Prescription for Health: Promoting Healthy Behaviors in Primary Care Research Networks

An RWJF national program

SUMMARY

Prescription for Health: Promoting Healthy Behaviors in Primary Care Research Networks—a national program of the Robert Wood Johnson Foundation (RWJF)—tested the use of evidence-based models and innovative tools in primary care to counsel patients to change their unhealthy behaviors. The program focused on four leading behaviors associated with premature death: smoking, risky drinking, unhealthy diet and physical inactivity.

Launched in August 2002 as a new national program under the Foundation's Health & Behavior Team, it drew from parallel work on the Chronic Illness Care team—to advance comprehensive health care systems supports for chronic disease management and prevention—and from the Tobacco team—to advance systems supports for primary care-based tobacco use assessment and intervention.[1]

Prescription for Health targeted "the largest single platform of health care delivery—the offices of primary care clinicians—to discover what it actually takes to help individuals make and sustain healthier choices," according to Larry A. Green, M.D., program director. The nation needs a "revolution in human health behavior," said Green, and "primary care physicians are in a perfect position to help incite that revolution."

To engage clinicians in small- to medium-sized primary care offices, *Prescription for Health* funded 22 practice-based research networks (PBRNs). According to the website of the Agency for Healthcare Research and Quality (AHRQ), a federal agency charged with improving the quality, safety, efficiency and effectiveness of health care, a PBRN is defined as:

> A group of ambulatory practices devoted principally to the primary care of patients. Typically, PBRNs draw on the experience and insight of practicing clinicians to identify and frame research questions whose answers can improve the practice of primary care. By linking these questions with rigorous research methods, the PBRN

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[1] None of these program management teams exist as of the publication of this report.

can produce research findings that are immediately relevant to the clinician and, in theory, more easily assimilated into everyday practice.

By investigating what can and does happen in front-line medical care, PBRNs connect research, clinical practice and health care policy.

According to Green, RWJF's decision to proceed with a multimillion-dollar program spearheaded by PBRNs was "an act of innovation that required courage. No one had ever before designed a grantmaking program for which the applicant *had* to be a PBRN."

Prescription for Health was a partnership with AHRQ, which, as part of its charge, has devoted funds to support the development and continued work of the nation's primary care PBRNs. *Prescription for Health* ran from July 2002 through October 2008.

Key Results

The national program staff and program evaluation team at the University of Medicine and Dentistry of New Jersey summarized crosscutting results in two journal supplements: *Annals of Family Medicine* (2005) and *American Journal of Preventive Medicine* (2008). (See the Bibliography for lists of articles.) Highlights include:

- Diverse primary care practices in the 22 PBRNs deployed a wide range of tools and techniques to address multiple behavioral risk factors among their patients. The interventions included new tools for screening patients for unhealthy behavior, such as personal digital assistants (PDAs); Web-based information and tools for use by patients; reminder systems, prompts and care delivery processes to facilitate the work of the practice; links to services inside and outside primary care practices; and new and modified roles for staff.

- To address health-related behaviors, primary care practices had to undergo substantial redesign. However, project leaders seriously underestimated the time and effort required.

- To help patients change behavior, primary care practices created a "bridge" connecting them with community resources. Practices established relationships with a small pool of community partners, created paper or electronic guides referring patients to those partners and relied on intermediaries (called boundary spanners) to support and counsel patients and help them tap community resources.

- The program drew from several models and strategies to guide the design of the interventions. These included the Chronic Care Model developed by Edward H. Wagner, M.D., M.P.H., and the 5 A's (Assess, Advise, Agree, Assist, and Arrange) Behavioral Change Model. Programmatic lessons point not only to the usefulness of these models and strategies, but also to the need to adapt and modify them based on the local experiences of those using them within the complexities of real-world settings.

- The directors of projects and the program found that the Chronic Care Model could be a useful framework for considering more comprehensively how new tools, cues and techniques for health behavior counseling fit across all the dimensions of care.

- The effectiveness of clinicians in promoting healthy behaviors and the quality of their service to patients are probably maximized when practices have systems in place to support the entire counseling sequence—all of the 5 A's—rather than simply components of the process.[2]

- Primary care practices that incorporate behavioral health counseling incur startup costs and continued expenses that payers do not reimburse.

- Lessons about how patients changed behaviors reveal that these changes occur in the context of ongoing relationships with a personal physician and practice team.

- "*Prescription for Health* took off the table the misconception that primary care practices don't care about behavior, don't want to deal with it and are unable to support key national policy objectives, such as resolving the obesity epidemic," according to Program Director Green.

Program Management

The department of family medicine at the University of Colorado in Aurora, Colo., served as the national program office for *Prescription for Health*. Green, a professor of family medicine at the university and founding director of the Robert Graham Center in Washington, directed the program. Maribel Cifuentes, R.N., served as deputy director.

Funding

The RWJF Board of Trustees authorized *Prescription for Health* in July 2002 for $9 million. The program ran through October 2008. AHRQ provided services to the program but no direct funding.

CONTEXT

The Big Four: A Clustering of Risk

Four unhealthy behaviors—tobacco use, unhealthy diet, physical inactivity and excessive alcohol consumption—are the leading causes of preventable disease, disability and premature death in the United States each year.[3] What's more, the Big Four occur in

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[2] Glasgow RE, Goldstein MG, Ocken JK and Pronk NP. "Translating What We Have Learned Into Practice: Principles and Hypotheses for Interventions Addressing Multiple Behaviors in Primary Care." *American Journal of Preventive Medicine*, 27(Suppl. 2): 88–101, 2004.

[3] Kvaavik E et al. "Influence of Individual and Combined Health Behaviors on Total and Cause-Specific Mortality in Men and Women." *Archives of Internal Medicine*, 170(8): 711–718, 2010.

clusters: using data from the National Health Interview Survey for 2001, researchers found that a majority of adults reported two or more of these risk factors.[4]

Failure to address these behaviors is costly: spending on heart disease, diabetes and other chronic conditions linked to the behaviors accounts for up to 70 percent of U.S. health care costs, according to the Centers for Disease Control and Prevention (CDC). Even modest reductions in behavior-related risks could improve Americans' health and reduce health care costs. One of the three major goals of the Foundation's Health & Behavior Team, led by Senior Scientist Tracy Orleans, Ph.D., and Senior Program Officer Susan Hassmiller, Ph.D., R.N., was to address multiple behavioral risks in primary care using many of the same approaches the Foundation had used to address tobacco use.

An Untapped Resource: Primary Care Practices

Clinicians on the front lines of health care are uniquely positioned to influence health-related behavior among their patients. Americans made more than 480 million visits to family physicians, general internists and general pediatricians in 2002, according to the National Ambulatory Medical Care Survey. At least 100 million people viewed these physicians as their usual source of care, valued their advice and aimed to act on that advice, according to the 2001 AHRQ Medical Expenditure Panel Survey.

The U.S. Preventive Services Task Force, a panel of experts supported by AHRQ, issued evidence-based guidelines designed to encourage clinicians to promote healthier behaviors among their patients. However, most primary care practices lack the time, staff, practical tools and funding to apply those interventions.

RWJF's Interest in the Area

Earlier efforts by the foundation to redesign the health care system to address the risks of tobacco, alcohol and physical inactivity converged in *Prescription for Health*.

Tackling the Big Three One by One

Tobacco

As a practicing physician, Steven Schroeder, M.D., RWJF's third president, had witnessed the impact of smoking on health firsthand, and believed that the Foundation could not fulfill its mission without curbing tobacco use.

RWJF's *Addressing Tobacco in Managed Care* (1996–2005), developed by Orleans, aimed to make evidence-based interventions for tobacco cessation part of routine primary

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[4] Pronk NP, Peek CJ and Goldstein MG. "Addressing Multiple Behavioral Risk Factors in Primary Care: A Synthesis of Current Knowledge and Stakeholder Dialogue Sessions." *American Journal of Preventive Medicine*, 27(Suppl. 2): 2004.

care practice. The program (renamed A*ddressing Tobacco in Health Care*) capitalized on the release of AHRQ's first-ever tobacco dependence treatment clinical practice guidelines in 1996. These guidelines promoted use of the 5 A's, a model designed to help clinicians and others guide patients and families in developing goals and action plans for changing health-related behavior. The program was based on the growing recognition that provider adherence to these guidelines was severely limited by the lack of health care system supports for their intervention.

The 5 A's—later applied by the AHRQ's U.S. Preventive Services Task Force to address all four major behavioral health risks in primary care (tobacco use, physical inactivity, unhealthy diet and risky drinking)—are:

- *Ask* about tobacco use—Identify and document tobacco use status for every patient at every visit.

- *Advise* to quit—In a clear, strong and personalized manner, urge every tobacco user to quit.

- *Assess* willingness to make a cessation attempt—Is the tobacco user willing to make a cessation attempt at this time?

- *Assist* in cessation attempt—For patients willing to make a cessation attempt, use appropriate counseling and pharmacotherapy to help them quit. For others, provide motivational interviewing to boost quitting readiness.

- *Arrange* follow-up—Schedule follow-up contact, preferably within the first week after the cessation date and refer to additional follow-up care as needed.

Addressing Tobacco in Health Care found that primary care practices needed to make system-level changes to encourage busy clinicians to integrate the 5 A's into their office routine, such as by revamping electronic health records to include physician prompts and offering adequate staffing, reimbursement and incentives for best-practice care. (For more information, see Program Results.)

Alcohol

In 1996 the U.S. Preventive Services Task Force recommended the 5 A's primary care approach for risky drinking, a problem which RWJF had addressed through multiple programs.

- *Cutting Back: Managed Care Screening and Brief Intervention for Risky Drinking* (1994–2002) conducted a study of the practicality and effectiveness of a low-cost intervention to address risky drinking by patients attending managed care clinics.

