

Integration of Health Behavior Counseling in Routine Medical Care

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Rationale

Counseling to help patients reduce health risks, follow medical regimens and manage chronic illness is not a part of most routine medical care, and its potential benefits are thus unrealized.

Everyone agrees that, for the most part, health is determined by myriad weak forces – genetic makeup, environmental conditions, family background, cultural norms, viruses, and geographic location, among others. Medical care is only one of these weak forces. And of all the types of medical care an individual can experience, routine counseling by providers to help reduce health risks, manage chronic conditions and adhere to medication regimens may appear to be a weak force indeed.

But consider this: Americans visit the doctor 829,280,000 times a year, an average of 3.1 visits per person.* When individuals seek medical care, they are unusually open to suggestions about what they should do differently to help themselves feel better. At that moment, they are seeking guidance from an authority in whom they have entrusted their future well-being. Advice from health care clinicians carries heavy weight with most individuals and the impact of that advice increases when the professional is chosen by the individual and the advice is personal.

There is abundant evidence that when health care professionals converse briefly with their patients about risk reduction, illness management and pharmacy use, there is a likelihood that those patients will do better; they are more likely to attempt and succeed at changing poor health habits, more likely to participate in screening, less likely to use unneeded health care services over time, more likely to take the right medicines the right way and better able to engage in work and play.

* National Center for Health Statistics, U.S. Department of Health and Human Services. "Office Visits to Physicians." 2000. Hyattsville, MD. [On-line]. Available: <http://www.cdc.gov/nchs/fastats/docvisit.htm>.

Thus, systematically increasing counseling about prevention, adherence and illness management as part of routine medical care has significant potential to improve the health of individuals and the public.

The Research

The *content* of the exchange between patient and provider is not the subject of this report. Rather, we describe the results of a series of studies conducted to understand the factors that influence whether, how and why effective health behavior change strategies are implemented as a part of routine medical care. These studies were designed by staff from the Center for the Advancement of Health and the Robert Wood Johnson Foundation, based on the view that such interventions could confer significant benefit on patients. Working effectively to increase their use will require detailed knowledge of the context in which they might take place.

In this report, we focus specifically on one type of effective intervention: counseling as a part of routine medical care. We and our colleagues at the Foundation recognize that there is a range of effective interventions that can be delivered in medical care settings, but we have described findings only on counseling.

The studies we conducted explored these questions in detail:

- ◆ How do health care providers – particularly physicians – view counseling and what determines whether they do it and do it effectively?
- ◆ What system-level factors influence the delivery of counseling and how do they influence it?
- ◆ How is research on counseling as a part of medical care translated into everyday practice and by whom?

- ◆ How do different institutions (professional societies, voluntary health organizations, the National Institutes of Health and other federal agencies) see their roles in serving as translators of research on effective counseling into useful strategies for provider constituencies?

We have, in the past 10 months, collected a treasure trove of data. And what we found out was truly encouraging: There is interest in this topic among clinicians and health systems; there are advocates, potential advocates and leaders who, with some focus and resources, could contribute powerfully to changes in clinical practice; and there are opportunities to invest modestly that would facilitate increases in effective counseling over time. But we also learned a lot about the things that won't work, barriers to be overcome, approaches that have been tried and failed and strategies that have surface validity but provoke hostility or indifference.

This report summarizes and organizes the information we collected into a form that will be useful for developing program strategy.

The Report

The report begins with a description of four major assumptions that have to date guided programs and activities to increase counseling as part of routine medical care. We at the Center are intimately familiar with these ideas because, until recently, they have guided the development of our own program. We present these assumptions as “myths” because, like myths, each one is based on a piece of reality; but also like myths, the real story is much more complicated and interesting.

The second section describes seven cross-cutting findings – the ideas and opinions that recurred within and across the three studies we conducted.

Descriptions of each of the three studies and their findings follow.

The final section includes our conclusions and recommendations.

Myths and Realities about Integrating Counseling in Routine Medical Care

Myth #1 There is a health care system.

People talk about “the health care system” as though there are coherent and consistent relationships among purchasers, plans, providers and patients generally, and within the various parts of a health plan in particular. The presence of such a system would be important for delivering counseling as part of medical care because it means that there are strategic leverage points, which, if engaged, would ensure that most people who need services would be more likely to be identified, to receive the service and to be followed over time. If this is true, then widespread implementation of counseling as part of medical care is a matter of finding those leverage points and activating them.

This mirage of “the system” became apparent quickly as we interviewed individuals who should be the key stakeholders and decision-makers.

- ◆ Most practitioners do not feel they are part of any system but rather feel that they are at the mercy of a variety of forces (e.g., different health plans, partners, patients, insurers), all of which conspire to thwart them from doing what they were trained to do.
- ◆ Most consumers do not feel they are part of any particular system but rather feel that they are at the mercy of competing forces (different plans, providers, labs, institutions, and regulations) that are unconnected and, in their disorganization, keep them from getting the care they need.
- ◆ There are places where there is a sense of system. For some clinicians a critical element of “system-ness” is that there are meaningful incentives to become and stay part of the system. These include financial incentives, a better working environment, and better health outcomes for patients.
- ◆ Other incentives that clinicians say make a system are: audit trails, system-based performance indicators and panel-specific

patient-tracking data.

- ◆ There are some elements of systems – for example, clinical information systems – that appear to be critical to the effective delivery of counseling as part of routine medical care, regardless of the system’s size and type of reach.
- ◆ In the absence of external structure, some clinicians have created their own systems that organize the delivery of care and facilitate use of clinical preventive services and counseling.
- ◆ Some systems exist outside of health care – such as the public health system – that could play a role, either directly or as a supplement in health behavior counseling, but that are not being used to their full capacity.

Myth #2 More research will make the difference for purchasers, insurers and health plan decision-makers.

We heard a common refrain from purchasers and medical directors that “there isn’t enough evidence about the effectiveness and cost effectiveness” of counseling as a part of routine medical care – the implication being that if only the evidence were available, such programs would be readily accepted.

In digging a little deeper, however, we found that the perception of lack of evidence is a convenient excuse to not implement counseling. The issue of evidence is hardly straightforward:

- ◆ The difficulty with the evidence of counseling effectiveness in routine medical care is similar to the rest of health care: How much of what kind of data is needed to be convincing? Complicating the case of counseling is that much of the evidence of effectiveness comes from disciplines that are unfamiliar and undervalued by health care decision-makers.
- ◆ The efficacy and cost of counseling as part of medical care are documented almost exclusively by randomized controlled trials, and there are a *lot* of those. Descriptions of evaluated model programs and studies of the effectiveness of different implementation strategies and short-term economic impact are, indeed, lacking. Many decision-makers and clinicians believe that

this kind of evidence would present a more realistic, useful and feasible picture of what it takes to implement counseling.

- ◆ There are significant disincentives for clinical decision-makers to add a service that does not easily fit into the usual insurance coding protocols:
 - There is no standard agreed-upon benefit and/or code for counseling as part of routine medical care.
 - The lack of benefit standards makes quality control difficult for plans and thus vulnerable to fraud and abuse for both health plans and insurers.
 - The delivery of counseling cannot be tracked through performance measures without benefit specifications.

The converse of each of these disincentives (the definition of a standard benefit, adoption of this benefit by plans and insurers, and use of specific performance indicators by plans) were seen as powerful incentives that are critical to making counseling a common practice.

- ◆ Counseling is not seen by decision-makers as a distinct service but rather as a conversation between doctor and patient, which “of course takes place all the time anyway during a medical visit, so why pay more for it?” The idea that counseling as part of medical care is a specific service – a protocol-driven interaction that can be effective if delivered correctly, and not necessarily by physicians – is a new idea for most decision-makers and clinicians.
- ◆ Local practice patterns and norms strongly influence decisions about the specifics of care. Purchasers and decision-makers, like consumers and physicians, turn to their colleagues and peers for information and guidance on what new services should be offered.

