Tracking Research Impact

Final Report

Submitted to:
The Agency for Healthcare Research and Quality

Submitted by:
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I. EXECUTIVE SUMMARY

The Agency for Healthcare Research and Quality (AHRQ) has focused its strategic goals and objectives on improved health outcomes, better quality of health care, greater access to services and appropriate health care cost and use. As part of its ongoing efforts to improve its research process in support of these goals and objectives, the Agency asked The Lewin Group to identify systems and resources used by AHRQ to evaluate and monitor the impact of its research program and research processes in other health services research organizations that might be considered for adoption by AHRQ.

This report provides a conceptual framework for understanding the research process and uses the framework to synthesize information collected from structured discussions with AHRQ, the Veteran's Health Administration and four nonprofit health services research organizations. The report describes the efforts of each organization to collect, translate and disseminate research findings and assess their impact on the knowledge pool, policy and practice. However, while we recommend that AHRQ consider some practices, the report is not oriented around "best practices"; our intent is to be more descriptive than evaluative. Our findings and recommendations contain two types of information:

1) Practical methods that have the potential to improve the current research process at AHRQ. These practices are either currently in place in other organizations or were suggested to us as potential future improvements by respondents.
2) More strategic observations the project team acquired during the course of conducting the interviews and informed by our previous involvement with the management and organization of the Agency.

Key findings and recommendations include the following:

- Most organizations we studied do not systematically use the results of current and past research efforts to explicitly determine priorities and allocate funding for the next round of research. Rather, they target their research at achieving a different type of impact – influencing health care policy or improving clinical and delivery system performance.

- However, their progress is limited to making research results and findings available to policy and other decision makers and having them adopted. Whether the policy change or practice improvement is actually implemented generally is not monitored, nor is the ultimate effect on the health status of the populations served evaluated.

- To translate its mandate as the "Quality" Agency into an internally consistent set of research priorities, AHRQ should select a primary objective around which to organize its research activities and related objectives.

- AHRQ should consider *improving patient outcomes* as its principal indicator of research impact and adopt "priority conditions" as a fundamental organizing principle for its ongoing research process.

- AHRQ should develop a more structured process for obtaining feedback from end users of research and consider increasing funding for projects designed specifically to help the Agency synthesize larger bodies of research results.
- AHRQ should foster a closer and more deliberate interaction between the Office of Health Care Information (OHCI) and the project officers and Center staff to improve dissemination efforts. We suggest thinking of this interaction as "discharge planning" for the content of the research findings.
- AHRQ should develop a clear "job description" of who within the Agency is responsible for monitoring and tracking research impact and what the role entails.
- AHRQ should consider forming a Federal Interagency Clinical Research Council, composed of other federal agencies that are health service research organizations (AHRQ, VHA, DoD) direct service providers (VHA, IHS, DoD), funders of direct services (HRSA) or purchasers of health care for federal workers (OPM). The goal of this council would be to coordinate evidence emerging from all federally-conducted or sponsored health services research and rapidly implement it into practice.

II. INTRODUCTION

The Agency for Healthcare Research and Quality (AHRQ) has focused its strategic goals and objectives on improved health outcomes, better quality of health care, greater access to services and appropriate health care cost and use. Quantifying the impact of research efforts intended to support these goals poses considerable challenges to AHRQ and other health services research organizations with similar missions. Challenges organizations have confronted in a fast-paced and rapidly changing health care industry include identifying when the effect of research *should* be determined and determining whether a single study (versus a synthesis of multiple studies) represents *real* impact. An additional issue focuses on the tradeoff between investing limited resources to prospectively address stakeholders' *next* significant health care issue and retrospectively evaluating the impact and outcomes of previous research investments. Demonstrating research impact is a difficult challenge for an organization like AHRQ, given the differing and sometimes competing perspectives of its diverse and knowledgeable stakeholders.

To better inform the extent of progress made in furthering its goals and objectives, AHRQ strives to improve the process by which it assesses, monitors and communicates the findings, products and impacts of its research program. Ultimately, the Agency's goal is the efficient, systematic tracking of short-term use and long-term impact of the products of its research program. To support this, the Agency asked The Lewin Group to provide a broad overview of systems and resources in use at AHRQ, to evaluate and monitor the impact of its research program and to identify research processes in other health services research organizations (e.g., federal agencies and nonprofit organizations) that might be adopted by AHRQ.[1]

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[1] This report synthesizes the information obtained by The Lewin Group for the purposes of this study and provides a conceptual framework for understanding how AHRQ can influence its impact tracking efforts at various phases in the overall research process. The report is intended to be necessarily more descriptive than evaluative of organizations' capabilities and efforts to monitor and assess their research programs' impact.

III. STUDY METHODOLOGY

AHRQ's study objective was to gain insight into effective organizational practices, systems and structures that facilitate measuring and monitoring research impact. The study adopted a two-tracked approach, one focusing on the Agency's internal efforts to develop a research tracking system and the other exploring the practices and processes developed by external organizations to track the impact of their respective research programs. To collect information from the other federal agency and nonprofit organizations, The Lewin Group conducted structured discussions with organizational leaders, program managers, database managers and extramural researchers about each organization's approach to monitoring and communicating impact. The Lewin Group also collected reports and other informational materials (e.g., guidelines provided to grantees) produced by each organization to support its impact tracking efforts.

A. AHRQ

The Agency's project staff furnished draft reports, syntheses of "impact stories" and other resources AHRQ uses to report the impact of its research program. At the request of AHRQ project staff, The Lewin Group also conferred with the directors of three of the Agency's Centers: the Center for Practice and Technology Assessment (CPTA); the Center for Outcomes and Effectiveness Research (COER); and the Center for Organization and Delivery Studies (CODS).

The Lewin Group developed a structured protocol to guide discussions with the directors of each of the above-mentioned Centers. A focus group was conducted with the CPTA director and two additional CPTA staff members. Information was obtained from the remaining two Centers via electronic mail, with several follow-up phone calls to clarify or elaborate on information provided.[2] The Lewin Group also discussed AHRQ's research tracking system and information dissemination strategies with staff at the Office of Health Care Information (OHCI), whose organizational function is designing, developing, implementing and managing programs to disseminate the results of Agency-conducted and Agency-sponsored activities.

B. External Organizations

Selection of External Organizations

To guide selection of potential external organizations for inclusion in the study, The Lewin Group developed a set of criteria based on an organization's size and scope of research investments; research focus and strategic plan; and the extent to which the organization assessed the quality and impact of its research, had performance measurement goals and maintained a database to monitor research impact. The Lewin Group conducted an initial assessment using organizations' annual reports, grantee reporting requirements and guidance and supplemental information that described each organization's mission and structure in order to develop a list of

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[2] Discussions with AHRQ's Center directors were intended to provide a broad perspective on current internal efforts to evaluate program success, perceptions of the strengths and weaknesses of the current system and visions for the ideal impact tracking system. This report is not intended to provide an exhaustive list and extensive description of Agency-directed efforts to track impact.

federal agencies, nonprofit organizations and for-profit companies for potential inclusion in the study. Ultimately, biomedical research institutions and for-profit research organizations were excluded from this study, due to disparities in the definition and operationalization of "impact" when compared to AHRQ criteria.

AHRQ project staff selected for in-depth analysis one federal agency, the Veterans Health Administration (VHA), and four nonprofit organizations: Robert Wood Johnson Foundation (RWJF); Milbank Memorial Fund; California Health Care Foundation (CHCF); and ECRI.[3] In addition, The Lewin Group pursued expert discussions with one of RWJF's extramural researchers, the Center for Studying Health System Change (HSC), a health services research organization. The external case studies were limited to nonprofit organizations with similar research agenda. **Table 1** provides a brief overview of AHRQ and each of the organizations participating in this study.

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[3] ECRI's inclusion in this study was based on its relationship as a contractor to AHRQ, a relationship that enabled ECRI to provide insight into AHRQ's efforts to monitor research impact. Focused on evidence-based research in health care technology, risk, quality management and environmental management, ECRI's services differ fundamentally from the other organizations participating in this study in that it does not develop and contract its own research program, rather it provides services to other organizations including AHRQ. Consequently, this report reflects ECRI's perspective on AHRQ's research tracking efforts, but does not report on ECRI's own internal impact tracking efforts.

Table 1:
Agencies and Organizations Participating in Study[4]

	AHRQ	VHA	RWJF[5]	Milbank	CHCF
Research Program Size	455 active grants (plus contracts)	ORD funds over 1,500 studies; HSR&D[6] funds roughly 150 studies	668 grants; 84 contracts At any given time, 2,300 active projects	N/A	240 funded projects
Funding	$269.9 Million in Fiscal Year 2001	$351 Million[7]	$420.7 Million in 1999	N/A	$31.8 Million
Funding Priorities	Agency has defined its goals as: (1) support improvements in health outcomes; (2) strengthen quality measurement and improvement; (3) identify strategies to improve access, foster appropriate use and reduce unnecessary expenditures	VHA has identified designated research areas,[8] or priority areas, for Veterans	Identified priorities within 3 broad areas: (1) to assure that all Americans have access to basic health care at reasonable cost; (2) to improve care and support for people with chronic health conditions; and (3) to promote health and prevent disease by reducing the harm caused by substance abuse	Guided by requests from and concerns of policy makers, work addresses policy regarding: (1) the care of patients; (2) the health of populations; and (3) the organization, financing and governance of health services	Goal is to address key failures of the current health care market to provide access to affordable, quality health care for all Californians. Funding is allocated to five program areas: managed care and special populations; CA's uninsured; CA health policy, health care quality, and public health
Nature of Work	Health services research focusing on outcomes, quality and cost, use and access	Health services, medical and rehabilitation research	Health services and health policy research; no biomedical research	Supports policy development; not traditional health services research	Health policy and public health research; no clinical research
Target Audience	Policymakers, patients, clinicians, health system leaders	VA clinicians, researchers and decision makers	Public and private policy makers	Public and private decision makers	Policy makers, health plan and health delivery organization executives, interest groups, public

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[4] **Appendix A** provides a brief description of each organization, including ECRI, which is omitted from this table due to its particular research emphasis.

[5] The Center for Studying Health System Change (HSC) participated in this study as a grantee of RWJF. Because HSC is a policy-focused research organization, its staff offered insight from their unique perspective as both an RWJF grantee and leaders of a health services research organization.

[6] ORD is VHA's Office of Research and Development; HSR&D, housed within ORD, is VHA's Health Services Research and Development Service.

[7] VHA funds research projects; researchers' salaries and other indirect costs (totaling roughly an additional $330 million) are covered via other funding streams (e.g., most researchers are salaried faculty members at academic institutions).

[8] VHA's designated research areas include: aging and age-related changes; acute and traumatic injury; military occupational and environmental exposures; chronic diseases; sensory disorders and loss; mental illness; substance abuse; special (underserved, high risk) populations; and health services and systems.

Selection of Participants[9] *for Structured Discussions*

Within each external organization, we identified several types of individuals as potential study informants. We anticipated that ***organizational leaders*** would provide a conceptual view of the process and describe the organization's motivation for tracking research impact, while ***program officers***, more intimately aware of the challenges in communicating with and collecting information from grantees, would frame the process in the context of day-to-day grant management. ***Database managers*** possess invaluable information on the challenges and resources required to construct and maintain a database of grant and research impact information. Focused discussions with ***extramural researchers***, or grantees, would provide still a different perspective – an understanding of the challenges that grantees (and the larger organization of which they are a part) face once required to report impact information on a regular basis. Furthermore, speaking with grantees provides an opportunity to identify how they would most like to report impact information, if required to do so, and what features of an impact tracking database might be useful to them.

