

Dissemination Research: The University of Wisconsin Population Health Institute

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ABSTRACT

Despite significant accomplishments in basic, clinical, and population health research, a wide gap persists between research discoveries (ie, what we know) and actual practice (ie, what we do). The University of Wisconsin Population Health Institute (Institute) researchers study the process and outcomes of disseminating evidence-based public health programs and policies into practice. This paper briefly describes the approach and experience of the Institute's programs in population health assessment, health policy, program evaluation, and education and training. An essential component of this dissemination research program is the active engagement of the practitioners and policy-makers. Each of the Institute's programs conducts data collection, analysis, education, and dialogue with practitioners that is closely tied to the planning, implementation, and evaluation of programs and policies. Our approach involves a reciprocal exchange of knowledge with non-academic partners, such that research informs practice and practice informs research. Dissemination research serves an important role along the continuum of research and is increasingly recognized as an important way to improve population health by accelerating the translation of research into practice.

INTRODUCTION

Despite significant accomplishments in basic, clinical, and population health research, a wide gap persists between research discoveries (ie, what we know) and actual practice (ie, what we do). Lavis has called this the

“know-do gap” and has written extensively on the reasons this gap exists, as well as potential solutions.¹ The current National Institutes of Health (NIH) “Roadmap” for medical research includes 2 major research laboratories (bench and bedside) and 2 translational steps from basic to clinical research (T1 research) and clinical research to practice (T2 research).² Historically, moving new discoveries into clinical practice (ie, T2 research) has been haphazard, occurring largely through continuing medical education programs, pharmaceutical detailing, and guideline development.³⁻⁴ Westfall recently proposed an expansion of the NIH Roadmap to include an additional research laboratory (“practice-based research”) and translational step (T3 research) to improve incorporation of research discoveries into day-to-day practice.³

“Dissemination research” is a type of translational research that examines processes and factors that lead to widespread use of evidence-based interventions in target populations.⁵ Other types of dissemination research have been called implementation research, community-based participatory research, applied public health research, and health policy analysis. These research approaches identify the methods that best enhance the uptake and use of evidence-based interventions in practice. Typically, university-based research is conducted independently, isolated from policy and practice venues. In contrast, dissemination research engages communities, including policymakers, health care systems, schools, worksites, governmental agencies, mass media, voluntary agencies, and other community-based groups.

The University of Wisconsin Population Health Institute (Institute) is 1 of several programs at the School of Medicine and Public Health engaged in dissemination research. An essential component of dissemination research is the active engagement of the “user” in all aspects of the research. Lavis and colleagues focus on this researcher-user interaction, defining 3 types: *pro-*

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ducer-push, in which researchers actively communicate their messages; *user-pull*, whereby potential research users actively value, seek, and use research findings; and *exchange*, in which researchers and users interact to define, create, validate, and use research-based knowledge.¹

The UW Population Health Institute produces all 3 of Lavis' types of research dissemination. The Institute's goals are to:

- Promote partnerships of inquiry between researchers and users of research, breaking down barriers between the academic community and public and private sector practitioners and policymakers.
- Advance the development of interdisciplinary research and program evaluation along the spectrum from public health to health care, at the UW-Madison and other academic settings in Wisconsin.
- Provide outreach and continuing education for practitioners, and opportunities for applied learning for Master of Public Health, medical, graduate, and other health professions students.
- Contribute to public health and health care practice and policy decisions that improve Wisconsin's population health.

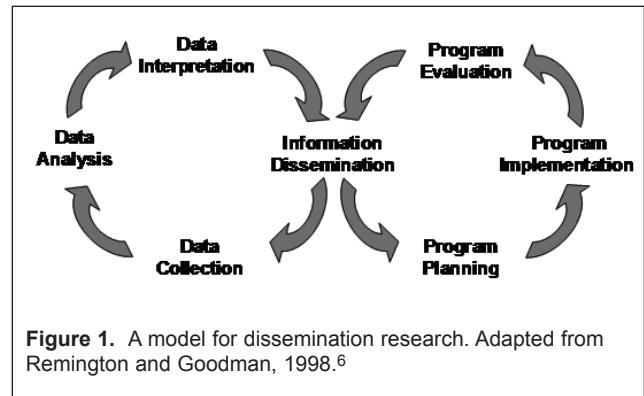
RESEARCH AIMS AND APPROACHES

The overall aim of the Institute's research is to develop practical methods to accelerate the translation of research into practice. Each of the Institute's programs, described in turn below, conducts data collection, analysis, education, and dialogue with practitioners. This research is closely tied to the planning, implementation, and evaluation of programs and policies (Figure 1). Our approach involves the reciprocal exchange of knowledge with non-academic partners, such that research informs practice and practice informs research.

