

Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting

Executive Summary of Evaluation Survey Findings

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Maine Cardiovascular Health Program
Department of Health and Human Services
Maine Center for Disease Control and Prevention**

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Medical Care Development
American Heart Association, Maine Chapter
Maine Cardiovascular Health Council
Governor's Council on Physical Fitness, Sports, Health, and Wellness
Maine Coalition on Smoking or Health
Consumers for Affordable Health Care
Maine Network of Healthy Communities
Maine Tobacco HelpLine

Background

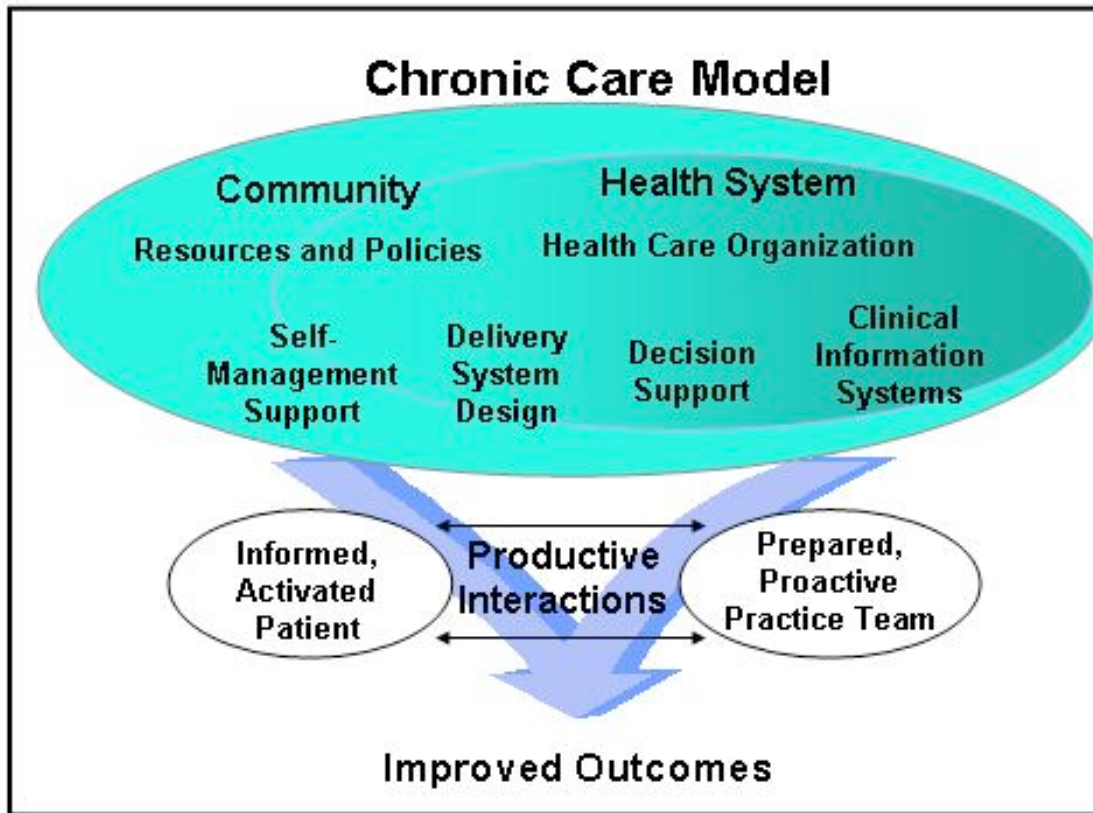
This report describes the change process and implementation activities of four primary care practices, recipients of Grants for Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting. The report also documents the results of a survey of the patients who participated in the grant activities within each practice in order to gauge patients' experiences and perceptions of the change process.

The Maine Cardiovascular Health Program (MCVHP) of the Maine Department of Health and Human Services offered funding to four primary care practice sites to promote system change around cardiovascular health. Recipients represented a variety of family care practices, including private, federally qualified, family or internal medicine practices affiliated with a hospital, health system or practice network. Each recipient demonstrated the ability to collect data electronically via an Electronic Medical Record (EMR), disease/risk factor registry or other electronic data system before receiving the grant funding.

THE CHRONIC CARE MODEL

The grant initiative "Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting" examines a variety of applications of the Chronic Care Model in the treatment of cardiovascular disease and cardiovascular risk factors. The Chronic Care Model integrates medical treatment, community resources and patient-centered behavioral change by focusing on six broad areas:

- ◆ Organization of the Healthcare System : The culture, organization and mechanisms that promote safe, high quality care.
- ◆ Delivery System Design. The delivery of effective, efficient clinical care and self-management support
- ◆ Decision Support. Promotion of clinical care consistent with scientific evidence and patient preferences.
- ◆ Clinical Information Systems. Organization of patient and population data to facilitate efficient and effective care
- ◆ Self-Management Support. Empowerment and preparation of patients to manage their health and health care.
- ◆ Community Resources. Mobilization of community resources to meet needs of patients



OBJECTIVES OF THE MAINE CARDIOVASCULAR HEALTH PROGRAM GRANTS FOR IMPROVING CARE FOR PATIENTS WITH HYPERTENSIONS AND HIGH CHOLESTEROL IN THE PRIMARY CARE SETTING

The objective of the grant project, offered through the Maine Cardiovascular Health Program in the Maine Department of Health and Human Services, Maine Center for Disease Control and Prevention, is to promote system change around cardiovascular health and assure quality of care. The grant program seeks to strengthen the implementation of the Chronic Care Model and focuses on the support of patient self-management in practice settings and the development of community linkages between providers and Healthy Maine Partnerships.

In accordance with the objectives of the Maine Cardiovascular Health Program, the grants address the major modifiable behavioral risk factors – tobacco use, physical inactivity, poor nutrition, overweight and obesity, and the major biological risk factors of high blood pressure, high blood cholesterol, and diabetes through population-based prevention and health promotion and secondary prevention efforts. These efforts include establishing and strengthening links between healthcare practice settings and community settings, schools and worksites.

The evaluation and dissemination of these findings is intended to encourage implementation and replication by other primary care practices in Maine and provide information to the program related to challenges and successes in the primary care setting.

OBJECTIVES OF THE EVALUATION

The focus of this report is on the participating practices' systems changes and their patients' perceptions of those systems, behavioral changes and health outcomes as related to the Chronic Care Model approach. Specifically, the evaluation endeavors to:

- Describe the kinds of systems changes and activities undertaken by each of the four grant recipients;
- Describe the grant recipients' implementation of the Chronic Care Model of patient care;
- Explore the successes and challenges each practice experienced in implementing systems changes including improvements or expansions of their electronic data registries, implementation of patient self-management planning, development of referrals to community resources, development of patient educational materials and facilitation of patient-centered groups and classes.
- Assess the patients' experience and perspective regarding these changes, the challenges and successes patients encountered in implementing related behavioral changes and the benefits and shortcomings involved in increasing patient involvement in health-care decision –making and responsibility.

METHODOLOGY

The methodology for this evaluation included both qualitative interviews of health care team members at each of the four participating practices, as well as a quantitative survey of patients at each practice who were involved in the grant activities.

Provider Interviews

In-person interviews were conducted with the Medical Director, the Clinic Coordinator/Practice Manager, and a Clinic Nurse at each of four primary care practices in Maine. One additional Scorekeeper Nurse was also interviewed at one practice.

Patient Surveys

A quantitative mail-survey was distributed among patients in the target population of each practice. Surveys were provided to each practice, along with a reminder postcard. Surveys were mailed by each of the practices in September 2005 and the reminder postcards were mailed one week following the survey mailing. The overall response rate for the patient surveys was 30%.

FINDINGS

Each practice implemented different systems changes to address the elements of the care model in ways that were unique to their particular practices, given their unique grant objectives, patient population, staff size and access to community resources. Yet despite these differences, there were a number of similarities in the challenges the practices faced, the successes they experienced, the process changes they implemented and the outcomes they effected.

PROCESSES, CHANGES AND ADAPTATIONS

- ◆ **Development of Self-Management Plans.** The vast majority of patients surveyed reported that they worked with their healthcare provider to develop a plan to control their high blood pressure, high blood cholesterol and/or diabetes (94%).
 - Just 37% of patients overall reported that they had worked with their healthcare provider to develop a plan *and* received a copy of the plan in writing. These patients were distributed across all four practices.
 - In contrast to the patients' perceptions, each practice provided some form of care plan in writing. These plans varied in the degree of customization to the individual patient, comprehensiveness and specificity to local community resources, but each offered written materials.

- ◆ **Group Interventions and Individual Approaches.** Three of the four participating practices offered group interventions, consisting of classes that enabled both education, with each class focusing on a particular goal or objective of the self-management piece, and patient interaction and support. All but one of these also offered individual consultation or educational materials on an individual basis.
- ◆ **Adaptation of Guideline Recommendations.** All of the participating practices said they followed the JNC 7 guidelines for evaluation of patients for high blood pressure and the ATP III guidelines for high blood cholesterol, and each had the guidelines embedded into their data systems. Each of the care teams modified the recommendations as necessary however, given the real-world limitations imposed by patients' environment, co-morbidities, financial constraints and other individual factors influencing the patients' ability to comply with the recommended actions.
- ◆ **Disconnect Between Care Teams' and Patients' Views of Adherence to Self-Management Plans.** Care team members expressed frustration with patient compliance, and stated that the main limitation on the helpfulness of referrals was patients' willingness to use them. Patients, in contrast, were generally optimistic about their adherence to, and ability to reach their goals. A high percentage of patients also reported using community services to which they had been referred.
- ◆ **Agreement on Value and Effectiveness of Planning and Education.** Despite differences in healthcare team's and patients' views regarding self-management planning, written materials and the quality of adherence, both expressed confidence in the overall effectiveness of self-management planning, the value of educational guidance and resources, and the health outcomes that resulted.
 - Those patients who reported that they had worked with their provider to set personal goals were far more likely to report that they followed their goals "exactly" than those who developed them on their own (20% vs. 5%).
 - More than half of the patients surveyed (54%) said that support from their healthcare team had "a great deal" of impact on their ability to reach self-management goals.

ACHIEVEMENTS OF THE GRANT RECIPIENTS

The care team members interviewed, as well as the patients surveyed, cited many accomplishments achieved during the grant period. These included the implementation of a data registry and office organizational structure, improvements in patient care and outcomes and new relationships that were forged between clinics and community agencies, organizations and businesses.

Achievement 1: Implementation of Data Registries and Organizational Systems

Many described the implementation or enhancement of their data registry and reporting systems as among their greatest accomplishments during the grant period. The use of data registry systems enabled practices to track individual patients and patient populations, and increased their understanding of the relative effectiveness of treatments, care teams and care team members.

- ◆ **Summary Reports.** The summary data reports were often cited as the most useful aspect of the data system, enabling providers to compare the patient outcomes between providers in the practice, examine changes in patient outcomes over time, and identify categories of treatment and referral issues for future improvement.