Using structured protocols to guide the one-hour discussions, two Lewin Group staff members discussed impact tracking efforts with appropriate staff at each organization included in this study. Discussion summaries were prepared and returned to each participant to verify the information's accuracy, clarify misinformation and elaborate on the information provided, as appropriate. **Appendix B** presents the expert discussion protocols used in this study. **Appendix C** provides a list of the organizational position/level of individuals who participated in this study from each organization.

IV. THE RESEARCH PROCESS: MEASURING IMPACT AT DIFFERENT PHASES

Health services research contributes to the pool of specialized knowledge within its particular field, and seeks to influence policy and practice to improve the design, delivery, organization, cost and financing, and outcomes of health care services. **Figure 1** depicts the iterative and interdependent nature of the health services research process. The process has several phases, including:

- Identifying needs, problems, or issues in health care to be addressed;
- Assessing the importance of the issues and problem areas, assigning priorities for the investment of research funds, and formulating an overall research agenda;
- Developing and conducting a set of research activities, projects and broader programs to carry out this agenda;
- Producing research findings, evidence and conclusions;
- Synthesizing and translating findings to facilitate interpretation by target audiences;
- Disseminating research findings, evidence and conclusions to target audiences;
- Using findings effectively either to pursue additional research to further advance the knowledge base, or to influence change in policy or practice; and re-evaluating issues, problems and needs to continually guide research priorities.

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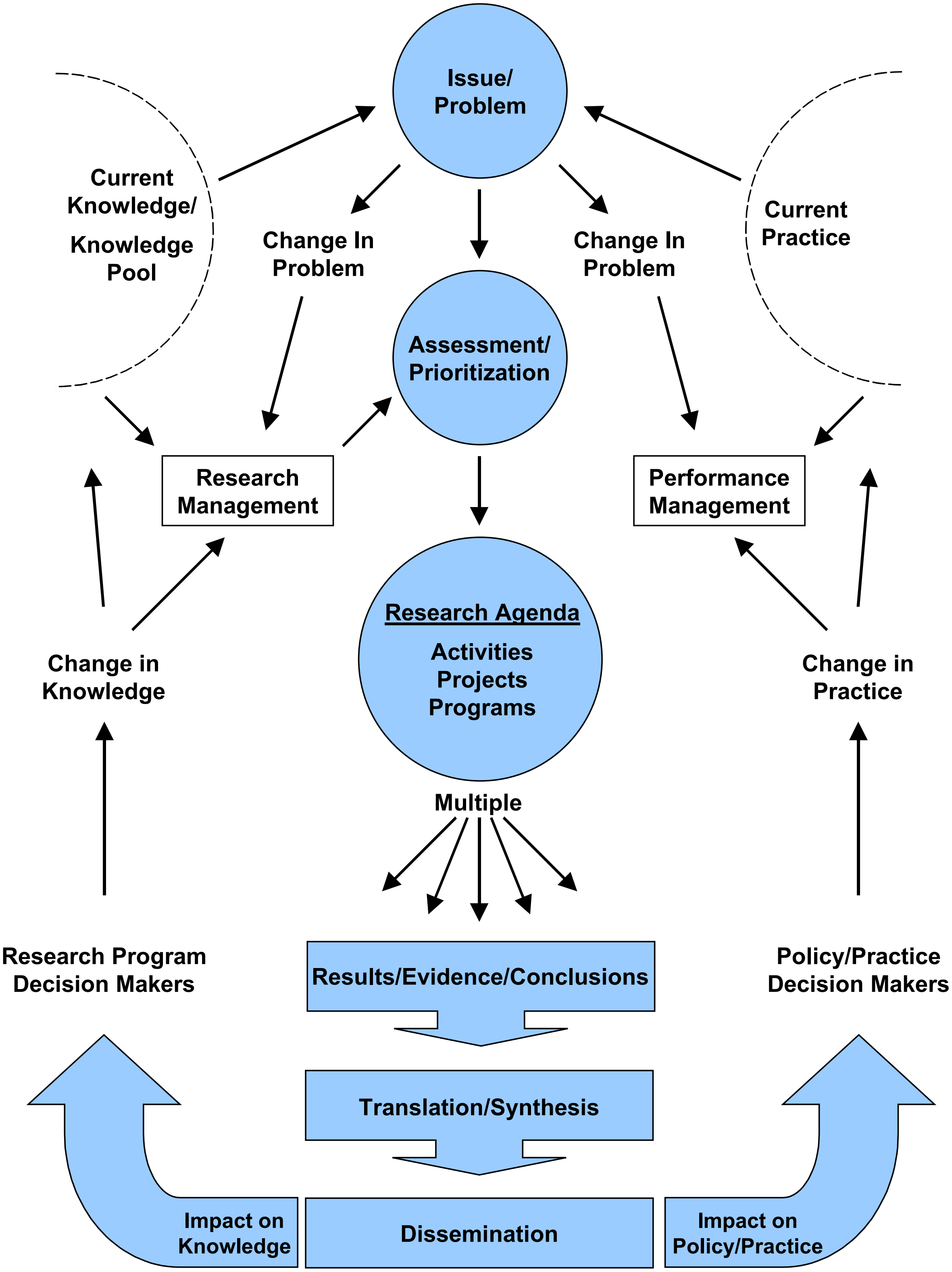
[9] Study participants have provided information contained in this report for AHRQ's benefit only, and have requested that confidentiality be maintained – the information is neither intended nor designed for public distribution.

Figure 1:
The Research Process



Measuring and monitoring research impact begins with the production of findings, results and evidence from multiple, specific research projects and activities. It then proceeds through translation and syntheses of these results and the dissemination of these conclusions to consumers of research, after which research impact can be assessed. As **Figure 1** suggests, there are two broad "tracks" of research impact: 1) impact on the current pool of knowledge; and (2) impact on current health policy or health care practice. The study organizations described some level of effort to influence different phases of the research process and identify impact; however, most objectives were not fully realized. Impact-related efforts are categorized into six areas:

A. Defining research impact;

B. Translating findings for intended audiences and use;

C. Disseminating research findings;

D. Identifying the impact of research projects and findings;

E. Sustaining impact by improving the research process and developing performance management systems; and

F. Developing databases to maintain and link grant activity and research impact information.

The remainder of this report briefly describes current efforts in each of these areas.

A. Defining Research Impact

Research impact may be defined along two tracks: impact on knowledge; and impact on policy and practice. AHRQ's definition focuses on the latter track – impact on policy and practice. Research impact is defined by AHRQ as having occurred when research findings have:

- been used in a clinical setting;
- made a measurable difference in patient care and/or outcomes of care;
- been used by policy makers or made a measurable difference in their decision making;
- led to measurable change within managed care settings;
- yielded changes in how health care services are delivered; or
- resulted in measurable savings in health care expenditures.

While the other organizations we studied generally defined impact in similar terms, most were less explicit and less comprehensive in defining impact. CHCF, a relatively young organization, reported only recently initiating efforts to develop an evaluation strategy for its research program. Although the clinical component of AHRQ's definition did not align with CHCF's research focus, CHCF found the remaining components fit well and reported plans to adopt AHRQ's definition to guide its own internal efforts. RWJF reported a focus on tracking the dissemination and use of its research, especially indications of the extent to which its funded research is widely read in the field.

Some organizations track impact only as far as the next step in the overall process. For example, targeting their research efforts to policy makers, HSC and Milbank base "impact" on the dissemination of research findings to wide audiences and the active use of such findings by policy makers to inform policy decisions (not whether or how well the decisions are implemented or their effects). Milbank, while agreeing with the basic components of AHRQ's definition of impact, suggested that the definition of impact should include, "research that has led to the development of ongoing relationships with policy makers, through which the organization is invited to participate in policy development and implementation." Considering both *direct* and *potential* impact on policy, Milbank conceptualizes *direct* impact to include:

- Did public or private policy makers seek advice from Milbank and its constituents among decision makers as a result of the research?
- Were changes made in rules, processes or behaviors within public or private organizations as a result of the work?
- Were new funds appropriated or were funds redistributed by public or private organizations as a result of the work?

Milbank determines the *potential* significance of its project via the following:

- Have recommendations for action and/or publications attracted attention among the general public?
- Have recommendations for action and/or publication attracted attention among professional audiences? Did the work produce valid and credible information that could be useful for policy makers?
- Did the work produce valid and credible information that might influence the content or methods of education and training?

The Veterans Health Administration defines *research impact* as research that has changed policies, practices or outcomes, which is consistent with many of the elements of AHRQ's definition. To be considered successful, VHA-supported research must demonstrate an impact on patient care or the delivery of health care services in the VA health system.[10] The VHA's primary emphasis on improving practice does not preclude obtaining the benefits of a more effective and targeted research program – the VHA does both, but for policy reasons chooses to emphasize the needs of its constituents rather than its researchers. This primary emphasis on contributions to practice also is apparent elsewhere.

In its retrospective review[11] of the first decade of Agency-funded outcomes and effectiveness research, AHRQ's Center for Outcomes and Effectiveness Research (COER) identified four levels of research impact:

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[10] The remaining participating organization, ECRI, indicated that as a provider of products and information (akin to *Consumer Reports* services) it has adopted a "bottom line"-oriented approach for measuring impact. It defines success as its ability to sell information and products at a price through which consumers bear responsibility for product development. In its role as a provider of contracted research services (e.g., to AHRQ), ECRI focused on noting when its research findings affect changes in policy or coverage decisions.

[11] *The Outcome of Outcomes Research at AHCPR: Final Report*. Summary. Agency for Health Care Policy and Research, Rockville, MD. http://www.ahrq.gov/clinic/outcosum.htm.

Level I impacts are research findings, most often measured as publications in peer-reviewed journals and unanswered questions from prior investments.

Level II impacts result when one or more "change agents" in the health care system (e.g., accrediting organizations, payors, patient groups or professional organizations) use one or more findings from research as the basis for a policy, such as clinical practice guidelines or quality measures.

Level III impacts occur when those policies are translated into practice.

Level IV impacts represent clear evidence that the translation into practice has improved patient outcomes.

Although there is a brief mention of "unanswered questions from prior investments", the COER framework clearly emphasizes the effects of research on improving clinical practice, beginning at the point where organizations generate research findings and continuing through the practical effects of changes in patient outcomes.

In contrast to this emphasis on improving practice, the importance of contributing to the pool of domain-specific knowledge and improving the targeting and focus of the collective agendas of health services research organizations should not be minimized. Effectively synthesizing and clearly communicating the significance of research findings to support both objectives are crucial to the research process – although from our assessment, few organizations seem to do them systematically. What is done to facilitate tracking and measuring research impacts, according to their own definitions, by the organizations included in our assessment is described in following sections.

B. Translating Research Findings

For research to be meaningful, its contribution to the knowledge pool, practice or policy must be made clear. If organizations have identified the problems or needs to be addressed via their research program, and fund or conduct research that aligns with their priorities, the findings produced are expected to contribute to the pool of knowledge available to the health care field (refer to **Figure 1**). Once findings are generated, however, effectively communicating them to target audiences is essential to translating findings into policy or practice or to informing subsequent research efforts. Synthesizing research findings and incorporating the perspective of end users can help organizations to translate research findings into meaningful information more readily used by target audiences.