- *Reducing Underage Drinking Through Community and State Coalitions* (1995–2005) adopted a community-wide approach to tackling alcohol abuse, enlisting business,

public schools, local government, community groups, local media and clergy, as well as health care organizations in 10 states.

- *A Matter of Degree: Reducing High-Risk Drinking Among College Students* (1996–2008) addressed risky drinking on 10 college/university campuses.

- *Paths to Recovery: Changing the Process of Care for Substance Abuse Programs* (2002–2008) focused on redesigning the residential system for treating drug abuse. Treatment agencies throughout the country used "rapid-cycle improvements" and the Plan–Do–Study–Act model—adapted from industry—to redesign their practices.

The above links are to Program Results on these programs.

Physical Inactivity

By the end of the 1990s, the lack of physical activity among Americans had become an RWJF priority. Increasing everyday physical activity, or active living, was one of the major aims of RWJF's Health & Behavior Team. One of its specific goals was to promote everyday physical activity, or "active living," through policy and environmental approaches, including changes to the built environment to create wider opportunities for walking, biking and other forms of physical activity. In 2001, RWJF launched a suite of national programs to meet this goal, including *Active Living Research* (see Program Results) and *Active Living by Design*. (See report on evaluations of the program.)

A related goal, to increase active living among older adults, was addressed through *Active for Life®: Increasing Physical Activity Levels in Adults Age 50 and Older*. Launched in 2001, it focused on delivering and sustaining research-based physical activity programs in real-world settings. See Program Results for more information.

The Chronic Care Model

Improving Chronic Illness Care, launched in 1998, promoted the Chronic Care Model, which identifies six essential elements to ensure high-quality evidence-based care at the community, organizational, practice and patient levels. This model was among the first to identify the multiple interlocking systems supports required for effective, planned, proactive chronic illness care and prevention.

The four primary behavioral risk factors addressed by *Prescription for Health* included the top contributors to chronic disease in the United States. The Chronic Care Model outlined the six key systems supports needed to guide providers in regular, proactive screening and counseling for health behavior change and treatment adherence and to guide patients' self-management activities. These key systems supports were:

- **Health care organization:** Coordinated goal setting involving all levels of the care system in supporting the primary care team to set priorities and create the incentives to achieve them.

- **Delivery system design and clinical information systems:** Health plan and office-level reminder systems, patient registries and clinical information systems needed to identify patients with particular chronic illnesses or behavioral risk factors; track their use of treatments, resources and programs; and generate prompts for planned coordinated evidence-based care.

- **Decision support:** Providing guidelines, provider training, guideline algorithms, ongoing consultation and reminder tools to support the primary care team in delivering evidence-based care (e.g., the 5 A's).

- **Self-management support:** Giving patients and their families active roles in, and responsibility for, managing their health and their care by setting goals in partnership with the provider team, and by providing self-help materials and tools, including access to clinic and telephone counseling services.

- **Community resources:** Harnessing community resources and policies to assist in patient disease management and prevention, ranging from referral to community and worksite health behavior-change programs to support for beneficial changes in the community policies and environments (e.g., clean indoor air laws, local physical activity campaigns).

Evidence-based concepts under each element foster interactions between providers and informed patients who take an active part in their care. More information is online.

To help pave the way for *Prescription for Health*, RWJF's Orleans, Russell Glasgow, Ph.D., (senior scientist at Kaiser Permanent), Edward Wagner, Susan Curry, Ph.D., (co-director of *Addressing Tobacco in Health Care*) and Leif Solberg, M.D., (of HealthPartners) outlined ways in which the Chronic Care Model had been successfully applied to health plans to help prevent as well as manage chronic disease. They emphasized that efforts to prevent and manage chronic diseases often target the same behaviors—unhealthy eating, lack of physical activity, tobacco use and risky drinking in the case of diabetes, for example.[5]

In addition, to help lay the groundwork for addressing multiple health risks in the same individuals, RWJF funded several research projects designed to provide a deeper understanding of the challenges entailed in addressing multiple risk behaviors. For more on these projects, see Appendix 1.

THE PROGRAM

Prescription for Health funded 22 practice-based research networks (PBRNs) to propose and test their best ideas about using brief, evidence-based interventions in primary care to

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[5] Glasgow RE, Orleans CT, Wagner EH, Curry SJ and Solberg LI. "Does the Chronic Care Model Serve Also as a Template for Improving Prevention?" *Milbank Quarterly*, 79: 579–612, 2001.

address patients' health-related behavior. PBRN managers and practitioners—which the national program staff called "innovators" to emphasize their groundbreaking work—had to enlist at least six primary care practices in their projects.

Participating practices included family medicine, internal medicine, pediatrics and nursing practices, as well as solo and group practices, federally qualified health centers and community nursing centers.

The practices had to adopt interventions that other primary care practices could easily replicate. The interventions included systems for screening, face-to-face counseling, telephone counseling, computer-aided interventions, new roles for staff, online resources, referrals and linkages to community-based resources.

Planning Prescription for Health: Tapping Front-Line Clinicians

In November 2001, senior clinicians from 30 PBRNs gathered in Washington for a two-day conference, co-funded by AHRQ and RWJF, to lay the groundwork for the program. The clinicians indicated that they:

- Perceived that the tasks of assessing patients' health-related behavior and advising them on how to change it lay squarely on their shoulders.

- Rarely referred patients to tools and partners outside the context of office visits, such as smoking cessation counseling.

For more on the conference, see an article in *Health Policy* by Flocke, Crabtree and Stange, and Program Results.

Program Implementation

The program unfolded in two rounds.

Round 1

Round 1, which ran from July 2003 to October 2004, aimed to determine whether primary care practices could successfully incorporate behavioral interventions into patient care. Applicants did not have to adopt specific interventions or rely on a specific model for transforming primary care. However, they did have to create interventions to address at least two of four health-related behaviors—smoking, risky drinking, unhealthy diet and physical inactivity.

Six of the 17 PBRNs that received Round 1 funding addressed all four behaviors, one addressed three behaviors and 10 addressed two. Each PBRN received $125,000.

In this round, Glasgow, Marcia Ory, Ph.D., M.P.H. (director of *Active for Life*), Lisa Klesges, Ph.D. (interim dean at the University of Memphis School of Public Health), and

others were recruited as senior program consultants to help the national program office develop practical, valid and reliable self-report measures of patient heath behaviors to facilitate standard measurement and cross-study outcome comparisons. These consultants also recommended the RE-AIM model for the design and evaluation of PBRN intervention strategies. RE-AIM is designed to assess and maximize interventions: Reach, Effectiveness, Adoption, Implementation and Maintenance (see Program Evaluation).

Round 2

Round 2, which ran from July 1, 2005 to June 2007, evaluated the *effectiveness* of comprehensive strategies to improve patients' health-related behaviors and primary care providers' practice patterns. Applicants again had to create interventions to address at least two of the four risk behaviors, but Round 2 gave strong preference to applicants that addressed all four. All 10 PBRNs that received funding did this (five had received Round 1 funding, and five were new to the program).

Because Round 1 had suggested that the Chronic Care Model and the RE-AIM approach each helped improve both patients' behavior and physicians' primary care treatment practices, Round 2 applicants had to use those two models to design and evaluate their interventions.

Each PBRN received $300,000 to implement a two-year project. See Appendix 2 for a list of all 22 PBRNs and their university-based sponsors.

Program Management

Larry A. Green, M.D., professor of family medicine at the University of Colorado and founding director of the Robert Graham Center in Washington, directed the program. Maribel Cifuentes, R.N., served as deputy director.

National Advisory Committee

A national advisory committee provided strategic guidance to the national program staff, reviewed proposals and recommended funding. Kurt C. Stange, M.D., Ph.D., professor of family medicine, epidemiology & biostatistics, oncology and sociology at Case Western Reserve University, chaired the committee.

He is the author of "One Minute for Prevention: The Power of Leveraging to Fulfill the Promise of Health Behavior Counseling,"[6] which helped spur national interest in the issue.

See Appendix 3 for a list of national advisory committee members.

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[6] *American Journal of Preventive Medicine*, 22(4): 267–284, 2002.

Technical Assistance

Green, Cifuentes and staff provided several forms of technical assistance to the PBRNs. They:

- Launched a public *Prescription for Health* website in December 2002.

- Launched an extranet site in August 2003, sponsored by AHRQ, to promote communication and collaboration among project leaders, the national program staff and the evaluation team—and among PBRNs.

- Held five annual meetings from September 2003 to May 2007 to enable participants to share strategies and experiences and develop crosscutting lessons, and to allow program consultants to help project leaders address specific challenges.

- Provided onsite technical assistance, with representatives from the evaluation team and sometimes RWJF, the national advisory committee and AHRQ. The national program staff invited leaders from the PBRNs' host universities and other local and national stakeholders to these meetings—to enhance the visibility, connections and cachet of the PBRNs.

- Provided additional support through a quarterly newsletter, a listserv, webinars, periodic phone calls, e-mail reminders and progress reports.

AHRQ Resource Center

AHRQ's PBRN Resource Center also provided technical assistance to the program, including webinars for the project leaders/innovators and use of AHRQ's secure PBRNet site. An AHRQ expert set up and managed an online "diary" system—a key evaluation tool (see Program EvaluationProgram Evaluation).

PROGRAM EVALUATION

An evaluation team from the Robert Wood Johnson Medical School at the University of Medicine and Dentistry of New Jersey conducted the evaluation over the course of five grants from August 2002 through January 2010.[7] Benjamin F. Crabtree, Ph.D.—who had developed a strategy for analyzing primary care practices as complex systems—initially led the evaluation team. Deborah Cohen, Ph.D., succeeded Crabtree as evaluation director in January 2004.