Myth #3 More research will make the difference for practitioners and consumers.

Many health behavior researchers do not believe there is enough

evidence about including counseling as part of medical care to invest in effectiveness or implementation research. This conviction is shared by many physicians, some of whom are HMO medical directors, who believe that clinicians would integrate counseling into routine medical care and patients would readily participate in it if only there were better evidence that it improves outcomes.

- ◆ Practitioners say the available evidence on counseling in routine medical care does not apply to them or their patients – that the questions being studied are not the important ones, that the methods used to study them are not relevant and that they are not reported in venues and formats accessible to office-based practitioners. They are adamant that their ideas about, and participation in, the research are critical.
- ◆ Some clinicians are hostile to guidelines due to negative experiences. For example, guidelines may be seen as top-down rules that obstruct physician judgment, experience and problem solving. Generally, clinicians feel that scientific findings about health behavior and their implications are not packaged and formatted into tools that practitioners can easily integrate as effective counseling strategies into their practice.
- ◆ Many lay people do not have the time, interest or inclination to understand risk estimates and other statistics that would help them figure out how a particular behavior or intervention might apply to their own lives. Further, many are suspicious of “science” and “evidence,” seeing them as expressions of big money interests. Thus, the imprimatur of science may be a barrier for some and may neutralize interest for others.
- ◆ Experience with implementation matters. It affects the openness of decision-makers, clinicians and other staff to changing their practice. Therefore, it is vital to make use of the best available evidence combined with local experience about how to implement counseling in medical care.
- ◆ Scientific evidence becomes less important – and personal experience has greater potential to trump research – when the

evidence is confusing and/or doesn't lead to clear recommendations. In such circumstances, clinicians often turn to colleagues as trusted sources of information and patients turn to family and friends to help them figure out what to do.

Myth #4 A market exists for counseling as part of routine medical care.

There is an assumption – often implicit among advocates of counseling as part of routine medical care – that the rise of managed care would align market forces in support of the implementation of such services. That is, the demand for such services would grow because if counseling was widely implemented, everyone would benefit: employers would see increased productivity and less absenteeism, health plans would experience lower utilization rates, clinicians would have healthier patients and patients would be more satisfied (and presumably less frequent) consumers of health care.

But the reality is, on the demand side, we found:

- ◆ Clinicians and health care decision-makers are not demanding materials, tools and reimbursement for counseling as part of routine medical care because they are not convinced that counseling will result in the benefits that the evidence seems to suggest and that advocates claim.
- ◆ Purchasers, consumers and clinicians, all sources of demand for counseling, are not convinced of the value of the expected outcomes of counseling (i.e., long-term health improvement) relative to the effort of participating in it.
- ◆ Another possible reason for low demand is the considerable resistance to the role changes that counseling entails: Healthy patients see no need for counseling (though those with chronic conditions are more likely to welcome it); physicians are skeptical and feel untrained and unable, due to time and financial pressure, to make sure patients receive counseling; decision-makers believe the annoyance of changing traditional roles may outweigh any

benefit that would accrue to their business.


And on the supply side:

- ◆ There are not enough prepared, willing and able clinicians to deliver effective counseling as part of routine medical care – regardless of the discipline.
- ◆ There are not enough robust behavior counseling models, techniques and products that can be sold. Most doctors are uninterested in becoming suppliers of behavior counseling interventions themselves and don't have the resources to delegate the responsibility within their practice.

On the other hand:

- ◆ Some practitioners, particularly those working with low-income patients, feel strongly that counseling represents a key element of the care they provide and welcome all the support, direction, resources and reinforcement they can find.
- ◆ Demand management and nurse-staffed advice/disease-management telephone lines have now been widely used for long enough to provide some good models for delivering counseling.
- ◆ Web-based health counseling and support proliferates. Though the quality of counseling and information on such sites vary widely, those who have access to the Internet and are comfortable interacting with experts and peers electronically find this is an important avenue for delivery of tailored information, if not counseling.

Cross-Cutting Findings

The three studies conducted for this project produced converging insights about how to successfully integrate health behavior counseling in routine medical care. The broad range of clinicians, researchers and experts with whom we spoke suggested :

1. *Clinicians and researchers are still seeking a common language.* Clinicians and researchers tend to operate from different world-views, have different information needs and respond to different demands and incentives in their professional roles. For scientific and practical reasons, health behavior researchers are not investigating the questions of greatest interest to clinicians. The research that is being conducted often is perceived by clinicians as irrelevant to the everyday contingencies under which they practice. Researchers are not uniformly trained to think about how their research could be translated into practice, and clinicians are not uniformly trained to apply research to direct patient care. In addition, clinicians and researchers do not always think about evidence in the same way. For clinicians, direct experience and the particular circumstances of a patient may be far more important in determining the appropriate treatment for that patient than evidence drawn from rigorous studies conducted with patients who are quite unlike the patients seen by the clinician every day.
2. *Health care professionals are receptive to new information from trusted sources.* In situations in which clinicians are asked to change their behavior or practices, information from colleagues – professional peers or professional societies – is considered more authoritative and trustworthy than information from most other sources. Clinicians also tend to be skeptical of information from sources that appear vulnerable to financial conflicts of interest, including pharmaceutical companies and managed care organizations. This means that guidelines, policy statements and research about what works and what doesn't are more likely to

reach a receptive audience when they come from professional societies, voluntary health organizations and some government agencies on some topics (e.g., the U.S. Preventive Services Task Force).

3. *Successful methods of helping physicians implement effective counseling strategies will be built on what physicians feel capable of doing well, on appropriate tools and system supports they need and on the expectation that they can't do it all.* The notion that “one size does not fit all” became obvious in considering the question of who should conduct counseling as part of routine medical care. One strongly held view is that physicians are the ideal purveyors of health behavior change interventions. The opposing view – that physicians need not be involved – is held equally strongly. A third view is that there is an important role for physicians to play both in making health behavior counseling a legitimate part of routine medical care and as players on multidisciplinary collaborative care teams. Consensus about how to approach this issue was clear, however: no single implementation approach will do the trick.

Organizations –from independent solo or group practices to large health maintenance organizations – must consider how best to implement high quality counseling services in their local setting or delivery system. This means exploring and evaluating physicians’ willingness to counsel patients, the perceived barriers to physicians’ involvement in providing this type of care and the things that would encourage physicians’ participation. Other clear messages:

- ◆ Involve physicians in designing roles for themselves that they feel are appropriate in providing health behavior counseling in their practice settings.
- ◆ Provide the tools and support they need to feel confident in those roles.
- ◆ Clearly articulate the roles and responsibilities of all care providers.
- ◆ Rely on high quality local community and nationally available materials and programs as extenders and adjuncts.

4. *Clinicians want to provide good care, need to know the effects of their actions and interventions and respond to incentives.*

Clinicians want to help their patients lead better lives and need to know how their patients are doing. This means that clinicians need information not only about whether they are providing appropriate treatment, but also whether the treatment decisions they make change the health and quality of life of their patients. Clinicians also need, and respond to, incentives for good care. The question of which incentives work (monetary, regulatory, public recognition), and for which clinicians in which settings, is one best addressed by local organizations.