Population Health Assessment

Rooted in the principle of public health surveillance, "the ongoing systematic collection, analysis, and interpretation of health data that are essential to the planning, implementation, and evaluation of public health practice,"⁷ this program assesses the major components of population health: health outcomes, health determinants, and programs and policies, in Wisconsin and the United States. In addition to data collection and analysis, the program also emphasizes communication with those in positions to use these data in their work.

Through its Wisconsin County Health Rankings, the



Institute's research has demonstrated significant variation in health outcomes and determinants in Wisconsin.⁸ These rankings are of considerable interest to the media, and also are used by local public health officials in their community health improvement efforts.⁷ In addition, analyses of mortality and telephone survey data have shown lagging improvements in Wisconsin's mortality rates, high numbers of excess deaths due to avoidable causes, and the importance of addressing health-related quality of life and measuring disparities in both mortality and non-mortality outcomes.¹⁰

A survey of Wisconsin residents on health and health disparity issues found that people were aware of the impact of health behaviors and access to health care on health but were less aware of other key determinants of health, such as social and economic factors.¹¹ Finally, the *Making Wisconsin the Healthiest State* project¹² identified the key drivers of Wisconsin's health and summarized evidence on the effectiveness of over 300 policies and programs that address these drivers.

Health Policy

The Institute's health policy program operates on a knowledge-exchange model of research, analysis, education, and dialogue with stakeholders in the non-academic practice arena. Research partnerships engage Wisconsin's leading public and private sector policymakers, including legislators, executive agency leadership and staff, health care purchasing and payer organizations, and provider associations. The program communicates evidence and analyses through issue briefs, legislative briefings and symposia, consultancies, periodic conferences, and health policy forums.

Many of the Institute's health policy investigations focus on health care cost, financing, access, and quality. The Institute has also joined in partnership with the LaFollette School of Public Affairs and the Wisconsin Legislative Council in pursuit of 2 goals: (1) to support policymakers with timely, nonpartisan, high-quality

Table 1. Selected Topics of UW Population Health Issue Briefs, 2004-Present¹²

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| Adolescent Pregnancy: Assessing the Evidence on Abstinence-Based Interventions |
| “Consumer Engagement” and “Value-Driven Health Care”: Do We Have the Right Information Tools? |
| Consumer Health Literacy: Preparing for Changing Roles, Rights, and Responsibilities in Health and Health Care |
| Cost-Sharing and Consumer Driven Purchasing, Parts 1 and 2 |
| Employee Health Promotion Programs: What is the Return on Investment? |
| “Healthier Choices”: Will Relief from Current Benefit Mandates Reduce Health Insurance Costs and Increase Coverage? |
| Improving Student Nutrition Through School Vending Machine Policies |
| Mandatory Minimum Drug Sentencing: Is it an Effective Drug Use Control Strategy? |
| Primary Enforcement of Seatbelt Laws: A Means for Decreasing Injuries, Deaths, and Crash-Related Costs in Wisconsin? |
| Should Schools Monitor Rate of Overweight and Obesity among Students in Wisconsin? |
| Strategies to Increase Diabetes Patient Education and Training |
| Tobacco Taxes: Implications for Public Health |
| Will Wisconsin Have a Nursing Workforce to Meet Future Health Care Need? |
| Wisconsin’s Future Newborn Citizens: Potential Medicaid Cost Savings in Covering Immigrants’ Prenatal Care |
| Wisconsin’s Uninsured Population: How Low—4% or 11.8% |

information, and (2) to increase the involvement of UW faculty research and teaching activities in topical issues of state public policy. This partnership, the Evidence-Based Health Policy Project, focuses on methods to connect researchers with policymakers, and addresses a broad range of issues in health care and public health.

