

Supplement to
**Pharmacy
Times**[®]
Essential Information for Today's Pharmacist

The Asheville Project

*A special supplement on how pharmaceutical care
produced successful outcomes in diabetes
patients in one North Carolina city*

Brought to you through a co-sponsorship
from Pfizer Inc. and Glaxo Wellcome.





Dear Pharmacist,

We would like to thank you for taking the time to learn about the Asheville Project. Practical application of pharmaceutical care is the goal of the North Carolina Center for Pharmaceutical Care.

We believe the pharmacists described in this special supplement of *Pharmacy Times* demonstrate that patients' health can be improved by connecting the resources available in a community. We cannot say enough about their commitment in Asheville and the courage they had to try something new.

These pharmacists participated in an intensive training program, rearranged their workplaces, and found the time to counsel patients in their busy practices. These men and women agreed to participate in the study for one year without any guarantee of payment. Good things happen when people do the right thing, and we appreciate their efforts in advancing the practice of pharmacy.

We are grateful to Glaxo Wellcome and Pfizer Pharmaceuticals Corporation for co-sponsoring the publication of the Asheville Project as a supplement in *Pharmacy Times*.

We would also like to thank the City of Asheville and Mission St. Joseph's Health System for their commitment to innovation.

In closing, we ask pharmacists nationwide to help us achieve the ultimate goal of replicating the Asheville Project nationally by making the connections in your community that will lead to the implementation of pharmaceutical care in your practice.

Best professional regards,

Dan Garrett
President

Fred Eckel
Executive Director

Four-Office Bldg. 1515 Chapel Hill, North Carolina 27514 • (919) 933-9709

Essential Information for Today's Pharmacist

The Asheville Project: A Special Report

**Page 4: The Answer to How Is When:
The Genesis of the Asheville Project**
Daniel G. Garrett, MS, FASHP

Page 6: The Asheville Project—One Year Later
Fred Eckel, MS

Page 9: Walking the Tightrope to Better Health
Scotti Kent

Page 11: Taking a Fresh Look at the Pharmacy Practice Model
Barry Bunting, PharmD, and Bill Horton, RPh

Page 19: Outcomes of the Asheville Diabetes Care Project
Carole W. Cranor, RPh, MS Pharm

Page 26: Working Together to Improve Patient Care
Paul Martin, MD

Page 28: An Investment in Health Offers a High Return for All
John Miall, Jr., ARM

**Page 30: Using Existing Resources to Prepare Pharmacists
for an Expanded Role**
Cindy Spillers, MS, RD, CDE

Cover photo of Asheville: Tim Barnell — All other photos: Blake Madden

An MWC Publication
Senior Vice President
Jeffrey Hennessy
Publisher
James R. Granato
Associate Publisher
Jack Sadlon, RPh
Editor-in-Chief
Bruce Buckley
Managing Editor
Ann W. Latner, JD
Assistant Editor
Kristen Leahy

Special Features Editor
Eileen M. McCormick
Continuing Education Editor
Tom O'Connor, PharmD, MBA
Pharmacy Law Editor
Larry M. Simonsmeier, JD, RPh
Hospital Pharmacy Times Editor
Fred M. Eckel, MS
Technology Editor
Mark A. Underwood
Copy Editors
Kathryn Pinto, Barbara Marino
Jane Kolodziej
• • • • •
Administrative Assistant
Tricia McCormick

Production Manager
Alaina Pede
Graphic Artist
Susan Stewart
Special Projects Coordinator
Eileen R. Lewis
• • • • •
Advertising Representatives
James R. Granato
(East/Midwest)
732-656-1140 Ext. 144
Lara M. J. Fichera (East)
516-997-0377 Ext. 133
Jack Sadlon, RPh
(East/Midwest)
732-656-1140 Ext. 107

Peter Schulz (West)
626-403-1300
Tom Reil (West)
415-721-0644
*Classified Advertising
Representative*
Roberta Neutuch
732-656-1140 Ext. 189
• • • • •
Medical World Communications
Corporate Officers
Chairman, CEO, President
John J. Hennessy
Chief Operating Officer
Peter F. Sprague
Chief Financial Officer
Steven J. Resnick

COPYRIGHT © 1998 Romaine Pierson Publishers, Inc. Contents may not be reproduced without permission of the publisher. Reprints available in quantity (min. 200). Write: Reprint Dept., Romaine Pierson Publishers, Inc., 1065 Old Country Road, Ste. 213, Westbury, NY 11590. Microfilm copies of articles are available through University Microfilms International, 300 N. Zeeb Road, Ann Arbor, MI 48106. Postmaster: Send change of address to PHARMACY TIMES, c/o Computer Fulfillment, 120 Cross Street, Winchester, MA 01890.

The Answer to How Is When: The Genesis of the Asheville Project

By Daniel G. Garrett, MS, FASHP

How are we going to get community and hospital pharmacists to stop fighting over discriminatory pricing? This was a question posed to me in February 1994 by Joe Edwards, then president of the North Carolina Pharmaceutical Association. At the time, I was president of the North Carolina Society of Hospital Pharmacists. My response to Joe was, “When we get pharmacists to understand that we are in a knowledge business and not in a commodities market.”

Out of this discussion grew a commitment

from pharmacy leaders in North Carolina to demonstrate the benefit of pharmaceutical care provided by pharmacists in a community-based initiative with a self-insured employer. It was time to prove pharmacists’ value.

How were we going to develop a plan for an outcomes-based demonstration project? This question was answered when we invited together pharmacists from NCSHP, NCPHA, Campbell University, University of North Carolina, the pharmaceutical industry, and Pharmacy Network National Corporation (a pharmacy benefits management company owned by North Carolina pharmacists.) This diverse group worked for 2 years to identify potential self-insured employers, develop outcomes parameters, and define an education and training program for pharmacists and a proposal for the demonstration project.

How were we going to fund the project? This was answered when the above-mentioned groups came together to form the North Carolina Center for Pharmaceutical Care.

How were we going to find the community pharmacists to volunteer to provide disease state management for free? We had the answer when pharmacists in Asheville decided they would complete the training program and agreed to begin caring for patients.

How were we going to find a payer and gain support of physicians? This happened when we contacted the risk/benefit manager



Dan Garrett, MS, RPh, president of the North Carolina Center for Pharmaceutical Care, shares outcomes with Asheville Project participants. Improvements were shown in the areas of quality of life, lab values, satisfaction with pharmacy, and costs to payer.

Daniel G. Garrett, MS, FASHP, is president of the North Carolina Center for Pharmaceutical Care and Executive Director of the North Carolina Pharmaceutical Association.

Genesis of Asheville Project — *Continued from page 4*

for the City of Asheville and asked physicians in Asheville to review our proposal and give us input.

How were we going to get a project of such complex magnitude under way and make sure we had taken care of all the details? When we decided to start! We knew we were making this up as we went along, so we simply began to care for patients.

How are we going to follow up on the success of the Asheville Project? We took action on this when we started openly sharing our processes and results. Now we have pharmacists across our state who are interested, we have payers who are interested, and we have pharmacy educators who are interested in trying this in their communities.

Have we done anything that others haven't thought about, written about, or even done? No. We just did what we knew was right. We started with a few pharmacists and built upon

the relationships that existed within a local community. I was recently asked what we based the Asheville project on. I couldn't answer this question. Sometimes you just act intuitively.

