Appendix F: Resources

Resources on Assessing HIE Value

Throughout this guide, selected resources offer additional information on the topics discussed. Many are freely available online, while others require purchase and are available in various formats. The location and availability of each resource is noted accordingly, and the information was verified as of December 2013. The following resources expand upon the topic of assessing the value of HIE:

- Bailey JE, Wan JY, Mabry LM, et al. Does health information exchange reduce unnecessary neuroimaging and improve quality of headache care in the emergency department? J Gen Intern Med 2013 Feb;28(2):176-83. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3614141/?report=classic

  This study shows that HIE use was associated with a reduction of unnecessary diagnostic neuroimaging in the emergency department. Through an analysis of patient visits to a Memphis-area emergency department connected to a regional HIE, the authors demonstrate an associated decrease in diagnostic imaging and an increase in evidence-based guideline adherence during the emergency evaluation. The study was unable to associate HIE use with a decrease in the overall costs of care. The article is available for a fee at the Web site noted above.

- Dixon BE, Zafar A, Overhage JM. A Framework for evaluating the costs, effort, and value of nationwide health information exchange. J Am Med Inform Assoc 2010;17(3):295-301. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995720/?report=classic

  Through a review of the literature and the knowledge gained from nationwide health information network (NHIN) technology and policy development, the authors offer a framework that can help HIE organizations consider available measures to evaluate data exchange between an HIE network and the NHIN. The authors conclude that the proposed evaluation framework may enable HIE organizations and the NHIN to demonstrate value. This resource is freely available at the Web site noted above.

- Frisse ME, Johnson KB, Nian H, et al. The financial impact of health information exchange on emergency department care. J Am Med Inform Assoc 2012 May-Jun;19(3):328-33. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3341788/

  This landmark study estimates the financial impact of HIE on emergency department care and related costs for hospital admissions from the emergency department and laboratory tests. Through an analysis of clinical and administrative documents obtained from 16 major health care provider organizations in the Memphis area, the authors demonstrate considerable annual financial savings due to HIE use. This resource is freely available at the Web site noted above.
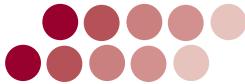
- Hansagi H, Olsson M, Hussain A, Öhlén G. Is information sharing between the emergency department and primary care useful to the care of frequent emergency department users? Eur J Emerg Med 2008;15(1):34. http://meta.wkhealth.com/pt/pt-core/template-journal/lwwgateway/media/landingpage.htm?issn=0969-9546&volume=15&issue=1&spage=34.

  This study describes how primary care physicians and emergency departments assessed the usefulness of HIE. Though the information was considered useful, no decrease in emergency department utilization was found. This article is available for a fee at the Web site noted above.

- Joshi J. Clinical value-add for health information exchange (HIE). Int J Med Inform 2011;6(1). http://www.ispub.com/journal/the-internet-journal-of-medical-informatics/volume-6-number-1/clinical-value-add-for-health-information-exchange-hie.html.

  This article describes the clinical impact of HIE—positive and negative—to help ascertain how true value can be attained. Utilizing an advanced literature review, the author populated two tables with information on the positive and negative aspects of HIE. The result is an excellent resource for a broad overview of the benefits, negative aspects, and notable uncertainties of HIE. This resource is freely available at the Web site noted above.

- Kern LM, Wilcox A, Shapiro J, et al. Which components of health information technology will drive financial value? Am J Manag Care 2012 Aug;18(8):438-45. http://www.ajmc.com/publications/issue/2012/2012-8-vol18-n8/which-components-of-health-information-technology-will-drive-financial-value/1.

  Seeking to measure the financial value of electronic health records and HIE, the investigators developed a framework for rating the financial effects of HIE. The study identified 27 high-scoring HIE functionalities that have a measurable positive financial effect. This article is freely available at the Web site noted above.

- Various authors. Focus on health information technology, electronic health records, and their financial impact. J Am Med Inform Assoc 2012;19:328-412. http://jamia.bmj.com/content/19/3.toc.

  This special issue of JAMIA may provide guidance in studying the financial benefits of health IT, including HIE projects. The articles cover topics such as the financial impact of HIE on emergency department care, HIE technology workflow factors and patterns of use, and the cost-effectiveness of a shared computerized decision support system. This resource is freely available at the Web site noted above.