Achievement 2: Improvements in Patient Care

All of the care team members interviewed expressed a belief that the changes implemented through the grant process had positively impacted patient well-being and improved their ability to provide quality healthcare.

- ◆ **Long Term Impact.** Most care team members felt that the greatest impact on patient outcomes has yet to be realized. These interviewees saw the greatest patient care improvements made in the area of patient education. Although many were skeptical about the short-term advances in behavioral change, they believed that educational gains would result in future behavioral changes.
- ◆ **Improved Identification of Individual Patients in Need of Testing, Treatments or Follow-Up.** Although most care team members did not specifically cite improved patient care as a benefit of their electronic data registries, the improved ability to identify patients for follow-up appointments or needed services is clearly an improvement in healthcare service.
- ◆ **Focus on Patient Sub-Group.** The grant enabled each practice to focus on the activities and outcomes of a sub-group of patients. This detailed and specific focus itself was described as a benefit that provided new knowledge and enhanced patient care.

Achievement 3: Development of Strategies to Address Patient Needs

- ◆ Each practice developed educational materials and strategies to address the educational and social requirements of their rural patient populations. Specifically, these strategies included:
 - Replacing long-term series of group meetings with individual classes in order to maximize participation among patients who were reluctant to commit to a full series.

- Customizing written materials appropriate to patients’ literacy levels;
 - Refining an ability to judge what an individual patient was willing or able to accomplish, and customizing self-management goals to the individual’s comfort level. Small steps toward goals were found to be more likely to be attempted, and therefore accomplished;
 - Developing and offering “real-life”, relevant examples and parables, corresponding to specific patient needs for use in patient interactions, particularly in offering guidance in making life-style changes;
 - Providing informal role-modeling through group dinners and other interactions.
- ◆ Some of the strategies developed to address patient barriers to implementing their self-management goals included:
- Developing relationships with local grocers and other services to establish coupons, vouchers and discounts to patient groups;
 - Prescription medication programs offered through pharmaceutical companies for indigent and low-income patients;
 - Referrals to community agencies, including transportation services;
 - Clinic-provided charitable aid for individual patients in need.

Achievement 4: Relationships Forged Between Practices and Communities

- ◆ Most of the participating practices found their collaboration with the local Healthy Maine Partnership very helpful.
- ◆ In addition to the local Healthy Maine Partnership, several other organizations provided resources that care team members used in developing materials to provide directly to patients. These included:
- American Association of Diabetes Educators
 - American Association of Family Physicians
 - U.S. Department of Agriculture’s new food pyramid
 - Health Monitor Magazine
 - Hannaford market, which provided patients with a guided tour of the local store, as well as gift-certificates.
 - Local service providers such as massage therapists and nutritionists.
 - Local community hospitals and health centers.

CHALLENGES ENCOUNTERED DURING THE GRANT PROCESS

There were several challenges faced by the practices and the patients in implementing systems changes associated with this grant project. The three main impediments to successful patient outcomes seemed to fall into three broad categories: establishing and maintaining an efficient data registry, issues surrounding patient motivation and compliance, and staff and office management concerns.

Challenge 1: Establishing and Maintaining Efficient Data Management Systems

Data registry systems were frequently cited as both a great accomplishment and an ongoing challenge. Although members of all of the practices expressed pleasure with improvements they made in data management, at least one member at each practice also expressed frustration with the limitations of the data system and organizational practices surrounding its use.

- ◆ **Establishment of a Single Data Management System.** All the practices relied on some combination of hand-written entries, dictation notes, electronic data entry for patient record keeping, billing and appointment tracking. Several expressed concern that the process introduced additional room for error by way of data entry error, paper loss or the time-lag between written notes and data entry into the system, printing and updating of charts.
- ◆ **Expanding the System to Other Areas of Practice.** One or more care team members interviewed in each practice said there were other areas that the data systems developed through the grant process could be used, and most had already expanded the use to other areas. Some of the areas for use included diabetes, pulmonary diseases, asthma, depression, obesity and smoking.
- ◆ **Elimination of Duplicated Data Entry.** Several care team members interviewed described the need to automate as much of the data entry as possible, the duplication of data entry required by multiple systems and the incompatibility and inability of the systems to interact with each other. This was especially problematic for the issue of co-morbidity, where a single patient may need to have data entered into multiple data registries for each disease.
- ◆ **Engaging and Retraining Providers.** Two of the four practices stated the desire to move to a system where the information was entered directly into the computer during the patient visit, using an examination room computer linked directly to an Internet registry. One care team member said that the practice intended to introduce direct data entry examining rooms in the near future, although this would require additional software, hardware and physician training.

Challenge 2: Patient Compliance

Lifestyle and compliance issues were mentioned as being a major challenge by all of the care team members interviewed, and cited as the care team's greatest opportunity for improvement by many. Several care team members described their practices as doing very well in the area of traditional treatment modalities, but described the areas of patient education and the "push toward lifestyle changes" as an ongoing struggle. Other areas of concern mentioned by care team members included:

- ◆ **Patient Motivation.** Practices that offered either structured series of groups or individual group or class activities generally found low attendance rates and a strong self-selection bias.
- ◆ **Educational Barriers to Compliance.** Most care team members interviewed mentioned that one of the main barriers to both motivation and compliance was patients' educational levels and understanding of the details of their cardiovascular health and associated behavioral changes.
- ◆ **Geographical Barriers to Compliance.** Maine's rural areas impose several geographical barriers to patients trying to improve their nutrition and exercise habits, visit specialists, attend classes and accomplish other aspects of their care plan or self-management goals.
- ◆ **Social Barriers to Compliance.** Several care team members mentioned that the cultural milieu in some rural areas builds a barrier to patient motivation and compliance to common self-management goals such as changing diets high in fat and sodium, walking and other non work-driven exercise, as well as to use of some community resources.
- ◆ **Patient's Financial Constraints.** Financial constraints posed barriers in several ways. In addition to making the purchase of medicines burdensome, access to gyms and classes, nutritionists or other specialists, more expensive nutritional items like fresh fruits and vegetables, fish or whole grain breads was also limited.
- ◆ **Co-morbidities and Afflictions Associated with Aging.** Many of the providers' patient populations include aged patients who may be limited in their ability to exercise and especially vulnerable to the issues of rural isolation and economic constraints.
- ◆ **Challenges Associated with Rural Environments.** All of the care team members interviewed noted that Maine's rural setting was associated with many of the challenges patients face in reaching their self-management goals. These challenges include economic difficulties, limited access to gyms and other venues for exercise, limited access to grocery stores and fresh fruits and vegetables, and the social mores of an insular, rural culture that emphasizes self-reliance.

Challenge 3: Staffing and Office Management

Any change in work processes will require accompanying changes in office protocols, roles and task assignments. Care team members reported challenges associated with the process changes that took place during the grant period involving the realignment of team roles, having adequate staff to accompany increased work loads during the grant period and the need for additional resources in support of self-management planning.

- ◆ **Realignment of Team Roles.** Each of the care teams entered the grant process with clearly defined roles. In addition to defined roles, there were defined tasks and responsibilities revolving around patient medical care, scheduling and billing. Rather than adding staff (with the exception of scorekeeper nurse or some information technology consulting), practices realigned the existing roles to encompass additional roles and responsibilities specific to the grant program.
- ◆ **Increased Work Loads.** Having enough time to accomplish administrative objectives and to dedicate to patients was frequently mentioned as a challenge.
- ◆ **Coordination and Teamwork.** Because the reporting benefits include that the practices were able to compare results and procedures across providers, this brought out the need for providers within a practice to unify their approach and work as a team.
- ◆ **Communication and Meetings.** All respondents had regular team meetings, which varied from weekly to once per month. Most of these meetings were scheduled regularly to address the “issues of the day”, including summaries of the data registry results for the recent time period, progress toward goals, problem solving, changes in standing orders or protocol and staffing issues. Most reserved specific patient issues for other meetings among smaller groups of specific care teams or for informal discussion among care team members.

Challenge 4: Need for Additional Resources in Support of Self-Management Planning

Care team members discussed some of the resources that are needed to help support patients’ self-management plans. These included:

- ◆ Free or very low-cost exercise opportunities in all seasons;
- ◆ Transportation resources;
- ◆ Walking trails and indoor exercise opportunities;
- ◆ Fresh produce and grocery access for rural residents, particularly in winter;
- ◆ Improved collaboration with town governments, perhaps mediated by the local HMP.

CONSEQUENCES OF THE GRANT PROJECT

In addition to the challenges and successes experienced by the four practices and their patients, some benefits appeared to extend beyond the grant period to have an ongoing impact on healthcare. The enduring results include the cultivation of strategies that address barriers to patients' achievement of self-management goals, enrichments to staff and patient satisfaction, development of relationships in the community and the acquisition of capital improvements for conducting sessions and generating educational materials.

- ◆ **Patient Satisfaction.** Several patients wrote-in comments that they enjoyed the increased attention from their health care providers. Several care team members also mentioned that increased attention from the care team resulted in increased patient satisfaction.
- ◆ **Staff Satisfaction.** Care team members were highly satisfied with the grant process, and this was evident in their forthright and willing participation in the interviews. Most described their satisfaction as being a result of being able to help patients, by using the materials and resources developed through the grant process.
- ◆ **Development of Referrals to Community Resources.** Each of the four practices demonstrated extensive use of community resources and described the establishment of lasting relationships with community organizations. These resources offered a range of services, speaking to groups of patients, facility tours, vouchers for service discounts, free samples and service trial periods.
- ◆ **Ongoing Impact within the Practices.** All of the care team members interviewed said that they intended to continue the progress they had made in their work toward helping patients control their high blood pressure and high blood cholesterol through this grant process.

SUGGESTIONS FOR FUTURE MAINE CARDIOVASCULAR HEALTH PROGRAM PROJECTS

- ◆ **Increase grantee meetings and interactions.** Many of the care team members expressed the desire to have more frequent interactions with other grantees. Despite their own busy schedules, most desired to have more interaction with the other grantees, to develop a better understanding of the changes others had made, their successes and challenges, and the effects on patient health.
- ◆ **Offer physical activity programs.** Several care team members interviewed reiterated the need for exercise and physical activity programs in their area. A few specifically mentioned that the best way to engage patients in physical activity is to call it something other than "exercise".

- ◆ **Offer financial aid to low-income patients.** A few care team members also mentioned helping patients overcome their financial burdens, and offering funding for staffing needs.
- ◆ **Educate the public.** One of the great successes of the program was improving the practices' abilities to educate patients about the value of self-management techniques in controlling their chronic conditions. Several suggested that continuing this educational outreach was an important and worthwhile goal, and one suggested using media advertising/public service announcements.
- ◆ **Develop an information clearinghouse.** In addition to the desire to interact with other grantees, one participant also mentioned that information-sharing should extend beyond the few grantees to the larger medical community through a list-serve or other information dissemination technology.
- ◆ **Improve data registry technologies.** A few care team members discussed the need for better data systems and reporting mechanisms.
- ◆ **Train young physicians.** One participant emphasized the need to extend the lessons of the grant program to physicians in training, before their ideas are solidified.