Joe Edwards and I talked again in July of this year. Joe and I discussed how we were going to form a pharmacist network for providing and contracting for reimbursement for pharmaceutical care. Pharmacists have been talking about this in our state for over a year. Joe and I concluded that this would happen when we decided to form the network. The network will be formed in October 1998.

We have come a long way since the initial controversy over discriminatory pricing. Pharmacists are now getting paid for what they know.

How will you make this transformation in your community? When you begin.

We hope the story of the how the Asheville project began will help you decide when.

Comments from City of Asheville Participants

"I have had diabetes for 10 years, and the education I received at the Diabetes Center taught me things I never knew. The pharmacist helps me and encourages me on diet and exercise. I have lost weight and feel better."

—Doug Ingle, retired Sanitation Supervisor

"This is the best thing that has ever happened to me and my son. The pharmacist has pushed me, and I've controlled my diet, started walking, and am quitting smoking (down to four cigarettes a day from three packs a day). I was diagnosed with diabetes 5 years ago, probably had diabetes longer...and haven't felt better in years."

—Madge Beheler, Fire and Police Dispatcher and mother of diabetic who is in the Program

"I think of the pharmacist as my coach. I have a much stronger sense of well-being because I know I have a good support system now. I am thrilled with the program, and with Bill's (pharmacist) help, I've formed better habits, like monitoring my blood sugar every day. And I've set goals to enable me to feel even more in control of my health."

—Pat Leckey, City Accountant

"I have had diabetes for 19 years and have never really been under control. Before the program, my blood sugar would average 180...now it is 143. I check my blood sugar four times a day now, and I used to check it maybe once or twice a day. The pharmacist cares about me."

—K. K. Waddell, retired Captain of Fire Department

The Asheville Project— One Year Later

By Fred Eckel, MS

Can all these opportunities really be related to the Asheville Project? How can we get done all that needs doing as a result of this project? These are the questions I seem to be asking myself frequently. So many things have happened since the Asheville Project got under way that it is hard to accept that they are not related to this Project. Maybe they would have happened anyway but it seems like the Asheville Project has stimulated a lot of activities.

One conclusion that became apparent as the Asheville Project got under way was that for the project to continue there would need to be some organization that could negotiate on behalf of the pharmacist. Such an organization could facilitate the billing process, assure the quality of care provided, as well as determine

what new pharmacists would be eligible to participate in the process. Pharmacists from other regions of the state, perhaps stimulated by what was happening in Asheville, also began talking about the need to establish a network. North Carolina pharmacy is in the process of establishing a statewide PPO as a membership organization controlled by pharmacists to negotiate with employers to provide pharmaceutical care services to their employees. We anticipate that the statewide network will work with local pharmacist networks that are also in the process of formation. Based on our Asheville experience, it is apparent to us that disease management or health management programs, as I prefer to call them, will best be accomplished through local initiatives. Eventually, regional or national employers or payers may get into the act, but our greatest success will come through local projects. That is why we are encouraging the formation of local IPAs even as we develop a statewide pharmacist network.

The Asheville Project seemed to provide almost instant credibility to the skeptical pharmacist that cognitive services was not somebody's pipe dream. It did represent an opportunity for pharmacists who wanted to practice into the 21st century. We collected data throughout the project and shared the prelimi-



“Our goal is to help individuals manage their disease through lifestyle changes that only they can make,” says Bill Horton, RPh, shown here at the 12-month follow-up meeting for the Asheville Project.

Fred Eckel is professor and director, Office of Practice Development and Education at the University of North Carolina at Chapel Hill and executive director of NCCPC. He is also editor of Pharmacy Times' Hospital/Health Systems edition.

nary results at pharmacy meetings across the state. What we told pharmacists was that reimbursement for diabetes management occurred 3 months into the project and that pharmacists were receiving upwards of \$300 per patient, per year for this service. This got a lot of attention. We are in various stages of communication with at least five areas of North Carolina where we think a diabetes management program can be initiated. The interest in duplicating the Asheville Project in other communities may lead to the recruitment of a staff person to facilitate community development efforts to promote diabetes management initiatives by pharmacists.

It was exciting to see pharmacists actually get involved in the training program to do diabetes education and management. It was even more exciting to hear those pharmacists talk about how they have changed their practice to accommodate this new role. When an older pharmacist with many years of practice realizes that he or she can make a difference in that patient's life, both the pharmacist and the patient get excited. When this pharmacist tells the story of this successful encounter, other pharmacists quickly gain the needed confidence to participate. Once pharmacists start to work with patients and realize that they can do it, once patients experience the benefits and begin to appreciate the pharmacists' contributions, and once other health care professionals receive communications from pharmacists about their patients and see how pharmacists can contribute to patient care as team members, changes in the care of diabetic patients occur. The resulting outcomes are very beneficial for everyone, especially patients. When a pharmacist says to me, "I really have become excited about this new role. I really feel appreciated by the patient in ways that I haven't felt appreciated for a long time," it makes all of the hard work worthwhile. When other pharmacists hear about this new practice, they too begin to realize that they can do it. As more pharmacists believe they can do it, the entire movement begins to snowball.

Pharmacists recognize that there will be a need for new skills to do what is being request-

ed. This places an increased demand on the postgraduate education system in North Carolina to meet these needs. Yes, there has been an explosion of interest in certificate programs, but there are not enough programs available to train all the pharmacists necessary to meet the growing demand for pharmaceutical care services. To focus attention on getting the right kinds of programs available, the state association and the two schools of pharmacy that are the primary providers of continuing education in North Carolina have agreed to work together to develop a postgraduate education strategic planning initiative. A meeting of interested individuals will be held this fall to develop the plan. Although all of the elements are not defined, we are considering how we can tie the statewide meetings being conducted by various professional organizations and the evening programs conducted by local associations into a plan to facilitate certificate program development. Perhaps the didactic component that makes up a portion of certificate programs could be developed through local association programming. Maybe the workshops that are offered at statewide meetings could focus on the skills development, which are a part of certificate programming. Although it will not be easy to accomplish, it makes sense that working together is necessary to have an adequate number of pharmacists prepared to deliver the pharmaceutical care services that will be demanded. A strategic plan seems essential to make this happen.

Another issue the Asheville Project has raised is how to assure that pharmacists remain competent to provide services. Just because one has successfully completed a certificate program and is even providing pharmaceutical care services to specific patients does not mean that he/she is keeping up with new developments in the field. Part of our strategic plan for postgraduate education will include ways by which we can facilitate the continuing growth of pharmacists engaged in health management efforts. The issue of how to renew certificates, however, will require a clear understanding of the problem and wisdom in selecting an appropriate mechanism to assure continued compe-

tency without creating hurdles that will be too difficult to manage or too cumbersome for pharmacists to fulfill.

The success of the Asheville Project gave increased visibility to the North Carolina Center for Pharmaceutical Care (NCCPC), the sponsor of this project. This organization continues to receive inquiries from across the country on how others might duplicate the Asheville Project, and we gladly share what information we have. As North Carolina pharmacists and others within the health care community began to recognize the potential the NCCPC organization represents, several important developments have occurred. There is a growing sense of cooperation occurring within the whole pharmacy community. This sense of cooperation has again stimulated a number of initiatives. As the pharmacist has become recognized as an essential component for an effective disease management program, we have been asked to send representatives to various health care initiatives that state agencies and private organizations have started. These developments occurred at least in part because we did an excellent job of communicating the results of the Asheville Project within the Asheville community as well as to the health care community in North Carolina. A special issue of *The Carolina Journal of Pharmacy* was devoted to the Asheville Project and was distributed, with support of NCCPC, to pharmacist managers in community pharmacies across North Carolina.