The *Prescription for Health* evaluation team conducted an "embedded" evaluation designed to help primary care practices respond to challenges and the national program staff to identify crosscutting results. The outside team and site leaders were both involved in monitoring and evaluation.

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[7] Grant ID#s 46084, 46357, 46333, 47075 and 53221.

Evaluation of Rounds 1 and 2

The evaluators designed the evaluation, developed methods for collecting data from primary care practices and analyzed their findings. The team also developed instruments to help PBRNs collect data, assisted by Thomas Rundall, Ph.D., and Stephen Shortell, Ph.D., from the University of California, Berkeley.

The evaluation had three goals:

- To understand the aspects of primary care practices and projects that enabled them to implement interventions successfully.

- To support PBRNs in designing their research, collecting data and fostering collaborative learning.

- To identify patterns and insights that transcended individual projects.

The evaluation team, known as the analysis or A-team, was "embedded" in all phases of *Prescription for Health,* according to Program Director Green. The team participated in site visits and annual meetings, and developed an innovative method for the project leaders/innovators to communicate about their experiences in real time: online diaries. "Diary keepers" at each primary care practice wrote about their experiences on AHRQ's secure extranet site.

The A-team also used several other instruments to gather information on primary care practices:

- A *practice information form* described the workforce, patients and other characteristics of each practice.

- A 35-item *practice staff questionnaire* (Round 1)—adapted from existing tools for assessing organizational culture and performance—assessed the leadership, managerial infrastructure, decision-making, communication and information mastery of the practices.

- When this questionnaire proved too burdensome for primary care staff to complete, the A-team developed a *practice assessment template* (Round 2) that allowed evaluators to record the same information on each practice.

The A-team used the resulting information to provide real-time feedback to both site leaders and the national program office staff, and to foster collaborative learning across projects.

RE-AIM

The project leaders/innovators used the RE-AIM framework to consider the strengths and weaknesses of various interventions, to plan projects that would work in real-world settings, and to evaluate their impact. The framework includes five elements:

- *Reach*—The number of patients willing to participate in an intervention, such as face-to-face or telephone counseling.

- *Efficacy/Effectiveness*—The impact of the intervention on patient outcomes, such as quality of life and economic well-being.

- *Adoption*—The number of practices and clinicians willing to adopt the intervention.

- *Implementation*—The feasibility of delivering the intervention as intended.

- *Maintenance*—The effects of the intervention on patients six or more months after their most recent contact with a service provider, and the extent to which the intervention becomes part of routine organizational practice.

Many of the site teams reported their results in the *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008, and the *American Journal of Evaluation,* 27(2): 2006. (See Project Results and the Bibliography.)

The Combo Study

In a third evaluation effort, the national program office launched the Common Measures Better Outcomes (COMBO) study in April 2005. The study aimed to determine whether primary care practices could use six common measures to assess patients' behavioral health, and to evaluate the impact of their interventions.

As part of this study, the national program office formed a committee to examine the startup, staffing and operating costs of the interventions. Martey Dodoo, Ph.D., health economist and *Prescription for Health* consultant, and Alex Krist, M.D., one of the PBRN innovators, led the committee with guidance by Deputy Director Maribel Cifuentes.

EVALUATION FINDINGS ABOUT PROGRAM RESULTS

The national program staff and the evaluation team identified the following crosscutting findings about the program's results, as published in articles in *Annals of Family Medicine,* the *American Journal of Preventive Medicine*[8] and as reported to RWJF:

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[8] *Annals of Family Medicine,* 3(Suppl. 2): 2005; *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008.

- **Diverse primary care practices across the 22 PBRNs deployed a wide range of tools and techniques to address multiple behavioral risk factors among their patients.** In Round 1, 16 of 17 PBRNs implemented the interventions they proposed in participating primary care practices. One PBRN relied on a regional partnership with insurers, which dissolved when the insurers altered their business strategies for unrelated reasons. All 10 Round 2 project leaders/innovators implemented their projects.

  The interventions included new tools for screening patients for unhealthy behavior, such as personal digital assistants; Web-based information and tools for use by patients; reminder systems, prompts and care delivery processes to facilitate the work of the practice; links to services inside and outside primary care practices; and new and modified roles for primary care practice staff. Given options, patients chose interventions that allowed them to interact with a counselor or coach rather than those that were self-guided.

- **Primary care practices modified the interventions as they integrated them into routine care.** For example, one practice that planned to ask patients to use a kiosk in the waiting area to assess risk behaviors switched to hand-held tablets because they fit better with the practice's procedures.

  Cohen et al. wrote: "The need to adapt does not indicate a poor intervention or an inexperienced research team; it is a common part of the research process. It is the journey of translating evidence-based research into practice" (*American Journal of Preventive Medicine,* 35(Suppl. 5): 2008).

- **Primary care practices relied on the** Chronic Care Model **developed by** Wagner **and the 5 A's (Assess, Advise, Agree, Assist, Arrange) as critical platforms for addressing health-related behavior.** All the interventions the practices used conformed to those models (see Project Results). Programmatic lessons point not only to the usefulness of these models and strategies, but also to the need to adapt and modify them based on the local experiences of those using them within the complexities of real-world settings.

  The directors of projects and the program found that the Chronic Care Model could be a useful framework for considering more comprehensively how new tools, cues and techniques for health behavior counseling fit across all the dimensions of care. This model also suggests that the dimensions of comprehensive health behavior counseling substantially overlap and align with current thinking about how practices should approach caring for people with chronic diseases.[9] According to Green, it is therefore plausible that primary care practices could redesign their work to encompass health behavior change counseling for chronic illness care *and* prevention, resulting in efficiencies and improvements for both.

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[9] Glasgow RE, Orleans CT, Wagner EH, Curry SJ and Solberg LI. "Does the Chronic Care Model Serve Also as a Template for Improving Prevention?" *Milbank Quarterly,* 79: 579–612, 2001.

- **The effectiveness of clinicians in promoting healthy behaviors and the quality of their service to patients are probably maximized when practices have systems in place to support the entire counseling sequence—all of the 5 A's—rather than simply components of the process.**[10] Although no *Prescription for Health* project was totally comprehensive, and only some of the interventions addressed all of the 5A's, when the interventions are examined as a whole, the design of a complete multifaceted system to fully support behavior change with realistic potential for implementation in primary care settings began to take form, according to Green.

- **Practices often relied on front-office staff and nurses to screen patients for behavioral health and deliver counseling outside exam rooms, such as in waiting rooms.** Practices also often hired "practice extenders"—such as lay coaches and peer educators—to counsel patients on health behaviors. These providers required extensive training and support.

  "Because physicians have limited time, counseling is most successful when front-office staff and nurses play a role, and the doctor comes in and reinforces the message—always with referral to community-based resources," noted Susan Hassmiller, Ph.D., R.N., RWJF senior adviser for nursing.

- **The program director observed promise for an enhanced role of nurses in support of behavior change in the primary care setting.** A key finding was the large overlap between the skill sets and systems needed for prevention and chronic care. When practices had capacity for one, that capacity was applicable to the other, presenting a promising efficiency for redesigned practice models. The clinical background of registered nurses (RNs) suited them to provide both service and leadership to the rest of the office staff. Nurses also seemed to be acculturated for the teamwork and community linkages necessary for outstanding chronic disease care and proper prevention services. Both patients and clinicians had confidence in the judgment of nurses.

  These observations led the *Prescription for Health* team to the conclusion that improved primary care practice models sufficient to execute chronic disease care and prevention would benefit, and perhaps require, an upgrade in the knowledge and skill sets of practice staff. "What we saw begged for both altered roles of existing staff and new roles that enabled personalized services in ongoing relationships across practice-community boundaries. This seemed to us to be a great need for which nurses are well suited," said Green.

- **To assess and modify health-related behaviors, primary care practices had to undergo substantial redesign.** Project leaders/innovators seriously underestimated the time and effort required to redesign staff roles, workflow and office systems to adapt and integrate behavioral interventions into primary care settings.

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[10] Glasgow RE, Goldstein MG, Ockene JK and Pronk NP. "Translating What We Have Learned Into Practice: Principles and Hypotheses for Interventions Addressing Multiple Risk Behaviors in Primary Care." *American Journal of Preventive Medicine,* 27: 88–101, 2004.

For example, most practices with electronic health records needed to redesign them to support communication among clinicians, patients and community-based resources. Vendors often struggled to tailor these products to meet these needs.

Wide variability among practices within each PBRN also complicated implementation. For example, some practices relied on paper medical records, while others were fully electronic and thus could use the technology to spur behavioral health counseling, such as by prompting physicians to screen patients.

- **To help patients change behavior, primary care practices created a "bridge" connecting them with community resources.**[11] Projects used one or more of three strategies:

    — Establishing relationships with a small pool of community partners

    — Creating paper or electronic referral guides to those partners

    — Relying on outside intermediaries (called boundary spanners) to offer support and counseling to patients and help them tap the community resources

    "Outreach is useful to patients because the work of lifestyle change occurs outside the clinic," innovators Woolf et al. wrote in an article in *Annals of Family Medicine*. "Clinicians' time with patients represents a tiny fraction of patients' daily lives, and clinicians' efforts have limited impact on patients' health behaviors if conditions at home, at work, at school, and in the community are not supportive."[12]

    However, practices need to create the infrastructure and communication systems to sustain these links.

- **Primary care practices that incorporate behavioral health counseling incur startup costs and continued expenses that payers do not reimburse.** Startup costs among Round 2 projects averaged $1,860 per practice, and continued costs averaged $58 per participating patient per month. Until payers reimburse practices for these expenses, behavioral health counseling is unlikely to be readily available.