Evaluation Methodology

In September of 2000 the Maine Department of Human Services, Bureau of Health created the Maine Cardiovascular Health Program (MCVHP) for the purpose of improving the cardiovascular health of Maine residents. Funded by the Centers for Disease Control and Prevention (CDC) at a “basic implementation level”, the program has four goals:

- ◆ **Goal 1** - Build an infrastructure and capacity at the State and local levels to improve cardiovascular health and quality of life through the prevention, detection, and treatment of biological risk factors; early identification and treatment of heart attacks and strokes; and prevention of recurrent cardiovascular events.
- ◆ **Goal 2** - Facilitate the coordination and collaboration amongst public, private, and voluntary organizations for cardiovascular health promotion and disease prevention.
- ◆ **Goal 3** - Develop supportive policies and environments that prevent tobacco use and promote quitting, promote physical activity, encourage healthy eating and maintenance of a healthy weight, and prevent and control high blood pressure and high blood cholesterol.
- ◆ **Goal 4** - Identify and eliminate disparities related to cardiovascular disease and related risk factors.

PURPOSE OF THE EVALUATION

The purpose of this evaluation is to provide insights into the challenges and successes of individual cardiovascular practices as they implement the Chronic Care Model. Specifically, the purpose is to:

- Describe the process changes undertaken by each of the practices in this grant program in implementing data.
- Illuminate the successes and challenges each practice experienced in implementing these systems changes, especially with regard to data entry and management of the data registry, role assignment and team development within the care team, application of the Chronic Care Model and working with patients to develop self-management goals.
- Educate patients on self-management techniques to control hypertension and high blood cholesterol through improved understanding of the conditions and facilitate behavioral change.
- Understand the patient’s experience and perspective as healthcare consumers directly affected by their provider’s systems changes and implementation of the Chronic Care Model.
- Assess the patients’ experience and perspective regarding these changes, the challenges and successes patients encounter in implementing related behavioral changes.

IMPLEMENTATION OF SYSTEMS CHANGES

Each practice identified a specific population of patients to be monitored during the duration of the grant period, and developed a database of these patients to monitor their progress throughout the one-year grant period. Each practice submitted monthly progress reports and attended a total of three meetings to discuss the experience, including the challenges and successes of participating in change processes.

Each of the four practices implemented the Chronic Care Model in a different way. One practice included a dedicated “Scorekeeper Nurse” who conducted interventions and provided educational materials to patients on a voluntary basis after patients were identified and recommended by the primary care physician. Another practice instituted a series of structured, educational workshops with a multidisciplinary team that included physicians, a variety of specialists including a nutritionist and other service providers from a variety of community resources, as well as special events and field trips supportive of specific self-management goals. Another practice facilitated patient self-management goals through education, including a series of classes and structured visits, access to health assessments and exercise equipment and educational materials. A fourth practice provided motivational interviewing, goals setting and behavior management planning and conducted groups to sustain support and education goals.

EVALUATION METHODS

This evaluation study was designed to assess the process changes resulting from the varied applications of the chronic care model by each of the four participating practices. The evaluation had three phases: interviews of the care team members of each practice, a survey of patients participating in the resulting system changes in each practice and collection of registry data documenting changes in the patient populations. This combination approach, using both qualitative and quantitative techniques to gather the insights and opinions of a variety of those involved in the care process was designed to offer an in-depth understanding of the challenges and opportunities encountered in applying a patient-centered, chronic care model approach to health care offered in a primary care setting.

DATA COLLECTION

Provider Care Team Interviews

The Chronic Care Model is implemented through the use of collaboratives - practice-based, physician-led teams that work together to educate patients about their condition and facilitate behavioral changes.

In-person interviews were conducted with the primary members of care teams at four primary care practices in Maine. The Maine Cardiovascular Health Program provided the names and contact information for grant recipient team members at each practice. Interviews were conducted with the Medical Director, Grant Coordinator/Practice Manager and a Registered Nurse at each practice. An interview with a Scorekeeper Nurse was also conducted at one practice. Altogether, a total of 13 in-person interviews were conducted during September and October of 2005. Each interview lasted an average of approximately one hour, and ranged from 40 minutes to one and one-half hours.

Patient Surveys

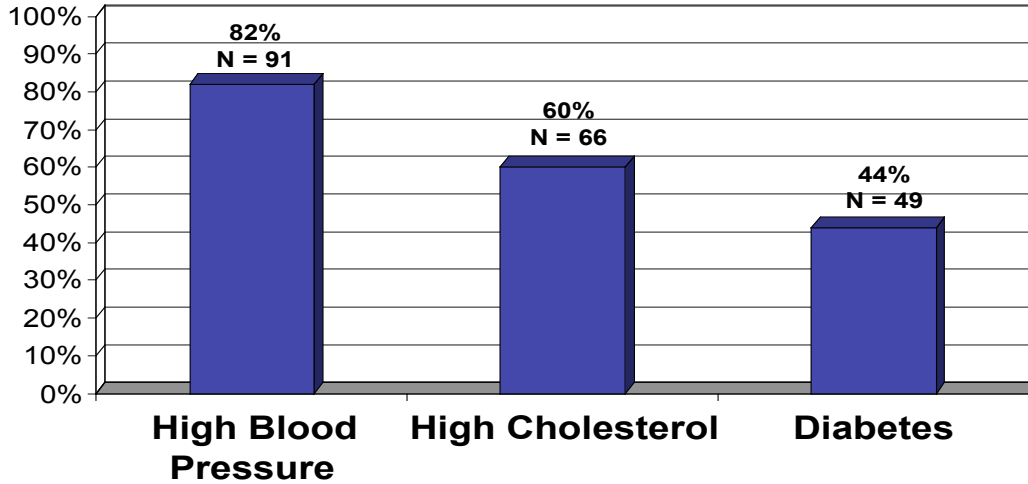
Patients who participated in the grant activities at each of the four practices received a mailed survey to complete. The following table shows the number of patients surveyed and the response rates for each of the four practices. It is important to note that because surveys were mailed from each individual practice, the exact number of surveys mailed and the number, if any, of those returned as undeliverable is unknown. Therefore, the response rates are provided as approximations only, in order to give a general idea of the relative response rates for patients at each practice and overall.

Practice	Approximate Number Mailed	Number Returned	Approximate Response Rate
Practice 1	140	34	24%
Practice 2	131	40	31%
Practice 3	80	28	35%
Practice 4	30	13	43%
Total	381	115	30%

About two-thirds of the patients responding to the survey were female (65%). Eighty-two percent were being treated for high blood pressure, 60% for high cholesterol and 44% for diabetes. Most patients (61%) reported being treated for multiple conditions.

Patient Survey: Respondents Self-Reported Condition

Q2: I am currently being treated for...(Check all that apply)*



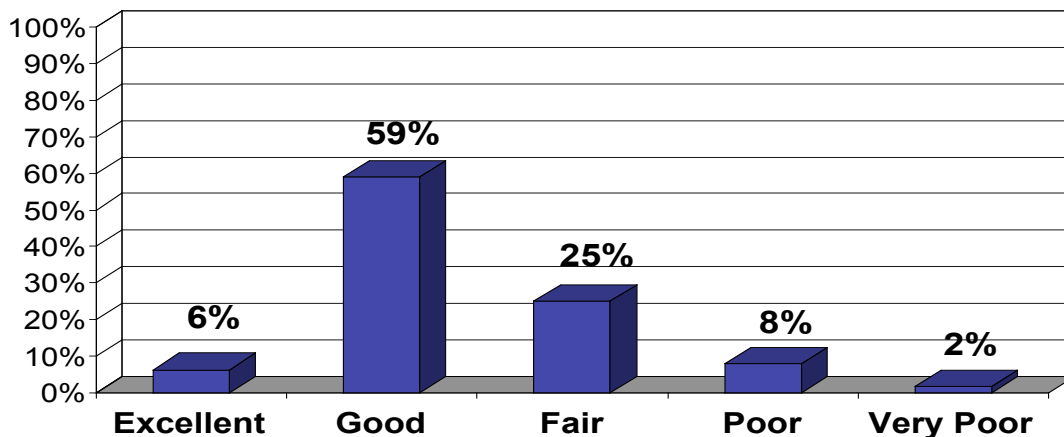
* 61% Reported co-morbidities

Source: Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting Patient Survey

Half of the patients surveyed reported an annual household income of \$25,000 or less. Almost one in five (18%) had less than a high school education, 37% had graduated from high school and never attended college and 8% had either an associate's or Bachelor's degree. About 10% had a graduate or professional degree. The median age of patient respondents was 63 years.

Patient Survey: Reported General Health

Q1: Overall, would you say that your general health is...?



N = 112

Source: Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting Patient Survey

ANALYSIS AND REPORTING

Comments were selected for the level of interest and detail offered, and a diverse selection of comments is presented in order to demonstrate the range of comments as well as illustrate the major themes and ideas.

The provider interview were analyzed for common themes and patterns, categorized by content, and coded so that the results of the interviews could be aggregated and reported as an entirety. The data from the patient surveys was tabulated and analyzed, and provided to offer a qualitative perspective of patients' experiences in setting self-management goals through participation in this grant project.

This study is presented as an exploratory, qualitative survey with many open-ended interview comments offered in the respondents' own words. The care team members interviewed offered rich and lengthy comments, often elaborating on the questions asked. Selected verbatim comments are included to illustrate the depth of comments and offer the reader a sense of the more subtle nuances often included in responses. Specific names of individual and practices have been removed from the comments to protect the anonymity of respondents.

Data Limitations

As with any study, it is important to describe the limitations of the data collected in this study so proper interpretations can be made. Rather than providing generalizations about all healthcare practices in Maine, this research provides in-depth case-studies of these practices in order to collect the insights and observations of the healthcare providers and patients participating in the grant activities.

The research presented in this report is descriptive of the four practices involved in the grant program. The interview data, while valuable for its pragmatic observations and best-practice recommendations, is not meant to be generalized to all healthcare practices in Maine. Similarly, the patient surveys were conducted on the patients who participated in the grant program activities. They do not represent all chronic care patients, or all patients of the four healthcare practices. Some of the specific limitations of the data collected include:

- *Selection of Grantees.* The healthcare practices that chose to apply for the grant and were successful in the application process have demonstrated abilities, interests and willingness to partner with community organizations that may not be typical of other practices. Preference was given to those practices serving underserved populations with demonstrated disparities in cardiovascular health status.
- *Patient Selection.* The patients who agreed to participate in the study may not be typical in terms of their motivation, interests, attitudes or behaviors, many of which may be directly related to the topics investigated by the patient survey.