The success of the Asheville Project resulted from the cooperation of pharmacists in the community and hospital setting. Although the movement to achieve a one voice/one vision organization in North Carolina did not occur specifically because of the Asheville Project, I believe the Project has contributed to the momentum and support for the single pharmacy organization structure in North Carolina. A unification program is in full swing, and perhaps NCCPC might be subsumed into the new organizational structure as the research and development arm of the "North Carolina Pharmacist Association."

When the Asheville Project started, it became apparent that for pharmacists to function

effectively in these new roles they would need to obtain and practice a new skill set in order to become comfortable providing health management services. To prevent a proliferation of educational programs unable to adequately prepare pharmacists for these new roles, the NCCPC established the Certificate Program Review Committee (CPRC). It was suggested that all certificate programs conducted in North Carolina be submitted to this organization for review and approval. The CPRC would assure that the programs comply with the agreed standards for certificate programming developed by a task force convened by the deans of the two North Carolina schools of pharmacy. This fall, the CPRC will be evaluating those standards to see if they are adequate or should be changed and will also be addressing the need to reissue certificates for graduates of certificate programs.

The Asheville Project gave North Carolina pharmacy visibility on the national level. Because of it, people associated with the project have been invited to discuss their experiences and the results achieved to national and other state audiences. It has even attracted the attention of members of the pharmaceutical industry who have approached us about developing special projects with them to improve drugs therapy outcomes. These new relationships solidify the value of the pharmacist as an essential contributor to the team care of patients. We are beginning to identify how these cooperative efforts can lead to win/win outcomes for everyone. In the words of Colonel John "Hannibal" Smith (George Peppard), the leader of the A-Team, "I love it when a plan comes together!"

NOTE: The following organizations came together to create NCCPC, and we appreciate their willingness to invest in pharmacy's future: NCPHA, NCSHP, NCASCP, Campbell University School of Pharmacy, UNC School of Pharmacy, Eli Lilly, Novo Nordisk, Bayer, Pfizer Inc., Glaxo Wellcome, CVS, Pharmacy Network National Corporation, Mutual Drug Patient Care, Merck, Roche, and Kerr Drug.

The Asheville Project: Walking the Tightrope to Better Health

by Scotti Kent

What is it like to live with diabetes? In the words of one woman, diagnosed with diabetes in 1968 at the age of 18: "Living with the daily stress of trying to keep blood glucose levels in control is a balancing act more death-defying than that of the tightrope walker."

Indeed, the challenges that confront people with diabetes would intimidate many a high-wire acrobat. Giving oneself insulin injections; monitoring blood glucose levels; planning food intake to make sure insulin is covered, at the same time trying not to take in too many calories; trying to time meals and snacks to cover the absorption rates of the insulin; dealing with insulin reactions when they occur; and making sure energy output and exercise is also balanced with insulin and food intake—all are part of daily life for those afflicted with diabetes. No wonder they are eager, even desperate, to comprehend what is going on in their bodies, to find ways to cope with the craziness, to talk to someone who understands and will support their efforts to manage this devastating disease.

The nature of diabetes and the difficulties facing its victims made it an ideal choice for the first disease management pilot project undertaken by the North Carolina Center for Pharmaceutical Care (NCCPC), a coalition of state pharmacy organizations. Members of the NCCPC have long believed that pharmacists need to become much more than dispensers of medications. Several key facts support their belief:

- Pharmacists already have a basic understanding of medication therapy.
- Resources exist—often locally—to help pharmacists expand their role for specific diseases to that of counselor, clinical educator, and patient advocate.
- People with chronic illnesses like diabetes see their local pharmacist five times more often than any other health care professional.

With these factors in mind, in early 1997, the NCCPC teamed with Mission St. Joseph's Health System in Asheville, North Carolina, local pharmacies, and the City of Asheville to conduct a year-long study on the impact pharmacists can have on the ability of people with chronic illnesses to manage their disease. The goals of the project were to enhance physicians' efforts, improve the health of patients, and save money for payers.

Accenting Community Involvement

NCCPC was aware that a number of commercial companies were marketing disease management programs to employers to help them keep down costs. NCCPC's goal was not only to emphasize this expanded "pharmaceu-



"A chronic illness like diabetes requires a lot of self-management," says Jeff Russell, MD, endocrinologist and medical director for Mission St. Joseph's Diabetes Center. "Pharmacists educated and trained to assist in the management of that specific health problem can make a difference."

Scotti Kent is a freelance health care writer and editor based in Asheville, North Carolina.

tical care” role for community pharmacists, but also to design a program that was truly a community-wide effort. To test their idea, they needed an employer who was willing to participate. The City of Asheville was identified to them as a progressive payer.

With a handshake, the Asheville Project was launched in March 1997. To prepare for their expanded role, 24 community pharmacists attended intensive training sessions conducted by local physicians, dietitians, nurses, and other pharmacists. The classes were coordinated by The Diabetes Center of Mission St. Joseph’s and funded in part by a grant from Eli Lilly.

The project was configured to include not only the employer/payer and the community pharmacists, but a university—in this case the University of North Carolina at Chapel Hill—to handle the research component. The schools of pharmacy at UNC-Chapel Hill and at Campbell University in Buies Creek have both been involved in the study—in the training program for the pharmacists and overseeing the outcomes measurement and analysis.

Following training and education of the pharmacists, the next step in the study was to notify each patient’s physician about his or her participation, and invite input from the physician. Each participant was then matched with a pharmacist.

Moving Forward

The Asheville Project has been so successful for people with diabetes, a second study is already under way involving asthma patients who work for the City of Asheville. Also, considerable interest has been shown at the state and national level. The NCCPC has been invited to share its findings with HCFA (Health Care Financing Administration), representatives from Medicaid, and the City of Raleigh, North Carolina.

Employers are taking note as well. The City of Asheville has decided to continue the project for employees with diabetes and add a program to address asthma. Mission St. Joseph’s, the largest employer in Buncombe County, North Carolina, has decided to offer similar disease management services to employees beginning in 1999.

View from the Tightrope

In *Webster’s Collegiate Dictionary*, the second definition of “tightrope” is “a dangerously precarious situation.” As might be expected, people walking a tightrope need support from others, whether it be support through education and counseling, or just the knowledge that someone cares. It is especially helpful if support is available from a person you can contact at almost any time, almost any day of the week.

The positive responses from participants speak volumes about the value of the service pharmacists have provided through The Asheville Project. These comments are reinforced by the data, which reveal improvements in health, health care costs, and the way people with diabetes look at their lives. For many participants, this is the first time they have felt confident enough to look up and see a future for themselves, instead of focusing only on the thin wire beneath their feet, wondering when they will lose their balance and fall. Thanks to The Asheville Project, they are no longer working without a net.

A Team Effort

Key participants in the Asheville Project include:

- Patients
- Community Pharmacists
- Employer/Payer: City of Asheville
- Coordination/Funding:
 - NCCPC, Chapel Hill
 - Mission St. Joseph’s, Asheville
- Outcomes Measurement/Analysis:
 - University of North Carolina at Chapel Hill
 - Mission St. Joseph’s Outcomes Department, Asheville
 - Mission St. Joseph’s Laboratory, Asheville
- Grants for Education/Training:
 - Eli Lilly
 - Pharmacy Network National Corporation (PNNC)
- Pharmacists’ Training:
 - Mission St. Joseph’s Diabetes Center, Asheville
 - Local Physicians, Asheville
 - Campbell University, Buies Creek

The Asheville Project: Taking a Fresh Look at the Pharmacy Practice Model

by Barry Bunting, PharmD, and Bill Horton, RPh

The pharmacy practice model that has served pharmacy for decades is at risk. This model has served us well, at least financially. However, this financial base has been eroding for years due to decreasing fees and, more recently, due to the added threats of mail-order and automated dispensing technologies.

