Collaborations in Population-Based Health Research

The 17th Annual HMO Research Network Conference, March 23-25, 2011, Boston, Massachusetts

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The HMO Research Network (HMORN) is a consortium of 16 health care systems with integrated research centers. Approximately 475 people participated in its 17th annual conference, hosted by the Department of Population Medicine, Harvard Pilgrim Health Care Institute and Harvard Medical School. The theme, “Collaborations in Population-Based Health Research,” reflected the network’s emphasis on collaborative studies both among its members and with external investigators. Plenary talks highlighted the initial phase of the HMORN’s work to establish the NIH-HMO Collaboratory, opportunities for public health collaborations, the work of early career investigators, and the state of the network. Platform and poster presentations showcased a broad spectrum of innovative public domain research in areas including disease epidemiology and treatment, health economics, and information technology. Special interest group sessions and ancillary meetings provided venues for informal conversation and structured work among ongoing groups, including networks in cancer, cardiovascular diseases, lung diseases, medical product safety, and mental health.

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The HMO Research Network (HMORN) is a consortium of 16 dedicated research centers based in non-profit health care systems. Its purpose is to foster collaborative research and knowledge sharing to improve health and health care for people nationally and globally. Investigators in these centers conduct public domain research that is supported by a variety of sources including federal agencies, such as the National Institutes of Health (NIH), the Agency for Healthcare Research and Quality (AHRQ), the Centers for Disease Control and Prevention (CDC), and the Food and Drug Administration (FDA), foundations, and industry. Research

findings are widely disseminated through peer-reviewed publications, websites, and other channels.

The 16 health care systems in the HMORN, which was founded in 1991 by four of the current member organizations, have a combined total of approximately 15.3 million current members. The clinical, epidemiologic, and health services research conducted uses a variety of data sources, including computerized data available through the health care systems and primary data collected from patients and clinicians.

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Network members, working with federal collaborators, have pioneered the use of distributed data network methods that make data available for multi-center studies while maximizing data security and confidentiality.^{1,2} The HMORN uses a Virtual Data Warehouse in which large datasets with information on enrollment, health care use, and other variables are created and maintained locally and are made available for analyses for specific research projects.

The HMORN's annual conferences, held since 1995, help develop the quality and scope of the research conducted by the network's investigators and external collaborators. The conferences provide a venue for researchers with common interests to interact by showcasing their ongoing work through scientific presentations and by holding discussions in special interest group sessions and ancillary meetings. The 2011 theme, "Collaborations in Population-Based Health Research," underscored the HMORN's focus on interdisciplinary and collaborative research, both among HMORN sites and with federal and other sponsors including NIH, AHRQ, CDC, and FDA.

Conference Overview

The three-day conference included three keynote talks, four talks by Early Career Investigator Awardees in a special plenary session, 72 platform presentations during 17 concurrent sessions, 87 poster presentations, a Conversation Café session with 9 moderated conversations, and 56 ancillary meetings. The plenary, platform, poster, and Conversation Café sessions were scheduled during the first two days, and the third day was reserved for ancillary meetings. Conference participants included representatives of federal agencies (including NIH and CDC), foundations, and industry, as well as investigators, programmer/analysts, project managers, and other staff from the member HMORN groups.

Keynote Talks

Josephine Briggs, MD, Director of the National Center for Complementary and Alternative Medicine (NCCAM), spoke about the planned NIH-HMO Collaboratory. The Collaboratory is intended to test the capacity of HMO research networks to support large scale epidemiologic and pragmatic clinical investigations across a range of diseases and health conditions. Dr. Briggs discussed the goals of the NIH Common Fund, which is the source of investment in the HMO Collaboratory. The Common Fund is designed to support cross-cutting, trans-NIH programs that require participation by at least two NIH Institutes or Centers and benefit from strategic coordination. Projects supported by the Common Fund are intended to be limited-term (5-10 year) investments that serve as a test bed for high-risk or emerging scientific opportunities, foster innovation, and accelerate the pace of discovery. The Common Fund Working Group responsible for the HMO Collaboratory is co-chaired by Dr. Briggs and Dr. Thomas Insel of the National Institute of Mental Health (NIMH), with leadership from NCCAM, NIMH, the National Cancer Institute, and the National Heart, Lung and Blood Institute.