Synthesizing Research Findings

Synthesizing findings across internal research projects or with existing external research can help highlight the consistency of findings across studies; provide context for interpreting a given finding; and help policy makers, practitioners, health system administrators and others to understand the content and relevance of the information provided. The Center for Organization and Delivery Studies (CODS) observed that AHRQ and its predecessors have had a long tradition of conducting and supporting health services research that could aid decision makers by quantifying responses to changes in policy. However, research findings are rarely synthesized across grantees or with existing external research to produce a more useable and robust body of findings. Organizations and researchers tend to disseminate individual, often isolated, research findings that have less potential for sustainable impact.

Several of the organizations participating in this study described engaging in some level of effort to synthesize the findings of the research they supported. These efforts, however, were not described as systematic or widely adopted throughout the respective organizations. For example, AHRQ's Center for Organization and Effectiveness Research (COER) reported that its project officers regularly summarize the work conducted to date on the projects they monitor in order to provide updates on individual grants and help the Center to discern common methodological and other challenges encountered across grants. Still, AHRQ study participants reported the Agency's syntheses efforts to be Center-specific and sporadic, their preparation often being driven by specific requests. Similarly, Milbank reported episodic efforts to synthesize findings from its research; Milbank occasionally commissions research syntheses or analyses related to its projects in policy development.

RWJF has not established a formal system for synthesizing findings *across* research projects or programs. However, it has developed a method for summarizing the results of its funded research projects at the individual project level. For the past five years RWJF's Grant Results Reporting Unit, housed within the Communications Department, has managed the preparation of Grant Results Reports to describe the results, findings and lessons learned from RWJF grant-funded programs. Based on the summary of all grant-related products and informational materials (including annual and final reports filed by the grantee and all bibliographic information related to the project), Grant Results Reports describe the problem addressed through the grant, objectives established and strategies adopted, results or findings, lessons for the field garnered from the initiative, efforts to communicate or disseminate results and "next steps" related to the findings.

The Grant Results Reporting Unit professional staff assist in conducting searches and preparing syntheses of findings *across* grant results reports to inform *internal* programmatic funding decisions. Though neither formalized nor systematic, these syntheses provide project officers with access to information that can facilitate planning for new initiatives and evaluating grant proposals. RWJF's development of processes and databases to facilitate the synthesis and retrieval of grant-related information has propelled a cultural shift that supports looking *backward* at outcomes and findings from past research efforts while maintaining a forward-reaching eye towards future needs, concerns and areas of interest. One of the Foundation's two research areas (i.e., its Health group) has required that before a potential research initiative can be put into the team's "pipeline" for consideration, each team must prepare an appendix (to the information package that describes a particular initiative) that provides a synthesis of findings/results and lessons learned from prior grants. When considering a new initiative, the team also is required to look at projects and activities that the government and other foundations are funding. Such an effort represents a shift toward using syntheses of information accumulated from previous research projects to evaluate the RWJF's effectiveness at reaching its strategic objectives and identifying relevant future research that continues to ensure that the Foundation activities remain mission driven.

Including End Users in the Process

Study participants reported that efforts to incorporate end users into the process of designing research projects, monitoring a project's progress and communicating research findings have helped organizations to translate research findings into practice and policy. For example, Milbank emphasized the importance of communicating findings (including the limits of the findings) in a way that shows their significance for policy. Milbank has found that policy makers read research findings with considerable acuity and want to be able to use research findings to inform policy decisions.

Milbank, HSC and RWJF have engaged in efforts to help researchers identify research priorities and report findings that help target and inform policy makers. Examples include:

- To reduce barriers and enhance dialogue between researchers and policy makers, Milbank requested that the organizers of a recent workshop on evidence-based medicine (attended primarily by researchers) invite a group of policy makers to participate. Over the course of the event, researchers attending the workshop requested the organizers to schedule a special plenary session, led by policy makers, to describe the conditions under which policy makers use or do not use research findings.

- HSC has hired staff to focus specifically on building relationships with policy makers to help inform the selection of relevant research topics and shape research products. HSC reported that these interactions help produce information that focuses on policy needs and increases the likelihood of having meaningful impact on the target audience, with the added benefit of enabling HSC to better identify how its information is being used. Additionally, HSC organizes conferences and forums to foster interaction between the research and policy communities.

- Focusing on ways to increase the timeliness, accuracy and relevance of information provided to policymakers, RWJF created an Information Team that surveys policy makers to identify their information priorities, as well as their preferences for types of information and vehicles for disseminating information (fact sheets, syntheses, monographs, web updates, etc.).

Several organizations have established internal processes by which end users review research products to ensure they are interpretable and meaningful to intended audiences.

- In VHA, the Health Services Research and Development Service's (HSR&D) Management Decision Research Center (MDRC) – responsible for all communications for HSR&D – conducts focus groups to review the content of information reported in its larger published documents, such as its *Primer* series.[12] Comprised of members of the publication's target audience, the focus groups provide MDRC with feedback on the comprehensibility and clarity of the information presented.

- Milbank involves policy makers in the formal process of reviewing research (e.g., policy makers are peer reviewers for the *Milbank Quarterly*) intended mainly for academic

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[12] The *Primer* series is designed to help bridge the gap between researchers, policy makers, managers and clinicians in an effort to improve the quality and cost effectiveness of health care for veterans.

audiences, in order to help effectively communicate and increase the acceptance and transfer of research findings.

- RWJF has established a Committee of Research Users, an advisory committee created for many of the Foundation's larger projects, to provide input to help researchers understand what is useful to end users and enable end users to inform the research process. The committee reviews the progress and products of RWJF's larger research projects, provides an evaluation of the usefulness of current findings or products, and offers suggestions to influence the future direction of the project.

C. Disseminating Research Findings

When organizations produce and synthesize research findings, the findings ideally will be disseminated to target audiences – the "customers" of the research products. Dissemination activities may take many forms, including generating articles, bulletins, newsletters, reports, web-based and other informational resources; and holding formal conferences, forums and briefings and informal meetings. Most of the organizations in this study, including AHRQ, have created internal structures and procedures to support dissemination efforts. For example, AHRQ's OHCI, RWJF's Communications Department and HSC's Public Affairs department focus explicitly on disseminating research findings. These internal units typically develop dissemination strategies that align with the research program's overarching goals and agenda.

Within AHRQ, OHCI actively disseminates the products and findings of Agency-supported research through *Research Activities* (published monthly), press releases and posting Technology Assessment and Technology Review reports and other findings on the Agency's web site. However, AHRQ's Center directors described dissemination efforts as sporadic and non-strategic, focusing on individual "news flash" research findings. From one participant's perspective, the Agency's current emphasis on individual, project-specific research findings does not lend itself to an active role in informing policy decisions. Study participants asserted that policy makers could better inform their decisions with a clearly synthesized and articulated set of research findings. The "news flash" dissemination of current research findings were thought to attract special attention at the expense of lower profile findings or information reported in the recent past that could have meaningful impact on the field.

VHA's Office of Research and Development (ORD) targets distinct publications for different audiences. ORD houses three communications offices that synthesize and disseminate VHA research findings. MDRC annually develops a dissemination strategy for publications that highlight HSR&D research findings. Different publications – newsletters, management briefs, videotaped lectures, primers and fact sheets – are prepared for different audiences, including policy makers; VHA decision makers, CFOs, directors and clinical managers for the VHA's 22 networks; and associate directors, service chiefs and chiefs of staff at the VHA's hospitals, nursing homes and outpatient clinics within those networks. For example, *HSR Forum* translates technical research findings into less technical language to facilitate interpretation and use by non-researchers and especially for legislators and other stakeholders. *Practice Matters* targets clinical managers, but also is distributed to physicians, nurses and health care providers, as appropriate for the topic areas.

A second VHA communications office, based directly out of ORD headquarters, publishes annual reports, press releases, ORD catalogues and *Impacts* (a publication designed to communicate all VHA research and development outcomes and impacts to Congress). To facilitate the annual publication of *Impacts,* each of ORD's four services reports on the impacts achieved from VHA-supported research over the prior year. The office also communicates directly with the media. The third communications office, linked to the Rehabilitation Research and Development Service, publishes a journal primarily intended for communicating with the Veterans Service Organizations (VSOs) interested in rehabilitation research, (e.g., Disabled American Veterans, Paralyzed Veterans of America).

Formal communication channels within VHA facilitate the dissemination and translation of research findings from the research community into clinical practice and policy-relevant changes. VHA's chief officers and MDRC's Information Dissemination program manager[13] meet weekly to discuss current issues, including new research findings, which provides an opportunity for communicating information directly to the individuals responsible for making key decisions. For example, when a funded project found that low-risk diabetes patients do not need an eye exam every year (once every other year is adequate), the researchers related the findings to the administrators of patient care services, and VHA standards promptly were changed. Respondents noted that VHA's system is self-contained and its research and health care delivery systems are well connected, enabling for even informal communications to quickly move research findings from researchers to VHA leaders, administrators and other users of the information.

D. Identifying Research Impact

As suggested in the previous sections, research organizations invest considerable resources to conduct research, generate results and disseminate research findings; however, organizations often overlook the synthesis phase in the research process. Organizations also often fail to determine *how* the findings from their supported research are used or the impact of their use in terms of advancing the state of knowledge or influencing change in policy or practice. The study organizations generally allocate resources to move forward to address future needs and problems rather than expending resources to look backward to evaluate the effects of previous research findings.

The organizations have made strides in determining how their research findings have been used and continue to develop formal mechanisms for identifying research impact. However, current efforts have met only limited success in monitoring impact; the measures and methods organizations described fall into four areas:

1) Self reports from the field;
2) Lists of publications, media coverage and media interactions;
3) Summary reports; and
4) Evaluation studies.

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[13] MDRC's Information Dissemination program receives annual reports from all of HSR&D's Centers and is responsible for synthesizing information and generating and disseminating publications to appropriate VHA audiences and Congress.

Self Reports from the Field

AHRQ and several of the other organizations described efforts to collect self-report impact information from the field. Maintaining relationships with policy makers and other end users provides a means of soliciting direct feedback from the field about how research findings influenced additional research, practice or policy decisions.[14] Milbank and HSC emphasized the importance of developing and maintaining strong ties to decision makers at local, state and national levels to obtain valuable impact information, especially impact realized several years after findings were disseminated. Milbank has established a formal system by which its staff members routinely communicate directly with policy makers throughout the country, as well as in other countries, to systematically identify how its research influenced policy decisions. Milbank's staff monitor and record both positive and negative outcomes, that is, feedback on the extent to which Milbank's work *does* or *does not* have an effect on policy.

Although HSC found market research to be useful in the past,[15] it expressed concerns that systematically approaching policy makers to gather impact information would "bother" policy makers; accordingly, HSC does not intend to establish a formal system for collecting impact information from policy makers. Rather, HSC has hired staff to focus explicitly on strengthening relationships with policy makers to inform the selection of research topics and shape research products.

RWJF and AHRQ described less systematic methods for collecting reports of impact from the field. RWJF indicated that a focus on community-level research has enabled its staff to maintain contact with community stakeholders and learn about community-level impact up to several years down the line. RWJF reported that anecdotal information about how its research has been used often is collected serendipitously through informal communications.

