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# Population Health: The Translation of Research to Policy



## Case Studies and Commentary

Robert Wood Johnson Foundation Health & Society Scholars

The Robert Wood Johnson Foundation Health & Society Scholars (HSS) program was designed to build the nation's capacity for research, leadership, and policy change, while addressing the multiple determinants of population health. One of its goals was to produce a cadre of scientific leaders who could contribute to this research and spearhead action to improve overall population health and eliminate health inequities.

This report, edited by Robert A. Hiatt, MD, PhD, University of California, San Francisco, takes a case study approach, using six diverse examples of science to policy translation generated by Scholars in the HSS program from 2003 to 2016. Because the HSS program was discontinued in 2017, the Milbank Memorial Fund published these case studies in 2018 in hopes that many audiences, including students, would use them to learn about the connections between research, decision making, and policy.

## Case Study 4

# How Practitioners Bring Population Health Ideas into Other Policy Sectors: Lessons from Transportation

Strengthening the connections between health and transportation

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## Synopsis

There are clear connections between population health, transportation, and equity. The transportation system—in combination with the larger built environment—supports the basic ability to carry out life’s activities. It provides access to jobs, education, health care, and natural places, but this access is often uneven. Moreover, transportation systems contribute to air and noise pollution, safety hazards, and social and economic isolation that result in adverse health outcomes and environmental justice concerns. Some of these connections have been well established in research and practice, but many are just emerging, including a deeper understanding of the distribution of the transportation system’s health costs and benefits across populations. In this case study, we present the experience of a multidisciplinary group of practitioners and academics working together to bring population health into the mainstream of transportation. The group merges research and practice through its involvement in the Transportation Research Board, which is a Program Unit of the National Academies of Sciences, Engineering, and Medicine.

## Learning Objectives

- Describe how the process of bringing population health into a new sector, such as transportation, is tied to existing organizations and organizational structures within the field.
- Identify how transportation practitioners learn about population health and how they apply this learning in their respective organizations to influence policy, analytical tools, and research.
- Explain how peer networks facilitate the processes of learning and applying population health in the transportation sector and how these networks can be strengthened and maintained.

## Introduction

This case study presents our experience integrating population health into the transportation sector as founding members of the Health and Transportation Subcommittee of the Transportation Research Board (TRB). The TRB was established in March 2011 as a Program Unit of the National Academies of Sciences, Engineering, and Medicine. It informs public policy decisions through applied research and knowledge transfer. We believe the subcommittee's experience can serve as a model for researchers and practitioners in other sectors.

We have brought population health and transportation together primarily by serving as a focal point for communication about these topics. Our activities have included planning workshops and technical sessions at conferences, disseminating research, and fostering a peer network. Subcommittee participants tap into these conversations, learn why population health issues are important, and, in turn, serve to catalyze interest in population health within their respective organizations and at large.

Participants include practitioners in government agencies (e.g., local, state, and federal), nongovernmental organizations, the private sector (e.g., consultants and industry experts), and researchers in academia. A leadership group comprising 16 people guides the direction of the subcommittee; the broader membership, indicated by the number of recipients on its email listserv, includes more than 380 people. The subcommittee also reaches people through its presence on Facebook, Twitter, LinkedIn, and its website.<sup>1</sup>

The Robert Wood Johnson Foundation Health & Society Scholars (HSS) program played a direct role in the formation and development of the Health & Transportation Subcommittee by encouraging scholars to frame their work as part of the larger mission to improve population health. Scholars received training in knowledge transfer that specifically called on them to pursue their research in arenas where it could influence policy and practice. This clarity of purpose meant that when Carolyn McAndrews was introduced to Ed Christopher—who, at the time, was developing the idea of the Health and Transportation Subcommittee—she immediately recognized its significance and committed to be part of it. As the subcommittee took shape, Carolyn was able to tap into other fellowship networks, which helped strengthen the subcommittee as it built itself up in this new field—the intersection of transportation and population health.