Roles change for a variety of reasons. Basically, we change when we are motivated to do so. Sometimes this is self-motivated change, but more often than not the stimulus comes from outside forces. For at least the past 25 years, schools of pharmacy have been attempting to motivate and prepare pharmacy students to change their roles. There have always been, and continue to be, significant barriers to establishing real-world pharmaceutical care practice models, but now there is a growing sense that these barriers need to be overcome very soon. As a result, a number of initiatives across the country are attempting to establish new revenue streams based on the provision of pharmaceutical care. One such initiative that has experienced some success in probing these barriers is The Asheville Project.

Breaking Down the Barriers

We ourselves—the pharmacists—are one of the most significant barriers standing in the way of a new pharmacy practice model. We

have a professional inferiority complex. To overcome this, pharmacists need to be aware that many important medication-related patient needs are not being adequately met. There is ample literature documenting that our society suffers from significant medication-related problems. Second, as pharmacists, we need to be convinced that we can solve the problem. There is also a growing body of literature showing that pharmacists can indeed help. Third, we need to be convinced that people who are made aware of these needs will pay—or demand that someone pay—to have these needs met. “If we build it, they will come” has been our experience in Asheville.

The most obvious barrier can be described by the expression “show me the money.” Our profession must demonstrate that our services save more health care dollars than they cost.

Barry Bunting, PharmD, is clinical manager of Community Pharmacy Services for Mission St. Joseph's Health System in Asheville; Bill Horton, RPh, is owner of Beverly Hills PSA Pharmacy in Asheville.

Weaverville Drug Co. has the look and feel of “the old days,” but the pharmaceutical care offered there by Pharmacist Chuck Sprinkle is leading the way to better outcomes for people with chronic illness, such as diabetes.



Weaverville Drug Co. in Weaverville, NC.

Then we must use our successes to convince increasing numbers of payers (patients and third parties) that these services are worth purchasing. This is the area that needs our greatest attention. Fortunately, we have begun to see the financial results of some pharmaceutical care outcomes from studies like The Asheville Project. We need to build upon and skillfully market these small successes, or we will have pockets of excellence instead of a new pharmacy practice model.

The involvement of chain pharmacies will be critical to the success of any new model. Chain pharmacy management will need to be convinced that pharmaceutical care “pays.” If not convinced, they will settle for high-volume prescription filling via automation and filling centers that distribute prescriptions to their stores for patients to pick up. Chain stores need to maintain store traffic. If offering pharmaceutical care in their stores generates new revenue and also brings people into stores where they will then purchase other items, chains can be expected to support pharmaceutical care. Of course, pharmaceutical care will also have to

“pay” for independents.

A less obvious barrier is the lack of an integrated health system. Whenever a patient is in “the system,” the body of information about that patient needs to be available to all health care providers interacting with the patient at the time. Providers might include a home health nurse, a community pharmacist, an emergency room physician, a hospital pharmacist, or a physician who is covering for a partner who is out of town. Like most communities, Asheville, North Carolina, does not have a fully integrated health information network. This is perhaps the single biggest barrier to providing exceptional health care in a community.

In the meantime, we have to work with what we have. We must establish relationships with other health care professionals so there can be a free flow of information about patients. As pharmacists, we need to use fax, phone, and mail to communicate information that we have to other health care providers who have a stake in the care of the patient, and vice versa. We must “connect the dots” in health care. To do this, pharmacy must teach the other “dots” that they can benefit from being connected to us.

In Asheville, we have been successful in connecting community pharmacists with an employer and their employees with diabetes and asthma. We have also established connec-



Lord's Drug Store in Asheville, NC, offers “one-stop shopping” within the convenient location inside a supermarket.

tions between community pharmacists and the Diabetes Center nurses, dietitians, endocrinologists, and, more recently, with asthma specialists. These pharmacists also obtain patient records from primary care physicians and communicate information to physicians on these patients. Permission to receive and send patient information is not a big barrier in our experience. We simply have patients who enroll in the program sign a request for release of medical information, which allows the pharmacist to obtain and communicate medical information about the patient. Even though we have been successful in connecting several “dots” in our community, we have a long way to go to have a truly integrated system. Pharmacy can act as a force in a community to stimulate this information integration.

The physician community can also be a barrier. Physicians are under tremendous pressure from every direction. Breaking down this barrier involves educating physicians about what pharmaceutical care is and is not. Most physicians we have talked to one on one very candidly admit that they do not always have time to do their best. They actually do a tremendous job given the constraints under which they work. They really do care. They just do not have the time or resources to do everything that needs to be done, especially with regard to monitoring medication therapy. Physicians have come to the realization that they need to spend their time concentrating on what only they can do, which is why we are seeing more physician assistants and family nurse practitioners. If we pharmacists offer ourselves as another type of physician extender and we do it in a service-oriented way and limit it to our area of expertise (medication use), our experience has been that physician resistance is minimal. We need to look for opportunities to make these points with physicians.

At the beginning of our project, we used every means we could think of to communicate with physicians about the project, including individual letters to physicians informing them that their patient had enrolled in an employer-sponsored wellness program, pharmacy and therapeutics committee presentations, pharma-

cy newsletters, and a letter from the City of Asheville medical director. Despite all these efforts, a number of physicians did not “get the message.”

Physicians feel that they manage their patients’ chronic illnesses, and pharmacists would be wise to avoid the term “pharmacist disease management program.” In reality, patients manage their own chronic disease, with assistance from others. And they either manage it well or they don’t. Pharmacy’s role in disease management is to help patients, physicians, and other health care professionals manage chronic illnesses better than they currently do without pharmaceutical care.

Another concern expressed by one physician was: “Isn’t this further fragmenting an already fragmented system?” If pharmacy were trying to create another “dot” this could be the case. But we aren’t. We already exist and are, in fact, the most accessible health care professionals. (For more insight in physician issues,

At Kerr, Pharmacist Phil Crouch is a perfect example of how even large chain drugstores can offer personalized, “user-friendly” services that help people improve their health.



At Lord's, Kim Ferguson, RPh, provides "food for thought" to people with diabetes seeking to better manage their health.

see the article by Paul Martin, MD, in this special edition of *Pharmacy Times*.)

Our message needs to be: "It is broken. Pharmacy can help fix it." We need to teach physicians that we have information they need and convince them we can and will help them manage their patient's illness. Community pharmacists in particular have information that primary care physicians need. Physicians need to know if their patient filled the prescription they wrote (nearly 15% of patients don't); they need to know if they are taking it (about 13% of patients don't, even if they get the prescription filled); they need to know if the medication is working; and they need to know if the medication is causing their patient any problems that need to be resolved, especially if those problems have caused the patient to stop taking the medication. Most important, the physician needs to know these things before the patient's next appointment, which is months away.