Analyses of the evidence base for health care and public health programs and policies have been published in a series of Issue Briefs (Table 1) and in health policy briefings. The Institute’s health policy investigators, in partnership with Wisconsin Department of Health Services, are currently evaluating Wisconsin’s BadgerCare Plus health insurance coverage expansion, including enrollment, take-up, churning, and crowd-out. The Institute also recently completed its dissemination of findings from a survey of Wisconsin physicians and medical students. The study detailed Wisconsin physician attitudes and positions on major elements of health reform¹³⁻¹⁴ along with the factors that influence Wisconsin medical students’ career choice.¹⁵

Program Evaluation

The aim of the evaluation research program (formerly the Center for Health Policy and Program Evaluation) is to evaluate programs and policies in public health, substance abuse prevention and treatment, maternal and child health, correctional health, geriatric services, and related areas. This program serves as an independent evaluator for many externally funded projects, using both experimental and quasi-experimental designs to assess program effectiveness. The primary partners are community, tribal, state, and local govern-

mental organizations. There is also extensive collaboration with other UW researchers to provide program evaluation services for demonstration programs.

Searches for evidence-based practices that can guide practitioners have been central to several projects. The unit has successfully developed materials for dissemination in public health¹⁶ and fitness education.¹⁷ We have prepared summary reports on strategies for the prevention of alcohol and drug problems and discovered a paucity of evidence for interventions in obesity prevention for minority populations.¹⁸

The National Institute on Drug Abuse provided funding for the first multi-site descriptive evaluation of “recovery schools,” an innovative continuing care approach for adolescents with substance use disorders.¹⁹ Other research has addressed prevention in behavioral health,²⁰⁻²³ substance abuse treatment in corrections, and the effectiveness of the Department of Corrections Earned Release Program and correctional dual disorder program.²⁴ These studies have generated a number of reports, summaries to the Legislative Fiscal Bureau, and information that has supported provision of additional funding for the various programs.

Education and Training

This program aims to deliver service learning and applied public health training programs and evaluates the process and outcomes of these programs. The Institute supports 2 major training and education programs. First, the Wisconsin Population Health Fellowship Program is a 2-year program that provides masters-prepared individuals in public health with practical field assignments in non-profit, governmen-

tal, and health-service organizations. Its goal is to develop the next generation of public health practitioners through service learning. An initial evaluation of the program has shown that fellows gained experience and increased skills in planning, implementation, and evaluation of public health programs and policies. In addition, community preceptors reported numerous contributions by fellows, including improvements in services, policy analysis, community capacity building, and the initiation of pilot projects.

Second, the Healthy Wisconsin Leadership Institute is a joint program of the UW School of Medicine and Public Health and the Medical College of Wisconsin that aims to build public and community health skills and leadership capacity among those working to improve the health of the people of Wisconsin. The major component is the Community Teams Program, a year-long program focused on building skills and knowledge in collaborative leadership for 5-8 community teams. Program participants in the Leadership Institute report increasing public health skills in areas including health policy, communication, coalition development, program planning, and evaluation and collaborative leadership. In addition, Community Teams Program participants have reported expanded community services, increased grant funding, improved coalition functioning, and greater media coverage.

SUMMARY

The ultimate goal of all health-related research is to eventually improve the public's health and achieve the vision of the developing Healthy People 2020: "A society in which all people live long, healthy lives."²⁵ Dissemination research is increasingly recognized as an important way to improve population health by accelerating the translation of research into practice. The UW Population Health Institute plays an important role in engaging partners in an exchange relationship to share perspectives on public health practice and health policy needs and research accomplishments. This dialogue is critical to inform research and policy with the perspectives of the practice community and to inform practitioners and policymakers with the evidence generated in applied research programs.

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Table 2. Prevalence of Autism Spectrum Disorder by 2 Census-Based Socioeconomic Status Indicators

| SES Quintile | Educational Attainment | | Median Household Income | |
|--------------|------------------------|---------------------------|-------------------------|---------------------------|
| | Prevalence (per 1000) | Prevalence Ratio (95% CI) | Prevalence (per 1000) | Prevalence Ratio (95% CI) |
| Low | 2.6 | 1.0 (reference) | 2.8 | 1.0 (Reference) |
| 2 | 4.5 | 1.7 (1.0, 3.1) | 4.0 | 1.4 (0.8, 2.5) |
| 3 | 4.7 | 1.9 (1.1, 3.2) | 5.1 | 1.8 (1.0, 3.2) |
| 4 | 6.0 | 2.3 (1.4, 4.0) | 7.0 | 2.5 (1.4, 4.2) |
| High | 6.8 | 2.6 (1.6, 4.5) | 5.4 | 1.9 (1.1, 3.3) |

Abbreviations: SES, socioeconomic status; CI, confidence interval.

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