TRB is not the first organization to foster linkages between population health and transportation, but it is an important player because it is a mainstream forum where the transportation and health communities can coalesce. One of the main functions of its over 200 multidisciplinary committees and subcommittees is to review manuscripts submitted for presentation at the annual meeting and for publication in its journal of record, *Transportation Research*

*Record.* Another organizational role of committees and subcommittees is to develop research problem statements.

Our subcommittee's position within the TRB organization illustrates how health is a crosscutting topic that brings together professionals in the field of transportation who would otherwise work separately. The subcommittee has four parent committees: Environmental Justice in Transportation, Urban Data and Information Systems, Travel Behavior and Values, and Transportation and Sustainability. Through its parents, the subcommittee is linked to three sections (Social, Economic, and Cultural Issues; Data and Information Technology; and Travel Analysis Methods) and two groups (Planning and Environment and Policy and Organization).

The mission of the subcommittee is to improve understanding and evaluation of the health impacts of federal, state, regional, and local transportation policies, procedures, and actions. Its scope includes a wide array of topics with attention given to vulnerable populations. Topics include, but are not limited to:

- Sustainable and active transportation modes (e.g., walking, biking, public transit)
  - Mobility and accessibility
  - Safety
  - Freight and aviation impacts to health
- Transportation-related air pollution and noise impacts
  - Social cohesion; other social, physical, and mental health impacts of transportation; and the distribution of these health impacts in the population (based on factors including income, race and ethnicity, sex, age, and English proficiency)
  - The use of health impact assessments and health metrics and indicators to advance the consideration of health impacts in transportation decision making
  - The institutionalization of health-related concerns in transportation through transportation planning, policy, and practices such as engineering and design solutions

## Study Design and Execution

The goal of our work, or the study design in this case, is to share how the subcommittee has served as a platform for practitioners outside of the health sciences to bring health-related ideas into their own fields.<sup>2</sup>

Health sciences have been part of transportation policy and practice for decades. These connections were forged around issues of road safety and air quality. But many issues have not

been adequately addressed. One challenge for the subcommittee is to bring health concerns above and beyond road safety and air quality into the mainstream of transportation planning, policy, and practice. A second challenge, and a means for success, is to develop relationships between health and transportation professionals through peer networking.

Framing the subcommittee as a forum for peer networking and relationship building is consistent with what is known about successful knowledge transfer. Forums such as this, which are purposeful, open, semiformalized networks of peer exchange, provide a venue for the work of specialized knowledge brokers who are “intermediaries between the producers and users of research.”<sup>3</sup>

A study of 30 cities in Northern Europe and North America found that transportation practitioners turned to their informal peer networks and to case examples to support innovation, not directly to academic research.<sup>4</sup> This pattern is supported by policy literature from across sectors: knowledge transfer and innovation occur through relationships.<sup>5</sup> These characteristics of knowledge transfer forums—that they are associated with a professional organization and that they provide opportunities for professional meetings—align nicely with the organizational form of the subcommittee.

This process of knowledge transfer between the two fields is significant because the larger social goal of improving population health depends not only on the activities of the health sector but also on the activities of other sectors such as transportation. This implies a need to establish models of “shared governance” between these two sectors.<sup>2</sup>

We think this case offers insight into the larger question of how this shared governance—or Health in All Policies—starts to happen in practice. We followed a process to bring health-related ideas into transportation practice.

Ready-made population health research is rarely taken off the shelf and applied directly to transportation plans, programs, and policies. Instead, based on our experience as leaders of the subcommittee, the process of bringing health-related ideas—indeed, science—into transportation involves roughly equal parts learning a new health vocabulary, learning about health organizations and their roles, learning about existing health science, and building personal relationships with leaders in the health community. Thus, bringing health science into transportation practice resembles the “science in action” model elaborated by Bruno Latour and the “soup of policy communities” model proposed by John Kingdon.<sup>6,7</sup>

A little bit of fun goes a long way. With input from members of the subcommittee, Ed developed an interactive workshop about health and transportation that centers on playing a Jeopardy-type game. The game includes categories and questions that familiarize practitioners

with basic terminology, concepts, and organizations from the health sector such as epidemiology, social capital, health disparities, social determinants of health, health impact assessments, the master of public health degree, and the County Health Rankings. He has implemented this training for different audiences (e.g., professionals in state departments of transportation and professionals in regional planning organizations). Participants enjoy playing the game, and its content primes them for further discussion and learning. Some have called this Population Health 101 for transportation planners.