An additional barrier is that pharmacists

need to develop some skills that we have not traditionally been taught. How many pharmacists know the nuances of downloading a glucose meter? How many pharmacists can demonstrate how to use a peak flow meter? How many pharmacists would know how to assess a patient who is on phenytoin for nystagmus or ataxia? How many pharmacists would know how to assess the adequacy of diuretic therapy by listening for rales, or the significance of the "yellow zone" for an asthma patient? At first glance, learning these may seem daunting, but another lesson we have learned in The Asheville Project is that this is not rocket science. It does not take hundreds of hours and an advanced degree to learn supplemental skills that make a difference. We can learn these things without a huge investment of time or money. What a project like this does take, however, is motivated pharmacists who are willing to make commitments to learn new things and to venture outside their comfort zones. Initially, our pharmacists were definitely removed from their comfort zones. There was considerable anxiety on the part of the community pharmacists that we trained. "Can I really do this?" was the question in the minds of many. But not only did they do it, they did it very well. One illustration of their success is the objective data we obtained that shows statistically significant reductions of the hemoglobin A1c in our study group.

To expand pharmaceutical care successes into a new model, we will need a critical mass of pharmacists who are willing to develop new comfort zones. Without that, even if the opportunities are created, this new pharmaceutical care model will not happen. If we are interpreting the current forces correctly, we will have a new model whether or not we design one. The problem is, if we do not become involved, it will not be one we are comfortable with.

Program Particulars

As participants in the diabetes segment of The Asheville Project, pharmacists are expected to spend in-depth "quality" time with people who have diabetes, to monitor and help



them manage their own health. We also provide information to that person's physician about drug interaction or make suggestions if a particular form of drug therapy fails. We alert the physician if someone is not taking his or her medication as prescribed. Our goal is to help individuals manage their disease through lifestyle changes that only they can make.

Before we could begin doing any of these things, however, several important steps had to be completed. To pharmacists who are interested in following in the footsteps of The Asheville Project, we offer the following advice.

Training and Education

It is absolutely essential that you obtain education and training from experts. Your knowledge base needs to be expanded to include those topics which are currently acknowledged as the national standard: Standards of Knowledge, Standards of Diabetes Education, and Standards of Medical Care.

For The Asheville Project, we were fortunate to be able to tap into a community resource that has been available to people with diabetes in our community for many years: The Diabetes Center of Mission St. Joseph's. (See the article on "Training" by Cindy Spillers in this issue of *Pharmacy Times*.)

Behind the Scenes

No program with the scope of The Asheville Project can be successful without a "point person," a coordinator who acts as a conduit and overseer. This person is responsible for assembling all the pieces—the talent,

knowledge, and enthusiasm of participants—into an efficient, effective program.

Among the project coordinator's duties are:

- Matching participating patients with pharmacists
- Communicating with all participants
- Development of necessary forms
- Scheduling of laboratory determination for study patients
- Collecting data
- Tracking the flow of information and the progress of each individual in the program.
- Acting as a mentor to participating pharmacists, making time to answer questions and discuss the various elements of the project.

In order to decide which pharmacist a person would consult, the coordinator for The Asheville Project provided a list of trained pharmacists and asked patients who were enrolling to indicate a first, second, and third choice of pharmacy location. Using that information,



Barry Bunting, PharmD, explains to patient Charles Saggus of Asheville how managing diabetes contributes to overall health.



Medicap Pharmacy in Black Mountain, NC.

each person was matched with a pharmacist. We tried to make sure that every pharmacist had about the same number of patients. As it turned out, most people were assigned to their first choice.

Getting participating pharmacists together regularly to talk about the program and to share experiences is a key factor in communication. Meeting individually with the pharmacists is also important. We found it helpful to try to schedule a group meeting about 3 months into the project, then again at 6 and 12 months. Logistically, this is very difficult, given community pharmacists' schedules, and it is something we need to figure out how to do better in the future. It is important to encourage the pharmacists to discuss their success stories as well as what could be improved. The first year of a program like The Asheville Project is the most critical, especially when it comes to measuring outcomes.

The clinical coordinator for the diabetes segment of The Asheville Project also worked full-time as a pharmacist for Mission St. Joseph's. Administrative coordination for the project took about 20 hours a week during the first 2 weeks. Much of this time involved identifying patients from the employer-provided PBM prescription records and arranging for group patient meetings to fill out forms and draw blood. A fair amount of this time falls into the clerical category, and anyone considering coordinating such a program would do well to plan for several hours of secretarial time per week (on average). The time commitment peaked again at the 6-month and 12-month follow-up points.

Taking Stock

In addition to receiving special education and training, you will need to take an inventory of the diabetes-related products already available in your store. You will want to have a well-stocked diabetes department. Even more important, familiarize yourself with these products so you can teach others how to use them with confidence.

Ideally, you should designate a separate area for counseling. Design your work schedule to allow uninterrupted time to meet with participants. Set up a filing system for documentation and a method for billing your services. Make sure you have plenty of copies of any handouts or forms you plan to use.

The Initial Consultation

Once a patient has been matched up with a pharmacist, the pharmacist calls the patient to arrange for a counseling session time that is convenient for both. The initial sessions take about 60 minutes on average.

If the client is not familiar with the service being provided, help him or her understand what you hope to accomplish together. Take a detailed history using standard forms provided for that purpose.

Learn as much as you can about what communication style will work best with a particular individual. Pharmacists participating in The Asheville Project have been testing "Patient Communication Insights," a computer software program that offers "a quick and inexpensive method to assess behavioral characteristics that influence patients' actions in a medical setting." Patients complete a one-page personality preference questionnaire, and the information is entered into the computer by the pharmacist. Based on these personality characteristics, the program provides "tips" to the caregiver on how to increase that individual's level of trust and compliance. "Patient Communication Insights" is being comarketed by the North Carolina Pharmaceutical Association and Health Care Insights.

Help the person set goals regarding lifestyle changes he or she would like to make. To many people, just knowing that they are

going to be monitored is an incentive. Let them know that this is a team approach and that they are the most important members of the team.

Provide any necessary training, such as how to use a glucose meter or how to mix insulin.

Record and document everything in a standard format such as FARM (finding, assessment, recommendation, monitoring) or SOAP (subjective and objective findings, assessment, and treatment plan).

Plan follow-up visits. These should take place at least once a month, and in our experience they average 20 to 30 minutes per patient per month.

Physician Communication

A team approach is central to the success of pharmaceutical care. Let each referring physician know that you have met with his or her patient. Explain what you hope to accomplish. Ask physicians to tell you if they have any special orders, instructions, or goals for the person. It may be helpful to actually list the most likely areas with respect to the particular disease being managed. For diabetes, this list might include how often to monitor blood glucose, diet, exercise, blood sugar goals, weight, lipids, blood pressure, and smoking and alcohol use. Assure physicians that you will follow up regularly with them.

Follow-up Meetings

During follow-up meetings, you can build on what has already been learned and provide additional training or review past education. Monitor the person's blood sugar levels over the past month. Ask about problems or questions the person may have. Document the meeting.

Rules for the Wise

In our experience, the following should be considered "commandments" for any pharmaceutical care program.

Pharmacists should participate in disease management by reinforcing the physician's plan of care. The physician in turn should be following national guidelines with individual customization as appropriate. These guidelines

are available and should be a reference point for the pharmacist.

It is essential for pharmacists to receive appropriate training and education on diseases they expect to help manage and to maintain their expertise. Objective certification lends credibility and an assurance that adequate training has taken place.

Written policies and procedures must be used consistently for all specialized services, such as drug monitoring, disease monitoring, and disease management.