Other participants include the NIH Division of Program Coordination, Planning, and Strategic Initiatives, other NIH Institutes and Centers, the Food and Drug Administration, and the Agency for Healthcare Research and Quality.

Dr. Briggs observed that the HMORN's expertise and capabilities are recognized across NIH and across the Department of Health and Human Services, citing the Cancer Research Network (sponsored by NCI) and the Mini-Sentinel program (sponsored by FDA) as examples. She noted that NIH recognizes the special value of the existing partnerships between health care delivery organizations and the embedded research organizations with which they regularly collaborate.

In recent years, Dr. Briggs noted, NIH has developed a growing recognition of the need for more broadly representative patient populations, of the scientific opportunities created by electronic health records, and the need for more cost-effective ways to conduct large studies involving human subjects. She mentioned the distributed data model used by many HMORN projects as an important approach that the envisioned HMO Collaboratory can leverage. She concluded by discussing a recently-issued NIH request for applications for the next phase of development of the HMO Collaboratory, noting that this is a phased activity with planning activities that will be important in defining each phase.

The second keynote speaker was James Buehler, MD, of the Public Health Surveillance Program Office, Office of Surveillance, Epidemiology & Laboratory Services, CDC. Dr. Buehler described public health surveillance as a discipline which involves an increasingly broad mix of complementary data sources and methods. Surveillance activities may prompt or intersect with targeted interventions. He mentioned an array of CDC-supported surveillance projects done with HMORN members, including studies of maternal morbidity, an amyotrophic lateral sclerosis registry, vaccine safety studies, and surveillance for pelvic inflammatory disease, tuberculosis, and bioterrorism-related syndromes.

Dr. Buehler noted that current trends are driving increasing connections between health care systems and public health. These trends include increasing prevalence of chronic diseases, the objectives of the Affordable Care Act and its mandated coverage of conditions of shared concern by health care and public health systems, the development of a national strategy for quality improvement in health care, and the American Recovery & Reinvestment Act, which has a goal of increasing meaningful use of electronic health records, especially for monitoring population health measures. He noted the potential for expanded use of electronic health records to improve public health surveillance, and listed several challenges to achieving this potential, including the size and complexity of these potential new information resources and concerns regarding privacy and confidentiality.

The final keynote address was given by Walter “Buzz” Stewart, PhD, MPH, the current Chair of the HMORN Board of Directors, on the “State of the HMO Research Network.” He described the evolution of the HMORN from its founding in 1991 to its current form as an organization with increasing focus on population health, translational activities, and health care delivery systems. Dr. Stewart noted that the HMORN’s health care systems and research groups are engaged with national health care reform. He mentioned the HMORN has had increasing national visibility and diversification of funding opportunities and partnerships.

Dr. Stewart gave an overview of the major discussion items from the Board of Directors (aka. Governing Board) meeting that immediately preceded the conference. These included a clearer delineation of the responsibilities of the Governing Board and the Asset Stewardship Committee (whose purpose is to create, maintain, and disseminate tools, data, knowledge, and policies, with an internal focus). The Governing Board also proposed to form an Executive Committee that could be more nimble and responsive, create strategy, and manage growth. The HMORN to date has been managed with a substantial amount of volunteer effort, in addition to several paid support staff. Dr. Stewart described the need to develop and formalize a central management group dedicated to the needs of the HMORN. He discussed the process of new organizations being considered as candidates for membership in the HMORN. Membership criteria include having: (1) data from and access to a defined population, (2) a research department or organization with investigators, staff, and research infrastructure, and (3) commitment to the values and mission of the HMORN, public domain research, collaboration, and access to data to support a local Virtual Data Warehouse. The Governing Board also discussed forming a category of HMORN Partners, which would be organizations that do not qualify as members but offer important capabilities.