- *Self-reported data.* Since the data were collected via interviews and mailed surveys, the survey respondents relied on personal recollection or knowledge of the policy or environment under question. Therefore, the reliability of the responses is limited to the awareness or knowledge of the individual providing the response. In addition, some individuals may have felt compelled to offer socially desirable responses. The content of the interviews however, as well as the variety of responses to key survey items, indicates a level of candor among many respondents. Respondents in both the interviews and surveys were assured that their names would not be used in the reporting of data.
- *Survey response rate.* Approximately 30% of the respondents surveyed returned a completed survey. It is possible that patients who were eligible but did not participate in the survey may have consistently lower levels of literacy, motivation to achieve self-management goals or other characteristics that may be related to the content of the survey items.
- *Funding relationship.* Although interviews were conducted by Market Decisions, and confidentiality assurances were offered, the Maine Center for Disease Control, formerly the Bureau of Health, commissioned this study. The Maine CDC also had funded the participating practices with a grant for up to \$30,000. Although that grant had been approved and completed at the time of the interviews, interview respondents may have interpreted some questions to be an assessment of their compliance with grant requirements or state laws.

Key Findings and Comments

Each practice implemented different systems changes to address the elements of the care model in ways that were unique to their particular practices, given their unique grant objectives, patient population, staff size and access to community resources. Yet despite these differences, there were a number of similarities in the challenges the practices faced, the successes they experienced, the process changes they implemented and the outcomes they effected.

DELIVERY SYSTEM DESIGN

Group Interventions and Individual Approaches. Three of the four participating practices offered group interventions, consisting of classes that enabled both education, with each class focusing on a particular goal or objective of the self-management piece, and patient interaction and support. All but one of these also offered individual consultation or educational materials on an individual basis.

- ◆ Some groups were structured as a series of regularly scheduled events, which required patients to commit to the entire series from the beginning. Other groups or classes were offered individually so that patients could pick and choose among them.
- ◆ Some groups were offered by the practices themselves, whereas others provided referrals to groups or classes existing in the community, offered by the local HMP, private companies or other organizations.
- ◆ One practice focused exclusively on individual self-management planning.
- ◆ Patient survey results did not vary systematically by practice or by the type of intervention (individual or group). No single practice or intervention type appeared to be more or less effective than others.

ORGANIZATION OF HEALTHCARE

Decision-Making. Decision-making was generally a discussion process, characterized by the substantive issue at hand and the style of the particular practice and its team members.

- ◆ In three of the four practices, an individual with a new idea or issue requiring attention would either bring it to the attention of the practice manager who would then include it in the staff meeting, or bring it up in the staff meeting directly.
- ◆ Each office had an observable style, where the autonomy of individual staff members and the openness of leadership to staff involvement in decision making was apparent from the content of the interviews, as well as from the formality of interaction between staff members, the apparent flexibility of task assignment and the formality of the interviews themselves.

- ◆ The particular mechanism of decision-making depended on the type of decision being made.
 - Medical decisions regarding specific patient treatments were primarily up to the attending physician.
 - Systems decisions were most likely to be made by either the Practice Manager/Coordinator or Medical Director after discussion with the team.
 - Evaluation of new ideas regarding staffing, practical procedures or reporting methods are generally discussed at formal meetings and made by “weighted” consensus, where physicians and senior staff positions are weighted most heavily.
 - Protocol decisions are often made more formally, and one person will often write a summary, discuss it with the team, and changes are agreed upon by group consensus.

Adaptation of the PDSA Cycle. All the practices used the PDSA (Plan-Do-Study-Act) cycle consistently.

- ◆ Several members of one practice noted that they had initially formalized the PDSA cycle by writing out plans and tracking each phase of the cycle. They found this procedure to be too cumbersome to maintain, and found that the arduous nature of the process inhibited new ideas. Instead, they now use the cycle as an informal basis for evaluating new procedures.
- ◆ When implementing a new idea, practices “start small”, discuss the changes that have been made and their results, and then build on their success and expand the implementation of the change, as appropriate.
- ◆ Team meetings helped incorporate the PDSA cycle by providing a forum for discussion and review of the implementation of new procedures.
- ◆ Do and Act phases of the cycle are generally executed by individual members of the care teams, whereas Plan and Study phases are most often accomplished within group meetings.

Staffing and Office Management. Any change in work processes will require accompanying changes in office protocols, roles and task assignments. Care team members reported challenges associated with the process changes that took place during the grant period involving the realignment of team roles, having adequate staff to accompany increased work loads during the grant period and the need for additional resources in support of self-management planning.

- ◆ **Realignment of Team Roles.** Each of the practices entered the grant process with a care team that included clearly defined roles. They also established clearly defined tasks and responsibilities revolving around patient medical care, scheduling and billing. Rather than adding staff (with the exception of scorekeeper nurse or some information technology consulting), practices realigned the existing roles to encompass additional roles and responsibilities specific to the grant program. The process changes required by the grant process and the grant-related tasks that were introduced included:
 - Self-management education and support
 - Administrative support around referrals and self-management goal setting activities
 - Group/class planning, logistics and administration
 - Data entry and registry management.

- ◆ **Increased Work Loads.** Having enough time to accomplish administrative objectives and to dedicate to patients was frequently mentioned as a challenge.

- ◆ **Coordination and Teamwork.** Because the reporting benefits include that the practices were able to compare results and procedures across providers, this brought out the need for providers within a practice to unify their approach and work as a team.
 - More than one participant mentioned teamwork among the providers as an area providing an emergent opportunity for improvement.
 - One participant described a realignment of how patients are assigned to particular physicians within the practice, based largely on the results of reports comparing patient outcomes among providers.

- ◆ **Communication and Meetings.** All respondents had regular team meetings, which varied from weekly to once per month. Most of these meetings were scheduled regularly to address the “issues of the day”, including summaries of the data registry results for the recent time period, progress toward goals, problem solving, changes in standing orders or protocol and staffing issues. Most reserved specific patient issues for other meetings among smaller groups of specific care teams or for informal discussion among care team members.

The larger practices held several meetings for various sub-groups of care team members, e.g., a nurses meeting, a physicians’ meeting and an administrative/data meeting. One of the smaller practices held two meetings, one for physicians and one for nursing and other staff, both attended by the Medical Director and Clinic Coordinator. Attendance at any regular meeting was likely to vary depending on availability of individual care team members at all practices.

In general, the purpose of each meeting varied depending on the type of care team members attending. Nurse and physician meetings covered relevant changes in office procedures or practices, indeed this appeared to be the main purpose of most meetings. Progress of individual patients, updates in patient progress overall and comparisons by provider, discussions of grant processes and progress toward grant goals was generally the purpose of the physician meetings.

Although each practice had specific topics to address at meetings, only one practice produced a written agenda before the meeting. Members of teams in the other practices knew the meeting format and relevant topics, and care team members raised issues of importance during the meeting as it progressed. Some practices supplemented the regular staff meetings by distributing documentation or minutes of the formal meeting discussions along with results extracted from the monthly grant reports, as applicable.

CLINICAL INFORMATION SYSTEMS

The care team members interviewed, as well as the patients surveyed cited many accomplishments achieved during the grant period. These included the implementation of a data registry and office organizational structure, improvements in patient care and outcomes and new relationships that were forged between clinics and community agencies, organizations and businesses.

Implementation of Data Registries and Organizational Systems. Many described the implementation or enhancement of their data registry and reporting systems as among their greatest accomplishments during the grant period. The use of data registry systems enabled practices to track individual patients and patient populations, and increased their understanding of the relative effectiveness of treatments, care teams and care team members.

- ◆ **Summary Reports.** The summary data reports were often cited as the most useful aspect of the data system, enabling physicians to compare the patient outcomes between providers in the practice, examine changes in patient outcomes over time, and identify categories of treatment and referral issues for future improvement.
- ◆ **Use of Prompts.** All of the practices used their data systems to provide general prompts or reminders to follow-up with patients. Prompts flag individual patients in need of a particular service or appointment, and they generate categorical lists of patients in need of a particular service or appointment.

Prompts were described as being most valuable with regard to three basic tasks:

1. Flagging individual patient records for future tasks that need to be repeated at regular intervals, including routine monitoring tests and visits.
2. Identifying patients who are in need of a particular treatment, office visit, mailing or follow-up call, including those who have not scheduled or attended a needed follow-up appointment.

3. Scanning the patient database for specific symptoms or combinations of symptoms in order to identify patients in particular disease categories or in need of particular treatments or tests.

Establishing and Maintaining an Efficient Data Management System

Data registry systems were frequently cited as both a great accomplishment and an ongoing challenge. Although members of all of the practices expressed pleasure with improvements they made in data management, at least one member at each practice also expressed frustration with the limitations of the data system and organizational practices surrounding its use.

- ◆ **Establishment of a Single Data Management System.** All the practices relied on some combination of hand-written entries, dictation notes, electronic data entry for patient record keeping, billing and appointment tracking. Several expressed concern that the process introduced additional room for error by way of data entry error, paper loss or the time-lag between written notes and data entry into the system, printing and updating of charts.
- ◆ **Expanding the System to Other Areas of Practice.** One or more care team members interviewed in each practice said that this initiative allowed them to apply their data systems to diabetes or other chronic diseases, including pulmonary diseases, asthma, depression, obesity and smoking.
- ◆ **Elimination of Duplicated Data Entry.** Several care team members interviewed described the need to automate as much of the data entry as possible, the duplication of data entry required by multiple systems and the incompatibility and inability of the systems to interact with each other. This was especially problematic for the issue of co-morbidity, where a single patient may need to have data entered into multiple data registries for each disease.

Most of the concern regarding this issue was expressed at staff levels where data entry was a direct responsibility. Several care team members interviewed expressed frustration that the multiple data systems in use were not compatible, so that disease registries, billing records, pharmacy orders and lab results each required entry of overlapping data.

- ◆ **Engaging and Retraining Providers.** Two of the four practices stated the desire to move to a system where the information was entered directly into the computer during the patient visit, using an examination room computer linked directly to an Internet registry. One participant said that the practice intended to introduce direct data entry examining rooms in the near future, although this would require additional software, hardware and physician training.