- Vest JR. Health information exchange and healthcare utilization. J Med Syst 2009 Jun;33(3):223-31. http://rd.springer.com/article/10.1007%2Fs10916-008-9183-3.

  The author sought to identify associations between HIE utilization and a reduction of emergency room visits and inpatient hospitalizations for ambulatory care-sensitive conditions among medically indigent adults. Higher levels of HIE utilization were

significantly associated with an increase in instances of all encounter types, but HIE utilization did not transform care in the ways that the author sought to demonstrate. This article is available for a fee at the Web site noted above.

Legal and Policy Resources

The following resources provide more information on research oversight, IRB review, and related legal and policy issues:

- Office for the Protection of Research Subjects, Office of the Provost, University of Southern California. Is your project human subjects research? http://www.usc.edu/admin/oprs/private/docs/oprs/NHSR_3_6_06_WEB.pdf.

  This booklet provides guidance to investigators who may be uncertain if their study meets the definitions of human subjects research stated in Federal regulations, offers an explanation of the definitions, and provides examples of studies that commonly do or do not qualify as human subjects research. It includes a useful resources section. The booklet is freely available at the Web site above.

- Office for Human Research Protections (OHRP), U.S. Department of Health and Human Services. http://www.hhs.gov/ohrp/index.html.

  The OHRP site provides clarification and guidance for HHS-sponsored research. It provides advice on ethical and regulatory issues in biomedical and social-behavioral research, for example, and guidance on exempt and expedited review determinations and continuing review. It also has decision trees and checklists. This resource collection is freely available at the Web site above.

Online Evaluation Resources

The following resources help support program evaluation planning and describe different evaluation approaches and methods:

- Bamberger M, Rugh J, Mabry L. American Evaluation Association. Real World Evaluation. http://comm.eval.org/Resources/ViewDocument/?DocumentKey=c4ffe767-22ad-435a-82b2-699608e44b8b. Accessed June 12, 2014.

  This online publication from the American Evaluation Association focuses on the practical or "real world" issues that can arise at each stage of the design and implementation of a typical evaluation. Readers will learn to identify and address common evaluation constraints related to funding, time, availability of data, and clients' preconceptions, while maintaining the highest level of methodological rigor. This resource can help in selecting an evaluation design that best addresses the needs of clients and stakeholders. This resource is freely available at the Web site noted above.

- Centers for Disease Control and Prevention. CDC's Evaluation Efforts. http://www.cdc.gov/eval/index.htm. Accessed June 12, 2014.

  The CDC believes that program evaluation is an essential organizational practice in public health, and that when programs conduct strong, practical evaluations, the findings are better positioned to inform their management and improve program effectiveness. This Web site provides information on the CDC's evaluation standards and expectations, as well as a set of steps and standards for practical evaluation by programs and partners. This resource is freely available at the Web site above.

- Program Development and Evaluation—University of Wisconsin—Extension. Evaluation. http://www.uwex.edu/ces/pdande/evaluation/index.html.

  The University of Wisconsin-Extension Cooperative Extension has made available online two of the key resources that form their organizational evaluation framework. The first is a guide designed to help the reader plan a program evaluation and adapt it to their own needs and situation. The second resource is an online course that provides a holistic approach to planning and evaluating education and outreach programs. The course also discusses logic models and how they apply to program evaluation. Also available on this Web site are many links to evaluation resources and standards across organizations. This resource is freely available at the Web site above.

- Trochim WMK. Research Methods Knowledge Base. Introduction to Evaluation. http://www.socialresearchmethods.net/kb/intreval.php.

  The Research Methods Knowledge Base is a great introductory discussion of evaluation. Readers will learn the definitions and goals of evaluation, as well as the different evaluation strategies. This site also provides useful information on the types of evaluation, and the situations in which each is most effective. This resource is freely available at the Web site above.

- W.K. Kellogg Foundation Evaluation Handbook. Battle Creek, MI. http://www.wkkf.org/resource-directory/resource/2010/w-k-kellogg-foundation-evaluation-handbook.

  This online handbook from the W.K. Kellogg Foundation discusses the role that evaluation should play at the project level. It provides a framework for thinking about evaluation, and outlines a plan for designing and conducting evaluations, either independently or with the support of an external evaluator or consultant. The action steps are organized into three main sections: (1) Planning: Preparing for an Evaluation; (2) Implementation: Designing and Conducting an Evaluation; and (3) Utilization: Communicating Findings and Utilizing Results. This resource is freely available at the Web site above.