Similarly, AHRQ reported that Center staff collect anecdotal reports of impact from the field; however, such efforts were described as episodic and somewhat serendipitous. OHCI compiles brief excerpted anecdotal descriptions of impact – taken from speeches, testimony, articles and other written materials – into a report entitled, *Impact: Case Studies Notebook – Documented Impact and Use of AHRQ's Research.* OHCI also described an Agency-wide database that exists to record and track anecdotal reports of impact (via the *Initial Impact Submission Form).* Additionally, some study participants described Center-specific efforts to track impact, such as COER's compendium (*The "Greatest Hits" of Outcomes and Effectiveness Research at AHCPR*[16]) of examples of research translation that were derived from interviews with principal investigators and others. Nonetheless, the Agency has not developed formal mechanisms for collecting from the field anecdotal reports of impact. Although COER attempts to maintain a current version of the compendium, it has not developed a proactive system for updating the information. AHRQ's staff indicated that the impact database is not routinely used by Center

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[14] In describing self-reported impact from the field, study participants focused on policy changes or improvements in the health service system; they did not emphasize the contribution of research findings in the context of advancing the field's level of knowledge.

[15] Due to resource constraints and burden on respondents, HSC found that market research could only be fielded periodically (i.e., every two years); HSC plans to continue to conduct market research periodically to collect impact information.

[16] AHRQ's title was the "Agency for Health Care Policy and Research" (AHCPR) prior to the 1999 reauthroization legislation.

directors, project officers and other Agency staff. Study participants further noted that the lack of a standard, consistently used vehicle for communicating examples of impact thwarts the Agency's efforts to document and share impact information.

Lists of Publications, Media Coverage and Media Interactions

Although most respondents perceived publication rates to be less than optimal as measures of research impact, organizations have found it difficult to consistently identify when and where their supported researchers have published their findings. In addition, given that publications often do not occur until one or several years after the close of a grant, the fact that organizations often do not maintain post-grant contact with grantees further impedes efforts to track the publications of their researchers. Nevertheless, most organizations incorporated some form of bibliographic metric into their evaluation and reporting systems.

AHRQ, RWJF, CHCF and VHA incorporated publication information requirements into guidance provided to their grantees. AHRQ's Notice of Grant Award, continuation applications and final reports require funded researchers to notify the Agency (usually the project officer) of all grant-based manuscripts accepted for publication *prior to* their actual publication or public release. Researchers who publish findings or release findings to the press without notifying AHRQ receive "tsk tsk" letters from the Agency Director.[17] RWJF collects full-text copies of publications from its grantees. The Foundation's final report guidance requests grantees to send two copies of all articles, reports or books published, media coverage or other significant dissemination efforts (including video and audio tapes and computer disks) after the close of the grant to the Grant Reporting Unit in the Foundation's Communications Office.[18] RWJF annually surveys all research and evaluation grantees with grants that closed in the previous two years, a process through which RWJF collects information on the number of papers published as books, book chapters, reports or articles in peer-reviewed journals and aggregated numbers on press coverage.

VHA also requires its researchers to submit publication information, often including full text copies of published materials. However, VHA's "grantees," (called principal investigators) are paid employees of the Department of Veterans Affairs, a relationship that some VHA study participants believe provides VHA with leverage to enforce requirements, such as the reporting of publication information, imposed on its researchers. VHA's researchers are required to submit lists of publications to Center directors for compilation in the Centers' annual reports. Within VHA's HSR&D service, each of the 11 Centers of Excellence and three Resource Centers produces an annual report that includes a listing of all publications based on its funded research for the past year. Centers are recognized for publications generated by their researchers, a system that provides incentives for Center Directors to collect publication information from their researchers. Consequently, Center directors reported that they engage in direct and repeated communications with researchers to identify publications generated over the prior year.

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[17] One AHRQ interview respondent suggested that the "tsk tsk" letters might discourage researchers from informing the Agency of publications (both prior to *and* after publication). Additionally, grantees might be reluctant to disclose rich research findings to avoid jeopardizing opportunities to publish the results in a prominent journal.

[18] RWJF's Grant Results Reports system provides a mechanism for identifying *post-grant* publications and dissemination activities. The external writers who generate the reports contact grantees to update the report's bibliography at the close of the grant, then grantees are contacted again between six and 12 months later.

Through annual reports, HSR&D captures approximately 90 percent of all publications written by VHA researchers related to VHA-funded study findings.

Several organizations focused on informational requests and media coverage as indicators of impact and use of their research. VHA records requests for copies of publications as a measure for evaluating the usefulness of the Management Decision and Research Center's Information Dissemination program. Large-scale requests for its publications and requests to translate publications into other languages are considered positive feedback. HSC's Public Affairs Office systematically tracks all forms of media coverage of HSC research findings; staff use a Press Contact Form to record all media inquiries and encounters, even if the inquiry does not result in a news clip, and electronically track and record (by requestor) all requests for publication and web site visits. HSC maintains full text copies of all media coverage of its research findings and has explored the feasibility of including media encounter information in a database through which encounters would be "scored" to enable a finer assessment of the relative importance and potential impact of research. For example, giving the keynote address at a conference would be scored higher than merely speaking at the same conference. However, HSC found that such a database would be very costly to implement, both in terms of dollars and human resources, and has not pursued its development.

Organizations have administered (or have contracted another entity to administer) surveys to determine the usefulness and perceived credibility of the informational materials they generate. However, these efforts typically have been designed to focus on the usefulness of the materials and do not identify *how* the information was used to affect change. For example, MDRC (VHA) reported that low response rates from its survey of users – designed to assess the usefulness and relevance of MDRC publications – limited the utility of these data. RWJF also contracts with an independent organization to survey decision makers to evaluate the credibility and availability of its reported research findings. The Foundation's Research and Evaluation staff then incorporate the summarized survey information collected from both the grantees and decision makers into a (roughly) 30-page "scorecard" that the Board reviews for internal program planning purposes.

Summary Reports

Most of the study participants described conducting reviews that summarize – usually based on researchers' annual and final reports, publications and other products – research initiatives and projects into consolidated reports. The reports tend to catalogue the projects undertaken and the basic findings from the research, but rarely synthesize findings across projects or describe the impact of the findings.

Grantees' annual and final reports serve as a primary pool of information from which organizations generate summary reports. However, organizations do not routinely collect impact information from their grantees. For example, annual reporting requirements for CHCF, AHRQ and RWJF grantees do not request impact information. Guidance requests information on publications; research findings; problems addressed through the research, methods and data analysis approaches used; and problems encountered over the course of the research period. RWJF's *final* report guidance, however, includes one question that attempts to assess impact:

> *What was the significance of what was accomplished by the project? For example, has the project contributed in some significant way to general knowledge about a subject or to a change in conventional wisdom? Has it increased the public's access to information? Has it created a new model for delivering services or conducting research? Has it informed the work of other professionals or organizations? Has it changed the institution so it can fulfill its mission? Please provide evidence for all statements about significance (e.g., publication in major journals, citations of the project in literature, major press coverage, adoption of the model by other organizations).*

Nonetheless, AHRQ and VHA study participants observed that researchers do not consider impact identification and reporting to be within the scope of their responsibilities. Funded researchers often comply with minimum contractual requirements and, given limited resources, exert less effort to identify or provide sufficient information on the real or potential uses of their research findings. Consequently, the contribution of researchers' annual and final reports to organizational efforts to identify and report impact remains unclear.

RWJF, Milbank and VHA attempted to incorporate impact assessments in their own annual reviews of their research programs. However, more often than not, the summary reports emphasize how funds were expended to accomplish research goals, with less emphasize on how the research findings actually helped to advance the organizations' missions. Different summary reports generated by the organizations studied include:

- Over the past five years, RWJF has developed and refined its *Scorecard,* an annual report prepared for its Board of Trustees that includes anecdotal reports from the field, as well as quantitative measures of "impact" represented by the number of resulting publications (published as books, book chapters, reports or articles in peer-reviewed journals), the number of resulting reports prepared for public dissemination and aggregated numbers on press coverage of results. Information collected from the survey of grantees and decision makers, as well as a newly developed survey of RWJF staff, also is incorporated into the Scorecard, which provides a brief textual overview, summary tables and a series of indicators of health, health care and RWJF processes. To develop its Scorecard, the Foundation identified areas of potential impact, including a range of "outcome" and output measures as well as benchmark studies on how RWJF is perceived by various stakeholders. The Scorecard reports:

  Grantmaking Performance. This component includes several case studies and a review of strategic objective and measures, both short- and long-term, of its 11 Program Management Teams' grantmaking efforts.

  Grants Management Performance. Provides a review of RWJF-wide outputs (e.g., dissemination of research and policy analysis results), which include management and process indicators.

  Stakeholder Studies. Reports on how the Foundation's staff and its key audiences view RWJF and its work. Includes summaries of studies undertaken in 2000, which involved surveys of health care decision makers in the areas in which RWJF works, including public health officials, as well as surveys of the public, grantees and a new survey of RWJF staff.

- RWJF also publishes an annual Anthology to share with public policy professionals, other foundations' officers and trustees and the general public the reasons research programs were undertaken, what happened as programs were implemented and lessons learned over the course of the prior year. The Anthology provides a review of RWJF's grant making in selected thematic areas related to its goals and objectives. Specific impact information is not routinely included in the Anthology but, rather, is incorporated on a case study basis.

- Milbank's Evaluation and Program Committees of the Board of Directors annually review the prior year's projects in policy development to identify impact, lessons learned and next steps to generate the *Results Report,* an internal, highly confidential document in which Milbank evaluates the success of each of its projects. When a project, or part of a project, fails to meet a given criterion, the organization's leader attempts to explain problems encountered and reasons for falling short on expectations.

- In annual reports, VHA HSR&D's 11 Centers of Excellence and three resource centers are required to generate "impact statements" that describe the known or anticipated impacts of VHA-supported research. Researchers provide Center Directors with information on the status and accomplishments of research projects, publications generated over the course of the year and grant administrative information such as changes in contact persons or principal investigators. In addition, researchers are asked to facilitate the communication of research findings by identifying those individuals within the VHA system that could potentially benefit from the research or be in a position to implement the findings. Center Directors summarize the information to generate an Annual Report for the Center.

  To generate impact statements, MDRC[19] provides the following guidance to Center Directors: "[describe] the nature of the impact (observed or anticipated) on veterans, the VHA health care system and the general public [to include] improved quality of care, better patient outcomes, lower cost, better management, increased patient satisfaction, etc." Directors are further guided to consider clinical, research and policy applications and report on the steps taken to increase the impact of the research. Annual reports also include a summary of Center-wide grant activity and accomplishments, including citations for all publications, a structured abstract of the project and progress reports submitted for the project during that year.[20]

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[19] The process of developing the impact statements was initiated several years ago, when MDRC worked with project investigators to develop statements of impact for a few key VA-funded research studies. Once MDRC developed a standard statement format, production of an "impact" statement became a formal requirement.

[20] Through the annual reports, impact statements are collected for 85% to 90% of HSR&D research projects. Center Directors apply a template, the Annual Report Template (ART), to standardize the nature and format of information submitted to MDRC, which summarizes research findings and impact information for VHA publications such as *Impacts. (Impacts* describes for Congress the best examples of VHA research impact.)

Evaluation Studies

Funding efforts designed specifically to evaluate the outcomes of one or more research project or program provide another means for organizations to identify research impact.[21] AHRQ, ECRI and RWJF described efforts to evaluate the outcomes and success of research projects and programs.

- AHRQ funds research to evaluate the effectiveness of several of its programs or initiatives, such as its Evidence-based Practice Centers, the National Guidelines Clearinghouse and its Patient Outcomes Research Centers.
- In its capacity as a contractor, ECRI assists organizations and agencies, such as AHRQ, in evaluating large-scale projects such as the National Guidelines Clearinghouse or an Evidence-Based Practice Center. ECRI prepared reports to summarize study findings that provide an evaluation of large initiatives.
- RWJF funds independent research projects to evaluate the majority of its national programs. For example, RWJF solicited assistance from The Lewin Group to assess its Investigator in Health Policy Research Program to recognize past program successes, identify lessons learned and inform discussions of future priorities. The Foundation does not allocate specific funds for evaluation research but, rather, determines funding for evaluating its research programs according to the priorities identified for the year. The decision to fund the evaluation of a program is made on a project-by-project basis.