5. *Consumers are not demanding health behavior counseling in routine medical care (yet).* Some motivated individual consumers are asking for better programs, many are seeking health information from websites and many more are drawn to a variety of alternative therapies. Yet the participants in these studies identified no unified consumer voice or influence that will ignite or sustain the changes necessary to make health behavior counseling a part of routine medical care.
6. *Some essential system-level components are necessary (but not sufficient) for delivering effective counseling.* Senior leadership and organizational commitment are the foundation of successful health behavior counseling services in routine medical care. These services become a priority when leaders allocate both human and financial capital to ensure the effective delivery of care. Robust clinical information systems are an additional type of behind-the-scenes support essential to providing effective health behavior counseling services. Good care is more likely when clinical information systems make it possible to identify patients who need counseling, prompt providers to deliver services, monitor services and outcomes, follow patients over the course of care and provide feedback to both patients and providers.
7. *Many stakeholders want models and tools to help them do their jobs.* Clinicians want and need tangible, practical instructions and methods to help them provide the counseling that will benefit their patients. Program developers and others who design interventions want and must be guided by validated models that spell out how behavior change happens. Health plans and

decision-makers want and would benefit from examples of what successful programs look like and how they incorporate the elements necessary to help patients and providers change their behavior. Efforts to change on the part of all stakeholders would be enhanced by identifying and using proven methods for disseminating information and implementing strategies for the improvement of care.

Roundtable Discussions with Health Care Providers

Providers of behavior change services, whether primary care physicians, nurses, health educators or other clinicians are important consumers of health behavior research findings. Their success in helping patients change behavior depends on their ability to easily access and use the products of research.

We convened groups of health care professionals who could and should be providing these services to find out how they view behavior change, how they approach it in their practice and what they need to be able to make use of the best available strategies for behavior change.

Eight roundtable discussion meetings of individuals from different stakeholder provider groups were convened. The meetings were designed to draw on participants' individual and collective experience of what works, what doesn't and what is needed to accelerate the process of uptake and use of behavioral interventions. National and academic leaders representing constituency interests, as well as community-based individuals in practice, were invited to participate. A total of 41 primary care physicians (including medical educators), specialty care providers, health psychologists, physician assistants, nurse practitioners, nutritionists, health educators and social workers participated in the roundtable meetings. (See Appendix A for a list of participants and materials used to guide discussions in the roundtable meetings.)

In talking with health care providers, we were especially interested in learning two things:

- ◆ What do they see as the barriers to and opportunities for providing health behavior counseling in routine medical care based on our current state of knowledge about effective approaches?
- ◆ What specific information and support do primary care

physicians and others who deliver the more intensive behavior change services need in order to act on the basis of the best available information?

Participants in the roundtables proved extraordinarily thoughtful, cared deeply about this issue and relished having the opportunity to talk with us and their colleagues about what routine medical care is like now and what it could be.

Here are highlights of what they told us:

Using Health Behavior Change Interventions

Participants were asked whether they themselves, and their colleagues in general, use health behavior change interventions as part of their standard practice with patients. Health behavior change interventions were defined as activities such as counseling patients to stop smoking, educating patients about changes in diet and exercise to better maintain diabetic control and counseling and referral for alcohol and/or substance abuse. Participants also were asked whether these interventions focused primarily on the management of chronic disease (e.g., diabetes or cardiovascular disease) or on the reduction of health behavior risks (e.g., level of physical activity or smoking cessation). Participants discussed the process of providing health behavior counseling, addressing questions of whether they use mostly formal (from a manual) or informal interventions, whether they follow guidelines and whether they use these interventions with only a few patients or with most patients.

- ◆ Roundtable participants who maintain active primary care practices reported that they regularly use health behavior change interventions with their patients. Their perception, however, is that health behavior change interventions have not been incorporated generally into routine medical care.
- ◆ Interventions are targeted both toward the management of chronic disease and toward the prevention of disease through the reduction of health behavior risks. Not all patient behaviors or risk factors are considered equal in terms of the likely effectiveness of

the interventions, or in terms of the willingness of providers to actually intervene. Smoking, for example, is a risky behavior that most participants felt they could address with their patients with some hope of success. In part, this is because there are counseling interventions that have been documented as being effective and there are pharmacologic interventions to be used in conjunction with counseling. Physical inactivity and obesity, which can complicate chronic disease management and are risk factors even for the apparently well, are problems for which providers felt they had much less to offer patients, making them more hesitant to intervene.

- ◆ Formal interventions based on manuals and other explicit types of guidance are used, but participants more frequently rely on informal interventions based on their own experiences, the experiences of colleagues, their understanding of individual patients and common sense about behavior change – or some combination. The interventions, whether formal or informal, were used primarily by providers to encourage patients to take more responsibility for their own health decisions.
- ◆ Participants disagreed about the use and effectiveness of guidelines. Some felt that guidelines were extremely useful both in helping them make decisions about patient care and in providing a framework to track their own effectiveness and desired patient health outcomes. Others found guidelines intrusive, in part because they are often imposed “top-down,” without consulting primary care physicians about what they would find useful or what they really need to help improve the care they provide.
- ◆ There was more consensus that the practical value of guidelines is limited because it’s often not clear how to evaluate them or prioritize them. For example, guidelines from different sources often contradict one another. In addition, because guidelines typically address the treatment of a disease or a risk factor, there can be many different guidelines that could apply to the care of a patient with multiple conditions or risk factors. Adhering to all of the guidelines is not possible. Physicians want and need assistance in using guidelines flexibly to provide comprehensive care for

patients with complex problems and needs.

- ◆ How often health behavior counseling interventions are used depends on the type of practice and the population being served. For pediatricians, health behavior change interventions (for both parents and children) are a primary focus of most of routine care. For providers seeing primarily healthy adults, the percentage of time devoted to this type of care is usually lower. Most participants, though, described health behaviors and the consequences of those behaviors as constant themes they struggle to address despite the constraints under which they practice.
- ◆ The use of health behavior change interventions also depends on how capable physicians feel and how successful they think the interventions are going to be. Few providers were inclined to persist in intervening when they felt unskilled or when they felt patients were uninterested or uninvested.

Training

Participants were asked to consider the adequacy of their training – as students, trainees and professionals in practice – in health behavior change interventions.

- ◆ A few individual training programs do a good job of integrating behavioral science concepts into medical education and residency training. But most participants, and most physicians in general, haven't been trained to do health behavior change counseling with their patients. Although they consider this important in their work with patients in terms of both emphasis and time, they have had to learn how to do it “by the seat of their pants” through consultations with colleagues, reading on their own, seeking additional training opportunities and through interactions with their patients.
- ◆ Opportunities for continuing medical education (CME) vary. Traditional continuing education was characterized as relatively ineffective in helping providers develop the skills they need to do this work. New models of CME, including coaching and mentorship of physicians in practice, were suggested as ways of

improving continuing education.

Evidence Base

Rather than evaluate a specific literature or body of evidence about a particular type of interaction, we asked participants to consider the evidence base regarding the effectiveness of health behavior change interventions as a whole. They discussed their perceptions of the accessibility of health behavior research, the scientific adequacy of the evidence base, their use of the evidence to identify effective new health behavior change interventions and the criteria they use to evaluate the evidence. Participants also talked about the sources they turn to for reliable information that they feel is relevant to their day-to-day work with patients.

- ◆ There are some significant factors that separate health care providers from the health behavior change evidence base. Although physicians consider themselves moderately familiar with evidence regarding the effectiveness of health behavior change interventions, they have little time to read the literature and tend to read only the medical literature that relates specifically to the issues they deal with in day-to-day practice. Most health behavior change research is published in non-medical academic journals, making it less likely that physician providers will have routine access to this information. Physicians turn to colleagues (both within and across disciplines) for evidence updates – for information about new interventions. They also rely on summaries and synopses of research to help guide them to what would be most useful to read in depth.
- ◆ Non-physician participants tended to rate the adequacy of the health behavior change evidence base more favorably than did physician participants, although most physician participants did consider the evidence base scientifically adequate.
- ◆ It is difficult for providers to get information about interventions that they can actually use in their settings with their patients. There are multiple steps missing in the translation of research findings to actual, practical “tool kits” that providers can

reliably use with their patients in every-day practice. In particular, physicians say they need guidance about what to say and do in the limited amount of time they have with patients who may have multiple conditions or problems and who may not be receptive to intervention for a variety of reasons.