- **Lessons about how patients undertook behavior change reveal that these changes occur in the context of ongoing relationships with a personal physician and practice team;** using a personalized focus and approach that "meets patients where they are at," not only informs and connects but also motivates and supports the patient's personal goals and change journey.

- **"*Prescription for Health* took off the table the misconception that primary care practices don't care about behavior, don't want to deal with it and are unable to**

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[11] Etz RS, Cohen DJ, Woolf SH, Holtrop JS, Donahue EK, Isaacson NF, Stange KC, Ferrer RL and Olson AL. "Bridging Primary Care Practices and Communities to Promote Healthy Behaviors." *American Journal of Preventive Medicine,* 35(5S): S390–S397, 2008. Available online.

[12] "Putting It Together: Finding Success in Behavior Change Through Integration of Services," vol. 3, suppl. 2.

support key national policy objectives, such as resolving the obesity epidemic," according to Green. The project leaders/innovators showed that counseling for behavioral change in primary care is:

— Feasible and worthwhile

— Personalized

— Based on an ongoing relationship between patients and clinicians

— Delivered by a multispecialty team

— Both proactive and reactive

— Focused on both the individual and a population

— Systems-based

— Integrated to provide whole-person care

— Not free

A-Team Findings

The A-team reported findings in the *American Journal of Preventive Medicine*[13] and the *American Journal of Evaluation*.[14] Findings include:

- **Practices that can identify patients with behavioral health risks and link them to counseling can help them boost physical activity.** A study of 54 Round 2 primary care practices showed that:

  — Practices with both tools for identifying patients who needed counseling on physical activity and strategies for linking them to counselors were 80 percent more likely to have patients who reported exercising regularly than practices with neither.

  — Practices that had either identification tools or linking strategies but not both were 50 percent more likely to have patients who reported exercising regularly.

  — Use of identification tools and linking strategies to counseling for healthy eating was not associated with patient reports of healthy diets.

- **Interactive online diaries encouraged project teams to reflect on their experiences and elicited detailed accounts that might otherwise have been lost.** Interactions with the A-team through the diaries also fostered learning and rapport

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[13] vol. 35, suppl. 5. See the Bibliography for a list of the articles in the supplement.

[14] Cohen DJ, Leviton LC, Isaacson N, Tallia AF and Crabtree BF. "Online Diaries for Qualitative Evaluation: Gaining Real-Time Insights." *American Journal of Evaluation,* 27(2): 163–184, 2006. Abstract available online.

that enhanced projects. The approach is time intensive but worth the effort, if "collecting in-depth process data over time is essential to understanding the value of a program," wrote Cohen.

- **By examining what was going on in practices as it was occurring, the evaluation team was able to interact with practice leaders and staff with observations, questions and occasionally suggestions that enhanced adapting to experience and implementation.** Also, the recurring interactions stimulated by the evaluation team exposed collaborative opportunities across PBRNs and promoted a spirit of sharing what was being learned with other practices.

The Combo Study

The national program staff reported the following findings from the COMBO study in the *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008.[15]:

- **Primary care providers found the six measures of health-related behavior useful in screening both adolescents and adults.**

  — Most of the 227 adolescents and 5,358 adults in 75 practices participating in the study completed all the survey questions.

  — Some 47 percent of adolescents and 69 percent of adults reported two or more unhealthy behaviors. Those estimates were consistent with other published reports.

  — Further work is needed to develop measures of alcohol use and physical activity for routine primary care practice, as patients completed questions on those behaviors less often than on the other two behaviors.

- **Primary care practices that incorporate behavioral health counseling incur startup costs and continued expenses that payers do not reimburse.** Startup costs among Round 2 project leaders/innovators averaged $1,860 per practice, while continued costs averaged $58 per participating patient per month. The costs stemmed from the need to train staff and purchase tools.

  "Until primary care payment systems incorporate these expenses, it is unlikely that these critical services will be readily available," the team examining startup, staffing and operating costs noted in the *American Journal of Preventive Medicine*, 35(Suppl. 5), 2008.[16]

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[15] "Common Measures, Better Outcomes (COMBO) A Field Test of Brief Health Behavior Measures in Primary Care" by Douglas H. Fernald, Desireé B. Froshaug, L. Miriam Dickinson, Bijal A. Balasubramanian, Martey S. Dodoo, Jodi Summers Holtrop, Dorothy Y. Hung, Russell E. Glasgow, Linda J. Niebauer, Larry A. Green, pages S414–S422.

[16] "Start-Up and Incremental Practice Expenses for Behavior Change Interventions in Primary Care," by Martey S. Dodoo, Alex H. Krist, Maribel Cifuentes, Larry A. Green, pages S423–S430.

OVERALL PROGRAM RESULTS

The program's reach extended to major national organizations and legislation.

- **In response to *Prescription for Health*, the American Board of Family Medicine created a Structured Assessment in Medicine (SAM) for behavioral interventions in primary care.** SAM includes an online, 60-question self-assessment, followed by simulated interactions with patients. More than 70,000 family physicians use such assessments to maintain their board certification, and 10,000 medical residents have access to them for training.

- *Prescription for Health* **"showed the utility, vitality and effectiveness of PBRNs as research partners, and boosted their reputation for rigor," according to Green.** One result is that the National Institutes of Health (NIH) is now steering more funding to PBRNs, he said. Also, PBRNs have emerged as important partners in the NIH national Clinical and Translational Science Awards (CTSA) program.

- **Prescription for Health's experience with practice change and community linkage supported the concept of a primary care extension service, as was incorporated into the Affordable Care Act.** Particular champions who helped produce this result included PBRN leaders from Oklahoma, California, Virginia, as well as the Robert Graham Center and the national program office.

Communications

Prescription for Health targeted four audiences in disseminating program results: primary care clinicians, primary care researchers, insurance companies and other payers, and policy-makers. Key products include:

- Two journal supplements highlighting project-specific and crosscutting results.

  — Round 1: Prescription for Health: Changing Primary Care Practice to Foster Healthy Behaviors, *Annals of Family Medicine,* 3(Suppl. 2): 2005.

  — Round 2: Prescription for Health: Reshaping Practice to Support Health Behavior Change in Primary Care, *American Journal of Preventive Medicine*, 35(Suppl. 5): 2008.

- Seven issue briefs:

  — Changing Patient Health-Risk Behavior Requires New Investment in Primary Care

  — Behavioral Change Counseling in the Medical Home

  — Integrating Linkages Between Primary Care Practices and Community resources to Promote Healthy Behaviors

  — Prescription for Health: Write It Now

— Reshaping Primary Care Practice to Support Behavior Change: On the Road to the Patient-Centered Medical Home

— Start Up and Incremental Practice Expenses for Behavior Change Interventions in Primary Care

— Use of Patient Registries in U.S. Primary Care Practices

- A *Prescription for Health Online Toolkit* with 18 electronic and paper-based tools developed by the project leaders/innovators.

- A *Prescription for Health website*, launched in 2002, which posted journal articles, briefs and the toolkit.

Program staff also presented program results at meetings of AHRQ, American Cancer Society, Society of General Internal Medicine, Society for Behavioral Medicine and Institute for Healthcare Improvement. The program team and project directors shared program results with officials from the federal Centers for Medicare & Medicaid Services, Blue Cross Blue Shield and Aetna.

PROJECT RESULTS

This section of this report features the work of four Round 2 PBRNs (three also participated in Round 1).

Changes in Intervention Practice at Two PBRNs

Oklahoma Physicians Resource/Research Network

From October 2005 to May 2007, the Oklahoma Physicians Resource/Research Network—a collaboration of the Oklahoma Academy of Family Physicians and the University of Oklahoma Department of Family and Preventative Medicine—helped nine primary care practices encourage patients to tackle the Big Four: tobacco use, unhealthy diet, physical inactivity and excessive alcohol consumption.

Practice-enhancement assistants (PEAs)—staff that the Oklahoma network and other PBRNs had used since 1999, with support from AHRQ—were an essential component of the project. PEAs help practices improve patient care by providing feedback, sharing innovative ideas, coordinating quality improvement initiatives, training staff and developing new office systems. They also help practices participate in research to improve the delivery of primary care. (For more on this model, see the AHRQ Innovations Exchange.)

In the project, three PEAs trained staff at participating practices in motivational interviewing with patients and strategies to address the four behaviors. For example, nurses and medical assistants learned to screen patients and provide brief interventions

(lasting two minutes or less) using handouts and referrals. Clinicians learned to do 5- to 15-minute interventions with patients who were ready to take action.

The practices introduced these interventions in three six-month cycles. The PEAs held bimonthly meetings to help practices share ideas on what worked and what did not.

The PBRN's research team (Aspy et al.) reported the following results in the *American Journal of Preventive Medicine*, 35(Suppl. 5): 2008.

- **Of 30 clinicians invited to participate in the project, 10 completed training, and nine changed their process of care to include the interventions.**

- **In the final six-month cycle, screening for diet reached 78 percent of patients arriving for care; for smoking, 99 percent; for alcohol use, 78 percent; and for lack of exercise, 41 percent.** Staff used brief interventions with 47 percent (diet), 22 percent (smoking), 7 percent (alcohol) and 46 percent (lack of exercise) of all patients, respectively.

  According to the researchers, "This project…showed that a multicomponent intervention, supported by practice facilitation and the opportunity to confer with colleagues facing similar challenges, is a powerful practice-change model."

Great Lakes Research Into Practice Network

From July 2003 through December 2004 (Round 1), 20 primary care practices in the Great Lakes Research Into Practice Network—including 10 rural, hospital-owned practices and 10 metropolitan, largely independent practices—selected goals based on the 5 A's for addressing the four risk behaviors.