Among transportation professionals, there is significant demand for learning about the intersection of health and transportation. For example, at the 2013 TRB annual meeting, the subcommittee hosted a standing-room-only session, “Navigating the Intersection of Transportation and Public Health.” This session had broad support among a number of groups and committees within the TRB organization, which contributed to the successful turnout. The session proceedings also included the results of a survey of 177 TRB committees about their interest in public health.<sup>8</sup> It was not too surprising to some of us that almost 30% of the committee chairs said that their committees had a specific interest in public health.

Organizing these conference and training sessions and workshops is one of the subcommittee’s most successful activities. A recent workshop, January 2016, focused on institutionalizing health in transportation agencies, covering topics such as staffing, funding, and management buy-in.<sup>9</sup> The workshop included testimonials from staff members of transportation and health agencies that have made significant progress toward stronger integration. Workshops such as these, in which participants learn directly from peers, tend to be successful because the focus is on how scientific ideas are implemented in practice instead of presenting scientific research as something that stands alone from practice.

In dealing with any emerging policy topic it is important to get the word out by reaching practitioners as well as the decision makers. The subcommittee has reached people through publications that target both audiences. The subcommittee spearheaded an effort to produce a health-themed issue of *TR News* in the fall of 2015.<sup>10</sup> *TR News* is a bimonthly magazine published by the TRB that covers the latest transportation research and emerging topics. It has a distribution of more than 10,000 people and organizations. Similarly, the May/June 2013 issue of *Public Roads*, published by the Federal Highway Administration, included an article by Ed Christopher and Eloisa Raynault about many of the public health-related activities underway at metropolitan planning organizations, at state departments of transportation, and within the U.S. Department of Transportation.<sup>11</sup>

## Results

Three interrelated activities reflect progress with knowledge transfer between population health and transportation. These include the development of analytical tools, applied research, and policy.

Developing analytical tools has been a precursor to bringing environmental ideas into transportation policy, and the model may also apply to health.<sup>12</sup> For the case of population health, policy development requires analytical tools to understand the potential effects of transportation plans, policies, and programs on health-related exposures and outcomes. Health topics are increasingly included in tools such as population-based travel surveys, statistical models of travel behavior used to forecast the effects of new policies, and impact assessments for transportation projects and plans.

In 2015, the subcommittee conducted a three-hour workshop about technical tools that bring health ideas into transportation.<sup>13</sup> Examples of these tools include the Transportation Health Tool (a collaboration between the Centers for Disease Control and Prevention and the U.S. Department of Transportation), the Framework for Integrating Health into Transportation Planning and Project Delivery (a project by the Federal Highway Administration), and the County Health Rankings (an initiative at the University of Wisconsin Public Health Institute, sponsored by the Robert Wood Johnson Foundation). While it appears that there is a proliferation of tools for analysts, the conclusion from the workshop was that there is a great deal to be done to put these tools to work. We pose this as a challenge to both the population health and the transportation communities and are actively working to focus the subcommittee on this issue.

Applied research is already an important part of transportation practice, and the TRB is a key source of this research. The TRB administers the National Cooperative Highway Research Program (NCHRP), which is funded by state transportation agencies, and oversees its budget of \$32 million for applied research each year.

In an attempt to establish a health-related foothold in this otherwise highway-dominated research program, the subcommittee successfully proposed a task force to inform the planning, design, construction, and operation of arterials (major roads) and corridors while considering the implications for population health. The task force was established in January 2015, and its members include leaders from the TRB's various transportation disciplines and an equal number of health professionals. Its objective is to produce a catalog of vetted research problem statements that the NCHRP, or any other group interested in applied research, could pick up and advance. Similar to the subcommittee, the task force has established a web presence where its meeting notes and other materials can be accessed.<sup>14</sup>