- ◆ Although there is a large body of evidence supporting the use of health behavior counseling in routine care for certain behaviors such as smoking, physicians felt that there was little evidence that health behavior counseling, when provided by physicians as part of routine care, affected patient behaviors and outcomes in terms of health risks and conditions such as obesity and physical inactivity.
- ◆ Barriers to identifying and using effective new interventions include:
 - Information overload. Clinicians don't have time to read a lot, especially in disciplines other than their own.
 - No incentives to change the way they practice, which might involve more time, additional training and extra time with staff.
 - Difficulty applying academic research, conducted with special resources and controlled populations into actual interactions with real patients with multiple concerns and problems.
 - Questions about the roles that physicians – as opposed to other clinicians – should play in doing health behavior counseling as part of routine care.
- ◆ The most important criteria participants used to evaluate interventions included:
 - Perception of effectiveness of the intervention.
 - Relevance of the research to their practice in terms of population served and health problem/risk factor addressed.

- Resources they would need to be able to offer the intervention.
- Involvement of primary care providers in designing or carrying out the research.
- The capability they felt of actually carrying out the intervention.

Organizational/Systems Factors

Systems factors affect the initiation, implementation, success and sustainability of health behavior counseling.

- ◆ Some organizations and practices support health behavior counseling through a conscious “population health” approach to primary care practice. This includes screening patients for specific risk factors, identifying patients who would benefit from interventions, approaching care from a team perspective and providing physicians with feedback about how successful their interventions have been. But these are by far the exception.
- ◆ The most significant barriers at the systems level include lack of time with patients, lack of reimbursement for these services, a fragmented approach to care and skepticism that health behavior change interventions can make a difference in specific health outcomes.

Patients

Participants were asked to consider the role patients play in encouraging or discouraging health care providers from using health behavior change interventions as part of routine care.

- ◆ Well-informed patients – the consumer armed with reams of Internet print-outs – help motivate some physicians to stay on top of current findings in medicine and health behavior.
- ◆ For some participants, patients have been very good teachers about what leads to and sustains changes in behavior. For the most part, though, physicians perceive patients as not highly motivated

to change behaviors that offer some type of reward now in the service of an abstract benefit to health later.

Expert Consultation

Who are the experts physicians consult when they have questions about how to help patients change health behaviors? What additional services or resources would be helpful to them?

- ◆ As mentioned previously, trusted colleagues are the experts to whom participants turn for consultation and advice. For some, these colleagues are health professionals in other disciplines, including nursing, health education, psychology, social work and physical therapy. For others, colleagues are more likely to be physicians with expertise in the social and behavioral sciences. Most practicing physicians do not consult health behavior researchers, with whom they have little opportunity or inclination to be in contact.
- ◆ Professional societies of one's own profession act as sources of credible information; they are not profit-making enterprises and they convey information in ways that are familiar and understandable to the recipients.
- ◆ Additional services or supports that would be useful include:
 - Mentoring or coaching physicians in the early days of practice as they struggle to learn how to counsel patients without the support from interdisciplinary teams that many enjoyed during clerkships and residency.
 - 'Academic detailers' to act as translators of information from other disciplines.
 - Opportunities through direct interaction, workshops, journal articles and other media for practicing physicians to share information with one another about what has worked in their own settings with complex patients.
 - Opportunities to meaningfully influence the health behavior

research that is conducted; a chance to serve as the “practice-to-research” leg of the “research-to-practice-to-research” loop.

Resources

The most important resources clinicians need to be able to effectively use health behavior change interventions cut across evidence, training and systems issues. The question of who should be doing this work was also an important resource issue – and a source of differing opinion – for participants.

- ◆ The resources that health care providers need in order to provide health behavior counseling as part of routine medical care include:
 - Time to read and think.
 - Time with patients.
 - Reimbursement for providing these services.
 - Information in easily digestible formats.
 - Training in how to use health behavior change interventions and why they are important.
 - Training in how to apply population-based research to decisions about individual patients.
 - Connections with colleagues and team-based care of patients.
 - Systems for identifying patients who might benefit from counseling, for prompting the physicians to provide counseling and for following up with the patients.
 - Feedback about the effectiveness of their work.
- ◆ In terms of the “who” of health behavior counseling, many participants identified themselves as where the buck stopped; there were no other providers or systems to help them provide these

interventions.

- ◆ Other participants, primarily those in health maintenance organizations, some academic medical settings and public health clinics, reported that other professionals – including health educators, nutritionists, social workers and psychologists – were available to some extent to help provide these services.
- ◆ For non-physician participants across the board, and for a significant number of physicians, the issue of connecting with existing community resources and systems loomed large. Many different types of services for helping people live healthier lives already exist outside the physician’s office. Knowing where people can go to get the help they need, getting guidance in evaluating the appropriateness and effectiveness of community programs and materials, creating successful linking relationships and developing skills in making successful referrals are all critical – but generally overlooked – facets of providing useful health behavior counseling services in routine medical care.

Interviews with Directors of Successful Prevention Programs Delivered in Health Care Settings

We interviewed program directors of 45 successful and innovative prevention programs in order to better understand the system, program, provider and patient-level supports that are important for the inclusion of prevention services as part of routine medical care. Prevention programs included those for counseling on behavioral risk, immunization and screening. We also explored how health behavior research informed the implementation of these programs.

For purposes of this discussion, consider that all prevention-oriented interactions between clinicians and patients have a counseling dimension; i.e., they focus on patient behavior change, whether that behavior is scheduling and getting a mammogram or beginning and sustaining a regular exercise regimen. There is evidence that the kind of clinician-patient interaction that takes place during referral for preventive services can increase or decrease the likelihood of follow-through, just as there are more and less effective doctor-patient interactions about risky drinking.

Background

A committee of experts in health behavior and prevention, and staff from the Blue Cross and Blue Shield Association, Bureau of Primary Health Care and American Association of Health Plans, identified successful prevention programs to be included in this study. Forty-five prevention programs were selected from a pool of 75 nominations on the basis of being part of a health care delivery system (as distinguished from operating in the community or workplace); having a clinical component (some interaction with at least one health care professional); and having been deemed successful by an external source.

Telephone interviews were conducted with program directors using a structured interview protocol that included both closed and open-ended questions. The interview protocol was developed through an internal and external review process. (See Appendix B for the interview protocol, the list of programs interviewed and the members of the nominating committee.)

The 45 programs in the study cover a range of prevention strategies. The programs were classified based on the categories of prevention services used by the U.S. Preventive Services Task Force. The counseling programs included tobacco cessation, weight management, physical inactivity, risky alcohol and substance use, sun safety and general wellness programs (N=21 programs). The immunization programs consisted of both child and adult immunization programs (N=16 programs), and the screening programs primarily focused on mammography and cervical cancer screening (N=8 programs).

The majority of the programs interviewed (37) were in managed care organizations. Of those programs, 22 were in group or staff model HMOs, and 15 were part of IPA, PPO, network or other configurations of managed care. Four programs were part of integrated health care delivery systems, and four programs were based in academic institutions but implemented in a variety of delivery settings. Thirty-eight programs were part of not-for-profit health care delivery systems and seven were located in for-profit settings. Twenty-nine of the programs in managed care organizations had capitated payment systems of some type. Eleven of those programs were partially-capitated, where some, but not all, of the products/plans were capitated.

Characteristics of Successful Prevention Programs

Despite the variety of programs and the range of organizational settings examined, many similarities emerged. The following is a discussion of the attributes that these successful programs shared. The findings have been grouped by organizational level:

- ◆ System – attributes of the larger organization in which the

program is located.

- ◆ Program – characteristics of the programs and links to the system and community.
- ◆ Provider – roles and responsibilities of clinicians.
- ◆ Patient – features of services received by patients.
- ◆ Research-to-practice – examples of how empirical evidence is integrated into the delivery of prevention services.

