

Summary of the Multilevel Interventions in Health Care Conference

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Patient outcomes are a primary measure by which we assess health-care delivery quality. Those outcomes are influenced by numerous other factors in the multilevel context of care described in this monograph (1). Factors include policies that enable or impede health-care access, social support from friends and family, processes of health-care teams, organizational procedures in settings where care is delivered, and the environmental context where these behaviors occur. A few years ago, an internal team of researchers at the National Cancer Institute (NCI) within the Division of Cancer Control and Population Sciences recognized the importance of studying the context in which health care is received to intervene on multiple levels of influence. However, the science of multilevel interventions was in an early stage of development. Thus, the NCI researchers (henceforth “the NCI planning team”) reached out to the extramural community to identify expertise that would help advance this science. The collaborations led to a set of draft articles presented at a conference titled *Multilevel Interventions in Health Care: Building a Foundation for Future Research* (Las Vegas, NV, March 4–5, 2011). Comments from that conference led to the final articles presented in this issue.

The purpose of this article is to describe the relationship between the research articles and the conference to provide richer context for this monograph. We include a summary of the conference events to reflect the complementary development of the articles, to promote more open discussion of the issues among researchers, and to acknowledge the contribution of the meeting participants. In addition, this article summarizes the history behind the conference, its structure, the themes that developed there, and efforts that began after the conference to encourage discussion about multilevel interventions.

Conference Background

As Taplin et al. describe, the multilevel interventions initiative developed from previous publications that recognized the limitations of single-level interventions (1,2). The call for multilevel interventions had also been made by an Institute of Medicine committee in 2000, which identified a need for interventions to use “multiple approaches” and target “multiple levels of influence” at the same time (3). The expectation for the NCI’s multilevel effort was to expand the foundations of multilevel intervention work.

As a first step, a multidisciplinary group of experts convened in 2009 to explore the multiple layers of influence, discuss methodological challenges, and identify research priorities to advance

innovative research on multilevel cancer care interventions. These experts generated a set of issues and recommendations critical to multilevel intervention research that guided the development of the articles for the supplement and conference. Leading researchers with expertise that matched the multidisciplinary nature of the critical issues were invited to contribute to the monograph and to present their articles on these issues at the conference. Arnold Kaluzny, Professor Emeritus of Health Policy and Management at the University of North Carolina, led a small conference consulting committee consisting of NCI staff and extramural scientists to ensure that the planned presentations represented the priority concepts in multilevel intervention research without critical gaps in coverage of the important issues.

The multilevel interventions initiative was originally focused on cancer care delivery. However, a scarcity of examples of multilevel interventions in cancer care delivery in the literature, combined with the recognition that the field of cancer research can learn from multilevel experiences in other health and non-health disciplines, prompted the expanded consideration of multilevel interventions in health care. The NCI conference planning team was interested in engaging researchers representing both the diversity and depth of knowledge related to multilevel interventions that could contribute to the development and ultimately the success of this research emphasis.

Experts in many fields contributed to the multilevel interventions initiative at key stages of development following the 2009 meeting. The consultant committee, diverse writing teams for the monograph, and the NCI’s planning team represented expertise in organizational behavior, health services research, outcomes research, sociology, medicine, and public health. The 168 conference attendees provided additional perspectives from their affiliations with academic research institutions, government health systems, and private health-care organizations.

Conference Goals and Structure

The articles presented at this conference addressed a range of relevant topics and formed the basis for a discussion on multilevel interventions. The conference had three objectives: 1) to identify research needed to strengthen the foundation for multilevel intervention research in health care, 2) to more specifically understand the current state of the science of multilevel interventions across the cancer continuum, and 3) to clarify

issues in the conceptualization of multilevel effects across scientific disciplines. The details of the meeting are available in Supplementary Appendix 1 (available online), and we summarize the critical components here.

An overarching goal was to create a collaborative and participatory forum to enhance understanding of intervention research and stimulate interest in it. Three key characteristics of this conference were its emphasis on the need for multidisciplinary perspectives in research, the relationship between conference discussions and the monograph, and the post-event efforts to engage audiences beyond the conference.

The conference centered on 13 presentations of scientific articles that addressed issues to consider in multilevel research. Presentations were divided into three sections mirroring the sections in the monograph. The first three articles presented an overview of multilevel interventions across the cancer care continuum; the second section focused on the challenges and opportunities for multilevel intervention research; and the final section described applications and future directions in the area of multilevel interventions.