Other Evaluation Resources

The following resources provide more information on evaluating HIE projects:

- Johnson KB, Gadd C. Playing smallball: Approaches to evaluating pilot health information exchange systems. J Biomed Inform 2007;40(6 Suppl):S21-6. http://www.sciencedirect.com/science/article/pii/S1532046407000822.

  The authors of this article suggest that, because of their use of newly evolving technology, HIE projects need to be evaluated beginning with an assessment of the processes and functional usability of the HIE system. Next, the stability of the HIE system and its environment must be considered. Only after these two areas have been evaluated is it appropriate to consider evaluating outcome measures. This resource is freely available at the Web site above.

- Marchibroda JM. Health information exchange policy and evaluation. J Biomed Inform 2007;40(6 Suppl):S11-6. http://www.sciencedirect.com/science/article/pii/S1532046407001013.

  Marchibroda offers a series of critical evaluation questions for HIE projects. These questions broadly address the topics of quality improvement, safety, efficiency, value to stakeholders, sustainability, and barriers to HIE projects. This resource is freely available at the Web site above.

- Shapiro JS. Evaluating public health uses of health information exchange. J Biomed Inform 2007;40(6 Suppl):S46-9. http://www.sciencedirect.com/science/article/pii/S1532046407000810.

  This article describes use cases for evaluating public health uses of HIE systems. The author describes use cases for laboratory reporting, mandated diagnoses, investigating reportable diseases, analyzing laboratory results that do not have mandatory reporting, antibiotic-resistant organism surveillance, and population health quality monitoring. This resource is freely available at the Web site above.

Additional Resources

The following resources provide strategies for using **qualitative methods in HIE project evaluations**:

- Ash JS, Guappone KP. Qualitative evaluation of health information exchange efforts. J Biomed Inform 2007;40(6 Suppl):S33-9. http://www.sciencedirect.com/science/article/pii/S1532046407000846.

  This article reviews methods that can be used to collect qualitative data to evaluate HIE projects (e.g., interview, observation, and focus groups). The article also discusses the following critical elements for evaluation: design, development of the research questions, and description of the context and evaluation strategies. This resource is freely available at the Web site above.

- Ash JS, Smith AC, Stavri PZ. Interpretive or qualitative methods: subjectivist traditions responsive to users. In: Friedman CP, Wyatt JC, editors. Evaluation methods in medical informatics. 2nd edition. New York, NY: Springer-Verlag; 2005. p. 267-300.

  This book chapter is intended to provide a "how to" guide for biomedical informatics evaluation research. Full access to this book chapter requires purchase.

- Berg BL. Qualitative Research Methods for the Social Sciences (6th Edition). Boston, MA: Pearson; 2007.

  This book provides an overview of qualitative research design and methods. It also provides information on interviewing, focus group interviewing, ethnographic field research, action research, unobtrusive measures in research, historiography and oral traditions, and case studies. Full access to this book requires purchase.

The following resources address aspects of **survey design**:

- Agency for Healthcare Research and Quality. Health IT Survey Compendium. http://healthit.ahrq.gov/health-it-tools-and-resources/health-it-survey-compendium.

  This is a centralized and regularly updated collection of health IT surveys. The collection includes publicly available surveys, and is not a comprehensive set of survey instruments and tools available in the health IT community. Many of the surveys were developed by AHRQ grantees. Others were found via searches on PubMed, BioMed Central, and the Internet. The user can search for publicly available surveys by survey type, technology, care setting, and respondent type. The surveys can then be used as is, or can be modified to suit a user's needs. This resource is freely available at the Web site above.

- UCLA Center for Health Policy Research. California Health Interview Survey. http://healthpolicy.ucla.edu/chis/design/Pages/overview.aspx.

  The California Health Interview Survey (CHIS) is the nation's largest State health survey. Conducted every 2 years on a wide range of health topics, CHIS data provide detailed information regarding the health and health care needs of California's large and diverse population. The CHIS Web site allows you to download and review detailed methodological reports, questionnaires, sample design descriptions, survey topics, and the data quality strategies used in conducting CHIS. This resource is freely available at the Web site above.

- Doyle JK. Introduction to survey methodology and design. In: Woods DW, editor. Handbook for IQP Advisors and Students. Worcester, MA: Interdisciplinary & Global Studies Division—Worcester Polytechnic Institute; 2009. p. 84-109. http://www.wpi.edu/Images/CMS/IGS/IQP-Handbook-one-file.pdf.