Why the New Model Works

"Structured accountability with financial incentives." We believe this phrase summarizes why the new model has worked for us. The financial incentive for patients is that their co-pay will be waived if they go to a particular trained pharmacist (who is at a location that the patient has selected from a list of trained pharmacists). For the pharmacists, the financial incentive is that they will be paid for this cognitive activity. The financial incentive to the employer, in this case a self-insured employer, is that healthier employees with diabetes will have lower overall health care costs. There is built-in accountability due to the fact that patients need to get their medications and supplies somewhere on a regular basis and they will go to this particular pharmacist because, if they do, it will cost them less. While they are

A popular feature of the Medicap Pharmacy is its time-saving drive-up window. Inside, Ruth Higgins, RPh, spends as much time as needed to counsel and educate participants in the Asheville Project.

there, the pharmacist will praise them if they are doing well and “pester” them if they are not. They know the pharmacist will ask them if they brought in their meter and will check their weight. Therefore, they are motivated to do the finger sticks and follow their diet instruction. They know someone is watching. We all do better if we have an accountability partner, whether the goal is smoking cessation, weight loss, or blood sugar control. This model structures such a relationship, initially almost purely based on financial motivation.

Some would say the new model is really a return to the old model. In days gone by, pharmacists had time to have a one-on-one rela-

tionship with a patient. We knew what was going on, what was working and what wasn't, and could intervene when a problem was identified. The commodity part of our profession has pulled us further and further away from this relationship. Presumably, the commodity will always be a part of our profession. But the balance once again seems to be shifting from commodity to counseling. This shift from retail to relationship can invigorate our profession and make it a vital part of health care's future. The need exists, and the opportunity must be pursued, or, in many cases, created. Our experience indicates that this is possible. The opportunity was created by “selling” the idea initially to an innovative payer. Enlisting pharmacists, developing the program, and enrolling the patients actually came later. This is perhaps the most unique difference between what was done in Asheville and what has been done in other places.

After working with this new model for over a year now, we believe that the long-term benefits of the model are an inherent byproduct of establishing a close relationship between a patient with a chronic illness and a caring, motivated pharmacist. This relationship is the key, not the intellectual prowess or credentials of the pharmacist.

Conclusion

We pharmacists like to say we are committed to helping people. Indeed, that is the public's perception of our profession. By networking with each other, we can establish standards for pharmaceutical care programs. We can then negotiate with payers in a consistent manner with respect to charges, reimbursement, and potential savings to the payer. We have an opportunity to put our education and experience to a higher use by becoming an integral part of a team dedicated to improving health care and improving disease outcomes. Every technique and approach we have used toward diabetes in The Asheville Project can be used effectively for management of asthma, hypertension, hyperlipidemia, and many other chronic conditions.

Diabetes Program Pharmacist Participants

Pharmacists	Pharmacies (all in North Carolina)
Hashim Badr	Asheville Discount Pharmacy, Asheville
Lisa Barnett	St. Joseph's Hospital, Asheville
Larry Brookshire	B&B Pharmacy, Asheville
Sam Burris	Martin's Drug Store, Canton
Gloria Cobb	Biltmore Center Pharmacy, Asheville
Russ Coble	Memorial Mission Hospital, Asheville
Phil Crouch	Kerr Drug (formerly Ideal), Asheville
Kim Ferguson	Lord's Drug Store, Asheville
Charles Gillespie	Pollards Drug Store, Burnsville
Ruth Higgins	Medicap Pharmacy, Black Mountain
Carol Hilley	PSA Swannanoa, Swannanoa
Bill Horton	PSA Beverly Hills, Asheville
Bill Kaufman	B&B Pharmacy, Asheville
Caroline Lewis	Smith Drugs, Waynesville
J.C. McGee	PSA Beverly Hills, Asheville
Bill Morris	Smith Drugs, Waynesville
Stephanie Norris	Biltmore Center Pharmacy, Asheville
Mike Overman	Lord's Drug Store, Asheville
Steve Roberts	Black Mountain Drug Co., Black Mountain
Jennifer Robertson	Memorial Mission Hospital, Asheville
Roger Spittle	Kerr Drug (formerly Ideal), Asheville
Chuck Sprinkle	Weaverville Drug, Weaverville
Mike Tolley	PSA Swannanoa, Swannanoa
Jim West	Kerr Drug (formerly Ideal), Asheville

Outcomes of the Asheville Diabetes Care Project

Carole W. Cranor, RPh, MS Pharm

The parameters studied in The Asheville Project are those that have become standard in the outcomes measurement field: clinical, economic, quality of life, and patient satisfaction. Each member of the team played a role in gathering the information needed to evaluate the success of the project. Staff at Mission St. Joseph's Health System (MSJHS) analyzed the quality of life (QOL) surveys and collected and analyzed blood samples. The City of Asheville and the University of North Carolina School of Pharmacy were responsible for summarizing the insurance and prescription claims results. Community physicians shared clinical data with the pharmacists, and the pharmacists provided detailed progress notes documenting each patient encounter. Finally, and most important, the patients participated by monitoring their blood glucose, meeting regularly with their pharmacists to download glucose data, and completing surveys and questionnaires.

Outcomes Measured

The demonstration project was designed as a before-and-after pharmacist intervention study. Patients agreed to enter the program in March 1997, and the baseline, or preintervention, date was set as March 1, 1997. The following patient-specific data were collected at baseline and at 8 and 14 months after the start of the program: clinical lab values (serum hemoglobin A1C and lipids), functional sta-

tus/quality of life (MOS SF36), and patient satisfaction with pharmacist survey. Insurance claims and prescription drug claims were evaluated for the 12 months before and after the baseline date.

Pharmacist's Role

Each patient chose a community pharmacist to serve as a pharmaceutical care provider during the project. The pharmacists agreed to provide a minimum level of care to each patient and to document that care in a standardized format. (Samples of the forms used in the program can be obtained by sending a stamped, self-addressed envelope to Asheville Forms, Pharmacy Times, 1065 Old Country Road, Westbury, NY 11590.)

Pharmacists and patients met on an appointment basis at the pharmacy of choice. The pharmacist met with each patient for an initial history, needs assessment, and goal-setting meeting. Subsequent monthly follow-up appointments were used to monitor progress, provide further training, and set additional goals.

The employer provided all patients with blood glucose monitors free of charge, and the pharmacists provided training in the use of the monitors. The results of the patients' daily glucose monitoring were downloaded monthly onto the pharmacist's computer, and the resulting printouts were reviewed with the patient at each appointment. Pharmacists were encouraged to share the results of their meetings with the patient's physician and with the MSJHS Diabetes Education Center (DEC) as needed. At the beginning of the project, physicians and the

Carole Cranor is a doctoral candidate at the Schools of Pharmacy and Public Health, University of North Carolina, Chapel Hill.

DEC provided guidelines to the pharmacists covering situations in which patients should definitely be referred for consultation.

Pharmacist Documentation

The pharmacists kept a separate folder for each patient in which all information was recorded. Documentation of findings, assessments, recommendations, and follow-up plans were entered on a standard progress note form after each appointment. Requests for and responses from referrals to physicians and the DEC were also documented in the progress notes. Copies of all laboratory work were supplied to the pharmacists by MSJHS. Some pharmacists requested additional patient records from the patient's physician. For billing purposes, each pharmacist noted the amount of time for each appointment on the progress note and used a modified NCPA claims form to submit charges to the insurer.

Patient Population

At the beginning of the project, there were 46 patients. Of these, 67% were male, 87% were white, 50% had at least some college education, and 46% earned between \$20,000 and \$39,000 a year (Table 1). Twelve patients (26%) were retirees, 5 (11%) were spouses, and 2 (4%) were children of City of Asheville employees. The mean age was 49.

