resar et al. 2005).
Consumer decision aids	<ul style="list-style-type: none"> → Established evidence from randomized controlled trials indicating that consumer decisions aids improve quality and reduce use of services of low value to consumers (O'Connor, Llewellyn-Thomas, and Barry Flood 2004). → Evidence that, compared to usual care, decision aids improve knowledge and accuracy of risk perceptions, increase the number of patients actively engaged in clinical decision making, reduce decisional conflict, and reduce the number of people who are undecided (Grimshaw et al. 2012). → When decision aids include an explicit values clarification component, they result in a higher proportion of patients making informed choices that are consistent with their values (Grimshaw et al. 2012). →
Continuing medical education (CME)	<ul style="list-style-type: none"> → Some evidence of effectiveness in increasing knowledge and making attitudinal gains, with use of multimedia, multiple exposures, and case-based learning (Marinopoulos et al. 2007; AHRQ 2007; Casebeer et al. 2008; Cook et al. 2008). → Some evidence of effectiveness in changing practice behavior when live media is used and in improving clinical outcomes (Marinopoulos et al. 2007; Cook et al. 2008; Mansouri and Lockyer 2007; Weston et al. 2008; Fordis et al. 2005). → Some evidence suggesting the effectiveness of the use of simulation training in CME (Marinopoulos et al. 2007). → Some evidence that internet-based CME is associated with an increased likelihood of using evidence in clinical decision making than non-participation (Casebeer et al. 2010; Brown et al. 2011).
Facilitated workshops and small-group interactive educational meetings	<ul style="list-style-type: none"> → Small-group interactive sessions have been associated with positive effects (Grol and Grimshaw 2003; Prior et al. 2008). → Small-group settings are more effective than large didactic meetings, particularly in outpatient settings (Robertson and Jochelson 2006).

Dissemination tactic	Evidence of effectiveness
	<ul style="list-style-type: none">→ Attributes of the meetings that contribute to effectiveness are unclear; however, evidence suggests the importance of interactivity (Robertson and Jochelson 2006).→ There is limited evidence on sustainability of positive effects (Robertson and Jochelson 2006).→ There is some evidence of cost-effectiveness (Prior et al. 2008).
Interactive health communications	→ Evidence of strong positive effects on knowledge, social support, and clinical outcomes (Grimshaw et al. 2012).

^a Computer-based information packages that combine health information and at least one of the following: decision support, social support, or behavior change support (Grimshaw et al. 2012).

Exhibit G.3. Dissemination Tactics with Limited Evidence of Effectiveness

Dissemination tactic	Evidence of effectiveness
How-to guides and toolkits	<ul style="list-style-type: none"> → Qualitative evidence of effectiveness of practical tools to support implementation in large-scale quality improvement campaigns (Yuan et al. 2010). → Widespread development of guides to support dissemination and implementation efforts on topics such as patient and family engagement in the inpatient setting, TeamSTEPPS training guide, guide to implementation of electronic health records, and a guide for implementing language services, among many other types of guides available, but limited evidence of effectiveness of these tools.
Multimedia, including videos, podcasts, and slide presentations	<ul style="list-style-type: none"> → Evidence of no advantage in outcomes over traditional printed educational materials for children with asthma in the United States; however, some evidence of cost-effectiveness (Homer et al. 2000). → Some evidence that distribution of findings through multiple media enhances the reach of the information—often to groups that did not already have the information (Bernhardt, Mays, and Kreuter 2011).
Evidence briefs, policy briefs, fact sheets, infographics, research summaries	<ul style="list-style-type: none"> → Evidence of effectiveness unclear. → Stakeholders contributing to the toolkit indicated that they highly value research summaries. → Public health administrators and policymakers value research summaries and clear statements regarding the implications of the research findings (Dobbins et al. 2007; Jewell and Bero 2008).
Electronic mailing lists or listservs	→ Evidence of effectiveness unclear
Publication in books (for research or broader audiences), technical reports, chartbooks, trade magazines, and special interest newsletters	<ul style="list-style-type: none"> → Evidence of effectiveness unclear → May reach more technical audiences so more complex information about the research may be included
Social media, including blogs and tweets; online discussion forums; open and closed platforms	<ul style="list-style-type: none"> → One systematic review on the use of social media in child health found inconclusive quantitative evidence of effectiveness but suggests that it can be used as a tool to facilitate communication between peers; this review highlighted qualitative evidence that reported the benefits of participating in discussion forums and the use of the tools in facilitating the development of a support network (more relevant to older children, parents, and caregivers). This review also suggests that efforts to identify the tools already used by the target audiences may be more effective than developing new tools that the target audience has to find and start using (Hamm et al. 2014). → Evidence that social media tools have been used effectively in emergency preparedness efforts (Merchant et al. 2011). → Evidence of increasing use of social media among hospitals (Thaker et al. 2011) and physicians (McGowan et al. 2012).

Dissemination tactic**Evidence of effectiveness**

Small media (brochures, newsletters, posters, flyers)

- Anecdotal evidence of brochure effectiveness (Bennett and Jessani 2011).
- Patients and consumers who contributed to the toolkit suggested using public transit ads as part of a multifaceted dissemination strategy.

Websites

- There is limited evidence of effectiveness of websites as dissemination tools; however, they offer potential for targeting, individual tailoring, and interactivity (Bennett and Glasgow 2009).
- Websites can simultaneously serve the functions of other dissemination tactics, such as policy briefs and brochures, and can act as a repository of information (Bennett and Jessani 2011).

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