Each practice then identified a quality improvement nurse who received training in improving the practice's delivery of preventive services. The nurses collected data from the practices on existing preventive care and provided feedback, identified opportunities for improvement, helped plan and implement interventions and supported evaluation.

The research team (Dosh et al.) reported the following results in *Annals of Family Medicine,* 3(Suppl. 2): 2005.

- **At the start of the study, the nurse consultants found that most clinicians in the 20 practices were aware of the 5 A's model, but that none used it.**

  — Of the four behaviors, clinicians asked about tobacco use most often, but intervened with only about one-third of at-risk patients.

  — Clinicians asked their patients about diet least often, but offered interventions to at-risk patients more often than for any other behavior.

- **At the end of the study, the percentage of clinicians who intervened with patients (defined as any "*A*" beyond "*ask*") increased significantly for tobacco and diet, but not for physical activity and alcohol.**

- **Clinicians felt that the interventions helped them identify at-risk patients, talk with them more effectively and improve their outcomes.** However, clinicians cited the lack of compensation and extra paperwork as drawbacks of the interventions.

  The research team concluded: "This study suggests that practices need clinical staff with a better understanding of the 5 A's framework, including brief assessment strategies, systematic approaches to the use of the 5 A's supported by the whole practice team, and development of supportive resources such as chart prompts and other tools."

Connecting Patients With Community Resources

While the nurse consultants helped practices identify and intervene with more at-risk patients, few clinicians referred patients to assistance outside the practice. Barriers included a lack of local resources—especially in rural areas and for low-income patients—and a lack of knowledge among clinicians of resources that were available.

When clinicians did refer patients, they often did not receive feedback on whether the patients actually contacted the resource, or made progress in changing their behavior. Frustrated clinicians often simply gave up on addressing the health behavior, or tried to briefly counsel their patients themselves.

To surmount these barriers, 15 practices in three communities—Marquette, Flint and Grand Rapids—tested the effectiveness of "community health educator referral liaisons," or CHERLs. Clinicians referred patients to the CHERLs, who then offered them three options:

- Multisession telephone counseling on health behaviors without referral to other resources

- Multisession counseling with referral to other resources

- Single-session counseling plus one checkup call and then referral to other resources

Holtrop et al. reported results of the project in the *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008:

- **Participating practices referred 797 patients to three CHERLs during an eight-month period.** Thirteen of the 15 practices referred at least one patient a week, with a mean of 1.8 referred patients per week.

- **Most referrals concerned diet (73.9 percent), followed by physical activity (64.9 percent), tobacco use (33.5 percent) and alcohol use (2.4 percent).** Practices

referred more than half the patients for two unhealthy behaviors each—with the most common pairing (60 percent) diet and physical activity.

- **Some 55 percent of referred patients completed an initial call with the CHERL, and 61 percent of those participated in multisession telephone counseling.** Of the patients who completed the initial call, 85 percent were referred to at least one resource, and 42 percent of those connected with that resource (a total of 184 patients out of the initial 797 referred).

- **After six months, referred patients showed small but significant improvements in their body mass index, dietary patterns, alcohol use, tobacco use, health status and days of limited activity.** Once patients engaged with the CHERL, they usually improved their health regardless of chronic conditions or factors such as race, education or income.

Trissa Torres, M.D., project director of the PBRN, stressed that "change takes place in the context of relationships, which is what CHERLs are all about." For more information, see "The CHERL Project: Connecting Patients with Life-Changing Resources."

Transition Grant: Financing and Sustaining the Work of the CHERLs

From September 2007 to November 2008, the Great Lakes Research Into Practice Network used a $80,000 transition grant from RWJF to develop financing strategies to sustain the work of the CHERLs and to design training packages to disseminate the model more broadly. Results include:

- **The role of the CHERL—renamed health navigator—became an integral part of Genesys HealthWorks, a care model that focuses on developing a continuous relationship between patients and providers through a "patient-centered medical home."** In this model, patients worked with their physicians to set attainable goals for lifestyle changes. A health navigator then helped them identify and overcome obstacles to reaching and sustaining the goals.

  Genesys Health System—composed of medical campuses, outpatient centers, primary care providers and health care organizations in central Michigan—first invested in the health navigator model to improve the health of its own employees. From 2007 to 2009, 1,430 employees enrolled in a medical plan that included health navigators.

  Blue Cross Blue Shield of Michigan Foundation awarded Genesys a two-year, $176,356 grant to provide health navigator services across the Genesys primary care network. By 2009, three health navigators served some 6,000 patients each, at an average cost of $1 per member per month. The health navigators included nurses, social workers and health educators.

- **Health navigators also played a central role in assisting providers and patients in the Genesee Health Plan, a community-sponsored program for uninsured and low-income adults in Genesee County, Mich.** Initially, one health navigator funded

by the transition grant worked in a family practice. By 2009, seven health navigators (3.9 full-time equivalents) were serving 6,500 members each, at an average monthly cost of less than $1 per member.

- **Project leaders/innovators at the Great Lakes Research Into Practice Network packaged training and technical assistance and disseminated the health navigator model to new partners and other health systems.** To support that effort, project leaders launched a health navigator website with information on the model and training programs offered through the Genesys Learning Institute.

Virginia Ambulatory Care Outcomes Research Network Tests Electronic Outreach

In Round 1, the Virginia Ambulatory Care Outcomes Research Network worked with six primary care practices in northern Virginia to develop a website that helped patients identify their risky behaviors and find local and national resources to address them. The team designed the site with input from potential users, community partners, and experts in behavioral health and information technology.

Round 1: My Healthy Living Web Site

The My Healthy Living site, launched in January 2004, offered health advice, a library of some 200 health resources such as gyms and bicycle trails, tips on healthy diets and tools for calculating body mass index.

Of the six participating practices, four were intervention sites and two were comparison sites. Patients from intervention sites answered questions on their health behaviors and "stage of change," and received personalized information from the website. Patients from the control sites received only standard information on healthy behaviors from the site.

To ensure that the practices referred patients to the website, the team identified project champions at each practice. The intervention practices also developed promotional tools, such as posters for examination rooms and lobbies; telephone on-hold recordings to invite patients to visit the website; tear-off pads with take-home information for patients; and prescription pads used to recommend healthy behaviors.

Woolf et al. reported the following results in *Annals of Family Medicine* (4): 2006:

- **Some 4 percent of adults in the six practices (932 patients) visited the website during the nine-month study period.** The low rate surprised project leaders, who noted high interest in the website among patients (who exhausted the supply of tear-off pads, for example) and enthusiasm among clinicians and staff.

- **Some 273 visitors to the website completed questionnaires about their health behaviors and enrolled in the study.** The majority of enrollees reported unhealthy

diet and sedentary lifestyles, and more than 50 percent wanted their physician's help in improving these behaviors.

- **One month after first using the website, patients at the intervention practices were somewhat more likely to engage in light to moderate physical activity than patients at the control practices, and expressed more readiness to lower their intake of dietary fat**. However, no significant differences persisted at four months.

- **Patients in both the intervention and control groups liked the My Healthy Living website.** Of patients who responded to a follow-up survey, 64 percent said the website was helpful, and 54 percent reported returning to it two to five times. Users wanted the website to provide more detail and interactivity with clinicians.

- **Clinicians at the six practices asked project leaders to keep the website active as a service to patients after the study ended.** Despite low use of the website, clinicians saw it as a helpful alternative to handouts and impromptu advice.

- **The network expanded My Healthy Living to accommodate other *Prescription for Health* PBRNs and users around the country.** These included the Oklahoma Physicians Resource/Research Network, the Great Lakes Research Into Practice Network and the North Carolina Family Medicine Research Network.

Round 2: Testing eLinkS

Round 1 showed that information without personalized follow-up may not help patients sustain long-term behavioral change. Therefore, in Round 2, the Virginia PBRN tested eLinkS, an electronic system that gave patients a choice of four free options to follow through on clinicians' advice, for up to nine months:

- Group counseling through community-based organizations such as Weight Watchers and Alcoholics Anonymous

- Telephone counseling on smoking cessation and weight loss, provided by counselors at the University of Kentucky's Behavioral Health Improvement Program (BeHIP), another *Prescription for Health* innovator

- Support provided through an improved version of the My Healthy Living website and an electronic counseling service

- "Usual care," including physician counseling and drug therapy

Using the electronic health record as a platform, eLinkS was designed to:

- Help clinicians in busy practices systematically follow through on the 5 A's by quickly and easily referring patients to outside intensive counseling

- Foster communication between practices and community counselors

Nine primary care practices in Virginia that used GE Centricity Physician Office as their electronic health record participated in the study. Krist et al. reported the following results in the *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008:

- **Some 71 percent of 5,679 patients visiting the practices in April and May 2006 reported an unhealthy behavior.** These patients received counseling and referrals regardless of whether their visit was for wellness, acute care or chronic care. Middle-aged adults and women and more experienced clinicians used eLinkS more often than others.

- **Clinicians advised 13 percent of patients with an unhealthy behavior (537 patients) to change that behavior.** These patients included 20 percent of smokers, 7 percent of overweight patients, 17 percent of obese patients and 13 percent of problem drinkers.

- **Clinicians referred some 10 percent of patients with unhealthy behaviors (403 patients) to intensive counseling—most often for weight control.** Two-thirds of the patients who sought counseling chose group counseling, primarily Weight Watchers.

- **The use of eLinkS was associated with improved health behaviors.**

  — Some 50 percent of smokers referred for telephone counseling, group counseling, computer-based care or usual care reported not smoking four months after the intervention. Although the study lacked a control group, these quit rates dramatically exceeded the usual quit rates for primary care practices.

  — Patients referred for weight loss had lost an average of seven pounds four months after the intervention.

  — A random sample of all patients reported more physical activity each week after four months. However, this trend did not persist after nine months.