Reflecting a desire to incorporate feedback from participants into the monograph and to direct the overall trajectory of multilevel intervention research, the conference included facilitated small group sessions and moderated question and answer sessions. Participants' comments and written feedback helped authors refine their monograph chapters and the NCI planning team to reassess the scope of multilevel intervention research and research needs in this area.

Both days of conference proceedings featured keynote addresses. On the first day, W. Richard Scott, Professor Emeritus of Sociology at Stanford University, discussed the concept of the "organizational field" as a unifying context, providing a framework within which multilevel interventions could be studied. Otis Brawley, Chief Medical Officer at the American Cancer Society, filtered the second day's topics through the lens of real-world obstacles to health-care quality and the structural and policy constraints within the current delivery system.

Results/Broad Themes

After the conference, the NCI planning team used the information captured in these multiple forms of feedback to provide guidance to article authors and to broaden the NCI team's perspectives on the importance of issues in multilevel intervention research. The Clauser et al. (4) article summarizes conference feedback for the supplement. One example is that conference attendees recommended that researchers describe the details of the intervention setting including the levels affected (eg, individuals, teams, organizations) and population addressed even if the intervention was not directed at multiple levels. Conference attendees also noted that the details are critical to understanding how interventions work and whether the interventions would be transferable to another setting. Another example was that even if a single level was intervened upon, measurement and analysis of multilevel effects could also be undertaken to expand our knowledge of multilevel effects upon care. Feedback addressed the conceptual and theoretical basis of multilevel research as well as some practical issues so that

conference attendees and the authors had a rich stew of additional ideas to consider.

Three of the themes from the conference discussions move past the conceptualization and need for multilevel intervention research to the mechanics and barriers involved in such research. Some of these points are likely to linger as obstacles, but other questions may be answered and concerns assuaged as multilevel intervention research evolves.

First, conference attendees highlighted the challenges of conducting multilevel intervention research. Costs and complexity were two key concerns. Participants raised questions about how to create the right composition of multidisciplinary team members, identify the appropriate targets for intervention, select methods and analytic approaches, and receive funding for a multilevel intervention research agenda. Second, participants discussed the practical challenges of reporting multilevel intervention research. They pointed out that publication constraints may prompt multilevel intervention investigators to either report their results in several articles or to limit their description of the intervention context. Third, conference participants reiterated the importance of health disparities in multilevel intervention research. Discussion of health disparities included an emphasis on culture, race, and ethnicity as influences on health care but also recognized special situations such as disparities in rural cancer care. Participants pointed out that multilevel intervention effects on disparities are not well known. Disparities could increase or decrease as a result of these interventions. Some participants suggested that richer descriptions of the research context would be a way to partially address the external validity of interventions, even if the interventions do not occur at multiple levels. As a result of the conference discussion, an article on the state of the art for multilevel interventions addressing disparities was added to the monograph (5).

Conclusions

The articles in this monograph have benefited from the work of many people beyond the authors listed. This conference encouraged active discussion of the issues that improved the understanding of the issues, resulting in the refinement of articles included in this supplement. As noted earlier, this conference is building on a foundation of previous research. The hope is that this foundation has been strengthened by these articles and by the many participants in the conference. Those who approved the listing of their names have been included (see Appendix). The conference organizers thank all who participated.

Please visit <http://cancercontrol.cancer.gov/mli> for more information about the conference. Session videos are available on the conference Web site and also on YouTube at <http://www.youtube.com/playlist?p=PL0126837269E084C5>.