Prior to calling for the task force, the subcommittee worked with various TRB committees to submit problem statements to the Transit Cooperative Research Program—another applied research program administered by the TRB focused on public transit—and the NCHRP. Although these proposals were not selected for funding (likely because they were out of the mainstream of what these programs typically fund), their substance may be of interest. The transit proposal, “Transit Planning with Public Health in Mind,” called for the development of a guidebook for public transit agencies and planners that would help them decide how, when, and where to include public health in the planning and decision-making processes for public transit systems and agencies.<sup>15</sup> The proposed project also addressed how public health agencies could consider transit in their planning, as well as institutional arrangements in which transit and public health agencies could work together to advance a common agenda. The second proposal called for quantifying the health costs and health benefits of transportation projects.<sup>16</sup> In both cases, guidebooks for practice combine lessons from existing practice with reviews of existing research, to the extent that research on these topics exists.

More generally, the subcommittee is active in developing research statements and proposals and hosting calls for research papers. The research statements are posted on the subcommittee’s website, as are the subcommittee’s meeting notes, newsletters, and research links.<sup>1</sup>

## Translating Research to Policy

Translating TRB-based activities into policy—above and beyond analytical tools and applied research—is a long, slow process, especially because several agencies (state transportation agencies, regional planning agencies, and local governments) need to be involved, each with its own political leadership and decision-making processes. To make inroads into the policy arena, in 2014, the subcommittee hosted a panel discussion with leaders from three state transportation agencies and one state commissioner of the public health department.<sup>17</sup> These policymakers discussed how to fund programs at the intersection of health and transportation, as well as the cultural challenges of working on interdisciplinary policy issues. Some of the key takeaways from the discussion, as expressed by the top decision makers, were:

- Make friends across the aisle and build trust. Transportation and health people speak different languages. Therefore, we need interagency working groups to talk about shared goals. We need to be learning from each other.
- Data provide a powerful tool to instruct transportation agencies about how they spend resources. Data also demonstrate the connection between health and transportation. We need an evidence-based assessment showing the health benefits of implemented projects.

- Inertia is real and is a challenge to overcome when trying to motivate an industry (transportation) that has not traditionally considered health. On the public health side, professionals can contribute to changing the conversation by focusing more on expansive policies and systems, such as the built environment, rather than specific programs.<sup>17</sup>

Beyond the subcommittee, other groups have documented the inclusion of health concerns in transportation policy and planning. Beginning in 2012, the Federal Highway Administration began documenting cases of metropolitan planning organizations and state departments of transportation that have integrated health concerns into their planning and programming processes.<sup>18,19</sup> To facilitate learning about the implementation of health ideas, the subcommittee invited presentation and discussion of these reports at its annual meetings. As one state Department of Transportation Secretary put it during the subcommittee's panel discussion, "The challenge is to turn public health into not a unique thing, but instead into how we do business. Show me the exception and tell me why it should not be the exception."

The TRB Health and Transportation Subcommittee's deliberate effort to network multiple groups of practitioners—planners, engineers, public health practitioners, and urban designers—has helped create a forum for multidisciplinary knowledge transfer.

The subcommittee has also been working on a model of networking students with dual master's degrees in public health and urban planning. Although many planners have an interest in population health, few actually practice in both disciplines. We see these individuals as key boundary spanners who would benefit the most from targeted professional development.

Professional organizations such as the American Public Health Association (APHA) and the American Planning Association (APA) are potential partners in both developing and leveraging peer-learning networks. Recognizing that networks work best when they include cross-disciplinary sectors, the APHA and the APA recently launched a new initiative, the Plan4Health project, which aims to build local capacity to address population health goals and promote the inclusion of health in nontraditional sectors.<sup>20</sup> These are just two of the "outside" organizations to which the subcommittee has a direct link.

## Successes and Challenges

Because the subcommittee is formed through a transportation organization, its culture primarily reflects transportation, and its social connections are stronger there. Expanding the reach of the organization is one of the subcommittee's main challenges, as it is difficult to reach population health practitioners who do not (and sometimes cannot) attend TRB meetings. Similarly, the TRB has strong connections to transportation agencies and organizations, but drawing

members from other organizational and cultural contexts would help diversify the focus of the group. The subcommittee wants to be “the place for health and transportation,” but important conversations about this topic happen in environments that don’t communicate with the TRB.