- **The eLinkS system was unsustainable.** The PBRN discontinued the system after five weeks because the number of patients referred for counseling exceeded the funds available to provide it.

- **Patients who need intensive counseling require first-dollar coverage—that is, coverage that does not require a co-payment or deductible.** When the PBRN reinstated eLinkS but asked patients to pay for counseling services, their use of the services fell tenfold, and three of nine practices wanted to drop out of the system.

  According to the project team, clinicians often "bemoan the lack of resources to help patients with healthy behaviors. Community counselors often have difficulties recruiting participants to their healthy programs. Patients suffer in the end. The 'win-win' of collaboration—for clinicians, community programs, and patients—is the overriding take-home lesson of our project."

Transition Grant: Extending the Model

The Virginia PBRN used an RWJF transition grant to sustain eLinkS and extend the model to practices using a different electronic health record system. The Virginia Department of Health agreed to provide telephone counseling to all smokers referred through eLinkS. In July 2007, six of the nine practices reimplemented eLinkS, but only to support referrals to the state quitline.

"For integration/linkages to be truly viable, community-based services (such as quitline counseling) require stable funding," the project team noted. "Clinicians and health systems also expect "reimbursement for the added work entailed in establishing and maintaining ties with diverse community services."

Clinicians Enhancing Child Health Network

Some 70 percent of adolescents report one or more health-risk behaviors, including the four targeted by *Prescription for Health,* and most say they want help with those behaviors, according to an article in *Minerva Pediatrica* (February 2002). However, clinicians often do not often communicate with teenaged patients about such behaviors.

To close that gap, the Clinician's Enhancing Child Health Network—affiliated with Dartmouth Hitchcock Medical Center in Lebanon, N.H., and Maine Medical Center in Portland—developed a form to screen teens on nutrition, exercise, tobacco, alcohol use and other risks. Teens used a low-cost, hand-held PDA to complete the 90-item form while waiting to see a clinician.

Clinicians in six practices were trained to use motivational interviewing to identify teens' strengths, risks and concerns. The project team at the network also created a "health action plan" form to record specific steps adolescents were willing to take to improve their health. The steps became a "health prescription" that teens took home, and clinicians offered free e-mail follow-up.

Olson et al. reported the following results in the *Annals of Family Medicine*, 3(Suppl. 2): 2005:

- **Teens and clinicians liked the PDA screener.** Some 73 percent of 98 adolescents surveyed said the screener made it easier to discuss issues with their health care provider. Teens preferred the PDA over a paper screener or "being grilled by the doctor." The small screen and a feature that erased text after the user entered an answer allowed the teens to preserve their privacy while sitting next to a parent.

- **Clinicians continued to use PDA screeners during routine care, but found it difficult to develop specific action steps, especially with younger teens.** Clinicians could develop a plan more easily if a teen identified a specific concern. Selective use

of action plans for teens who express interest in behavioral change may work best, the project team concluded.

- **Almost one-third of teens expressed interest in receiving more information after the visit, but only 6 percent to 7 percent wanted e-mail follow-up.** The lack of enthusiasm regarding e-mail contact makes this option for post-visit support less likely to work for many teens.

Round 2: The Healthy Teens System

Based on experience in Round 1, the project team at the network proposed a Healthy Teens System, which would incorporate the PDA into an integrated model of adolescent preventive care, with an emphasis on community resources. The team used the RE-AIM framework (Reach, Effectiveness, Adoption, Implementation and Maintenance) to evaluate the Healthy Teens intervention. (See Program Evaluation for more on the RE-AIM model.)

The team compared self-reported diet and physical activity among 148 teens who received usual care with diet and physical activity among 136 youth participating in Healthy Teens. Olson et al. reported the following 2005 and 2006 results from five rural practices in the *American Journal of Preventive Medicine,* 35(Suppl. 5): 2008:

- **Use of the PDAs became routine in the five participating practices.** Some 89 percent of 35 clinicians used the PDAs in 68 percent to 74 percent of all adolescent visits.

- **Clinicians reported that the PDAs made counseling easier and that they became better listeners.** Three-quarters planned to continue using the PDAs. According to the researchers, "Participating clinicians tell us, 'At the end of the visit I know that every possible question has been asked.' 'I have a better sense of where the patient is and it makes me able to move to a different place with the teen.'"

- **Use of the PDA combined with motivational counseling from a clinician appeared to influence teens to increase exercise and milk intake.**

  — Youth participating in the Healthy Teens intervention group were significantly more likely than those in the "usual care" group to report that they exercised regularly and drank milk.

  — When teens planned to address nutrition, physical activity or both after a well visit, 68 percent of Healthy Teens reported multiple planned actions versus 32 percent of teens receiving usual care.

Transition Grant: Extending the Model

An RWJF transition grant helped the Healthy Teens project team disseminate the Healthy Teens screening program beyond the network:

- **Some 47 clinicians and 19 support staff received training in using PDAs and motivational interviewing at four conferences in Vermont, Maine and New Hampshire in March and April 2008.**

  — The clinicians and staff worked at 33 primary care practices, five high school or college health clinics, two adolescent clinics and two rural clinics.

  — In a survey conducted three months after the conferences, 13 of 20 practices (62 percent) reported that they had used the screener with more than 10 patients, and continue to routinely use it during wellness checks. Nonusers cited technological challenges and high clinic volume.

- **The project team created a website to give practices around the country access to information and training on the Healthy Teens program, and created DartScreen Health Screeners Web Portal, a secure website, to allow clinicians to upload, store and analyze PDA data.**

Conclusions and Recommendations

Prescription for Health identified clear steps that clinicians and policy-makers must take to make health-related behavior a core focus of primary care, according to Program Director Green:

- **Rather than relying solely on physicians to provide counseling on behavioral health, primary care practices need to train staff to work in teams.**

- **Insurers need to reimburse primary care practices for providing preventive as well as chronic and acute care.** "All roads to making behavioral change a core business of primary care go through payment reform."

- *Prescription for Health* **is a first step toward fulfilling a much larger need: creating a web of community-based services that help people sustain healthy behaviors.**

  Fostering stable links between those services and primary care practices "could change peoples' lives and reduce demands on the health care system," said Steven Woolf, M.D., project director for the Virginia Ambulatory Care Outcomes Research Network. However, such services "must be available, accessible, affordable and perceived as valuable."

- **Primary care practices need to integrate mental health services into counseling for behavioral change.** For a large minority of patients with unhealthy behaviors, depression and other mental health problems are a complicating factor.

- **The federal government should establish a cooperative extension service for primary care providers, modeled on extension services provided to farmers by the U.S. Department of Agriculture.** Local "practice extenders"—health coaches or

health navigators—could help providers redesign their practices to support behavioral health, such as by creating a patient registry and a clinician reminder system.

"When a new approach to care has been found to be effective and feasible, every primary care practice in the country would know about it within a month or two, and facilitators with whom they have a personal relationship would be available to assist them with implementation," said James Mold, M.D., project director for the Oklahoma Physician Resource/Research Network.

LESSONS LEARNED

Lessons From Project Leaders/Innovators

1. **Clinicians should view health-related behaviors as vital signs, and measure them at almost every visit.** "Because we measure it so often, our patients know we think blood pressure is important. Perhaps routine assessment of unhealthy behaviors could have a similar impact on patient perceptions," observed Project Director Mold.

2. **Do not screen for alcohol at every visit.** Alcohol is an exception, as alcohol abuse is less prevalent than other risks. In the Oklahoma study, "clinicians were asking about alcohol intake at every visit even if it was for a cut on the arm, and patients were getting disturbed. Screening for alcohol could occur once a year," Project Director Mold said.

3. **Find an in-house guru to help with information technology.** In Round 1 of the Virginia Ambulatory Care Outcomes Research Network, the vendor for the electronic health record reversed a commitment to add a physician prompt to promote behavioral counseling. The network turned this challenge into an opportunity by finding a physician with a flair for computers who played a key role in programming the electronic health record for Round 2. (Project Director/Woolf)

4. **Provide enough training to help primary care staff modify their roles to include behavioral health counseling and to participate as engaged members of a team, all functioning at the top of their license.** For example, medical assistants can screen patients and make referrals, but they need more professional development to provide counseling on behavioral change. (Practice Research Network of San Antonio, as reported by the national program staff in the Summative Report to RWJF)

5. **Choose practices for a community research project carefully.** According to Project Director Mold, "After every project, we look at which practices were successful in adopting and implementing the study intervention, and with each study we learn a little more. For example, it's better to target early adopters who can spread ideas to their peers and not innovators, who tend to be outsiders."

Lessons From the National Program Office

6. **To convey high regard for project leaders, use a term such as "innovator" rather than "grantee."** The latter implies "hierarchy and dependence, whereas a core assumption of *Prescription for Health* was that PBRNs were capable of devising their own innovative solutions to counseling patients for multiple risk factors," said Program Director Larry Green. 'Innovators' sent the message that the PBRNs were "at the top of the pyramid. We were all working for them."