  This chapter discusses the basic principles of scientific survey design and methodology. Readers are introduced to these basic principles and advised where to go to learn more. This resource is freely available at the Web site above.

- Hinkin TR. A brief tutorial on the development of measures for use in survey questionnaires. Org Res Meth 1998;1:104-21. http://www.iacmr.org/v2/Conferences/WS2011/Submission_XM/Participant/Readings/Lecture4A_Larry/Hinkin%20(1998)%20A%20Brief%20on%20the%20Development%20of%20Measures%20for%20Use%20in%20Survey%20Questionnaires.pdf.

  This article provides a conceptual framework and a guide for the development of scales with established psychometric principles for use in survey research. The article is directed toward readers who may have limited knowledge or methodological expertise in the scale development process, but who are somewhat familiar with statistical concepts and survey methodology. The article discusses which analysis methods should be used for a particular study, potential problems that may arise with the use of surveys, recommendations for reporting results, and ways to make survey development more effective. This resource is freely available at the Web site above.

The following resources address the use of **focus groups**:

- Robert Wood Johnson Foundation. Focus Groups. http://www.qualres.org/HomeFocu-3647.html

  This Web site provides introductory information for learning about focus groups. It describes the general design principles and characteristics of focus groups. The Web site also provides information on when it is appropriate to use a focus group, how to record focus group data, and how a focus group can benefit a research study. This resource is freely available at the Web site above.

- Dawson S, Manderson L, Tallo VL. A manual for the use of focus groups. Boston, MA: International nutrition foundation for developing countries; 1993. http://libdoc.who.int/publications/1993/0963552228.pdf.

  This online manual is intended for social science and medical researchers who intend to use focus groups to obtain information quickly regarding a topic. The manual discusses the benefits of the focus group methodology and techniques that can be used to help ensure valid results. The manual also provides a series of step-by-step instructions for conducting focus groups. This resource is freely available at the Web site above.

- Grudens-Schuck N, Allen BL, Larson K. Focus Group Fundamentals. 2004;PM 1969b:1-6. http://www.extension.iastate.edu/publications/pm1969b.pdf.

  This article describes focus group methodology to generate valid information important to the advancement of programs, such as HIE projects. The article describes the fundamental aspects of focus groups by distinguishing them from surveys and other commonly used research methods. This resource is freely available at the Web site above.

- Kitzinger J. Qualitative research. Introducing focus groups. BMJ 1995;311(7000):299-302. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2550365/pdf/bmj00603-0031.pdf.

- This article suggests that focus groups are particularly suited to the study of attitudes and experiences, and to the examination of how knowledge and ideas develop and operate within a cultural context. The article provides an introduction to focus group methodology and provides guidance on group composition, conducting the discussion, and analyzing the results. The article also discusses factors to consider when designing or evaluating a focus group study. This resource is freely available at the Web site above.

The following resources provide more information on **manual medical record review**:

- Allison JJ, Wall TC, Spettell CM, et al. The art and science of chart review. Jt Comm J Qual Improv 2000;26(3):115-36. http://www.ingentaconnect.com/content/jcaho/jcjqs/2000/00000026/00000003/art00001

  Based on prior research, Allison et al. concluded that many investigators overlook the intricacies involved in obtaining high-quality data. The article concludes that medical record review is a difficult process, and is hard to standardize across projects. Many factors may compromise data quality, such as imprecisely worded research questions, vague specification of variables, poorly designed abstraction tools, inappropriate interpretation by abstractors, and poor or missing recording of data in the medical record. For projects that require ongoing abstraction of large numbers of clinical records, data quality may be observed with control charts and the principles of statistical process control. This resource is available for purchase at the Web site above.

- Cassidy LD, Marsh GM, Holleran MK, et al. Methodology to improve data quality from chart review in the managed care setting. Am J Manag Care 2002;8(9):787-93. http://www.ajmc.com/publications/issue/2002/2002-09-vol8-n9/Sep02-134p787-793.