DECISION SUPPORT

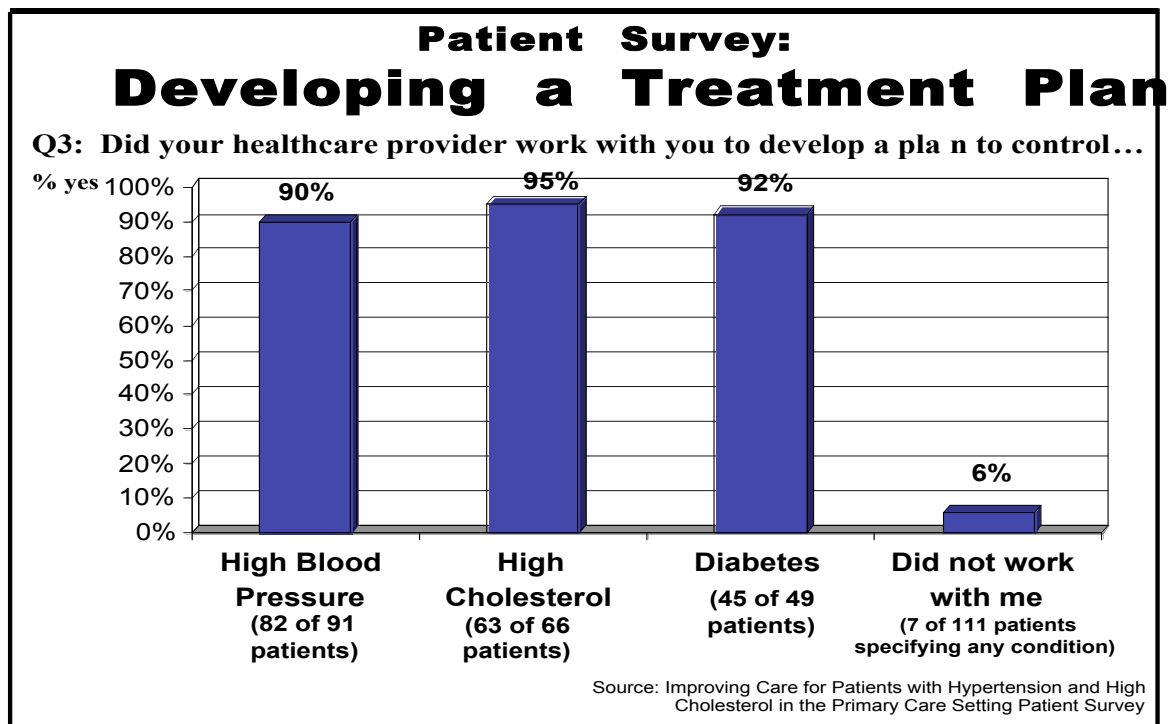
Evidence-Based Guidelines and Protocols. All of the participating practices said they followed the JNC 7 guidelines for evaluating patients for high blood pressure and the ATP III for high blood cholesterol, and each had the guidelines embedded into their data systems. At least one practice also had the guidelines posted in exam rooms.

- ◆ **Standing Orders.** Standing orders were often discussed in regular staff meetings, and at least one practice implemented standing orders regarding the circumstances under which to order lab tests which had not been in place previously. One interview participant described one of the most effective aspects of their participation in the grant program as being the development and implementation of “best practice guidelines”.
- ◆ **Increased Awareness.** Several care team members described an increased awareness of the guidelines and protocols among both staff and patients due to the presence of the guidelines and other literature sources in waiting and examination rooms, the discussions in staff meetings or increased interest generated during the self-management education process.
- ◆ **Improved Identification of Individual Patients in Need of Testing, Treatments or Follow-Up.** Although most care team members did not specifically cite improved patient care as a benefit of their electronic data registries, the improved ability to identify patients for follow-up appointments or needed services is clearly an improvement in healthcare service.
 - Two care team members mentioned the ability to catch patients who would otherwise “fall through the cracks”.
 - Several mentioned the advantage of the enhanced perspective provided by the summary reports. This information enabled providers to identify elements of their own performance, or that of others in their practice, in need of improvement. This perspective, by facilitating specific improvements, is also thought to enhance the quality of patient care.
- ◆ **Focus on Patient Sub-Group.** The grant enabled each practice to focus on the activities and outcomes of a sub-group of patients. This detailed and specific focus itself was described as a benefit that provided new knowledge and enhanced patient care.
 - One provider specifically said that the ability to focus on a small sub-group of patients was the practice’s greatest accomplishment during the grant period, and that this ability had greatly improved their approach to patient care.

- Others said that the knowledge they gained from data reports focusing on the sub group of patients participating in this grant program had been applied beyond the group of patients to their larger patient population.
 - Several patients surveyed commented that they felt a sense of having received extra care and attention beyond what they would have expected to receive in a healthcare clinic environment.
- ◆ **Adjusted Expectations and Standards.** Most providers reported adjusting their implementation of the guidelines according to “real life” constraints of their patients. For example, one provider mentioned that the ability of patients to pay for medication was a consideration when assessing the level at which prescribing particular medications was necessary.

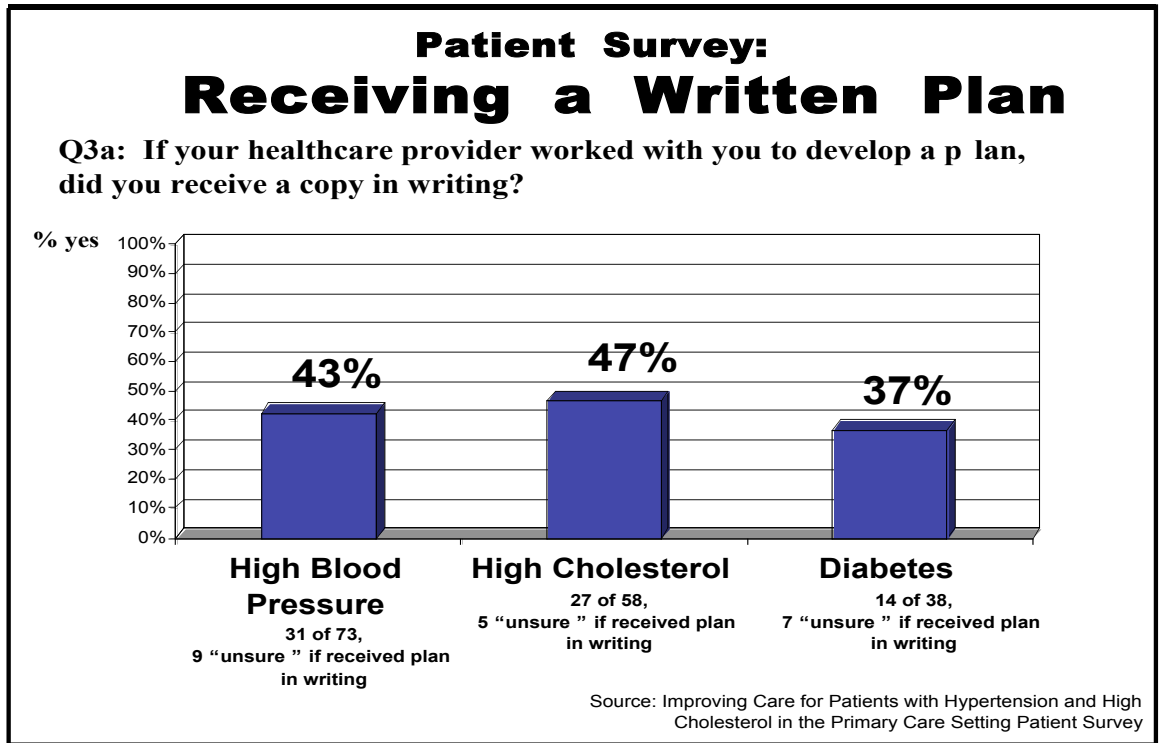
SELF-MANAGEMENT SUPPORT

Development of Care and Self-Management Plans. The vast majority of patients surveyed reported that they worked with their healthcare provider to develop a plan to control their high blood pressure, high blood cholesterol and/or diabetes (94%).

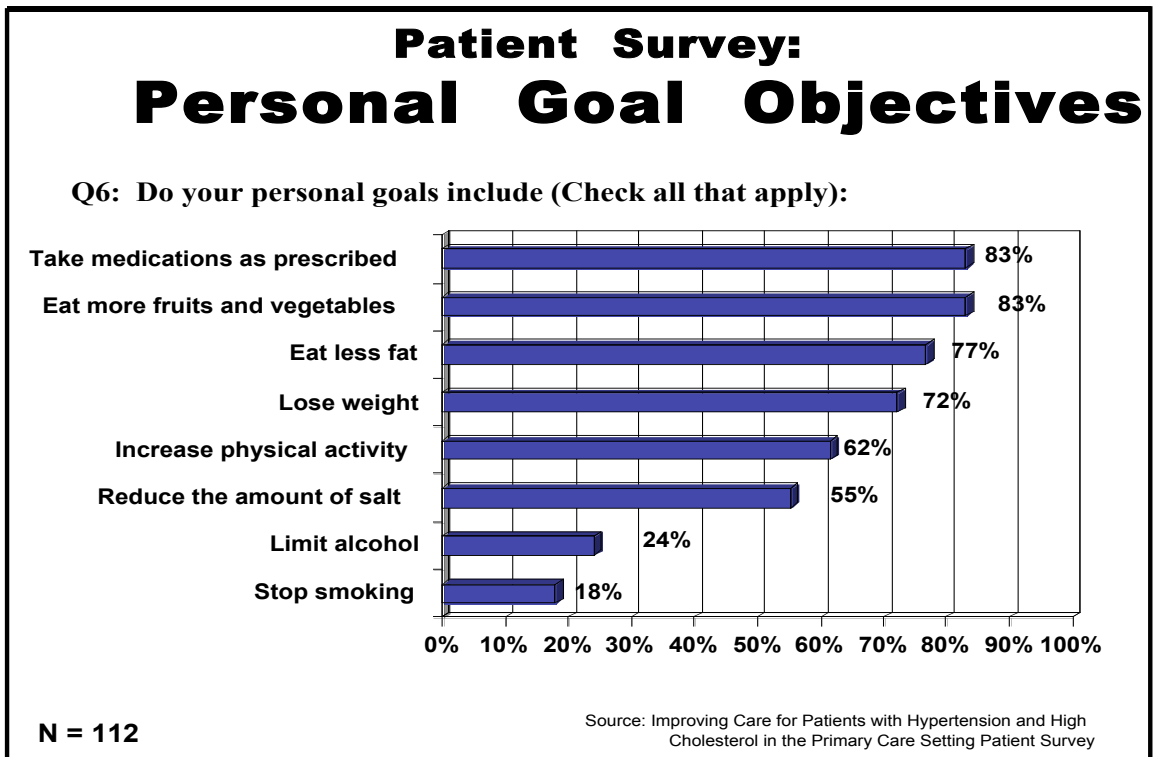
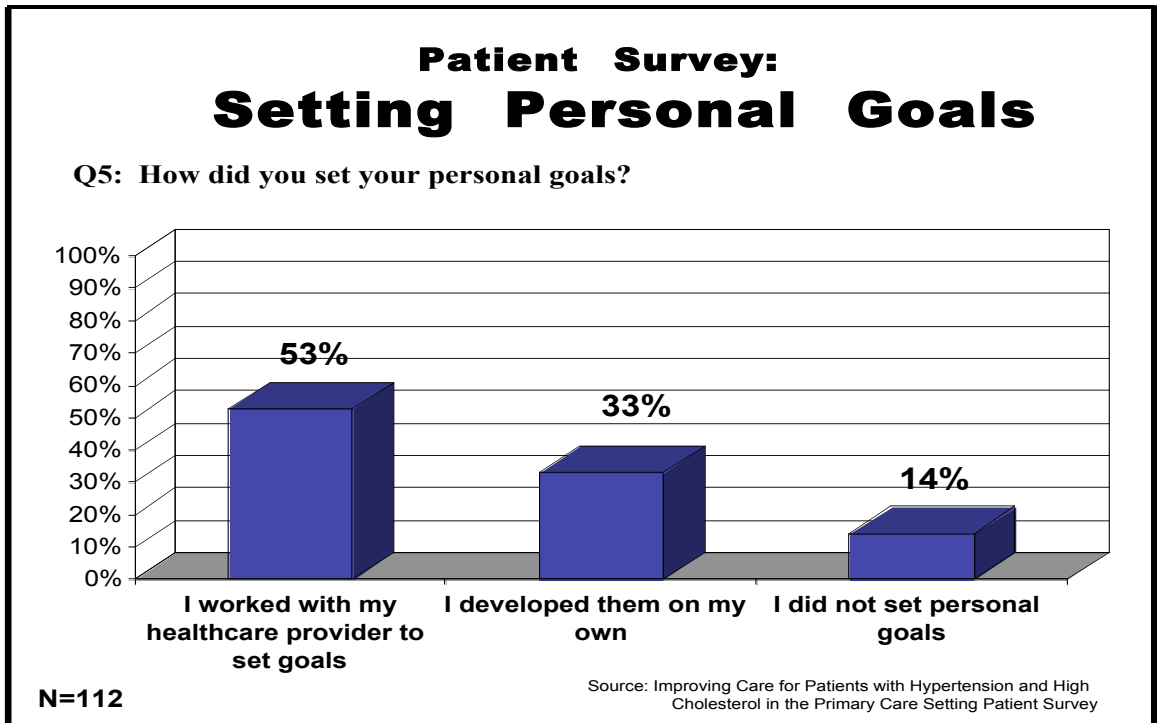