7. **Use site visits to help project leaders build credibility and connections with stakeholders.** PBRNs often invited university deans, hospital leaders, governmental officials and other key stakeholders to participate in site visits involving program staff. This underscored the significance of the innovators' work and encouraged new opportunities and partnerships. (Program Director/Green)

8. **Use unsuccessful research as a learning opportunity.** When relying on medical assistants to deliver behavioral health counseling did not work as planned, researchers at the Practice Research Network of San Antonio collaborated with leaders of a national organization of medical assistants to explore further training. (Program Director/Green, Summative Report to RWJF)

9. **Annual meetings of grantees should not be optional.** Conferences attended by project leaders, evaluators, program staff, national advisory committee members and consultants are essential to enable projects to learn from each other. If program and evaluation staff display respect for each other during these meetings, collaboration will prevail over competition and foster cross-project learning. (Program Director/Green)

10. **Coevolution, rather than traditional collaboration, can be a useful framework for creating synergy across projects.** Collaboration is time-consuming. Coevolution—a concept borrowed from biology—emphasizes a more strategic approach, in that it encourages project leaders to coevolve around strategies with the highest potential yield. Coevolution asserts that collaboration should not be forced, but rather allowed to flourish naturally and voluntarily. The goal of coevolving teams is to stay agile and flexible to respond to the changing demands of their work and each other. (Program Deputy Director/Cifuentes)

Lessons From the A-Team

11. **Tell potential grantees how much data they will have to supply during a project before they apply for funding.** The A-team encountered "pushback" from Round 1 grantees who were not prepared for the magnitude of the evaluation. Round 2 project leaders/innovators were less resistant because the call for proposals included details on the evaluation, and an evaluator participated in question-and-answer calls with potential grantees. (Evaluator/Cohen)

12. **Motivate grantees to collect data and to show them their value.** At the opening meeting for Round 2, the A-team shared findings from the Round 1 evaluation to make the case for the importance of collecting data. This elicited buy-in from project leaders/innovators. (Evaluator/Cohen)

13. **Evaluators can use a variety of techniques to develop rapport with project leaders/innovators.** The online diaries were an effective tool for both collecting data and fostering rapport. The A-team also attended national program office-sponsored meetings, where they interviewed grantees and hosted group discussions. (Evaluator/Cohen)

14. **Convene a multidisciplinary research team to develop strategies for promoting healthy behavior.** Teams should include experts in information technology, patient care, counseling, community outreach, clinician education and practice organization and change. (Evaluator/Cohen)

15. **Don't make life too easy when conducting research in primary care settings.** Bringing in outside staff to collect data may reduce the burden on practices, but may also inadvertently detract from the basic purpose of PBRNs: to provide a laboratory for research on real-life practice. (Evaluator/Cohen)

AFTERWARD

Although the formal activities of the national program office ended in 2008, spurred by health care reform, the former director and deputy director continue to work with organizations and decision-makers on prevention in primary care. Provisions of the Patient Protection and Affordable Care Act address key barriers identified by *Prescription for Health*, including the need to pay more for primary care, eliminate co-payments for preventive care and provide more training and assistance for primary care providers.

The act also includes pilot projects designed to enhance primary care by developing "patient-centered medical homes" (also known as "advanced primary care practice"). In that model, a physician leads a medical team that coordinates all aspects of preventive, acute and chronic care for each patient, and integrates patients as active participants in their own health and well-being.

The act authorizes a primary care extension service to help practices redesign their service models. It also authorizes a new statutory committee to study and recommend proper health professions workforce policies—presenting an important opportunity to populate primary care practices with the workforce needed. And it fully endorses the kinds of linkage between primary care-based and community-based behavioral prevention strategies that the *Prescription for Health* program helped to pioneer.

Seeing "both a need and an opportunity to incorporate health behavior counseling into the core business of the patient-centered medical home," Program Director Green and former project leaders have shared findings from *Prescription for Health* with the Obama administration, American Cancer Society, Blue Cross Blue Shield and other organizations.

The bridging model linking primary care to community resources developed by *Prescription* project leaders/innovators is also central to health care reform, according to former Deputy Director Cifuentes. This linkage model is also of current interest to AHRQ.

The Patient Protection and Affordable Care Act also places new emphasis on the widespread and meaningful use of electronic health records (EHRs). Because EHRs currently fail to capture data reflecting crucial social and behavioral determinants of health, the Society of Behavior Medicine developed a 2010 policy brief proposing a standardized, practical toolkit of measures for EHR inclusion. *Prescription for Health* program consultant Russell Glasgow, Ph.D., now director of the National Cancer Institute, Division of Cancer Prevention and Control, was the chief drafter. Other contributors from *Prescription for Health* were national advisory committee members Judith Ockene, Ph.D., and Kurt Stange (committee chair) and Steven Woolf, a principal adviser to the program director.

These measures included the standard set of self-report measures of behavioral health risks developed for the *Prescription for Health* program. Measure selection criteria include reliability, validity, sensitivity to change, feasibility, importance to clinicians and to public health, and user friendliness.[17]

AHRQ: Building on the Prescription for Health Bridging Model

Building on the work of *Prescription for Health* and other primary care research efforts, AHRQ has set a long-term goal of understanding whether fostering links between clinical practices and community organizations could enhance the delivery of preventive services.

In May 2008, AHRQ, the American Medical Association and the Association of State and Territorial Health Officials co-sponsored a summit aimed at encouraging collaboration, coordination and integration among health care providers and community resources. Participants included two *Prescription for Health* grantees: Virginia Ambulatory Care Outcomes Research Network and Great Lakes Research Into Practice Network. Recommendations from the *Prescription for Health* national program and this

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[17] *The Public Health Need for Patient-Reported Measures and Health Behaviors in Electronic Health Records: A Policy Statement of the Society of Behavioral Medicine,* 2010.

summit have been incorporated into the most recent Handbook of Behavioral Medicine (Ockene and Orleans, 2010).

To facilitate collaboration among summit participants and showcase their linkage projects, AHRQ created an Innovations Exchange resource page. The site features information on Virginia's Electronic Linkage System (eLinkS) and the Great Lakes CHERL project.

From 2009 to 2010, AHRQ, assisted by RTI International, identified examples of links between clinical practices and community organizations, compiled case studies of promising interventions to deliver preventive services and sponsored another summit to develop a national strategy.

Their findings, published in *Linkages Between Clinical Practices and Community Organizations for Prevention,* draw heavily from the innovations, crosscutting themes and models developed through *Prescription for Health*. Of the 49 interventions identified in the study, 19 were Prescription for Health projects. (Five were from RWJF's national program *Building Community Supports for Diabetes Care.* See Program Results on the Diabetes Initiative.)

The report calls for further collaboration between AHRQ, other federal agencies and foundations to strengthen evidence on linkage strategies that work, Cifuentes noted. The report also recommends evaluating their implementation, sustainability and cost as well as any needed policy changes.

AHRQ has begun funding initiatives in this arena. In 2010 the organization issued a request for proposals inviting PBRNs to develop approaches to creating and maintaining links between clinicians and communities, specifically to address obesity. Although the project will focus on diet and physical activity, AHRQ expects PBRNs also to tackle smoking, excess drinking and drug use, which often coexist with obesity.

The Model Spreads Lessons Overseas

Since 2005 Cifuentes has provided consultation and shared lessons learned from Prescription for Health with researchers and government officials from the Basque region of Spain. In 2007 the government launched a Spanish research initiative called Prescribe Vida Saludable, at four primary care sites in Bilbao.

In September 2010 Cifuentes participated in a three-day seminar designed to help Basque health care leaders begin the clinical phase of their effort to systematically introduce and test behavioral health counseling strategies into primary care practice. "They wanted information on very practical lessons from *Prescription for Health*, such as working with IT [information technology] tools, forming multidisciplinary teams, changing organizational cultures and using staff in different roles," she said.

Spain has a universal health care system, observes Cifuentes, so the advantages and challenges of integrating behavioral health into primary care are different from those facing U.S. providers. This Spanish initiative does not have a robust PBRN infrastructure to rely on, for example, and no resources from private foundations such as RWJF. However, the initiative does have the advantage of a single-payer system that covers all its citizens (thus avoiding fee-for-service and access challenges faced by the United States), and a common IT platform that allows providers throughout the Basque region to readily exchange information.

Activities of Project Sites

PBRNs have used their experience with Prescription for Health to leverage funding from the NIH, AHRQ and other sources to sustain and refine the care model developed under *Prescription for Health*. Two examples:

- In 2010 the Great Lakes Research Into Practice Network received a $2 million grant from the National Institute of Diabetes and Digestive and Kidney Disorders to investigate the financial sustainability of the CHERLs project.

- The Virginia Ambulatory Care Outcomes Research Network is developing My Preventive Care, an interactive site that promotes patient-centered care. AHRQ provided funding for a randomized trial of the site's effectiveness.

APPENDIX 1

RWJF Interest in Health-Related Behaviors

Findings from several research projects helped program staff at RWJF and at the national program office design *Prescription for Health*. These projects were:

Integrating Proven Behavioral Strategies Into Health Care Practices

In this project (2000–2001; ID# 38136), community-based primary care providers, directors of prevention programs, leaders from academia and federal officials met to explore how to translate research on behavioral health counseling into practice. The project team summarized findings and recommendations in Integration of Health Behavior Counseling Into Routine Medical Care.

Key recommendations included:

- Clinicians need tools and training to address their concerns on counseling patients.

- System-level decision-makers and clinicians need information on the cost and impact of behavioral health counseling, and examples of successful programs and incentives, such as reimbursement.

- Health care systems need a range of high-quality, readily available, community-based resources to which clinicians can refer patients for intensive, personalized, high-quality support.

- Consumers need education and support to become fully engaged in their own care and more likely to demand behavioral counseling as part of office visits for routine and acute care.

For more information, see Program Results.

Addressing Multiple Risk Factors in Primary Care

The second grant (ID# 044632), from 2001 to 2004, supported a more comprehensive overview of the barriers and opportunities for addressing interrelated behavioral risk factors in primary care. The planning committee included RWJF's Tracy Orleans, Ph.D, senior scientist, and Susan Hassmiller, Ph.D., R.N., senior adviser for nursing, as well as Kurt Stange, M.D., Ph.D., from Case Western Reserve University School of Medicine.