The voluntary nature of the subcommittee’s organization also presents a challenge. The group has many members and an active core group, but it is a challenge to routinely attract and incorporate fresh voices and leadership in the volunteer model. It is also challenging to implement new ideas because everyone has other responsibilities. The subcommittee needs a strong core group of committed people who can keep it going, generate ideas, and recruit others to become involved.

From our experience with the subcommittee, health experts need to be at the table. Otherwise, transportation practitioners predictably talk about what they already know (e.g., infrastructure, travel patterns, transportation politics), instead of expanding their knowledge base to focus on new paradigms that are important for advancing health in transportation (e.g., social determinants of health, models of health behavior, and patterns in health over the life course).

In addition, this multidisciplinary peer network needs to include people working in various capacities within their disciplines, including the private and nonprofit sectors, academia, and multiple levels of government. This process also needs diverse social, cultural, and political representation to ensure that multiple perspectives inform innovation. The same broad participation that reinforces healthy communities planning is needed to build this professional community.

## Conclusions

Strengthening the connections between health and transportation is a process of cultural, institutional, and organizational change. These connections ultimately have implications for how our cities and regions operate with respect to the movement of people and goods. They will also dictate which transportation technologies and solutions are funded and implemented. But most importantly they will shape the way in which everyday people carry out their day-to-day activities. But, most importantly, through this subcommittee, we are taking steps that enable transportation and public health to fulfill their broader social welfare missions.

## Discussion Questions

1. What other approaches to its organizational development, mission, or framing of health research and practice might be worth a try?
2. How would this process of knowledge transfer be similar or different if instead of bringing health ideas into transportation, health professionals were bringing transportation ideas into health?
3. This case presents very little information about specific research questions and scientific ideas. Why? What does this tell us about the knowledge transfer process?

## Assignment

### How Professional Peer Networks Advance Healthy Communities Planning

The assignment is to conduct an interview with an expert practitioner or community member involved in healthy communities planning and/or design. The interviewee may work in any institutional context: government, consulting or private sector, nonprofit, community organizing, academia, etc. This person is an expert because he/she has a rich understanding of the issues at stake when linking people, places, public health, and policy.

The purpose of the interview is to learn how this practitioner uses professional peer networks to advance her work. This is an open-ended question that will be answered through the process of conducting the interviews and discussing the interviews with the class.

The assignment has two parts.

#### Part 1. Preparing for the interview

In coordination with identifying an interview subject and arranging an interview (about 30 to 60 minutes, depending on the interviewee's availability), each student will carry out background research about the interviewee and her area of expertise to help prepare a set of interview questions. Develop a set of questions that will allow the interviewee to share insight into how multidisciplinary relationships and forums help advance her work. About three or four open-ended questions with probes is sufficient.

To guide the development of interview questions, state what you want to learn from this expert. This "interview theme" should be stated in 50 words or fewer.

Combine the 50-word interview theme, background research, and interview questions into a brief background memo (no more than 1,000 words). This is the first deliverable.

Please seek out information about qualitative interviewing in preparation. For example: <https://ctb.ku.edu/en/table-of-contents/assessment/assessing-community-needs-and-resources/conduct-interviews/main>.

## Part 2. Conducting the interview, writing the transcript, and presenting the interview

Be on time to the interview and, before beginning, explain to the interviewee (again) the purpose of the interview and what to expect. You may record the interview. Be sure to ask for permission from the interviewee if you elect to do this.

Create a “summary transcript” of the interview, including the interview questions and the interviewee’s responses. This summary transcript is an edited version of the word-for-word transcript, and its purpose is to communicate the key ideas.

The final submission should include the first deliverable (background research, interview guide, 50-word interview theme), the summary transcript, and a reflection (no more than one single-spaced page) on what you learned from the interview.

During class, each student will briefly present her interview (about five minutes per student), and the class will have a group discussion about what was learned, collectively, from these various voices of community health practice.

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## About the Milbank Memorial Fund

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