  When medical record review data are collected by multiple reviewers, the potential for variability always exists. This may also result from difficulties with data abstraction tools. To determine the extent of agreement between multiple reviewers, the authors present their method consisting of statistical analyses, the identification of areas for improving data collection procedures, and a description of the processes they implemented to improve data reliability. Results indicate that inter-rater reliability (IRR) studies that use appropriate statistical sample size techniques and analysis methods are likely to ensure the reliability of data collected through medical record review. Standardized methods of data collection and evaluation of IRR results increased confidence in data collection and statistical analyses, and in reaching conclusions and deriving relevant recommendations. This resource is available with a free registration at the Web site above.

- Gearing RE, Mian IA, Barber J, et al. A methodology for conducting retrospective chart review research in child and adolescent psychiatry. J Can Acad Child Adolesc Psychiatry 2006;15(3):126-34. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2277255.

  Despite the volume of data available in historical medical records, retrospective research that incorporates medical record review is not often used in child and adolescent psychiatry. In this article, Gearing et al. describe a scientific approach to medical record review research methodology in the field of psychiatry. This article also contains

step-by-step guidelines for extracting data effectively and systematically from historical records. The authors conclude that despite notable limitations to retrospective medical record review research, including incomplete or missing documentation, the methodology continues to offer numerous advantages. This resource is freely available at the Web site above.

● Murff HJ, Forster AJ, Peterson JF, et al. Electronically screening discharge summaries for adverse medical events. J Am Med Inform Assoc 2003;10:339-50. http://171.67.114.118/content/10/4/339.full.pdf+html.

In this article, Murff et al. hypothesized that discharge summaries would contain important information related to adverse events (AEs). They then created an electronic screening method that searched discharge summaries to detect AEs. Prior to this study, medical records often underwent a two-part review process. Records were first reviewed manually for the presence of one or more predefined screening criteria. If a medical record contained one of these criteria, it then went through physician review to make the final assessment regarding AE occurrence. This manual prescreening approach often leads to inclusion of more medical records than appropriate, so the authors sought to develop a tool that would automate the process. The article concluded that electronic screening of discharge summaries for adverse events is possible but has poor specificity. However, computerized clinical narrative screening methods potentially could offer researchers the ability to routinely detect adverse events. This resource is freely available at the Web site above.

The following resources discuss **dating mining**:

● Moore A. Auton Lab—Carnegie Mellon University's School of Computer Science. Statistical Data Mining Tutorials. http://www.autonlab.org/tutorials.

This Web site includes "a set of tutorials on many aspects of statistical data mining, including the foundations of probability, the foundations of statistical data analysis, and most of the classic machine learning and data mining algorithms. These include classification algorithms such as decision trees, neural nets, Bayesian classifiers, Support Vector Machines and cased-based (aka non-parametric) learning." Created in 2006, the Web site has summary information on statistical and mathematical models and theories. This resource is freely available at the Web site above.

● Palace B. Anderson Graduate School of Management at UCLA. Data Mining. http://www.anderson.ucla.edu/faculty/jason.frand/teacher/technologies/palace/index.htm.

This online report describes what data mining is, what it can be used for, and how it works. The report also describes how organizations have used data mining in the past and the technical infrastructure that is required to enable data mining. The author also introduces social, business, and technological issues raised by this methodology. This resource is freely available at the Web site above.

The following resources provide information on **time and motion studies**:

- Agency for Healthcare Research and Quality. Time and Motion Studies Database. http://health-it-tools-and-resources/time-and-motion-studies-database.

  Researchers at Partners HealthCare created a tool to help others capture time and motion study data. The tool—a Microsoft Access database—allows observers to record time and motion data, and store the data for analysis. In addition, the tool includes a user guide and a published journal article that provides a case example of how the tool can be used to evaluate the effectiveness of health IT. The database can help you measure the impact of technology on clinical workflow. This resource is freely available at the Web site above.

- Caughey MR, Chang BL. Computerized data collection: Example of a time-motion study. West J Nurs Res 1998;20(2):251-6. http://wjn.sagepub.com/content/20/2/251. javascript:PopUpMenu2_Set(Menu9550936);javascript:PopUpMenu2_Set(Menu9550936)

  The authors describe their experience with using a computerized system to conduct a time and motion study as part of a study that included skilled nursing facilities and subacute units. The data collection methods were designed for future use in a case-mix reimbursement system study. The authors provide suggestions for future applications of this work in nursing research. This resource is available with a paid subscription at the Web site above.

- Finkler SA, Knickman JR, Hendrickson G, et al. A comparison of work-sampling and time-and-motion techniques for studies in health services research. Health Serv Res 1993;28(5):577-97. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1069965/pdf/hsresearch00062-0055.pdf.