Sixteen patients were on insulin only, 21 took oral agents only, six took both oral agents and insulin, and three relied on diet only. Of comorbidities typically associated

Table 1. Patient Characteristics

Characteristic	% of Patients (N = 46)
Gender:	
Male	67
Female	33
Race:	
White	87
Black	13
Marital Status:	
Married	67
Separated/Divorced	14
Widowed	2
Never Married	17
Education:	
Less Than 8th Grade	11
Some High School	17
High School Graduate	22
Some College	39
College Graduate	4
Any Postgraduate Work	7
Income:	
Less Than \$20,000	13
\$20,000 - \$39,999	46
\$40,000 - \$59,999	26
\$60,000 - \$79,999	4
\$80,000 or More	4
Prefer Not to Answer	7
Top 5 Comorbidities*:	
Hypertension	61
Arthritis	38
Trouble Seeing	22
Back Problems	17
Trouble Hearing	17

* Some patients have multiple comorbidities.

with diabetes, hypertension was present in 46%, vision problems in 22%, cardiovascular disease in 20%, and renal disease in 11% of patients in the program.

Results

Clinical Outcomes

The percent of patients with normal hemoglobin A1C and serum lipids improved consistently over the treatment period (Figure 1). At baseline, 33% of patients had hemoglobin A1C within the normal range of 4.4% to 6.4%. After 14 months in the program, this figure improved to 67%. While two of three patients were within the normal A1C range, the total proportion of patients whose A1C showed at least some improvement after 14 months was 85%. The mean lab values showed similar improvement

(Table 2). At the end of 14 months, the group's mean hemoglobin A1C had improved by 1.4 percentage points. A change of this magnitude

Figure 2. Patient Satisfaction with Pharmacy Survey Scores

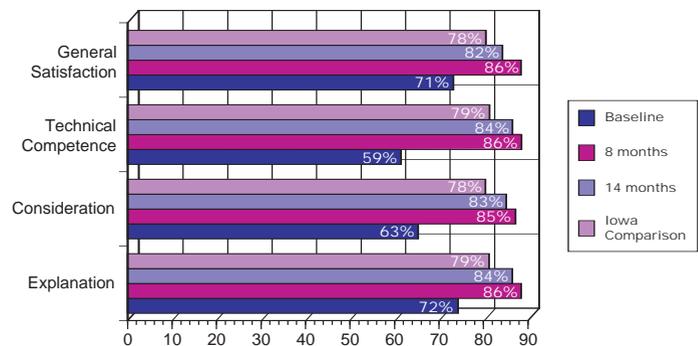


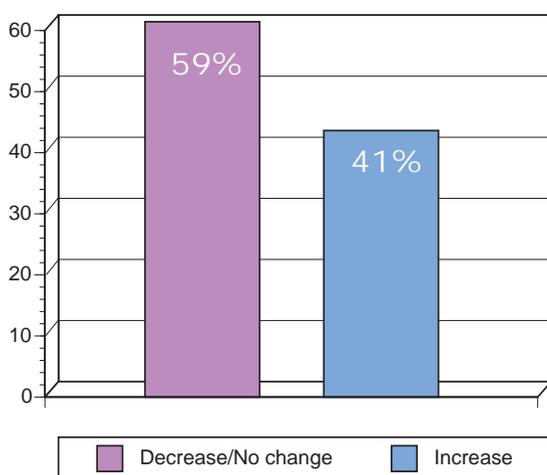
Table 2. Mean Laboratory Values

	Reference (units)	Baseline (n)	8 Months (n)	14 Months (n)
Hemoglobin A1c	4.4-6.4 (%)	7.6 (40)	7.0* (41)	6.2* (39)
Total cholesterol	130-200 (mg/dl)	210 (32)	208 (38)	198 (37)
HDL^a	27-67 (mg/dl)	45 (30)	42* (40)	48* (37)
LDL^b	70-165 (mg/dl)	118 (25)	113* (30)	98* (30)
LDL/HDL ratio	1.0-3.55 (ratio)	2.7 (25)	2.8 (30)	2.05 (30)
Triglycerides	10-190 (mg/dl)	277 (32)	290 (38)	301 (37)

* paired t-test, significant p<0.05
^aHDL - high density lipoprotein
^bLDL - low density lipoprotein

has been associated with significant long-term improvements in diabetes complications, including a decreased risk of retinopathy, proteinuria, heart disease, and amputation.¹ The Diabetes Control and Complications Trial found that a decrease in a group mean hemoglobin A1C resulted in a decreased risk of up to 63% for retinopathy, 60% for neuropathy, and 54% for albuminuria.²

Figure 3. Percent of Patients with Changes in Amount of Claims Paid



Patient Satisfaction

Satisfaction with pharmacy services was assessed at three group meetings attended by the patients. Satisfaction was measured using a modified version of a questionnaire developed and validated by MacKeigan and Larson.³ In the questionnaire, patients rated their overall satisfaction with the pharmacists, as well as their satisfaction with the pharmacists' explanation of drug therapy (explanation), technical competence, and the courteousness of staff (consideration). At the baseline measurement, the City of Asheville pharmacists were rated lower in all categories compared with ratings given a group of independent community pharmacists from Iowa.⁴ After implementation of pharmaceutical care, however, not only did patient satisfaction improve over baseline, but both subsequent assessments rated the Asheville pharmacists higher than the Iowa pharmacists in all categories (Figure 2).

Economic Outcomes

Insurance claims for the patients were assessed for the 12 months before and after baseline (Table 3). The total cost of inpatient and outpatient services declined \$20,246 during the 12-month treatment period. Of interest is

Table 3. Diabetes Program Costs

	12-Month Baseline (3-1-96 to 2-28-97)	12-Month Treatment (3-1-97 to 2-28-98)	Difference ^a
Inpatient Claims	\$ 103,541 (142) ^b	\$ 64,571 (113)	- ^c \$ 38,970 (- 29)
Outpatient Claims	\$ 117,515 (782)	\$ 120,503 (992)	+ ^d \$ 2,988 (+210)
Pharmacists fee	0	\$ 5,320 (196)	+ \$ 5,320 (+196)
Glucose Monitors	0	\$ 2,465	+ \$ 2,465
MSJHS DEC^e	0	\$ 8,000	+ \$ 8,000
Total	\$ 221,105 (924)	\$ 200,859 (1301)	- \$20,246 (+377)

^a Treatment minus baseline
^b Number of claims
^c "-" = decrease over baseline
^d "+" = increase over baseline
^e Mission St Joseph's Health System Diabetes Education Center

the observation that while the overall number of patient-provider interactions increased during the treatment period, the apparent shift from costly inpatient services to outpatient care was accompanied by an overall decrease in costs to the payer. The payer also incurred total one-time treatment start-up costs of \$262 per diabetic patient for blood glucose monitors and diabetes education provided by MSJHS-DEC.

The changes in treatment costs for individual patients were also analyzed (Figure 3). When the treatment period was compared with baseline, 59% of patients experienced a decrease or no change in the dollar value of claims paid.

During both time periods, a small proportion of patients accounted for a large proportion of the total claims paid. The analysis is incomplete at this time, but it is clear that three of these patients incurred costs due to kidney failure. Further study is required to determine if these and several other patients were suffering from complications of diabetes. One of the goals of The Asheville Project is to reduce patients' risk of developing such disabling complications as renal and cardiovascular disease by providing early and continuous intervention in the disease process.