Based on dialogues with clinicians and health system and policy leaders and research on successful clinical and system-level innovations, the researchers identified five principles that should guide interventions focused on multiple behavioral risk factors (*American Journal of Preventive Medicine,* 27(Suppl. 2): 2004:

- Wider use of the 5 A's model in primary care settings to address a broad range of behaviors and health conditions

- A collaborative approach, with the patient as key decision-maker

- Use of the unique strengths of community-based primary care, such as physicians' relationships with patients and knowledge of their social environment

- Use of the model of behavioral change to redesign primary care practices and the health system

- Use of the Chronic Care Model to redesign the office environment and patient visits to support change across multiple behaviors

For more information, see Program Results.

Behavior Change Consortium

RWJF also supported the Behavior Change Consortium, an initiative of the National Institutes of Health that evaluated novel ways of reducing tobacco dependence and encouraging physical activity, better nutrition and other positive health behaviors in diverse populations.

The consortium, launched in 1999, required collaboration across sites and disciplinary "silos." The sites attempted to translate behavioral health interventions into real-world settings through collaboration—strengthening the products of the individual sites while leading to important cross-site findings.

Between 2000 and 2005, RWJF funded two projects to allow consortium researchers to use the RE-AIM framework to apply behavior change research to community settings (ID#s 39756 and 47465). Russell Glasgow, Ph.D., developer of the RE-AIM framework and director of one of the two projects, provided technical assistance to the national program office of *Prescription for Health* on using this evaluation model. For more information on RE-AIM, see The Program section of this report and Program Results.

APPENDIX 2

Prescription for Health Grantees and PBRNs

This appendix lists the academic institutions or medical centers that received funding under the program, and the 22 affiliated PBRNs that spearheaded the projects.

Round 1

Children's Hospital of Pittsburgh of the UPMC Health System (Pittsburgh)
Pediatric PittNet
ID# 49046 (July 2003–October 2004) $125,000

> **Project Director**
> Ellen R. Wald, M.D.
> (412) 692-7489
> walder@chp.edu

Children's Memorial Hospital (Chicago)
Pediatric Practice Research Group
ID# 49050 (July 2003–April 2005) $125,000

> **Project Director**
> Helen J. Binns, M.D., M.P.H.
> (773) 880-4281
> hbinns@northwestern.edu

Connecticut Primary Care Association (Hartford, Conn.)
New England Clinicians Forum Practice-Based Research
ID# 49048 (July 2003–October 2004) $125,000

> **Project Director**
> Jennifer Granger, M.P.H.
> (860) 727-0004

Dartmouth COOP Project (Hanover, N.H.)
ID# 49047 (July 2003–December 2005) $125,000

> **Project Director**
> John H. Wasson, M.D.
> (603) 650-1823
> John.H.Wasson@Dartmouth.edu

Medical College of Ohio at Toledo (Toledo, Ohio)

Northwest Ohio Primary Care Research Network

ID# 49057 (July 2003–March 2005) $124,969

> **Project Director**
>
> Sandra Puczynski, Ph.D. (no longer at this institution)

Pennsylvania State University College of Medicine (Hershey, Pa.)

Pennsylvania State Ambulatory Research Network

ID# 49045 (July 2003–January 2005) $123,461

> **Project Director**
>
> Alan M. Adelman, M.D., M.S.
>
> (717) 531-8187
>
> aadelman@psu.edu

University of Alabama at Birmingham School of Medicine (Birmingham, Ala.)

Alabama Practice Based Research Network

ID# 49061 (July 2003–October 2005) $124,912

> **Project Director**
>
> Myra A. Crawford, Ph.D. (retired)

University of California, San Francisco, School of Medicine (San Francisco)

UCSF/Stanford Collaborative Research Network

ID# 49054 (July 2003–October 2004) $125,000

> **Project Director**
>
> Thomas S. Bodenheimer, M.D., M.P.H.
>
> (415) 206-6348
>
> tbodie@earthlink.net

University of Kentucky Research Foundation (Lexington, Ky.)

Kentucky Ambulatory Care Network

ID# 49053 (July 2003–October 2004) $124,807

> **Project Director**
>
> Paul Dassow, M.D.
>
> (859) 323-1765
>
> pdass1@email.uky.edu

University of Minnesota Medical School (Minneapolis)

Minnesota Academy of Family Physicians Research Network

ID# 49052 (July 2003–May 2005) $125,000

Project Director

Kevin A. Peterson, M.D., M.P.H.

(612) 624-3116

peter223@umn.edu

University of Virginia School of Medicine (Charlottesville, Va.)

Virginia Practice Support and Research Network

ID# 49056 (July 2003–March 2005) $124,976

Project Director

Steven W. Heim, M.D., M.S.P.H.

(434) 243-4809

swh9e@virginia.edu

University of Wisconsin Milwaukee College of Nursing (Milwaukee)

Midwest Nursing Center Consortium Research Network

ID# 49051 (July 2003–October 2004) $125,000

Project Director

Laura Anderko, Ph.D.

(414) 229–2313

landerko@uwm.edu

Round 2: Starting July 2005

American Academy of Family Physicians (Leawood, Kan.)

American Academy of Family Physicians Research Network

ID# 53771 (July 2005–August 2007) $300,000

Project Director

Wilson D. Pace, M.D.

(800) 274-2237 x3120

wpace@aafp.org

University of North Carolina at Chapel Hill School of Medicine (Chapel Hill, N.C.)

North Carolina Family Practice Research Network

ID# 53868 (July 2005–October 2007) $299,997

ID# 63157 (September 2007–December 2008) $100,000

Project Director

Katrina E. Donahue, M.D., M.P.H.

(919) 966-5090

katrina_donahue@med.unc.edu

University of Oklahoma Health Sciences Center (Oklahoma City)

Oklahoma Physician Resource/Research Network

ID# 53764 (July 2005–September 2007) $299,926

Project Director

James W. Mold, M.D., M.P.H.

(405) 271-5362

jamesmold@ouhsc.edu

University of Texas Health Science Center at San Antonio (San Antonio)

PRENSA-Practice Research Network of San Antonio

ID# 53766 (July 2005–September 2007) $296,420

Project Director

Robert L. Ferrer, M.D., M.P.H.

(210) 358-3885

FerrerR@uthscsa.edu

Yeshiva University, Albert Einstein College of Medicine (Bronx)

New York City Research and Improvement Networking Group

ID# 53770 (July 2005–September 2007) $299,997

Project Director

M. Diane McKee, M.D., M.S.

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mckee@aecom.yu.edu

Rounds 1 and 2

Case Western Reserve University School of Medicine (Cleveland)

Research Association of Practices

ID# 49058 (July 2003–January 2005) $125,000

ID# 53768 (July 2005–March 2008) $300,000

Project Director

Susan A. Flocke, Ph.D.

(216) 368-3887

saf6@cwru.edu

Dartmouth Medical School (Lebanon, N.H.)

Center to Enhance Child Health (CECH) Network

ID# 49055 (July 2003–February 2005) $124,946

ID# 53765 (July 2005–October 2007) $299,957

ID# 63171 (September 2007–September 2008) $79,996

Project Director

Ardis Olson, M.D.

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Michigan State University College of Human Medicine (East Lansing, Mich.)

Great Lakes Research Into Practice Network

ID# 49049 (July 2003–December 2004) $125,000

ID# 53767 (July 2005–October 2007) $299,998

ID# 63160 (September 2007–November 2008) $80,000

Project Director

Jodi Summers Holtrop, Ph.D.

(517) 355–5040

jodi.holtrop@ht.msu.edu

University of Colorado Health Sciences Center at Fitzsimons (Aurora, Colo.)

Colorado Research Network

ID# 49059 (July 2003–December 2004) $125,000

ID# 53763 (July 2005–December 2007) $299,989

Project Director (Round 1)

Wilson Pace, M.D.

(303) 724–9700

wilson.pace@uchsc.edu

Project Director (Round 2)

Walter P. Dickinson, M.D.

(303) 724–9754

perry.dickinson@ucdenver.edu

Virginia Commonwealth University School of Medicine (Richmond, Va.)

Virginia Outcomes Research Network

ID# 49060 (July 2003–October 2004) $124,989

ID# 53769 (July 2005–October 2007) $299,894

ID# 63173 (September 2007–August 2008) $79,990

Project Director

Steven H. Woolf, M.D., M.P.H.

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APPENDIX 3

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Education & Training

Toolkit, Toolbox or Primer

Prescription for Health Online Toolkit includes 18 electronic and paper-based tools for use by primary care practices to foster behavioral change. Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

Meeting or Conference

Presentations

Rebecca Etz, Larry Green and Alexander Krist. "Lessons from the Prescription for Health Study Using REAIM as a Framework to Measure Outcomes, Implementation and Process" at the Society of General Internal Medicine Annual Meeting, Pittsburgh, April 2008. Available online.

Reports

Issue Briefs

"Changing Patient Health Risk Behavior Requires New Investment in Primary Care." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Behavioral Change Counseling in the Medical Home." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Integrating Linkages Between Primary Care Practices and Community Resources to Promote Healthy Behaviors." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Prescription for Health—Write It Now." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Reshaping Primary Care Practice to Support Behavior Change: On the Road to the Patient-Centered Medical Home." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Start Up and Incremental Practice Expenses for Behavior Change Interventions in Primary Care." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

"Use of Patient Registries in U.S. Primary Care Practices." Aurora, CO: Department of Family Medicine, University of Colorado. Available online.

Communication or Promotion

Grantee Websites

www.prescriptionforhealth.org. Aurora, CO: Department of Family Medicine, University of Colorado, December 2002.

http://extranet.ahrq.gov/healthx—created to foster secure communication and collaboration among PBRNs, program staff and other *Prescription for Health* participants. Includes a public section to foster dissemination and discussion of updates and findings from *Prescription for Health*. Washington: Agency for Healthcare Research and Quality, December 2002.