E. Sustaining Research Impact: Improving the Research Process and Managing Performance.

As we suggest in **Figure 1**, one type of research impact is attained when results and findings are used to increase the current pool of domain-specific knowledge and explicitly used by managers of health services research programs to initiate, re-prioritize or amend their allocations of resources to more promising lines of inquiry and/or pressing topics.

The reports of impact described in the previous section – anecdotes, citations, lists of publications, etc. – are traditional methods for measuring contributions to the knowledge pool. However, most organizations do not systematically use the results of current and past research efforts to explicitly determine priorities and allocate funding for the next round of research. Our interaction with AHRQ and the study organizations was limited; however, this type of focused decision making was not identified in the course of our interviews. We conclude that the potential for sustaining research impact by shaping future research is not being addressed by most organizations.

Similarly, while most organizations target their research at achieving the second type of impact – influencing health care policy or improving clinical and delivery system performance – their

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[21] Of note, W.K. Kellogg Foundation recently contracted The Lewin Group to conduct a high level assessment of the Foundation's entire health portfolio to examine the extent to which the Foundation met its strategic goals for health, as outlined in its five-year strategic plan. Findings informed the Foundation's subsequent initiatives and funding decisions.

progress along this track is limited to making research results and findings available to policy and other decision makers and having them adopted. Whether the policy change or practice improvement is actually implemented is generally not monitored, nor is the ultimate effect on the health status of the populations served.

This is not surprising. The Lewin Group's experience suggests that explicitly linking information inputs, organizational processes, behavioral outputs and health outcomes is a logically complex, data intensive and enormously expensive endeavor, typically far beyond the routine means of most research organizations and is undertaken only as a carefully designed evaluation. However, some of the organizations in this study have or are beginning to institute methods to use research results to go beyond decisions, implement them into practice and measure how well they are implemented in clinical settings.

The Veterans Health Administration (VHA) works to change the commonly held attitude among researchers that translating findings into practice is *not* specifically a researcher's goal. It has taken steps to help its researchers to interact with other parts of the VHA to facilitate the translation of research into clinical care. HSR&D designed its Quality Enhancement Research Initiative (QUERI) (initiated in 1998) to help integrate policy planning, quality improvement and clinical care efforts. The initiative represents HSR&D's effort to build infrastructure to identify best practices, systematize their use and provide ongoing feedback vital for sustaining outcome improvements. Through QUERI, VHA has established eight national committees (comprised of VHA researchers, clinicians and policy makers) that focus on eight different clinical conditions identified as prevalent and costly in the veteran population (**Appendix D** outlines the full six-step QUERI process).

VHA also has established a system through which VHA-funded research contributes directly to the development of performance standards used in the agency's performance management system. Within its health care delivery system, VHA routinely evaluates system administrators against a set of approximately 60 performance standards, or targets, that are directly informed by VHA research. On an annual basis, these performance standards are re-evaluated and, if necessary, refined based on new research findings. To briefly elaborate, every six months, the director of each of the VHA's 22 geographic areas (which encompass VHA clinics, nursing homes and hospitals) is reviewed against a set of performance standards (e.g., "90 percent of the patients under the director's supervision should receive a flu vaccine"). Results are distributed to the respective directors, then published anonymously for comparisons of individual ratings against the performance of others. Ultimately, the bonus system is linked to these performance measures. The performance management system's standards, which routinely are modified based on research findings, help VHA to monitor director performance and, ultimately, impact patient care.

At RWJF, study participants described efforts to develop a Performance Measurement System, a long-term impact tracking system that includes a series of indicators designed by program staff to assess progress in the Foundation's priority areas. A subset of the performance indicators align with the Scorecard, however, the performance measurement system offers greater breadth in identifying and monitoring impact. RWJF has collaborated with an external consultant to develop a database to maintain performance information.

F. Developing Databases to Monitor Grant and Impact Data

Developing databases to routinely record grant administrative information, grant activity and impact information is critical for effectively using and maintaining information collected over the course of a research project or program's life span. For example, use of databases can facilitate the synthesis of research findings across studies and the tracking of dissemination activities. Within the context of the full research process cycle, database development and maintenance helps organizations to move from generating research findings to synthesizing and translating findings, monitoring dissemination efforts, tracking use or impact of the findings and summarizing use to inform subsequent research priorities.

AHRQ, RWJF and VHA have developed several databases to support their efforts to maintain grant-related information; for the most part, these databases contain administrative data and do not link to impact data.

- AHRQ has developed two central databases, AMIS and GIAnT, to track applications and currently funded grants. Study participants described GIAnT as a "bill paying system" that tracks administrative data. While they perceived AMIS to be designed fairly well, AHRQ staff suggested that its many empty fields and inconsistent data (especially with respect to the quality of the project abstracts submitted by grantees) limit its usefulness. Historically, the database has not been used extensively by program Centers; Center staff have developed ways to accomplish fundamental program roles of stimulating grant applications, providing technical assistance to potential applicants, providing recommendations on funding for new and existing grants, monitoring projects, etc. without using the database. Other parts of the Agency – notably *review* and *grants management* staffs – have relied on the database to accomplish their fundamental tasks; consequently, the database is perceived as having been constructed primarily for this use.

  AHRQ's staff indicated that the AMIS and GIAnT databases are underutilized and provide limited information, suggesting that increased quality control and more consistent recording of project information to complete all data fields would increase the usefulness of the database. AHRQ staff in CPTA described current efforts to develop a tracking system that will provide a repository for project activity, resulting output, derivatives, product uses and impacts. CPTA provided a summary of its Needs Statement and Concept of Operations, which is included in **Appendix E.**

- RWJF's Grants Information System contains administrative data about all grant applicants – including those receiving RWJ funding and those that are *not* awarded funding – that meet the broad criteria used in the Office of Proposal Management's initial screen and are reviewed by a program officer. For grants that receive serious consideration for funding (whether turned down or not), the database includes an executive summary prepared by the program officer; RWJF's strategic objectives that are addressed by the grant; contact information for project directors, officers and others associated with the grant; grant status (e.g., funded, turned down, open, closed, etc.); indications of receipt of annual and final reports; and the executive summary from the Grant Results Report.

- VHA's Office of Research and Development created and maintains a centralized and comprehensive database, the Research and Development Information System (RDIS), to track all VHA grant activity information. RDIS's data elements include: research topic; principal investigator; research project start and end dates; VHA funding amounts; and the level of funding that VHA-supported researchers receive from non-VA sources (the latter of which HSR&D uses to measure the effectiveness of its researchers). Additionally, RDIS includes project abstracts, which include descriptions of the results of the project, prepared by principal investigators as part of their final reports. However, the impact statements included in Centers' annual reports are *not* incorporated into the RDIS database.

Both AHRQ and VHA's databases include only publication citation information (note that MDRC identifies the researchers and conducts literature searches to regularly update publication citation lists). Additionally, staff in HSR&D's central office enter publication citation information communicated directly to HSR&D's Director into a computer spreadsheet maintained in HSR&D headquarters; this information is not linked to the grant administrative data. VHA and AHRQ staff suggested that including full-text publications in the database would significantly improve its usefulness for generating syntheses to facilitate the translation process. AHRQ's staff outlined a vision for a more comprehensive Agency-wide system in which the central database of projects links to a database that contains full text (and text searchable) versions of all publications generated from AHRQ-funded research. The system could be updated on a continuous basis to systematically and comprehensively track publication information. Once a database of word-searchable publications is available, conferences of experts in the field could be convened to choose synthesis topics, to describe the questions that such syntheses would answer and to develop scopes of work for accomplishing such syntheses. The time-consuming and expensive part of syntheses – acquiring a database of word-searchable publications – will have already been done.

RWJF has created a database designed explicitly for text searches. Developed for RWJF's internal use only, the Intranet-based database contains the Precis (a project summary written for each project by the Program Officer as a part of the proposal review process), Grant Results Reports and other papers and reports prepared for the Board. The Grant Results Report data maintained in the Intranet database are identical to the information included on the RWJF web site. These informational resources provide full-text information that can be used to generate syntheses to inform subsequent research initiatives and priority-setting efforts.

RWJF also is developing tools to help program officers and others in the field to learn about RWJF's research and lessons learned. An external consultant (a cataloguer) has designed the Grant Results Reports database of Project/Program Lessons, which maintains information on lessons to share with the field concerning issues such as surveying physicians, working with community-based organizations and working with school-systems. In conjunction with this database, the cataloguer has created another database with an index of subject areas of RWJF grants; each report has been catalogued into a subject area. RWJF hopes that its Program Officers and researchers, external researchers and other funders will use the project lessons database to search by topic area of grants, or by topics of lessons, to learn from RWJF's projects.

In VHA, HSR&D has developed an Access database that is used by its 11 Centers of Excellence and three resource Centers to record information that contributes to the Centers' annual reports.

The Access database, which is *not* a VHA-wide database but, rather, is limited to HSR&D, enables MDRC to link impact data with administrative grant information. Data elements include the impact statements prepared for the annual reports, publication data (i.e., the citations for publications, not the full text versions, although each Center maintains full text copies of all publications), project abstracts and other project-related information. When entered into the Access database, the annual progress reports are categorized by VHA's designated research areas and can be sorted accordingly (e.g., all studies related to diabetes can be grouped together). In addition, through the Access database, MDRC can search by principal investigator or project to obtain grant-level information, including publication citations, for any HSR&D project. The sorting option allows the VA to pull out information relating to a designated research area when they are called upon to present the information to Congress. MDRC also is able to pull together anticipated impact information for a designated research area. For example, MDRC uses the Access database to generate HSR&D's section of the *Impacts* document.

Delegating responsibility for data quality and accuracy to the Center Directors helps VHA to establish accountability and quality control within each Center. Directors of the 11 Centers of Excellence and the three resource Centers oversee the process of recording researchers' publication and project information in an Access database[22] and developing standardized annual reports (using the Annual Report Template, which is maintained by the Center of Excellence in Seattle, WA). Center Directors use their own discretion to develop processes and procedures to collect the required information from their researchers; once collected, however, mechanisms exist for standardizing the information synthesis and reporting process (for information being submitted to MDRC). This system helps to ensure that MDRC receives similar, high quality information that it can readily synthesize into publications that describe HSR&D-wide impact. While quality control is primarily the responsibility of the respective Centers, MDRC often crosschecks the information recorded in its Access database against information reported in the VHA's RDIS database to ensure that all projects funded by HSR&D are included in the Access database. If a project is missing from the database, MDRC assumes responsibility for obtaining the information.

Developed only two years ago, MDRC's Access database is becoming increasingly useful as a tool for maintaining and sorting project-specific information, including impact statements, to facilitate summarizing and synthesizing findings from different research projects. Although VHA's central RDIS database does not contain impact information, VHA currently is developing a more complete database that would house all grant information, including publication and impact statement information, for its entire Research and Development program. Accordingly, MDRC's Access database serves as a temporary database for collecting publication and grant impact information until the more comprehensive centralized VA database is developed.