- ◆ Just 37% of patients overall reported that they had worked with their healthcare provider to develop a plan *and* received a copy of the plan in writing. These patients were distributed across all four practices.

- ◆ In contrast to the patients' perceptions, each practice reported that they provided some form of care plan in writing. These plans varied in the degree of customization to the individual patient, comprehensiveness and specificity to local community resources, but each offered written materials.



- ◆ About half of the patients surveyed (53%) said that they worked with their healthcare provider to set personal goals and one-third (33%) developed personal goals on their own. Fourteen percent reported that they did not set any personal goals.



Improved Patient Care. All of the care team members interviewed expressed a belief that the changes implemented through the grant process had had a positive impact on patient well-being and had improved their ability to provide quality healthcare.

- ◆ **Long Term Impact.** Most care team members felt that the greatest impact on patient outcomes has yet to be realized. These care team members saw the greatest patient care improvements made in the area of patient education. Although many were skeptical about the short-term advances in behavioral change, they believed that educational gains would result in future behavioral changes.

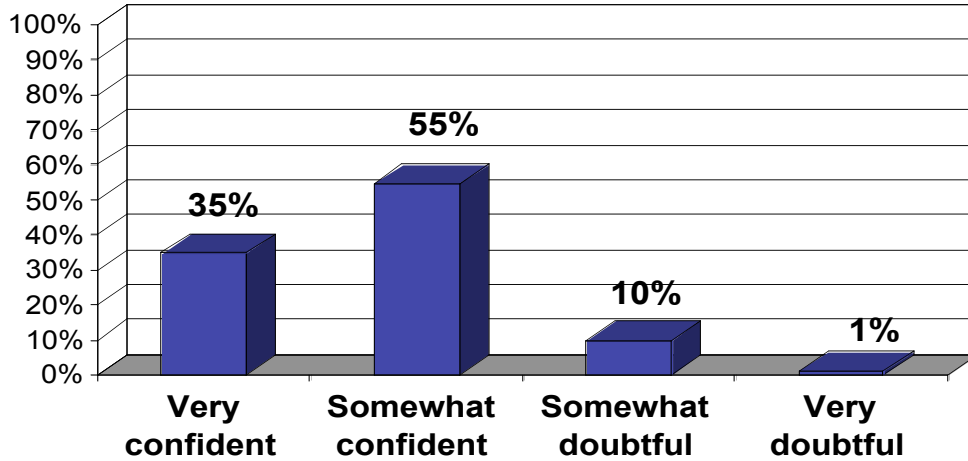
Development of Strategies to Address Patient Needs. Each practice developed educational materials and strategies to address the educational and social requirements of their rural patient populations. Specifically, these strategies included:

- Replacing series of classes with individual class sessions in order to maximize participation among patients who were reluctant to commit to the series.
- Customizing written materials appropriate to patients' literacy levels;
- Refining an ability to judge what an individual patient was willing or able to accomplish, and customizing self-management goals to the individual's comfort level. Small steps toward goals were found to be more likely to be attempted, and therefore accomplished;
- Developing and offering "real-life", relevant examples and parables, corresponding to specific patient needs for use in patient interactions, particularly in offering guidance in making life-style changes;
- ◆ Providing informal role-modeling through group dinners, classes and one-on-one interactions.
- ◆ Some of the strategies developed to address patient barriers to implementing their self-management goals included:
 - Developing relationships with local grocers and other services to establish coupons, vouchers and discounts to patient groups;
 - Prescription medication programs offered through pharmaceutical companies for indigent and low-income patients;
 - Referrals to community agencies, including transportation services;
 - Clinic-provided charitable aid for individual patients in need.
- ◆ **Care Teams Skeptical of Patients' Adherence to Self-Management Plans.** Care team members expressed frustration with an element of the healthcare treatment process that was beyond their control: patient compliance. This was true at practices that offered individual consultations and those that offered structured classes or workshops.

- At least one of the care team members at each of the practices offering group classes noted that attendance for groups was poor or inadequate. Although patient interest appeared to be abundant, attendance was more difficult to generate
 - In addition to attendance in the group classes being a challenge, almost all of the care team members interviewed also mentioned the difficulty of getting patients to follow-through on their personal goals as being one of the major challenges of their work.
 - Despite low attendance at group classes, several practices noted that the information portion of the self-management piece generated interest and value beyond the original group to a larger portion of their patient population.
 - Referrals to community resources were seen by healthcare team members as useful “only to the extent they are used”.
 - Most Care Team members expressed reservations that patients were able to closely adhere to their self-management plans. In interviews, care team members rated the average patient’s adherence as approximately 4, “a little bit” on a scale of 1 to 5, with 1 being adhering or “exactly” and 5 being “not at all.”
- ◆ **Patients Confident Regarding Adherence to Self-Management Plans.** Patients were generally more likely to be optimistic about their adherence to, and ability to reach their goals than their care team members. This was true of patients who received individual instruction or consultations with a care team and those who participated in structured classes or workshops. Patients, in contrast, rated their own adherence to their self-management plans as a 2, “mostly”, with only 6% of patients describing their level of adherence as “a little bit” or “not at all”.
- One-third of patients surveyed (35%) were “very confident” that they would achieve their personal goals, and over half (55%) were “somewhat confident”. Only 1 individual described his/her attitude as “very doubtful”.
 - About three-quarters of patients (73%) said that so far, they have “exactly” or “mostly” followed their personal goals (13% and 60%, respectively). Just 5% said they had followed their personal goals “a little bit” and one individual said he or she had followed them “not at all”.

Patient Survey: Confidence in Achievement of SelfManagement Goals

Q7: How confident are you that you will achieve your personal goals?

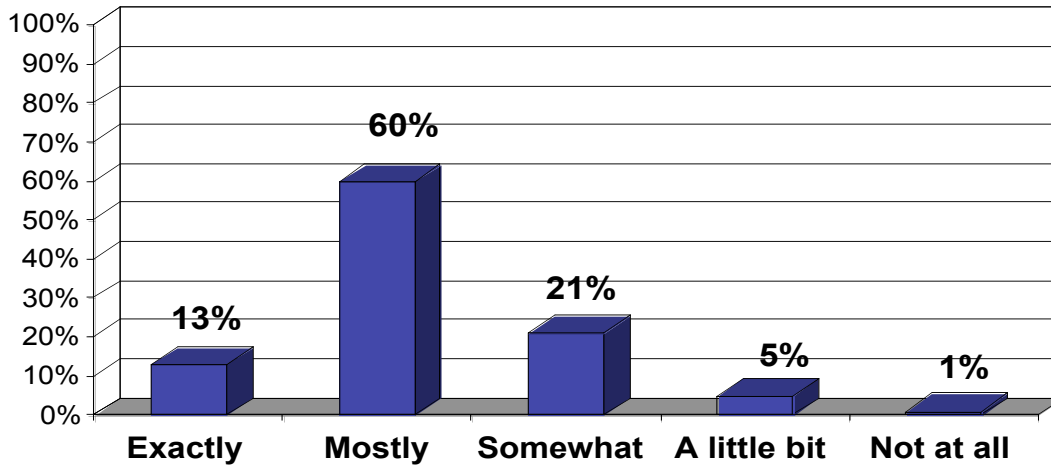


N = 112

Source: Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting Patient Survey

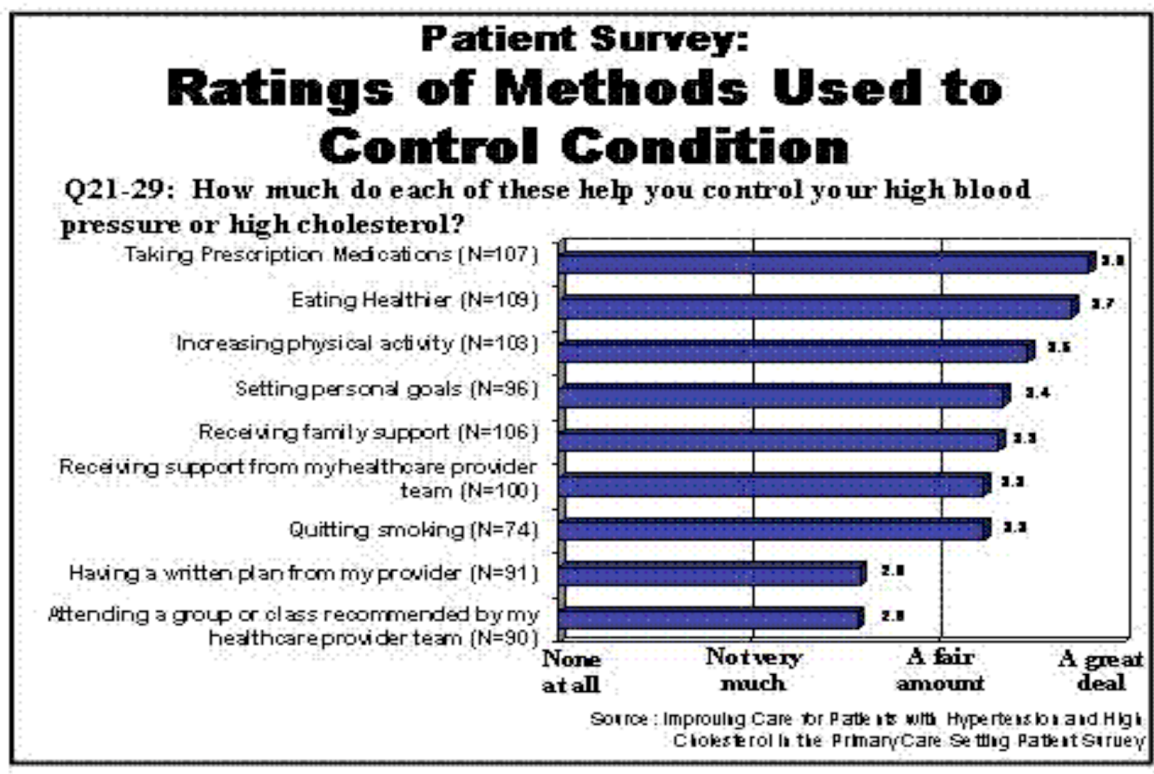
Patient Survey: Adherence to SelfManagement Goals

Q8: So far, have you followed your personal goals ...