It is important to note that these characteristics and organizational levels have been disaggregated for the purposes of discussion. In practice they do not exist in isolation. The overall finding is that multiple approaches, involving multiple players and multiple supports, are necessary for the effective delivery of prevention programs.

System-Level Characteristics of Successful Programs

- ◆ Senior leaders in organizations are very involved in leading improvement efforts to promote preventive services.
- ◆ Program goals are related to documented organizational priorities for prevention. Goals are outlined in business plans, strategic plans and quality improvement plans.
- ◆ Prevention programs are included as a covered benefit for patients.
- ◆ Programs are paid for through internal budgets.
- ◆ Programs are supported by system-wide computerized clinical information systems. Many of the programs rely on the information systems both to identify patients in need of services and to assist in the delivery and tracking of services.

Program-Level Characteristics of Successful Programs

- ◆ System-wide practices are used to alert clinicians or remind

them to attend to patient prevention needs related to specific programs such as flu shots or mammography. Reminder checklists, reminders generated by a computer tracking system and stickers or stamps that office or nursing staff apply to charts are all strategies for alerting clinicians to interact with their patients about their personal prevention concerns.

- ◆ Programs have developed ways to routinely provide feedback about a patient's progress in the program to their primary care physician. Program directors felt that the care provided by their programs is fully integrated into the care provided by other parts of the organization.
- ◆ Many program directors said their computer- supports link with one another and that the computer systems are integrated into any organization-wide computer-supports. However, some programs directors acknowledged having fragmented computer systems.
- ◆ Most programs conduct some sort of evaluation, using health behavior change (e.g., quit rates for smoking, immunization rates, levels of physical activity, screening rates) as the primary outcome measure. Some programs also collect information on a broader range of measures. For example, more than half the programs collect information about decreased hospitalization rates, cost to provide the program, participant satisfaction and overall health outcomes.
- ◆ Program directors reported that other organizations in the community are involved, at varying levels, in the program. Slightly fewer than half of the programs, however, have instituted formal systems for linking patients to community resources and very few of those programs evaluate patients' satisfaction with referral arrangements.

Provider-Level Characteristics of Successful Programs

- ◆ Physicians, nurses and nurse practitioners were most often cited as the providers of prevention services. However, a wide

range of other health care professionals (health educators, case managers, pharmacists, physician assistants) also play primary roles in the provision of preventive services. Many respondents also discussed how information systems specialists and fulfillment and/or mailroom staff were vital to programs because many of the components of successful prevention programs include identifying targeted patients and sending them information.

- ◆ Primary care physicians are often integrally involved in the delivery of prevention services.
- ◆ Although physicians' roles vary across the programs, generally they involve being responsible for brief interventions with patients, including counseling about health behavior change, and then referring patients for additional services. Other health care providers are responsible for initially identifying need, prompting physicians to address issues, recording information accurately, conducting additional discussions with patients and delivering longer term interventions.

Program directors also mentioned the critical role of physicians as program champions, ensuring the development and implementation of health behavior change counseling programs and the integration of prevention activities into organization-wide priorities.

- ◆ Traditional training techniques are being used for educating program staff on delivering prevention and health behavior change programs. The majority of programs rely on internal workshops, while a much smaller number use external workshops, conventional CME, web-based support and peer feedback.
- ◆ Slightly fewer than half of the programs include incentives to motivate providers to achieve program goals. In most cases, incentives are financial, with compensation going to either providers or to departments or clinics for reaching specific prevention goals. Programs also use certificates of achievement and other non-financial methods to recognize provider achievement. Interestingly, very few programs offer incentives for

patients to participate, beyond the fact that services are generally available as a covered benefit.

Patient-Level Characteristics of Successful Programs

- ◆ The health risk behavior change services offered to patients most often include, in order of frequency, mailed materials, one-on-one sessions with providers, telephone calls, telephone hotlines for patients to call, group sessions, web-based services and, in a few instances, home visits.
- ◆ The majority of programs rely on traditional, passive patient education materials, such as pamphlets and newsletters, but many programs also utilize more personalized educational materials such as personal letters, tailored materials and more interactive methods, including workbooks, videos and web-based materials. In addition, program directors discussed a wide variety of innovative education materials ranging from immunization calendars and “passports” to services encouraged on clinicians’ prescription pads, to refrigerator magnets with health messages.
- ◆ Even though only a small number of programs reported that they conduct a formal assessment of patients’ self-management needs, the majority of programs do assist patients with key issues related to self-management. Specifically, program staff counsel patients about patients’ concerns, long-term maintenance of healthy behavior, problem-solving, goal-setting, family/caregiver’s concerns and care-planning.
- ◆ More than half of the programs specifically report that they provide counseling. However, by “counseling,” many programs were thinking primarily about mental health counseling – not categorizing their own risk-reduction work as counseling.
- ◆ A majority of programs regularly conduct follow-up with patients. However, a small number of programs report that follow-up varies, depending on specific clinic or provider, by type of service offered or by type of patient (e.g., only high-risk patients are followed). Follow-up also is less likely for some immunization and

screening programs. Many of these programs opt instead to do general yearly age-specific reminders.

- ◆ Organizations do not systematically conduct or administer a health risk appraisal for patients. Some organizations administer an appraisal for all general patients, and some organizations do so only for selected members (new members, special populations such as seniors and members with chronic diseases, or those enrolled in specific employer plans).
- ◆ Organizations that conduct a health risk appraisal for at least some portion of their patient-population use the appraisal to: identify patients who may benefit from counseling or other interventions to reduce their risk factors, provide information to patients about their personal health, provide information to clinicians about their patients' health, and plan population-based behavior change services. Half of the organizations use the health risk appraisals to develop care plans for patients. Very few used the assessments to inform purchasers about enrollees' health.

Research-to-Practice Considerations in Successful Programs

- ◆ Programs incorporate health behavior change research findings when designing prevention programs. Frequently mentioned were the Transtheoretical Stages of Change Model and the National Cancer Institute's 4As. In addition, traditional continuous quality improvement techniques are occasionally employed.
- ◆ Overwhelmingly, programs use formal clinical guideline/protocols to deliver prevention services. Guidelines are primarily based on external resources from federal agencies, voluntary health organizations, professional societies and, in some instances, health plan collaboratives.
- ◆ More than half of the programs have developed procedures that encourage the use of guidelines, and many of the programs provide feedback to clinicians on how well they are adhering to them. However, there is a lot of variation in how feedback is provided (e.g., physician-specific information, aggregated to the department or clinic level or system-level information).

Conclusion

This study addressed the system, program, provider and patient-level components critical to the success of prevention programs and the delivery of health behavior counseling in routine medical care. Three factors seem instrumental to successful programs:

- ◆ **Defining roles and responsibilities in health behavior change services.** Almost all program directors described the importance of physician involvement and support, but the level of physician involvement varies. Most programs try to limit the responsibility of physicians, acknowledging other priorities and time pressures. A focus on brief screening, advice and referral was the most commonly described physician role. In many cases, nurses, health educators, information systems staff and others play the primary role in delivering prevention services.
- ◆ **Non-face-to-face interventions are vital and effective.**

Many of the programs have a telephone or mail information/counseling component to extend the clinician effort and provide more tailored and intensive intervention and follow-up. These services, such as reminder cards for flu shots, are not dependent on the health care setting for delivery.

- ◆ **Prompting systems are key.** Sometimes, the activity is as simple as a pink sticky note on a chart, and in others it is as high-tech as a personalized computer printout at each visit. Regardless of the method, to have a data system in place for identifying patients and for prompting providers to do counseling and follow-up was viewed as fundamental to many programs, and was seen as especially important for counseling programs such as tobacco-use cessation.

The final word should come from the program directors themselves. By far, the factors they said led to the success of their program were:

- ◆ Involvement of experienced and committed staff.
- ◆ Dedicated senior leadership.
- ◆ Organizational commitment.
- ◆ Clinical information systems.
- ◆ Physician buy-in.