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[22] Note that investigators conducting both investigator-initiated research (IIR) and service-directed research (SDR) use the same process for reporting grant and research impact information. For those projects that are not funded through either one of the Centers of Excellence or one of the three resource centers, a special projects office is responsible for reporting on these projects' impacts and other grant information. In total, approximately 140 projects, both IIRs and SDRs, are funded by the HSR&D each year and are included in the Access database.

V. SUMMARY: BECOMING A MORE EFFECTIVE RESEARCH ORGANIZATION

All the organizations included in this study are directly concerned with health services research, whether included in their mission statements, strategic goals or program objectives. We have described the research process earlier in this report (see **Figure 1**). The components and the resources of the research process are combined in different ways in each organization and are oriented to achieving overall research program "impacts" that differ from one organization to another. These differences can be significant. AHRQ needs to determine which of these practices can be used by the Agency to become a more effective research organization.

This section is organized to follow the steps in the research process and contains two types of information:

1) Practical methods that have the potential to improve the current research process at AHRQ. These practices are either currently in place in other organizations or were suggested to us as potential future improvements by study participants.
2) More strategic observations acquired during the course of conducting the interviews and informed by the project team's previous involvement with the management and organization of the Agency. These observations concern AHRQ's role as the federal government's premier health services research organization. This section discusses the potential for AHRQ to refresh and potentially re-orient this role to achieve a more substantial and significant research impact on the health and health care of the nation's citizens.

A. Prioritizing Research: On What? For Whom?

The bulk of this report is devoted to the practical methods (monitoring, tracking, synthesizing, disseminating, etc.) that organizations employ to facilitate the research process in the organizations we studied. However, we observe that effective organizations build these procedural mechanisms on a foundation of a clear organizational identity (i.e., what are we about? what business are we in?) and a conceptual structure that articulates priorities and translates them into operational requirements.

The recent reauthorization and reconstitution of the Agency for Health Care Policy and Research (AHCPR) as the "Quality" agency presents just such an opportunity. It already has focused the Agency's overall organizational identity and offers the foundation for sorting out competing internal priorities and external pressures for resources and research attention.

There are parallels in other federal organizations. The Health Resources and Services Administration (HRSA) has evolved from an umbrella organization for more than 40 independent, separately funded programs into the "Access" agency. HRSA is increasingly emphasizing the primacy of its strategic objective of access to services by vulnerable and underserved populations, reasoning that to the extent access is achieved, other objectives – reducing racial disparities, improving quality of care and sustaining the public health infrastructure – will be accomplished in the process. VHA underwent a similar transformation. Until the early 1990s, VHA wrestled with many competing priorities – patient care, medical education, clinical and health services research, eligibility issues, the specialized needs of small but vocal veteran population sub-groups (e.g., spinal cord injury, blind rehabilitation, prosthetics), a declining workforce and a costly, deteriorating, but politically symbolic physical infrastructure. Since 1994 VHA has transformed itself dramatically, in part by clearly articulating that in VHA, patient care is the highest priority. The value of all other functions is now determined by how they help or hinder the provision of health care services to the nation's veterans.

AHRQ has a similar opportunity, in its case, to translate its mandate as the "Quality" Agency into an internally consistent set of research priorities that emphasize a primary objective around which to organize the accomplishments of others. As the recent report from the Institute of Medicine (IOM)[23] demonstrates, "quality" is too complex and interdependent a concept to provide useful shorthand for AHRQ. To be effective in the future, the Agency must find a way to articulate a set of Agency-wide, transcendent priorities for *what* research impacts it is trying to achieve *for whom*. We observe several factors that may have prevented it from doing so:

- In defining impact, AHRQ incorporates six indicators (clinical use, demonstrable difference in patient care and/or outcomes, use by policy makers, change within managed care settings, changes in health care delivery and cost savings) to reflect and align with the missions of the Agency's offices and Centers (e.g., Outcomes and Effectiveness, Organizations and Delivery, Cost and Financing). AHRQ's internal components may identify most strongly with the impact indicator that is "theirs". This alignment is natural, can be useful for internal management and may be externally politic in that the substantive issues for which the Agency is funded are identified with a specific organizational unit.

- AHRQ has many clients, including health services researchers, health care providers, policy makers, purchasers and consumers. Each may identify with one or more elements of the definition of research impact – and to appeal to these stakeholders, it may be useful for AHRQ to demonstrate that its research agenda is broad enough to include the needs of all concerned.

- The six indicators of research impact are interrelated, and there is no clear guidance whether, for example, impact achieved via adoption of research results by policy makers is more or less appropriate or valuable than achieving changes in the delivery system or contributing to advancing *quality*.

- In our previous management analysis efforts for AHRQ, we observed the difficulty involved in organizational placement and leadership of various "cross-cutting" efforts – so-called because the substantive issue logically entails participation from different Offices and Centers or affects more than one stakeholder group.

AHRQ's functional organization and broad research program makes it critical to develop and articulate a coherent research agenda (identifying the research needs that must or should be met) and a deliberate program for translating research findings into meaningful impacts for the health care sector and society in general. AHRQ must routinely integrate its efforts across these formidable boundaries. Specifically, we suggest the following:

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[23] *Crossing the Quality Chasm: A New Health System for the 21st Century* (Advanced Copy). Institute of Medicine: Committee on Quality of Health Care in America, March 2001.

- The IOM report[24] has an underlying theme focused on several imperatives: prioritizing needs; identifying appropriate targets for action; and developing solutions that integrate across care domains (e.g. settings, populations), rather than addressing them piecemeal. The report recommended that AHRQ, in conjunction with the National Quality Forum, develop five-year strategies, goals and action plans around at least 15 "priority conditions", i.e., health conditions that occur more frequently, affect more people and are more resource-intensive compared to other conditions. AHRQ has an enviable record of success in response to national-level calls for action. Most recently, the Agency's staff and leadership produced the Administration's plan of action on medical errors and patient safety, in response to IOM's November 1999 report. However, in the case of priority conditions, AHRQ should consider going beyond compliance with the IOM's recommendation as a special study or initiative, external to the Agency's routine efforts. Rather, we urge that AHRQ adopt priority conditions as a fundamental organizing principle for its ongoing research process.[25]

- Coupled with priority conditions, the Agency currently should consider *improving patient outcomes* as its principal goal and value other indicators of research impact based on how they relate to improving outcomes. In the context of COER's typology of impact, this recommendation encourages the Agency to ask how each research project relates to Level IV impact.

- To implement the above, we suggest that AHRQ pilot test the assignment of current staff drawn from different Offices and Centers as temporary "czars" for a particular priority condition. Each of the "czars" would be asked to assemble, organize and comment on all of the research that the Agency is pursuing or funding in that condition and, keeping in mind the importance of outcomes, would prepare an action memo for the Administrator. The memo's contents might include, but not be limited to, identifying what is known now that was not known before, the balance or disconnects between intramural and extramural research efforts and developing a preliminary recommendation, based on this review, of appropriate next steps. We expect the results of the pilot test to give the Agency an idea of the resources it will require to implement a "priority conditions" ethos on a sustaining basis and provide some rationales for adjusting its research priorities in the short run.

B. Synthesis/Translation

Synthesizing and effectively translating research findings help audiences understand the contributions and implications of a particular finding within the larger context of the field's current knowledge pool, policy and practices. AHRQ staff suggested that a more deliberate, strategic approach could help the Agency's research translation process. Study participants noted that, at the start of a project, attention should focus on relating the meaning of expected

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[24] Ibid. See especially pp. 95-110.

[25] Neither of the above should be construed as recommending either a formal reorganization of the Agency or halting research into hospital settings, for example, in favor of additional outcomes studies. The functional Offices and Centers as repositories of technical excellence and professionalism are probably the most appropriate method of formally accounting for the sophisticated information and human resources needed to carry out the Agency's work. But to the work itself, i.e., a research process emphasizing the integration of health care, the functional domains and their own particular research agendas, while necessary, are by themselves insufficient.

results to the larger pool of knowledge, both internally generated at AHRQ and developed externally within the field; the process of translating research into practice and assessing impact should not await the completion of a project.

Activities underway in other programs could help AHRQ to sharpen its focus on this process:

- RWJF has developed informal mechanisms for synthesizing the findings reported in the Grant Results Reports to inform subsequent research initiatives and programmatic funding decisions. The Communication Department's special unit staff generate these syntheses, pulling from information reported in related Grants Results Reports and from findings produced externally in the health services research community. This process helps RWJF to understand findings in the context of other research findings and to strategically target subsequent research to advance its mission.

- Several study participants suggested that AHRQ could increase the funding devoted to projects specifically designed to synthesize larger bodies of research. One example would be for AHRQ to extend the scope of evidence-based practice centers to solicit feedback and impact information *after* the end of the initial funding period.

- VHA's QUERI process exemplifies a method for bringing researchers together and facilitating the translation of research into clinical care. AHRQ might consider a similar approach, such as convening routine workshops for researchers in similar or interdependent areas to discuss how their efforts compare, contrast and complement. Eventually, this mechanism *might* lead to the development of consensus on some topics or issues and identify gaps in knowledge or research needs still to be addressed – but effective translation and synthesis is a more realistic initial goal.

- AHRQ might find it useful to develop a structured process for obtaining feedback from end users of research to identify needs, discuss findings, review products and reports, etc. Milbank, VHA and RWJF have attempted to connect with end users to produce research findings using tailored language and employing different communication vehicles to make the information more interpretable and, hence, more relevant and useful to intended audiences. Separate user workshops might be one way to implement this suggestion; workshops including both researchers and end users also might be valuable.

C. Dissemination

Effectively moving the synthesized research findings into relevant policy, clinical or research arenas requires AHRQ to be strategic in its dissemination of research findings to target audiences. AHRQ study participants characterized the Agency's current "news flash" dissemination efforts as an approach that lacked coherence.

AHRQ's staff described a disconnect between OHCI and the research program centers; they suggested developing a closer, more strategic relationship between OHCI and the other Centers. It might be useful to think of the interaction between OHCI and the Centers as "discharge planning" for the content of the research findings – the message. One potential way to accomplish this is to have OHCI matrix out its staff to perform as assigned technical dissemination advisors to the Offices and Centers, rather than function as an autonomous organizational unit to which findings are handed off for dissemination. Offices and Centers would have ultimate responsibility for dissemination, using the staff and resources of OHCI to insure quality and efficiency. OHCI would retain the responsibility to coordinate similar activities and prevent duplication of effort.

D. Monitoring Impact

Underscoring the challenges of collecting research impact information, the study organizations reported on efforts to collect: publication citations and, to a lesser extent, full text copies of all published materials from researchers; self-reports of impact from the field; and impact statements or other broad-based information from grantees. Additionally, the organizations have allocated funding to specifically evaluate the impact of a particular research initiative or set of activities.

- Publications were described as most useful when full text copies were made available, given that the actual publications can provide additional evidence of the impact of the research findings. For measuring impact based on publications, VHA's MDRC librarian conducts searches for publications (using researcher names) and maintains full text copies on file. RWJF collects publication information from grantee annual and final reports and the Grant Results Report writing process for specific grants, a process through which its staff collect actual copies of publications.

- To collect self-reports of impact from the field, Milbank and HSC directly and regularly communicate with policy makers, the intended audience for much of their research. Both organizations focus on maintaining strong relationships with policy makers – Milbank systematically confers with policy makers, while HSC described more sporadic and less formal interactions with policy makers.

- AHRQ staff suggested that the Agency needs a more systematic approach for requesting and documenting information collected, rather than continuing to rely on self-reported, anecdotal evidence of impact from the field as a primary source of impact information.