N = 112

Source: Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting Patient Survey



- ◆ **Agreement on Value and Effectiveness of Planning and Education.** Despite differences in healthcare team’s and patients’ views regarding self-management planning, written materials and the quality of adherence, both expressed confidence in the overall effectiveness of self-management planning, the value of educational guidance and resources, and the health outcomes that resulted.
 - Those patients who reported that they had worked with their provider to set personal goals were far more likely to report that they followed their goals “exactly” than those who developed them on their own (20% vs. 5%).
 - Several healthcare team members noted that verbal, one-on-one recommendations were more effective than written lists of referrals.
 - More than half of the patients surveyed (54%) said that support from their healthcare team had “a great deal” of impact on their ability to reach self-management goals.

Patient Compliance. Lifestyle and compliance issues were mentioned as being a major challenge by all of the care team members, and was cited as the care team’s greatest opportunity for improvement by many. Several care team members interviewed described their practices as doing very well in the area of traditional treatment modalities, but described the areas of patient education and the “push toward lifestyle changes” as an ongoing battle. Other areas of concern mentioned by care team members included:

- ◆ **Patient Motivation.** Practices that offered structured groups or class activities generally found low attendance rates and a strong self-selection bias.

Both patients and most care team members rated prescription medications as having the greatest impact on patients' ability to achieve their personal self-management goals. Patients, however, strongly emphasized the role of family support, whereas many care team members underrated the importance of this aspect.

- ◆ **Educational Barriers to Compliance.** Most care team members interviewed mentioned that one of the main barriers to both motivation and compliance was patients' educational levels and understanding of the details of their cardiovascular health and associated behavioral changes.

- ◆ **Geographical Barriers to Compliance.** Maine's rural areas impose several geographical barriers to patients trying to improve their nutrition and exercise habits, visit specialists, attend classes and accomplish other aspects of their care plan or self-management goals. The care team members interviewed said that these geographical barriers include:

- Isolation from groceries, gyms and exercise facilities and other resources that may not be available in rural areas;
- Transportation to events and activities;
- Economic limitations;
- Roads and paths that become dangerous for walking in icy winter conditions;
- Working at physically strenuous jobs so that exercise seems unnecessary or excessively tiring.

- ◆ **Social Barriers to Compliance.** Several care team members mentioned that the cultural milieu in some rural areas builds a barrier to patient motivation and their achievement of common self-management goals such as changing diets high in fat and sodium, walking and doing other non work-driven exercise, and using community resources.

Several patients also made reference to social barriers in their comments. These comments included the need for family cooperation and support, the difficulty of dietary changes and the strenuousness of farm and rural lifestyles.

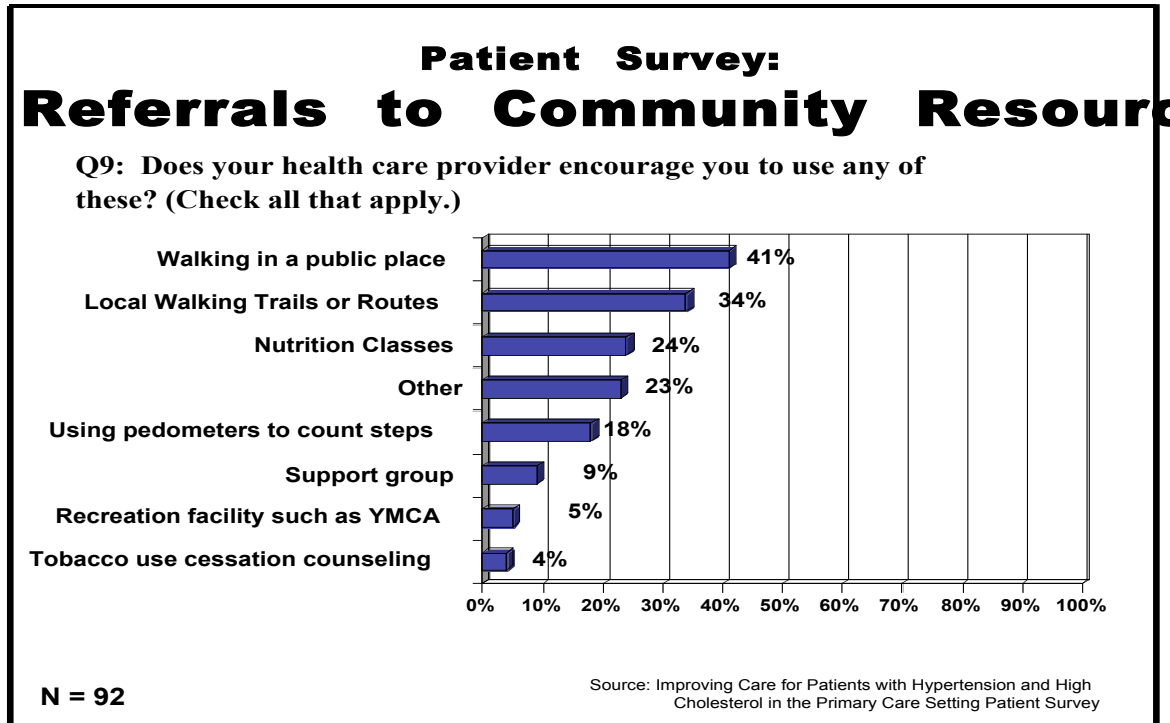
- ◆ **Patient's Financial Constraints.** Care team members noted that financial constraints posed barriers to patients' achieving self-management goals in several ways. In addition to making the purchase of medicines burdensome, financial constraints limited access to gyms and classes, nutritionists and other specialists, and the purchase of nutritional items like fresh fruits and vegetables, fish and whole grain breads was also limited.

- ◆ **Co-morbidities and Afflictions Associated with Aging.** Several care team members said that their patient populations include aged patients who may be limited in their ability to exercise and especially vulnerable to the issues of rural isolation and economic constraints.

- ◆ **Challenges Associated with Rural Environments.** All of the care team members interviewed noted that Maine's rural setting was associated with many of the challenges patients face in reaching their self-management goals. These challenges include economic difficulties, limited access to gyms and other venues for exercise, limited access to grocery stores and fresh fruits and vegetables, and the social mores of an insular, rural culture that emphasizes self-reliance.

USE OF COMMUNITY RESOURCES

- ◆ The patients surveyed reported that their healthcare provider encourages them to walk in a public place (41%), use local walking trails or routes (34%) or take nutrition classes (24%).

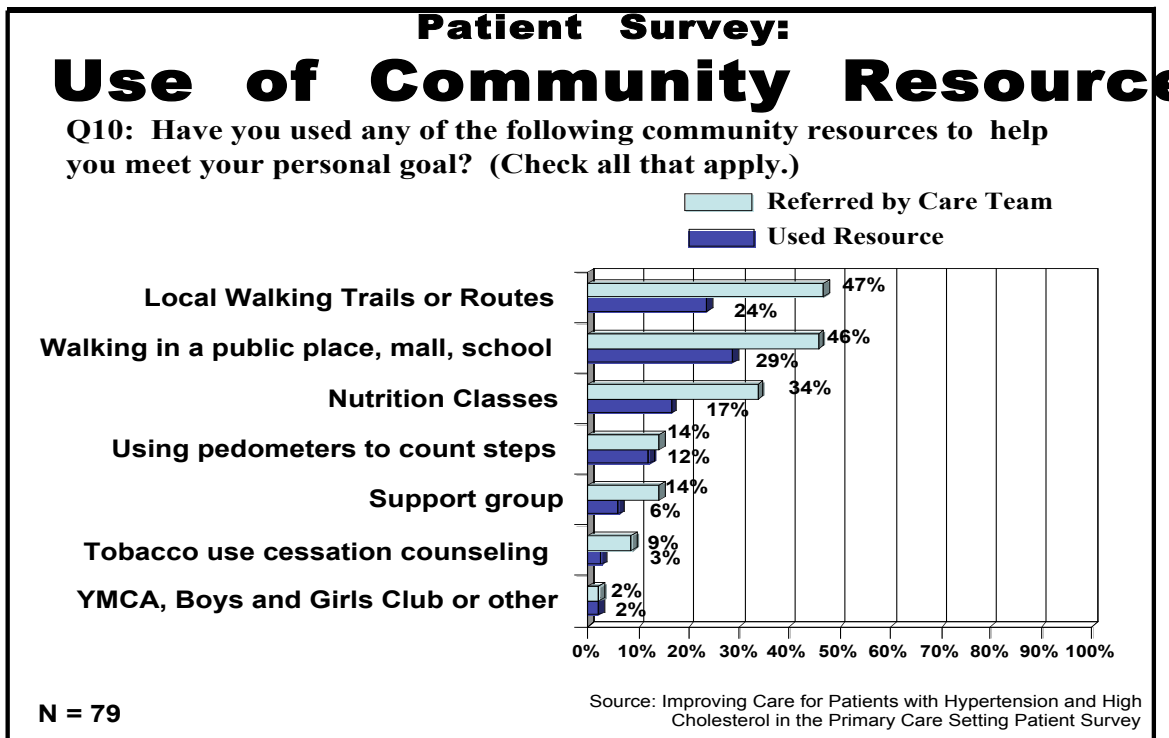


- ◆ Most of the participating practices found their collaboration with the local Healthy Maine Partnership very helpful.
- ◆ In addition to the local Healthy Maine Partnership, several other organizations provide written materials care team members used in developing materials or provided directly to patients. These included:
 - American Association of Diabetes Educators
 - American Association of Family Physicians
 - U.S. Department of Agriculture’s new food pyramid
 - Health Monitor Magazine
 - Hannaford market, which provided patients with a guided tour of the local store, as well as gift-certificates.
- ◆ One interview participant said that “sharing information with other local community hospitals and health centers” had been a useful practice.