  This article describes the use of work-sampling and time-and-motion studies by industrial engineers. This resource is freely available at the Web site above.

The following resources address these **kinds of studies**:

- Concato J, Shah N, Horwitz RI. Randomized, controlled trials, observational studies, and the hierarchy of research designs. N Engl J Med 2000;342(25):1887-92. http://www.nejm.org/doi/full/10.1056/NEJM200006223422507#t=articleTop.

  This article compares the validity and outcomes of randomized controlled trials and observational studies. The authors used published meta-analyses to identify randomized clinical trials and observational studies that examined the same clinical topics. They then compared the results of the original studies according to the type of study design. The authors conclude that the results of well-designed observational studies (with either a cohort or a case-control design) do not systematically overestimate the magnitude of the effects of treatment, compared with the results of randomized controlled trials on the same topic. This resource is freely available at the Web site above.

- Green SB, Raley PL. What to Look for in a Randomized Controlled Trial. Sci Ed 2000;23(5):157. http://www.councilscienceeditors.org/files/scienceeditor/v23n5p157.pdf.

  This article summarizes a presentation by Sylvan B. Green that addressed the comparative advantages of randomized controlled trials and observational studies. The article also advises the reader regarding the elements of a well-designed trial, and suggests that data from multiple well-designed randomized control trials may be combined in a meta-analysis to increase statistical power and yield more precise outcomes. This resource is freely available at the Web site above.

- Sibbald B, Roland M. Understanding controlled trials. Why are randomized controlled trials important? BMJ 1998;316(7126):201. http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2665449/pdf/9468688.pdf.

  This article provides an introduction to conducting randomized controlled trials, including the features of such trials and how they compare with other study designs. The article concludes with a discussion of the limitations of randomized controlled trials. This resource is freely available at the Web site above.

The following resources discuss such **study designs**:

- Barlow WE, Ichikawa L, Rosner D, et al. Analysis of case-cohort designs. J Clin Epidemiol 1999;52(12):1165-72. http://www.tc.umn.edu/~alonso/Barlow_JCE_1999.pdf.

  This article discusses the use of case cohort designs in clinical research. According to the authors, despite the efficiency of case cohort methodology, these designs are not often used because of perceived analytic complexity. This article compares case cohort methodology to a nested case-control design and assesses the efficiency of both approaches. This resource is freely available at the Web site above.

- Ernster VL. Nested case-control studies. Prev Med 1994;23(5):587-90. https://ephpublic.aecom.yu.edu/sites/SViswanathan/Shared%20Documents/Week2/Ernster%20-%20Nested%20Case-control%20study.pdf.

  This article describes nested case-control design and its benefits. This resource is freely available at the Web site above.

- Meirik O. World Health Organization. Cohort and Case-Control Studies. http://www.gfmer.ch/Books/Reproductive_health/Cohort_and_case_control_studies.html.

  This Web site includes overviews of the use of cohort and case-control studies in epidemiological research. This resource is freely available at the Web site above.

- Schenker M. Dept. of Public Health Sciences—UC Davis. Case-Control Studies. http://www.ucdmc.ucdavis.edu/ome/mcrtp/docs/Case%20Control%20Studies.ppt.

This PowerPoint presentation describes uses of case-control studies and epidemiological studies that use this study design. This resource is freely available at the Web site above.

The following resources offer guidance on the development of a **dissemination plan**:

- Dissemination Planning Tool: Exhibit A: Volume 4. Programs, Tools, and Products. December 2006. Agency for Healthcare Research and Quality, Rockville, MD. http://www.ahrq.gov/professionals/quality-patient-safety/patient-safety-resources/resources/advances-in-patient-safety/vol4/planningtool.html.

  This tool was designed to assist patient safety researchers in developing a plan for disseminating research findings and products to potential users in the health care system, and in facilitating the translation of research into practice. The tool can help researchers evaluate their research and develop appropriate dissemination plans for findings that are determined to have "real-world" impact.

- Beyond Scientific Publication: Strategies for Disseminating Research Findings. Yale Center for Clinical Investigation. http://www.yale.edu/bioethics/contribute_documents/CARE_Dissemination_Strategies_FINAL_eversion.pdf.

  This resource for developing a research findings dissemination plan includes writing guidelines; strategies for dissemination and a checklist; and sample dissemination documents such as a dissemination planning form and a press release.