- Several organizations collect reports (e.g., annual and final) from grantees. Grantee-generated reports also can include impact information; however, grantees need to understand the significance of the information they provide within the context of the research cycle and decisions for funding future initiatives. Perfunctory compliance with grantee requirements might provide only minimally useful information if grantees fail to see the relevance of the requested information. VHA and AHRQ staff noted that researchers typically do not think of translating findings into practice as within their realm of responsibility. In its communications with grantees, AHRQ does not describe the significance of identifying research impact. We suggest that AHRQ articulate firmer expectations to its grantees in this regard.

The study organizations have allocated different resources to tracking impact, including *who* holds responsibility for collecting impact information. AHRQ lacks a clear "job description" of who is responsible for monitoring and tracking research impact and what the role entails. Again, we believe that more deliberate interaction between OHCI and the Offices and Centers is needed.

- RWJF and VHA have focused on soliciting broad implications of research findings or "impact statements" from grantees, but hold internal staff responsible for interpreting and applying this information.

- Milbank and HSC allocate funding for staff to directly communicate directly with policy makers (the intended audiences of their research findings) to identify the extent to which their respective findings influenced policy decisions.

- At AHRQ, research program staff, particularly project officers, need to be more accountable for tracking impact because of their direct relationship with the grantee – potentially a major source of impact information. Project officers are in the best position to routinely reinforce the more formal methods for requiring impact information (e.g., RFAs, award notification, report/publication guidance, etc.). Project officers also should be able to emphasize to grantees the importance of notifying AHRQ well in advance of publications describing the results of Agency-funded research – and the first one to contact a grantee if this "no surprises" policy is not followed.

- Project officers should be able to engage grantees in a discussion of the project's *potential* for impact: if all goes as expected, *who* would benefit most from the project's findings, *why*, and *how*? Center Directors may be able to use this information to summarize the planned and actual results of their organization's efforts. In VHA, HSR&D's Center Directors use similar information to generate impact statements that are incorporated into their annual reports.

Development of databases, ideally text searchable, to link relevant project information is essential for assessing and monitoring research impact. To organize the multiple methods and information sources for measuring impact, AHRQ could benefit from a database approach that includes input from all reporting entities. This database would link administrative, research findings and potential impact data. Ideally, it also would incorporate a range of publications data, from citations to abstracts to full text copies of relevant reports and publications.

Maintaining either full copies or abstracts of research reports would be a major undertaking for AHRQ, but having these materials readily at hand would facilitate more timely estimates of impact measured by publications and generation of research syntheses. VHA uses a version of this process with its Center Directors, who collect information from grantees, input it in an Access database and use standardized templates to produce their annual center reports. RWJF's Grant Results Reporting database helped the Foundation to make considerable strides in its ability to synthesize information from prior grants – the Grants Results Reports (summaries of all information – including project officer's abstracts, grantees' annual and final reports, publications and other products) are included in a text searchable database, which enables staff to synthesize across projects for a given topic area. This process enables RWJF to use prior research findings to inform subsequent research initiatives.

AHRQ staff identified several real obstacles to implementation of the opportunities identified above. Collecting and updating additional information translates into more workload for a staff that already feels overburdened. Informants felt that the Agency lacks the sophisticated technical support required to develop and sustain such a database and were not optimistic that AHRQ could achieve the sustained cross-Agency collaboration this approach would entail. Some of these workforce and technical might be addressed by relying on contractors or grantees rather than agency staff.

E. Achieving Impact: External Collaboration

While we suggested earlier that AHRQ should organize its research agenda around improving patient outcomes, the Agency has no direct contact with patients and must rely on its researchers to demonstrate the interventions that improve health. AHRQ's partnerships should go beyond relationships with individual investigators to other health care service and research organizations. Such partnerships would allow AHRQ to take advantage of collective skills and knowledge in conducting more comprehensive research.

- Collaboration with non-federal entities might also be explored. For example, VHA currently is partnered with Kaiser-Permanente in a study of AIDS care, for which VHA is the largest public provider and Kaiser-Permanente the largest private provider. With their combined resources and patient populations, the VHA and Kaiser will be able to conduct a comprehensive research study that could not have been done without collaboration.

- AHRQ also could engage in closer collaborations with other federal agencies that are either:
  - Health service research organizations (VHA, DoD);
  - Direct service providers (VHA, IHS, DoD);
  - Funders of direct services (Ryan White, FQCHCs, Migrant Health Centers, other HRSA and SAMHSA programs, etc.); or
  - Purchasers of health care for federal workers (OPM).

We suggest that a useful first step might be the formation of a Federal Interagency Clinical Research Council, with the goal of eventually coordinating evidence emerging from all federally-conducted or sponsored health services research for the benefit of these service providers.

- The Agency also might be able to act as an intermediary by linking its contractors and grantees with other federal and nonprofit partners to further facilitate the work. AHRQ could arrange face-to-face meetings during or after project completion to provide more "social glue" between its contractors and grantees and potential end users in these organizations.

The information in this report is has been intended to highlight opportunities for AHRQ to become a more effective research organization. The Lewin Group believes that many of the practices identified will, if adopted by the Agency, contribute to achieving this goal. We look forward to working with AHRQ in the future to support its efforts.

Appendix A:
General Description of Case Study Organizations

Veterans Health Administration (VHA)

The VHA is both a health research organization and a health care delivery network with research processes well integrated throughout its health care network. The health care needs of the veteran population drive VHA's research agenda, which focuses on the following designated research areas:

- Aging and age-related changes;
- Acute and traumatic injury;
- Military occupational and environmental exposures;
- Chronic diseases;
- Sensory disorders and loss;
- Mental illness;
- Substance abuse;
- Special (underserved, high risk) populations; and
- Health services and systems.

The designated research areas were developed through a study[26] commissioned to outline the realignment of research priorities at VHA in an attempt to better link research findings with improved patient and systems outcomes. Clearly articulated to all VHA-funded researchers, the designated research areas identify goals and objectives that cut across the four services within the VHA's Office of Research and Development (ORD),[27] which include: Medical Research Service; Rehabilitation Research and Development Service; the Cooperative Studies Program; and the Health Services Research & Development Service (HSR&D). Fifty percent of VHA's $351 million Congressional appropriation supports patient-centered research. Study participants indicated that funding allocations align closely with the goal of improving veteran health within each of the designated priority areas.

With a mission of "identifying effective, efficient strategies for the organization and delivery of health care to improve patient and system-level outcomes," HSR&D annually receives approximately $45 million in funding. HSR&D allocates its funding to support a mentored career development program, investigator-initiated and service-directed research programs, 11 Centers of Excellence, and three resource centers, including the Management Decision Research

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[26] VHA's patient-centered focus is the result of a 1996 report of the VA Research Realignment Advisory Committee – convened by the Under Secretary for Health at that time (Kenneth W. Kizer, M.D., M.P.H.) – which recommended the means by which the VA should better align its research priorities with patients' needs.

[27] The mission of VHA's Office of Research and Development is "to discover knowledge and create innovations that advance the health and care of veterans and the nation."

Center [MDRC]).[28] Launched in 1992, MDRC "conducts, coordinates and disseminates research to inform policymakers and managers about organizational and managerial practices affecting the quality, cost and accessibility of patient care." Acting as a bridge between research and practice, MDRC oversees and coordinates several programs, including an Information and Dissemination program.

Applicants for VHA research funding must necessarily be VA employees, with a requirement to spend at least 5/8 of their time as VA employees. VHA's total research appropriation ($351 million per year) does not include the salaries of its researchers, who typically are affiliated with academic institutions.

Robert Wood Johnson Foundation (RWJF)

The Robert Wood Johnson Foundation's mission is to improve the health and health care of all Americans. Relying on program demonstrations, training programs, communications and research and evaluation projects, RWJF focuses its research on health services and health policy; it does not fund biomedical research. RWJF concentrates its grantmaking in three broad areas:

- Assuring that all Americans have access to basic health care at reasonable costs;
- Improving care and support for people with chronic health conditions; and
- Promoting health and preventing disease by reducing the harm caused by substance abuse (tobacco, alcohol and illicit drugs).

Divided into the *health* and *health care* research areas, RWJF has identified several priority areas of interest around which most of its grants are focused. Topics within the *Health* area include tobacco, alcohol and illegal drugs, health and behavior, community health and population health science and policy. *Health Care* areas of interest include coverage, priority populations, information, clinical care management, supportive services and end of life. Focusing on these research areas, RWJF created National Program Offices through which it funds multi-site national programs that often are managed by institutions outside of the Foundation. Based on the priorities identified, program staff recommend to the Board grants to be considered for funding.

RWJF annually sets program objectives within each of its primary goal areas. RWJF does not have a separate funding allocation for its research areas, rather, the different "Interventions of Grant Making" (demonstration, research/policy *analysis and evaluation, training and communications)* compete for funding. Approximately one quarter of the funding is dedicated to research each year. RWJF supported approximately $400 million in grant funding last year.

Center for Studying Health System Change (HSC)

An extramural researcher at RWJF, HSC is a health services research organization funded exclusively by the Foundation. HSC was conceived by RWJF and created by Mathematica Policy Research to "inform policy discussions about how changing national and local health care

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[28] Staff from ORD, HSR&D, MDRC, and the Centers of Excellence participated in the focused discussions for this study.

markets affect people's health care." The organization provides timely, unbiased information on the changing health care system and related policy implications. A wholly-owned subsidiary of Mathematica, Inc. and affiliate of Mathematica Policy Research Inc., HSC has been funded exclusively by RWJF for six years.

Milbank Memorial Fund (Milbank)

The Milbank Memorial Fund primarily funds projects to "support nonpartisan analysis, study, research and communication on significant issues in health policy." Through strategic relationships with policy makers in both the public and private sectors, Milbank works cooperatively and collaboratively to develop health care policy. Milbank does not conduct traditional health services research; the study participant cautioned that information be interpreted in the appropriate context of Milbank's policy-focused mission. Although Milbank participates in research and analysis to support projects in policy development, it is not primarily interested in research. Rather, the foundation brings policy makers and researchers together to pool their collective knowledge to solve specific problems in areas including patient care; the health of populations; and the organization, financing and governance of health services. It funds projects with partner organizations and policy makers exclusively to facilitate the development of policy; it does not award grants in the conventional way.

California Health Care Foundation (CHCF)

Established in 1996, the California Health Care Foundation (along with The California Endowment) developed as a result of the conversion of Blue Cross of California to WellPoint Health Networks, a for-profit health care company. CHCF's mission is to "expand access to affordable, quality health care for underserved individuals and communities to promote fundamental improvements in the health status of the people of California." CHCF focuses on critical issues affecting California's health care system and supports its mission by funding grants that concentrate on areas in which the Foundation's resources can initiate meaningful policy recommendations, innovative research and the development of model programs.

ECRI

ECRI, a nonprofit health services research agency, focuses on health care technology, health care risk quality management and health care environment management, with the mission of improving the safety, quality and cost-effectiveness of health care. ECRI primarily provides information services and technical assistance upon request. Its services differ fundamentally from the other organizations participating in this study in that it does not develop and conduct its own research program, rather it provides services to other organizations including AHRQ. As a consultant to AHRQ, ECRI was contracted to perform technology assessments and evaluations of Agency programs (e.g., ECRI evaluated one of the Agency's Evidence-based Practice Centers).