- ◆ One practice mentioned that they found working with town government challenging, but expressed the desire to work with the town more closely to better meet patient needs.

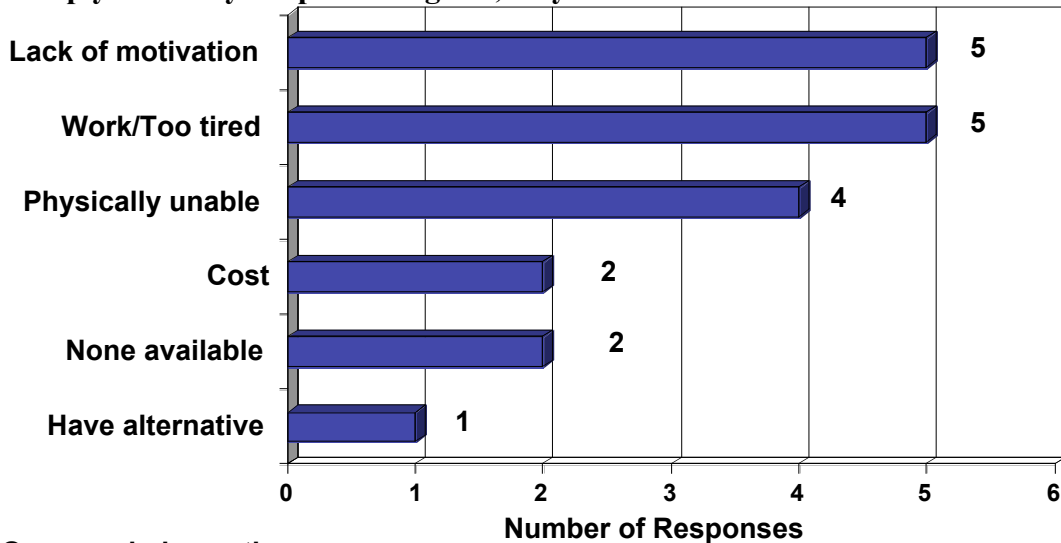
Referrals were Generally Helpful to Patients

- ◆ Most of the health care team members interviewed said they thought the referrals were helpful to patients, but added that the resources are most helpful to those who are able or willing to use them.
- ◆ The care teams perceived the main impediment to the helpfulness of the referrals was the patients’ ability or willingness to follow up and use them. Following-up on the use of resources, like affecting behavioral change, was seen as a challenge and a weakness by almost all of the care team members interviewed.
- ◆ The patients surveyed, however, reported a high rate of using referrals. Twenty-four percent said they had walked in a public place such as a mall, school or other indoor area and 29% had used a local walking trail or route. About one in five had participated in a nutrition class.



Patient Survey: Reasons for not using Community Resources

Q10a: If you have not used any of the following community resources to help you meet your personal goals, why not?



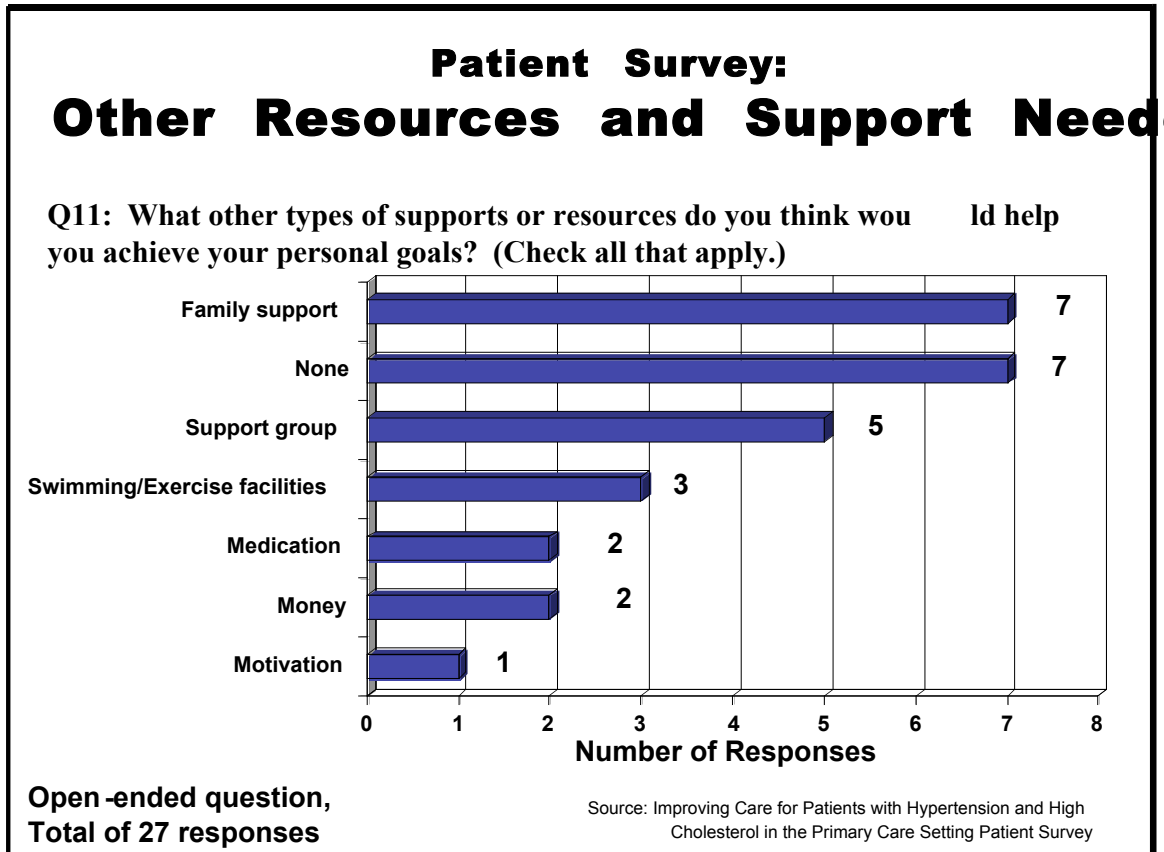
Open-ended question,
Total of 19 responses

Source: Improving Care for Patients with Hypertension and High Cholesterol in the Primary Care Setting Patient Survey

Need for Additional Resources in Support of Self-Management Planning

- ◆ Care team members offered several suggestions for currently unavailable resources that would help support patients' self-management plans included:
 - Transportation resources;
 - Walking trails and indoor exercise opportunities;
 - Fresh produce and grocery access for rural residents, particularly in winter.

- ◆ In contrast to the provider responses that minimized the importance of family support in patients' ability to meet their self-management goals, patients frequently named additional family support (26%) or a support group (19%) as the resource they needed to help them achieve their personal goals.



CONSEQUENCES OF THE GRANT PROJECT

In addition to the challenges and successes experienced by the four practices and their patients, some benefits appeared to extend beyond the grant period to have an ongoing impact on healthcare. The enduring results include the cultivation of strategies that address barriers to patients' achievement of self-management goals, enrichments to staff and patient satisfaction, development of relationships in the community and the acquisition of capital improvements for conducting groups sessions and generating educational materials.

- ◆ **Patient Satisfaction.** Several patients wrote-in comments that they enjoyed the increased attention from their health care providers. Several care team members also mentioned that increased attention from the care team resulted in increased patient satisfaction.

- ◆ **Staff Satisfaction.** Care team members were highly satisfied with the grant process, and this was evident in their forthright and willing participation in the interviews. Most described their satisfaction as being a result of being able to better help patients, by using the materials and resources developed through the grant process.
 - An increase in knowledge and training breadth was also mentioned as a source of satisfaction for care team members.
 - Satisfaction with participation in the grant project was often stratified by team role. Physicians tended to be highly satisfied, whereas nurses, though also expressing satisfaction, were more likely to mention the time constraints involved in fulfilling their expanded roles and responsibilities.
 - Two care team members interviewed stated that some of the grant activities, particularly follow-up calls that seemed to resemble “telemarketing”, exposed staff to rejection by patients and seemed beneath the respected health-worker status they were accustomed to receiving.

- ◆ **Development of Referrals to Community Resources.** Each of the four practices demonstrated extensive use of community resources and described the establishment of lasting relationships with community organizations. These resources offered a range of services, speaking to groups of patients, facility tours, vouchers for service discounts, free samples and service trial periods. A few of these organizations included:
 - The local Healthy Maine Partnership
 - Local businesses including groceries, farmer’s markets and gyms
 - Local non-physician specialists, including nutritionists and massage therapists.

- ◆ **Ongoing Impact within the Practices.** All of the care team members interviewed said that they intended to continue the progress they had made in their work toward helping patients control their high blood pressure and high blood cholesterol through this grant process.
 - Several of those in administrative roles noted with some relief that their administrative and reporting duties would be lessened, but all agreed that the impact of this work had been positive and long-lasting.
 - A few care team members expressed concern that without grant funding, they would be unable to reach as many patients or would need to discontinue specific aspects of the programs they offer.
 - Each of the four practices had already made strides toward implementing the data registry into other disease areas, particularly other chronic disease groups. In addition, several also mentioned that the processes developed through the grant would be extended to physicians within the practice who had not been part of the initial grant activities.
 - One practice purchased a laptop computer and projector to use in conducting classes and workshops. This equipment will enable them to continue conducting group educational sessions in the future.

SUGGESTIONS FOR FUTURE MAINE CARDIOVASCULAR HEALTH PROGRAM PROJECTS

- ◆ **Increase meetings and interactions among grantees.** Many of the care team members expressed the desire to have more frequent interactions with other grantees. Despite their own busy schedules, most desired to have more interaction with the other grantees, to develop a better understanding of the changes others had made, their successes and challenges, and the effects on patient health.
- ◆ **Offer physical activity programs.** Several care team members reiterated the need for exercise and physical activity programs in their area. A few specifically mentioned that the best way to engage patients in physical activity is to call it something other than “exercise”.
- ◆ **Offer financial aid to low-income patients.** A few care team members also mentioned helping patients overcome their financial burdens, and offering funding for staffing needs.
- ◆ **Improve data registry technologies.** A few care team members discussed the need for better data systems and reporting mechanisms.
- ◆ **Train young physicians.** One care team members emphasized the need to extend the lessons of the grant program to physicians in training, before their ideas are solidified.
- ◆ **Educate the public.** One of the great successes of the program was improving the practices’ abilities to educate patients about the value of self-management techniques in controlling their chronic conditions. Several suggested that continuing this educational outreach was an important and worthwhile goal.
- ◆ **Develop an information clearinghouse.** In addition to the desire to interact with other grantees, one participant also mentioned that information-sharing should extend beyond the few grant recipients to the larger medical community through a list-serve or other information dissemination technology.