Finally, Dr. Stewart highlighted the importance of knowledge management to optimize the growth and productivity of the HMORN. He observed that practical knowledge about how to accomplish goals is sometimes reinvented from project to project. While such knowledge may be transferred via staff members, Dr. Stewart noted that the HMORN does not have a repository for managing reusable knowledge and making it accessible. He proposed that the HMORN should define what qualifies as useful knowledge, set priorities among the potential domains, catalog the project-related tools available, and make them accessible by electronic means. This plenary session concluded with a town hall-type discussion in which Dr. Stewart and past Governing Board chairs John Steiner, MD, MPH, Joe Selby, MD, MPH, and Eric Larson, PhD, fielded questions submitted by the participants.

Early Career Investigator Awards

The HMORN’s Early Career Investigator awards were initiated at the 2009 conference by Dr. Stewart, in order to recognize and promote young investigators as one of the

HMORN’s most valued assets. Recipients of these awards were selected by a committee based on their research abstracts, biosketches, and mentor’s statements that commented on the scientific merit and impact of their studies. The awardees presented their research talks in a special plenary session. Awardees and their studies were:

- Kenneth Adams, PhD, Epidemiologist and Research Investigator, HealthPartners Research Institute, for “HMORN Research on Pediatric Hypertension and Obesity: Predictors, Care, and Costs: Design of a New Pediatric Cohort”
- Sascha Dublin, MD, PhD, Assistant Investigator, Group Health Research Institute, for “Accuracy of Natural Language Processing to Identify Pneumonia from Electronic Radiology Reports”
- Aruna Kamineni, PhD, Research Associate, Group Health Research Institute, for “Cervical Cancer Screening Efficacy in Older Women” and
- Alanna Kulchak Rahm, MS, PhD, Senior Project Manager, Institute of Health Research, Kaiser Permanente, for “Media Messages and Public Perceptions of Direct-to-Consumer Genetics: Results of a Media Analysis and Focus Group Study”

Platform and Poster Sessions

Research abstracts were invited and clustered in the following topics: cancer, cardiovascular disease, child health, chronic illness management, diabetes, obesity & physical activity, disparities and vulnerable populations, health care policy & reform, health informatics, health insurance & economics, interventions & clinical trials, mega-epidemiology and genetics, pharmacoepidemiology, and virtual data warehouse. A total of 156 abstracts were accepted for presentation, and a selection of these are presented in this special issue of *Clinical Medicine & Research*. There were 17 concurrent platform sessions that included 72 presentations, and two poster sessions with a total of 87 posters presented.

Conversation Café Sessions

Conversation Cafés were initiated with the intention of generating informal lunchtime discussions around selected topics in order to foster collaboration and aid in research interests. Topics this year included Pharmacogenomics and Personalized Medicine; Diabetes Prevention and Treatment; Emerging Issues in Cancer Survivorship; International Research Opportunities for the HMO Research Network; Linking HMORN Research to Care in our Delivery Systems; Implementing Shared Decision Making with Patient Decision Aids; Aging, Cognitive Decline, Dementia, and Caregiving; IRB Review of Multi-Site Research: How is it Going?; Finding and Providing Effective Mentorship – How’s your “Developmental Network?”

Ancillary Meetings

The conference agenda included 56 ancillary and special interest group meetings. These were scheduled throughout the conference, and did not overlap with the concurrent scientific sessions. The intention was to encourage attendance, allow adequate time for networking and provide dedicated time for working groups to make scientific progress on their projects. The special interest group meetings were held to foster discussion and development of potential research collaborations. The 7 special interest group meetings focused dialogue in areas such as obesity, child health and cancer survivorship. The ancillary meetings were held to provide face-to-face meeting time in order to advance ongoing project work. These included steering committee meetings for HMORN's large, multi-site research networks, including the Cancer Research Network, the Cardiovascular Research Network, the Developing Evidence to Inform Decisions about Effectiveness (DEcIDE) Distributed Research Network, the Center for Education and Research on Therapeutics (CERT), and the Mental Health Research Network. The HMORN Governing Board held an all-day ancillary meeting the day before the official start of the conference. The final day of the conference included a day-long ancillary meeting dedicated to decision-making and implementation of HMORN Virtual Data Warehouse activities for the upcoming year.

Further Information

The next HMORN Annual Conference will be hosted by the Group Health Research Institute, April 29-May 2, 2012, in Seattle, Washington. Further information about the conference and the HMORN is available at <http://www.hmoresearchnetwork.org>.

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