Appendix

June 2009 Meeting Participants

Jeff Alexander, PhD, University of Michigan
Rebecca Anhang Price, MS, National Cancer Institute

John Z. Ayanian, MD, MPP, Harvard Medical School
 Erica Breslau, PhD, National Cancer Institute
 Veronica Chollette, RN, National Cancer Institute
 Steven Clauser, PhD, National Cancer Institute
 Allen J. Dietrich, MD, Dartmouth-Hitchcock Medical Center
 Mary Fennell, PhD, Brown University
 Ann B. Flood, PhD, Dartmouth Medical School
 Arnold D. Kaluzny, PhD, University of North Carolina at Chapel Hill
 Joe Morrissey, PhD, University of North Carolina at Chapel Hill
 David Murray, PhD, Ohio State University
 Electra Paskett, PhD, Ohio State University
 Irene Prabhu Das, PhD, MPH, National Cancer Institute
 Mario Schootman, PhD, Washington University
 Stephen M. Shortell, PhD, University of California at Berkeley
 Kurt Stange, MD, PhD, Case Western Reserve University School of Medicine
 Stephen Taplin, MD, MPH, National Cancer Institute
 Sally Vernon, PhD, University of Texas Health Science Center
 Bryan Weiner, PhD, University of North Carolina at Chapel Hill
 Elizabeth Yano, PhD, MSPH, Department of Veterans Affairs & University of California, Los Angeles
 Jane Zapka, ScD, Medical University of South Carolina

Conference Consulting Committee

Arnold Kaluzny, PhD, University of North Carolina at Chapel Hill
 Martin Charns, DBA, Boston University & Department of Veterans Affairs
 Mary Fennell, PhD, Brown University
 Maria Fernandez, PhD, University of Texas Health Science Center
 Ernest Hawk, MD, MPH, University of Texas MD Anderson Cancer Center
 Tom Vogt, MD, MPH, Kaiser Permanente

Conference Participants Who Consented to be Acknowledged

Jeannette Andrews, Medical University of South Carolina
 Rachel Ballard-Barbash, National Cancer Institute
 Heather Brandt, University of South Carolina
 Carolyn Brown, University of Texas at Austin
 Diana Buist, Group Health Research Institute
 Margaret Byrne, University of Miami
 Timothy Carney, Indiana University
 David Chambers, *National Institute of Mental Health*
 Martin Charns, Boston University & Department of Veterans Affairs
 Jessica Chubak, Group Health Research Institute
 Vivian Colon, University of Puerto Rico
 Mary Costanza, University of Massachusetts Medical School
 Paul Courtney, SAIC-Frederick, Inc
 Melissa Cox, Medical University of South Carolina
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 Linda Fleisher, Fox Chase Cancer Center
 Marvella Ford, Medical University of South Carolina
 Laura Forsythe, National Cancer Institute
 Bridget Gaglio, Kaiser Permanente
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 Tamar Ginossar, University of New Mexico
 Charles W. Given, Michigan State University
 Molly Greaney, Dana-Farber Cancer Institute
 Ellen Gritz, University of Texas MD Anderson Cancer Center
 Jada Hamilton, National Cancer Institute
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 Angela Hochhalter, Scott & White Healthcare
 Debra Holden, RTI International
 Shawna Hudson, The Cancer Institute of New Jersey
 Jillian Inouye, University of Hawaii at Manoa
 George Jackson, Durham Veterans Affairs Medical Center
 Aimee James, Washington University

Lenora Johnson, National Cancer Institute
 Gloria Juarez, City of Hope
 Aruna Kamineni, Group Health Research Institute
 Mira Katz, Ohio State University
 Annette Kaufman, National Cancer Institute
 Sarah Kobrin, National Cancer Institute
 DeAnn Lazovich, University of Minnesota
 Patricia Lebensohn, University of Arizona
 Renata Leite, Medical University of South Carolina
 David Lounsbury, Albert Einstein College of Medicine
 Roger Luckmann, University of Massachusetts Medical School
 Leticia Marquez-Magana, San Francisco State University
 Iman Martin, University of Illinois
 Michelle Martin, University of Alabama at Birmingham
 Amy McQueen, Washington University
 Helen Meissner, National Institutes of Health
 Patricia Dolan Mullen, University of Texas
 Laurie Murphy, Case Western Reserve University
 Ronald Myers, Thomas Jefferson University
 Susan Newman, Medical University of South Carolina
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 Borsika Rabin, Kaiser Permanente
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 Marilyn Schapira, Medical College of Wisconsin
 Katherine Sharpe, American Cancer Society
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 Beti Thompson, Fred Hutchinson Cancer Research Center
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 Karen Wernli, Group Health Research Institute
 David Wetter, University of Texas MD Anderson Cancer Center
 Dawn Wiatrek, American Cancer Society
 Richard Wood, Texas A&M University
 Junya Zhu, Dana-Farber Cancer Institute

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