The most common responses to what would sustain the program in the long run were:

- ◆ Demonstrated effectiveness in changing behavior, reducing risks and improving health outcomes.
- ◆ Accountability for costs.
- ◆ Sustained organizational commitment, including senior leadership and support.
- ◆ Monitoring and providing feedback.
- ◆ Physician buy-in.

Interviews on Translating Research to Practice

Recent reports about wide variations in medical practice and the poor health of Americans on some indicators relative to the rest of the world have sparked a growing concern that the nation may not be realizing the full benefit of its investment in health research.

Counseling as a routine part of medical care is a case where the translation of research to practice has not taken place effectively, probably to the detriment of health outcomes.

The impetus for this study came from two premises: 1) there has been a tremendous investment in research on counseling to change risky behavior, improve chronic disease management and improve adherence to health regimens over the past 30 years; and 2) despite robust findings that certain interventions could have a powerful individual and public health impact, these interventions have not been integrated into routine medical practice.

The Center's familiarity with the status of health behavior research and its application told us that there is no clear institutional authority or process by which this type of research is translated into practice and policy.

How different is this situation from that of biomedical research generally? What could be learned about the translation of research to practice in health from those institutions with a stake in the process? How can these insights help shape efforts to integrate research on effective health behavior change into routine medical care?

This report summarizes findings from interviews with 55 leaders of organizations with a stake in the health research enterprise.

We spoke to directors and key staff of the National Institutes of Health (NIH), voluntary health organizations (VHOs), medical professional

societies, other government agencies and key health services researchers. We asked them to talk about their implicit and explicit models for how biomedical and biobehavioral research is translated into practice and explored which institutions they think are responsible for this taking place in a systematic way. Participants also described how their own institutions have invested in research about the research-to-practice process, research that translates basic science findings into interventions into health and health care; and making the findings of research visible for use by clinicians, policymakers and the public.

Method

Interviews were conducted between March 2000 and February 2001 with staff at the following types of organizations:

- ◆ 18 directors and senior staff at the National Institutes of Health
- ◆ 12 senior staff at voluntary health organizations
- ◆ 12 senior staff at medical professional societies
- ◆ 6 senior executive and program staff at selected federal agencies.

In addition, seven health services researchers in the United States, Canada, the United Kingdom and Australia with expertise in the research-to-practice question were interviewed.

Foundation staff, internal project staff and external experts contributed to the list of organizations and individuals to be interviewed, and reviewed a core set of questions. The following topics were explored during these interviews (See Appendix C for topic guides and a list of respondents and organizations):

I. How is the organization involved in “research translation” and the “research-to-practice” process?



Does the organization have an implicit or explicit model it uses to move basic scientific findings toward, and ultimately into,

practice?

- III. Has addressing the gap between research and practice become more salient of late? If so, how and why? From where is the pressure coming?
- IV. Does the organization support research on the general process by which biomedical science is translated into practice and policy?
- V. What kind of research does the organization support that moves findings toward application and use? To what extent is this a priority of the organization?
- VI. How does the organization see its role in producing or packaging information that can be used immediately by clinicians, policymakers and the general public?
- VII. Whose responsibility is the translation of research to practice?
- VIII. What insights can be gained about translating health behavior research into practice, generally, and what evidence exists on the effectiveness of counseling into routine medical care, in particular?

Findings

I. Organizational Involvement

It is difficult to quantify the investment by the NIH in translating research to practice, because completing the “production arc” (i.e., from basic molecular finding to a useful and *used* medical intervention) is a complex and multistep process. On one hand, it could be said that this is the *only* kind of research NIH funds. On the other hand, because these funders rarely support effectiveness or health services research, it could be said that they fund *none*. However, most institutes focus overwhelmingly on basic research. No respondents described a systematic approach to translating basic

research into medical practice as part of their institute's mission.

Like the NIH institutes, VHOs vary in how they view their roles in the research-to-practice process. Staff of the VHOs participating in this study were unanimous that while translating research into practice is certainly an aspect of each organization's overall aim, this process itself is not addressed through large-scale systematic efforts.

The Centers for Disease Control and Prevention (CDC) described the translation of research to practice as a topic that is becoming more central to their mandate. CDC invests many resources in the monitoring and surveillance of disease, public health and, increasingly, consumer behavior and program practice. CDC also views the synthesis and dissemination of information about health, behavior that affects health and appropriate health improvement programs as central to the agency's mandate.

AHRQ's primary mandate is to conduct and fund health services research, a major component of which is how best to translate research findings into practice. AHRQ has supported research that addresses the efficacy of various quality improvement efforts or interventions (called TRIP I) and is now focusing on studies to provide better insight into how improvement efforts work in different systems, with different types of patients and under which circumstances (called TRIP II). The agency is also sponsoring a Primary Care Practice-Based Research Network, which provides grants to enhance networks' capabilities to conduct research in primary care settings and to integrate research into practice.

The Veteran's Administration (VA) has introduced a comprehensive quality improvement program called QUERI (Quality Enhancement Research Initiative). The central goal of the program is to translate findings and innovations into outcomes and system changes that improve patient care.

Professional societies generally view themselves as one link in the chain in translating research to medical practice. They say their role is to better and more actively disseminate information.

II. Implicit or explicit models

Few respondents identified an explicit model or blueprint that described the process by which research comes to affect health care practice.

The language used to describe this process was interesting: “translational” research when used by some scientists referred *only* to integrative research in the basic sciences, e.g., in moving from molecule to cell, rather than the longer stretch of bench to bedside. The phrase “research to practice” did not have consistent meaning across respondents. By other than basic scientists, the two phrases were often used interchangeably.

Most respondents made similar assumptions about how science progresses – that discovery leads to hypothesis generation and testing, then to application in animal models, to clinical research and to efficacy research. On closer examination, (many said they had not thought about it very carefully), most noted that many potentially important research findings do not end up influencing health care practice. This was a particular source of frustration to some who believe that medical practice lags far behind what is known from scientific discovery due largely to “noncompliance” by physicians in using the available technologies.

There were a few notable exceptions to this general finding. The following groups have clear operational models for how research can be propelled toward integration into medical practice or toward changing health and social policy to improve health:

- ◆ The Institute for Healthcare Improvement works directly with representatives of large and small systems to organize themselves to support health care delivery based on the best available scientific information. Its work is based on a model for change that requires identification of what needs improvement and the use of the "Plan-Do-Study-Act" cycle to test and implement modification.
- ◆ The Canadian Health Services Research Foundation (CHSR) uses a model for the translation process that involves policymakers and other end-users of research in formulating research questions.

The Foundation explicitly does not address dissemination to clinicians. The goals of CHSR are to innovate in the support of peer-reviewed research and researchers, to improve the synthesis and dissemination of research relevant to decision-makers in health plans or policymakers and to facilitate the ability of decision-makers to incorporate research in decision-making.

III. Salience of the gap between research and practice and its sources

Most respondents believe that the rhetoric about integrating research into practice has increased in volume over the past few years, though the motives and messengers differ.

Some NIH institute directors have noticed increased questions on this topic from Congress. This may be related to a recent decision to double the NIH budget over the next five years and the need to be accountable for the improved health outcomes that could reasonably be expected. However, such congressional interest has not yet manifested itself in specific initiatives aimed at improving the translation of research to practice. An exception to this is AHRQ, which, in addition to the TRIP grants previously mentioned, received \$50 million in the FY 2001 budget for a program to reduce medical errors. Yet, the increases are earmarked for quite specific projects, and this investment is very small compared to overall NIH funding.