Appendix B:

Protocols for Structured Discussions with Case Study Organizations

AHRQ RESEARCH TRACKING INTERVIEW GUIDE
External Organization: Leadership Interview Protocol

Thank you in advance for agreeing to speak with us on _________. The following document will serve as a guide to help facilitate our discussion on research tracking. Please feel free to take a few minutes and review the guide before our conversation. Your answers to these questions will be confidential and will not be shared with other members within your organization. We look forward to speaking with you and look forward to your insight on this topic.

Organization:

Interviewee:

Interviewer:

Date:

Location:

Contact Info:

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1. Briefly describe your current research program.
   - A. What is the focus and structure of your research program?
   - B. What is the program's annual level of funding?
   - C. Is there a strategic plan or set direction for research investments in the future?
   - D. To whom is your organization accountable?
2. Who are the users/stakeholders of your research programs? How might these stakeholders use your research?
3. How do you define the success of your research program? How do you understand whether the research is having an *impact* on the field?
   - A. Is there a way to quantify this impact? Do you use measures to communicate impact? Describe any quantitative or qualitative measures used.
   - B. Has your organization funded any research studies or evaluations to determine the impact of its research programs?
   - C. Health researchers and policy makers have identified several ways to measure "impact," some of which AHRQ uses, and others that are used in the private sector. Consider whether your organization collects the following types of information relating to research impact. *(Note that some of the following types of impact might not be relevant to the nature of the research conducted by your organization. Please indicate "N/A", or "not applicable" for those measures that are inappropriate for your research.)*
     - (1) Have others used your research findings in a clinical setting?
     - (2) Has your research made a measurable difference in patient care and/or outcomes of care?

(3) Has your research been used by policy makers (at any level) or made a measurable difference in their decision making;

(4) Have your research findings led to measurable change within managed care settings;

(5) Has your research yielded changes in how health care services are delivered;

(6) Has your research resulted in measurable savings in health care expenditures; and/or

(7) Have you tracked information such as publication rates or profiles; citation rates and bibliometrics; membership on national committees; case studies, etc.?

D. Who has the responsibility for reporting on and tracking this impact data? (i.e. researchers, program managers, public affairs, other)

4. How do you communicate the impact of your programs to your a) governing body, b) stakeholders, c) others?

5. How is the research impact information that your organization collects used? (e.g., does it inform subsequent research within your organization? Does it help you make internal funding decisions for your program?)

6. Is there a fully operational system in place to track data?

   A. What is the history behind this data system? How long has it been in place?

   B. Were the data requirements developed internally or jointly developed with others (e.g. other agencies, departments, and/or grantees)?

   C. How does this tracking system measure long-term research impact over time?

   D. What are the strengths and weaknesses of the system?

   E. How has your system evolved over time to meet program management needs?

   F. Does your data tracking system meet your needs in defining research impact?

7. What resources has your organization invested in this data tracking system? What are the annual operating costs?

   A. Does your organization have a set ratio for funds invested in tracking and evaluation to those spent on research activities? (i.e. $1 evaluation for every $20 of research activity)

8. What would be your ideal system for tracking impact? What are the barriers to implementing such a system?

9. Are there additional best practice “impact” tracking systems that you recommend we look at for this project.

AHRQ RESEARCH TRACKING INTERVIEW GUIDE
External Organization: Program Officer Interview Protocol

Thank you in advance for agreeing to speak with us on _________. The following document will serve as a guide to help facilitate our discussion on research tracking. Please feel free to take a few minutes and review the guide before our conversation. Your answers to these questions will be confidential and will not be shared with other members within your organization. We look forward to speaking with you and look forward to your insight on this topic.

Organization:

Interviewee:

Interviewer:

Date:

Location:

Contact Info:

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1. Briefly describe your current research program.

   A. What is the focus and structure of your research program?

   B. What is the program's annual level of funding? How is funding allocated?

   C. Is there a strategic plan or set direction for research investments in the future?

   D. To whom is your organization accountable?

2. Who are the users/stakeholders of your research programs? How might these stakeholders use your research? Is there an effort to centrally track these efforts?

3. How do you define the success of your research program? How do you understand whether the research is having an *impact*?

   A. Is there a way to quantify this impact? Do you use measures to communicate impact? Describe any quantitative or qualitative measures used.

   B. Has your organization funded any research studies or evaluations to determine the impact of its research programs?

   C. Health researchers and policy makers have identified several ways to measure "impact," some of which AHRQ uses, and others that are used in the private sector. Consider whether your organization collects the following types of information relating to research impact.

   (Note that some of the following types of impact might not be relevant to the nature of the research conducted by your organization. Please indicate "N/A", or "not applicable" for those measures that are inappropriate for your research.)

      (1) Have others used your research findings in a clinical setting?

(2) Has your research made a measurable difference in patient care and/or outcomes of care?

(3) Has your research been used by policy makers (at any level) or made a measurable difference in their decision making;

(4) Have your research findings led to measurable change within managed care settings;

(5) Has your research yielded changes in how health care services are delivered;

(6) Has your research resulted in measurable savings in health care expenditures; and/or

(7) Have you tracked information such as publication rates or profiles; citation rates and bibliometrics; membership on national committees; case studies, etc.?

D. Who has the responsibility for reporting on and tracking this impact data? (e.g., researchers, program managers, public affairs, other)

E. How do you communicate the impact of your programs to your a) governing body, b) stakeholders, c) others?

4. How is the research impact information that your organization collects used? (e.g., does it inform subsequent research within your organization? Does it help you make internal funding decisions for your program?)

5. Describe how you manage the research program on a day to day basis. Do you focus on applications, current grant activity, or post award impact?

6. Is there a fully operational data -tracking system associated with that management?

A. What is the history behind this data system? How long has it been in place?

B. What are the data elements of this system?

C. Were these requirements jointly developed with others (e.g. agencies, departments and/or grantees)?

D. Is this system used to measure the impact of research investments?

- Does this system measure progress over time?
- Can it be used to measure pre-grant, current, and post-grant activity?

E. Is this used as a performance management system or solely to track current activity?

- If used as a performance management system, what performance measures does your program use? How were these selected?

F. Who manages the data and how often is it tracked?

G. What are the strengths and weaknesses of the system?

H. How has your system evolved over time to meet program management needs?

I. What resources has your organization invested in this tracking system?

7. As a program manager what would your ideal data tracking system look like? What are the barriers to implementation?

AHRQ RESEARCH TRACKING INTERVIEW GUIDE
External Organization: Data Manager

Thank you in advance for agreeing to speak with us on _________. The following document will serve as a guide to help facilitate our discussion on research tracking. Please feel free to take a few minutes and review the guide before our conversation. Your answers to these questions will be confidential and will not be shared with other members within your organization. We look forward to speaking with you and look forward to your insight on this topic.

Organization:

Interviewee:

Interviewer:

Date:

Location:

Contact Info:

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1. Describe your current data management system.
    A. What are the current data elements? Are there any elements that track impact or results of research programs?
    B. How often is data tracked and updated? How often is it reported to program managers?
2. Does the system track and monitor research projects over time (application, grant period, and post project completion)?
    A. At what point is information entered into the system (e.g. application, grant award, other)?
    B. How do you capture data from projects that are already completed?
3. Who are the main users/stakeholders of this data tracking system? What type of information is provided to them?
4. What technology tools are used to track the data?
5. What are the roles and relative responsibilities of the researcher, program officers, and your staff?
6. How is this system used by your organization? Provide examples of products and reports.
7. What were the resources initially invested in your data system? What does it cost to run this system annually? What type of personnel hours are invested in maintaining the data tracking system?
8. What are the strengths and weaknesses of the system? How has it evolved, or what changes have been made, over time?
9. Describe your ideal data and performance tracking system? (organization specific and overall) What are the barriers to implementation?

AHRQ RESEARCH TRACKING INTERVIEW GUIDE

Extramural Researcher

Thank you in advance for agreeing to speak with us on _________. The following document will serve as a guide to help facilitate our discussion on research tracking. Please feel free to take a few minutes and review the guide before our conversation. Your answers to these questions will be confidential and will not be shared with other members within your organization. We look forward to speaking with you and look forward to your insight on this topic.

Organization:

Interviewee:

Interviewer:

Date:

Location:

Contact Info:

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1. How long have you been a grantee with this organization?

2. How do you measure or define the success of your research? How does this compare to your granter's definition and tracking method?

3. What is the current level of effort that you put into collecting and reporting performance information for the grantor organization?

   A. Current level of effort

   B. What type of evaluation or performance information is provided?

   C. How is the information submitted (hard copy, electronic, web based, other)?

   D. How have your reporting requirements to the grant organization changed over time?

4. In addition to the performance data reported to your grantor organization, are there additional data elements that you collect to track your own performance?

5. Health services researchers and policy makers have identified several ways to measure "impact," some of which AHRQ uses, and others that are used in the private sector. Consider whether your organization collects the following types of information relating to research impact.

   (Note that some of the following types of impact might not be relevant to the nature of the research conducted by your organization. Please indicate "N/A", or "not applicable" for those measures that are inappropriate for your research.)

   (a) Have others used your research findings in a clinical setting?

(b) Has your research made a measurable difference in patient care and/or outcomes of care?

(c) Has your research been used by policy makers (at any level) or made a measurable difference in their decision making;

(d) Have your research findings led to measurable change within managed care settings;

(e) Has your research yielded changes in how health care services are delivered;

(f) Has your research resulted in measurable savings in health care expenditures; and/or

(g) Have you tracked information such as publication rates or profiles; citation rates and bibliometrics; membership on national committees; case studies, etc.?

Appendix C:
Organizational Position of Study Participants

	Leadership	Program Officers	Database Managers	Extramural Researchers
AHRQ		x	x	
VA	x	x	x	x
RWJ		x	x	x
Milbank	x			
CHCF		x		
ECRI	x	x		

Appendix D:
HSR&D's Quality Enhancement Research Initiative (QUERI)

The Quality Enhancement Research Initiative (QUERI) is strategically designed to facilitate the translation of research findings into clinical care via the integration of policy planning, quality improvement, and clinical care efforts. Initiated in 1998, HSR&D's effort is an attempt to build infrastructure in the VA to identify best practices, systematize their use, and provide ongoing feedback vital for sustaining outcome improvements.

Through QUERI, eight different national committees – comprised of VA researchers, clinicians, and policy makers – have been established that focus on eight different clinical conditions identified as prevalent and costly in the veteran population. QUERI entails a six-step process:

1) High risk or high volume conditions for veterans are identified. Eight conditions guide the current focus of QUERI: chronic heart failure, diabetes mellitus, HIV/AIDS, ischemic heart disease, mental health, stroke, substance abuse and spinal cord injury.
2) The QUERI team identifies best practices in treatment for these conditions.
3) The team evaluates the extent to which the VHA health care system routinely uses these best practice methods. If variations exist in implementation of the best practices, the team identifies factors contributing to the variation in treatment.
4) A strategic plan is developed to describe a process for decreasing the variations in treatment and working towards establishing the best practice methods as the VHA standard.
5) Once these best practice methods are in place, the team documents how the changes in practice actually improved patient outcomes.
6) Finally, the team will produce evidence that those outcomes are associated with improved quality of life and patient satisfaction for veterans.

Each QUERI group is working to promote the rapid translation of QUERI findings and products into optimal patient care and policy changes at the local, facility, regional and national levels. VHA requires each QUERI Center to produce a summary annually to report on the Center's area of emphasis/disease condition and its significance to VHA; how QUERI will improve the health of veterans and the system in which their care is provided; the topic to be translated goals and objectives of the current translation plan; and a highlighted list of expected outputs.

Appendix E:
Needs Statement and Concept of Operations for the CPTA's Impact Tracking System