A number of NIH institutes and VHOs reported significant coordinated pressure from consumers (e.g., NIMH, NCI and the Juvenile Diabetes Foundation) for progress toward cures. Both NIH and VHO respondents reported significant consumer interest in having access to the scientific information. However, few reported pressure from consumer groups or individuals to do a better or quicker job at translating research findings into medical practice.

Representatives of CDC attributed the salience of the gap between research and practice to new tools for surveillance of different populations and conditions and the relatively recent emphasis on outcomes measurement. Together, these factors paint a vivid picture

of the variable reach of state-of-the-science public health intervention.

Professional society representatives reported that their members are feeling pressure from patients and peers in response to media reports on medical errors and variations in practice patterns. The “evidence-based care” movement, while no longer the height of fashion, was the stimulus for important self-examination within the societies themselves.

IV. Research on translating biomedical science into practice

This topic is generally seen as outside of the mission of the disease-specific research funding organizations in this study.

The National Cancer Institute makes funds available specifically to conduct research on the general process of dissemination and adoption of biomedical research into health care practice.

Theoretical and applied research on dissemination of innovation is taking place at NASA, NSF and the Department of Education, though there is little evidence that this work informs research on medical research and health care.

AHRQ does not fund research on the adoption of biomedical research. The agency previously funded research on the general process of dissemination, but this is no longer an agency priority.

V. Research that moves findings toward application and use

NIH institutes vary in how much of their funded research is directly related to clinical practice. The differences seem to be determined by the perceived urgency of the problem (NIAID with regard to HIV/AIDS), whether the institute has historically conducted health services research (e.g., NIDA, NIMH) and whether senior leadership views the use of research findings in medical practice as implicit in the NIH mission. Some institute directors are outspoken on this point.

Many institute directors and VHO staff are unclear about the type of research that should be done to ensure that findings are used, who

should use it and how much it would cost if they were to take this on themselves.

A few NIH institutes have invested in programs to accelerate translation of basic research. The NIMH, for example, recently announced the significant expansion of Centers for Translational Science.

VHOs depend on expert volunteer opinion and peer review, as do the NIH institutes to a lesser extent, to guide the shape and direction of research portfolios. The dominance of basic scientists in decision-making positions perpetuates a strong investment in basic discoveries with the prospect of eventually being able to cure the diseases in question. The donor base and volunteers of most VHOs share this conviction. Thus the translation or professional education function is viewed as largely peripheral to the mission of the VHOs interviewed for this study.

The development of clinical practice guidelines and standards are most frequently cited by VHOs as the activities that represent their investment in translating research to practice.

All professional society staff interviewed recognize that clinicians face increasing challenges to incorporate new knowledge into the health care they deliver. Professional societies are adamant that their own approach to the guidance they provide to their members must also reflect a rigorous scientific approach, such as using the highest standards for developing and/or commenting on guidelines. Some are creating their own practice-based research networks to conduct research that is more directly related to practice.

VI. Producing information that can be used immediately

Most NIH institutes and VHOs depend on the conventions of science to accomplish research dissemination. Thus, scientific meetings, peer-reviewed publication, conferences and websites are *de riguer*.

There are notable exceptions to this, however:

- ◆ NIDA’s initiatives to package and disseminate findings to clinicians, decision-makers and the public in a timely manner is a well-funded, sustained effort with the active participation of the institute director.
- ◆ NIAID’s web-based alert system, the AIDS Treatment Information Service, ensures that clinicians treating HIV/AIDS have immediate access to breaking findings. In addition, NIAID maintains continuously updated “virtual guidelines” for practice, maintained by a guideline panel.
- ◆ The NCI’s PDQ and Cancer Information Service website and phone-based programs give easy access to studies, protocols and consumer information for clinicians and the public. These programs are exceptional.

In addition to the specific grants it awards for developing the science of translating research into practice, AHRQ maintains a searchable guideline clearinghouse along with a database of articles on how best to implement guidelines. In addition, the agency has participated in a series of studies and efforts to learn how to better provide health and health care information to consumers and purchasers.

In addition to funding local groups, the CDC asks prevention centers to work more closely with communities to find out what information or resources they need most and to try to provide them. The agency also tries to tailor information to local community needs to help them plan for prevention projects. Through the Priority Project, the CDC provides information to community programs about what prevention programs are successful and addresses the largest and most costly prevention risks.

Most professional societies acknowledge that they need to renovate their approach to member education and are working to come up with more effective strategies. They are aware of the research portraying passive continuing medical education methods as ineffective. Some societies are experimenting with interactive learning on websites but have found that few physicians are currently willing to make use of this option. They also are aware of the importance of using multiple

approaches to meet the different training preferences and needs of their members.

Professional societies view themselves as a highly trusted source of information by their members. They argue that any plan to help clinicians integrate research knowledge into routine practice will benefit by collaborating with them and risk failure without such collaboration.

VII. Responsibility for translating biomedical research to practice

The pharmaceutical industry was viewed as highly effective in identifying research findings and researchers to contribute to drug development and as highly effective in gaining access to health care providers. The biotechnology industry also was identified as a selective and fairly effective translator, though more for the research community rather than for health care practice.

NIH institute directors, VHOs and professional societies frequently named AHRQ and CDC as the federal agencies charged with packaging and disseminating medical findings. However, they were viewed as only partially successful in fulfilling this role.

Professional societies were recognized as having a role in translating research to practice, but were sometimes viewed as facing a conflict of interest between loyalty to their guild and to new scientific findings.

Leaders in health services research agreed that efforts to integrate research into practice are not occurring systematically and that current changes in the organization and financing of health care may exacerbate the problem. Health maintenance organizations and some configurations of health care delivery were described as having the potential to provide guidance, system-level support and incentives to practice medicine based on the best available evidence. However, changes in the organization and financing of health care delivery over the past five years left most American respondents pessimistic about the role of health plans in making a significant contribution to ensuring that clinical practice reflects the state of the science.

VIII. Insights and evidence

AHRQ, the agency with the nominal responsibility for the research-to-practice process, supports both planned and investigator-initiated research to translate specific knowledge into health care practice. Some challenges respondents identified:

- ◆ Projects that develop and test behavioral interventions don't link the components to any theory about why the intervention might work, thus limiting the potential for generalizing and replicating the intervention.
- ◆ Intervention studies often are designed quite narrowly and do not provide information about the process of implementation. For example, little is known about the setting, the incentives and the organizational contingencies that shape implementation and the "necessary though not sufficient" conditions of success. There are few venues in which to present such findings (and thus little demand for them), but they are critical to understanding the robustness of interventions and their replication.

Professional society respondents split almost evenly when asked if medical school prepared clinicians to keep up with new evidence and manage the flow of new scientific information. Many felt that clinicians are not prepared to evaluate the quality of research and that most medical schools do a poor job of educating clinicians about health behavior research and interventions.

Some core principles emerged in the form of advice from respondents with expertise in health services research:

- ◆ Incorporate the decision-makers and other users of future research findings into the early formulation of research questions.
- ◆ Develop the strategy for disseminating the research findings concurrently with the research plan. Respondents from the UK and Canada highlighted how a concerted effort to incorporate expectations and funding for dissemination into research can take place. Because this is an unfamiliar and relatively untested model of research, dissemination and implementation, it has met with

resistance from some academics.

- ◆ Whether translating biomedical findings or health behavior research into practice, successful adoption involves much more than merely changing physician behavior. Physicians work in groups with colleagues from different professions, located in “systems” – even at the office level – that can hinder or facilitate change. Consider the full range of factors that might affect practice as implementation variables.
- ◆ Understand the audience that will eventually use the products of the research. Identify what the trusted sources of information about professional practice are for each group, (professional societies, certain trade magazines). Marketing, packaging and outreach are important, along high visual appeal and clarity.
- ◆ Recognize that just as every setting has its own unique implementation contingencies, the characteristics of each change must be considered. For example, incorporating new guidelines for immunization might be relatively straightforward and easy. Contrast the complexity of decision-making represented in guidelines for flu shots to those for the diagnosis and treatment of asthma.

Implications

The interviews conducted for this study provide important insights about the general process by which biomedical research is integrated into medical care and public health practice. This report, however, is not about fixing the larger system, but rather focuses on what the big picture can tell us about how to integrate findings from research on clinician counseling for health behavior change into routine medical care.

Overall, the interviews leave a strong impression that the process by which scientific research is translated into medical care to improve health outcomes takes place in a somewhat haphazard, disorganized fashion. This means that research on health behavior change interventions probably has not been singled out for exclusion any more

than many other types of research. There really is no system with the authority to comb the peer-reviewed literature, identify worthy findings and translate them for the health care and public health communities. The lack of a system constitutes a barrier, in that a system would offer clear points of leverage that could be used to work efficiently to adapt, package and disseminate the findings. Without a system, efforts are likely to be more diffuse and less effective.

The leaders we interviewed are only beginning to recognize the size and implications of the gap between the burgeoning research enterprise and the impact new knowledge has on improving health care practice and policy. If we assume that rhetoric leads to action, there soon will be efforts to find better ways to systematically work on integrating research into practice. The increased effort and attention to this topic may provide opportunities over time to experiment with a range of different implementation strategies and provide venues to discuss what has been learned.

Conclusions and Recommendations

What do these findings suggest about how to integrate health behavior counseling into routine medical care?

In the absence of an integrated, coordinated health care system and lacking strong consensus that health behavior counseling should be a priority in routine medical care, the metaphor of guerrilla warfare offers one way to think about translating health behavior research into health care practice. The American Revolution – as just one example – was won by the side that was familiar with the terrain, modified tactics to fit each situation, was willing to try new approaches, anticipated the enemy's moves and knew its allies.

Integrating counseling into routine medical care is not a war and there are no clear enemies in the health care arena, but this metaphor can help shape a coherent strategy for change. Taken together, the three studies reported here provide a detailed map of the landscape, identifying routes for the translation of health behavior research into practice, which tactics have proven successful for which groups, where opposition is likely to come from and in what form, and who potential allies are.

The challenge is to use this information to craft targeted, strategic interventions that will, over time, turn the promised health benefits offered by counseling in routine medical care into reality.

As a starting point in achieving this goal, we provide a list of recommendations that emerged from the activities and analysis reported here.

These recommendations are multifaceted and address clinicians, system-level decision-makers, health care delivery systems and consumers. Each recommendation can be carried out individually and may be effective in creating some change in health care. However, creating a genuine revolution in providing counseling in routine care is

more likely to occur when different approaches are coordinated.

Recommendations

Clinicians

In order to provide counseling as part of routine medical care, clinicians need *tools* that are tailored and formatted to meet their needs and answer their questions. They also need *training* that helps them to implement and integrate counseling in routine office visits. Finally, clinicians need *evidence* that specifically addresses the concern they have about counseling patients.

Specific recommendations:

- ◆ *Using currently available evidence collections, and with the input and consultation of clinicians, develop and disseminate tools that are tailored and formatted to meet clinicians' needs and answer their questions.* Base these tools on a protocol derived from common elements of counseling interventions to change health risk behavior and improve chronic disease management. Work with trusted intermediaries including professional societies and voluntary health organizations to disseminate them.
- ◆ *Support training that helps clinicians to implement and integrate counseling into routine medical care.* Identify professional societies and other organizations with an interest in counseling in routine medical care and the ability to reach their members with information and training. Work with them to develop innovative approaches to continuing professional development that would make use of tools that have been developed as well as information on the quality of available resources.
- ◆ *Gather evidence that specifically addresses the concerns clinicians have about counseling patients.* Sponsor forums and opportunities for practitioners to develop research questions with health behavior researchers, closing the research-to-practice-to-research loop. For example, working with an existing practice-based research network, convene a group of interested clinicians to identify three

or four researchable questions that, if answered, would facilitate the implementation of counseling into routine medical care.

System-level Decision-makers

System-level decision-makers and clinicians also need *information* about successful programs, including realistic information about the implementation, effectiveness and costs of these programs. In addition, they need specific *incentives* for counseling as part of routine medical care. Finally, clinicians and decision-makers would benefit greatly from *examples* of innovators successfully implementing counseling as a quality improvement strategy.

Specific recommendations:

- ◆ *Make more information available about the implementation, effectiveness and cost impact of successful programs.* Provide evaluation funds and technical support for gathering qualitative and quantitative information about successful programs. This information should include general programmatic approaches as well as implementation tools that encourage, prompt, monitor, track and provide feedback on clinician performance. Develop venues for communicating and disseminating evidence and experience. Encourage implementation tools that are adaptable to different settings.
- ◆ *Develop specific incentives for counseling as part of routine medical care.* Convene possible payers (CDC, HCFA, HIAA) and other stakeholders. Using the best available evidence, develop the specifications for a model benefit for counseling as part of routine medical care. Explore a possible demonstration project. Explicitly include counseling in routine medical care as part of the development of *performance indicators* for chronic disease management currently underway at NCQA.
- ◆ *Provide opportunities for system-level innovators to implement counseling as a quality improvement strategy.* Working with organizations such as the Institute for Healthcare Improvement and using the Breakthrough Series approach, recruit innovators, in particular those who serve vulnerable and underserved populations, to focus on systems changes to support the integration

of effective counseling as part of routine medical care.

Health Care Delivery Systems

Health care delivery systems and the clinicians working in them cannot accommodate the full range of individual counseling needs of patients through a brief office-based encounter. Patients vary in their needs and preferences for sources, formats, and venues for support and information to improve their health. Consequently, there should be a range of high quality *resources* readily available to which clinicians can refer patients for more intensive, tailored, high quality support to reduce risk, improve adherence and manage chronic illness.

Specific recommendations:

- ◆ *Address the need to make information about high quality programs readily available to clinicians to guide patient referral.* Convene program sponsors and clinicians to discuss the need for quality standards and dissemination to providers, not just consumers. Include web-based, not-for-profit, for-profit and community-based behavioral risk reduction and chronic disease management programs.

Consumers

Incorporating health behavior counseling into routine care is a long-term process involving changes at multiple levels. Engaging consumers in this process is vital. In the future, it is likely that consumers will play a more powerful role in choosing their health care services and providers and in making sure they receive high quality care. However, consumers are likely to demand changes in the health care they receive, such as insisting on the availability of health behavior counseling, only when the potential health benefits of these services are clear. Mechanisms to facilitate consumer demand for behavior counseling are needed, including pursuing alliances with organizations who currently work with consumers to increase their engagement with their health and health care.

Specific recommendations:

- ◆ *Identify the most effective ways to facilitate and encourage consumer demand for behavior counseling as part of routine care.* Provide funding to organizations to ask consumers about what kinds of behavior change support they expect and will accept from

their health care providers.

- ◆ *Provide resources to help identify the short- and long-term benefits of health behavior counseling and communicate these to consumers.*
- ◆ *Pursue alliances with organizations and individuals working to help consumers understand how to get the most out of the current health care system and services, how to evaluate and demand good quality care and how to secure the most appropriate, least medically invasive treatment possible. Such alliances can be developed as part of an integrative approach to helping consumers demand behavior counseling in routine medical care and become more engaged in their health.*

The integration of health behavior counseling in routine medical care has been overshadowed by the turmoil taking place in health care delivery and by confusion about how to make good use of the fruits of basic research. But there are many reasons to be optimistic about prospects for making counseling an accepted part of routine care. In creating and implementing strategies to change the delivery of routine care to incorporate health behavior counseling, it is worth remembering the magnitude of the contribution of behavior to health, the authority that patients continue to confer on their physicians and the number of physician visits made per year. Given the appropriate priority, focus and resources, health behavior counseling as a part of routine medical care has the potential to have contribute to improvements in the public's health.