Functional Status and Quality of Life

The mean quality of life data showed improvement over baseline in all domains at 8 months and in 5 of 8 domains at 14 months (Figure 4). These data were statistically significant in 6 of the 8 categories at 8 months and in 2 categories at 14 months. Statistical comparison for the entire group was limited, because data were available for all three data points in only 34 patients. More study of the QOL is under way, including a comparative analysis for each individual patient. These individual patient QOL results will be shared with the pharmacists and incorporated into each patient's chart so that pharmacists and patients may work together to identify opportunities for improvement.

Pharmacist Encounters and Reimbursement

The pharmacists documented a total of

Figure 4. Patient Quality of Life/Functional Status

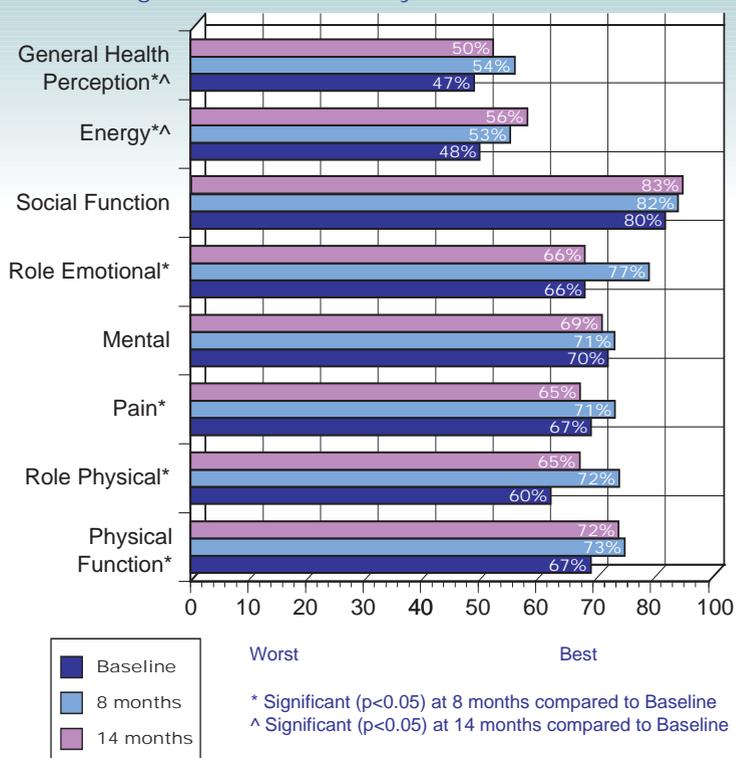


Table 4. Pharmacist Cognitive Encounters

Time Period	3-1-97 through 2-28-98
Total Number of Patient Visits	196
Mean Number of Visits per Patient (Range per Patient)	5.8 (1-10)
Mean Time per Visit (Range)	28 minutes (10 - 70 minutes)
Mean Reimbursement per Visit (Range)	\$ 27.14 (\$20-100)
Total Reimbursement	\$ 5320

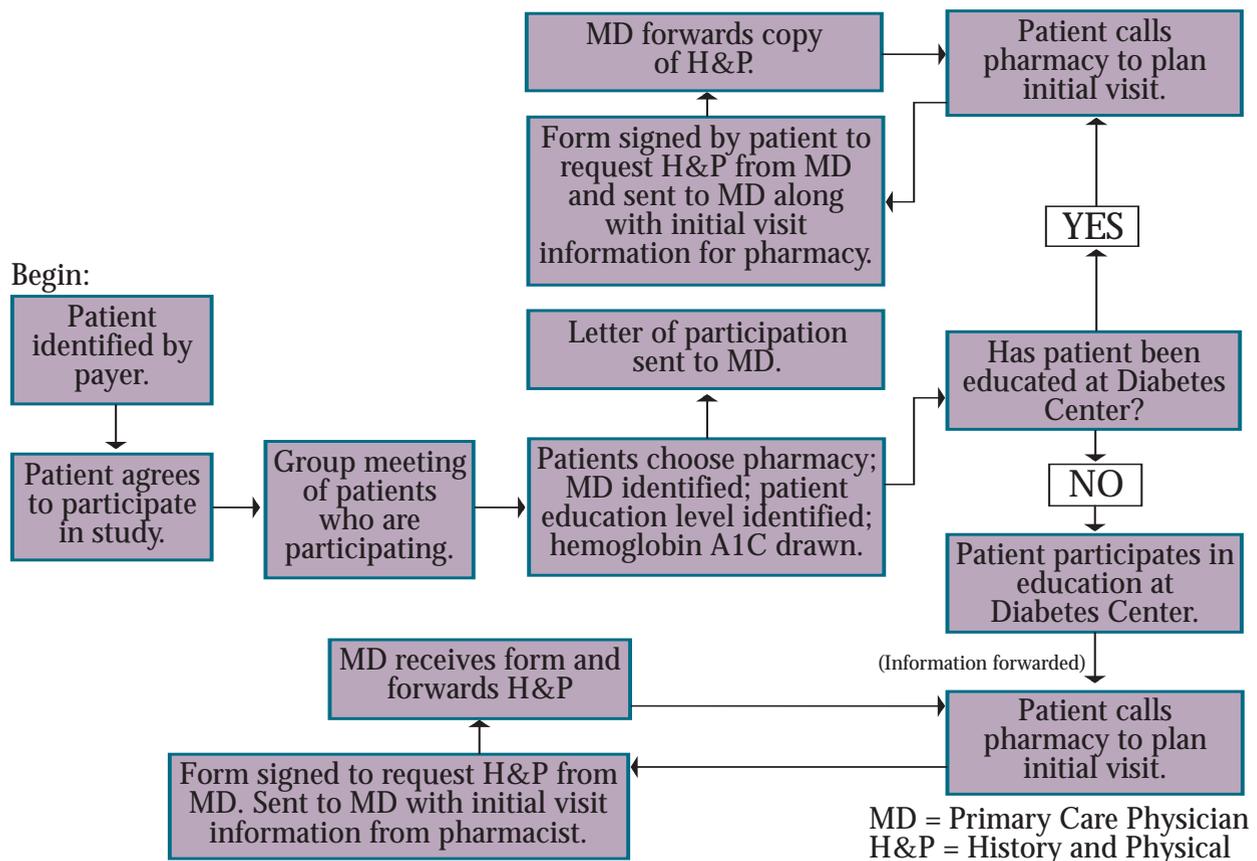
196 patient visits from March 1997 through February 1998 (Table 4). The initial visit typically lasted about 60 minutes, with follow-up visits usually ranging from 15 to 30 minutes. The average length of a visit was 28 minutes, and the mean amount reimbursed per visit was \$27.14.

Conclusion

One of the most innovative aspects of The Asheville Project was that the insurer reimbursed the community pharmacists for their cognitive services. To receive this payment, the pharmacists were required not only to submit a claims

form to the payer, but also to document many aspects of each patient encounter. As we pharmacists continue to expand our role as providers of pharmaceutical care, it is imperative that we become proficient at documenting the care we give, especially if our goal is to develop long-term relationships with our patients and to be reimbursed for our services. We cannot provide adequate clinical care without complete and accurate records of both the process and the outcomes of that care. And we certainly will not be reimbursed if we cannot prove to the payers that we have provided the services we are billing for.

Diabetes Project Flow Chart for Patient Enrollment and Initial Visits



The Asheville Project demonstrates the success that can be achieved when a community works together to improve the health of its citizens. Not only were all four types of outcomes improved after the project began, but the clinical indicators showed continued improvement throughout the study period. Pharmacists were essential to this success.

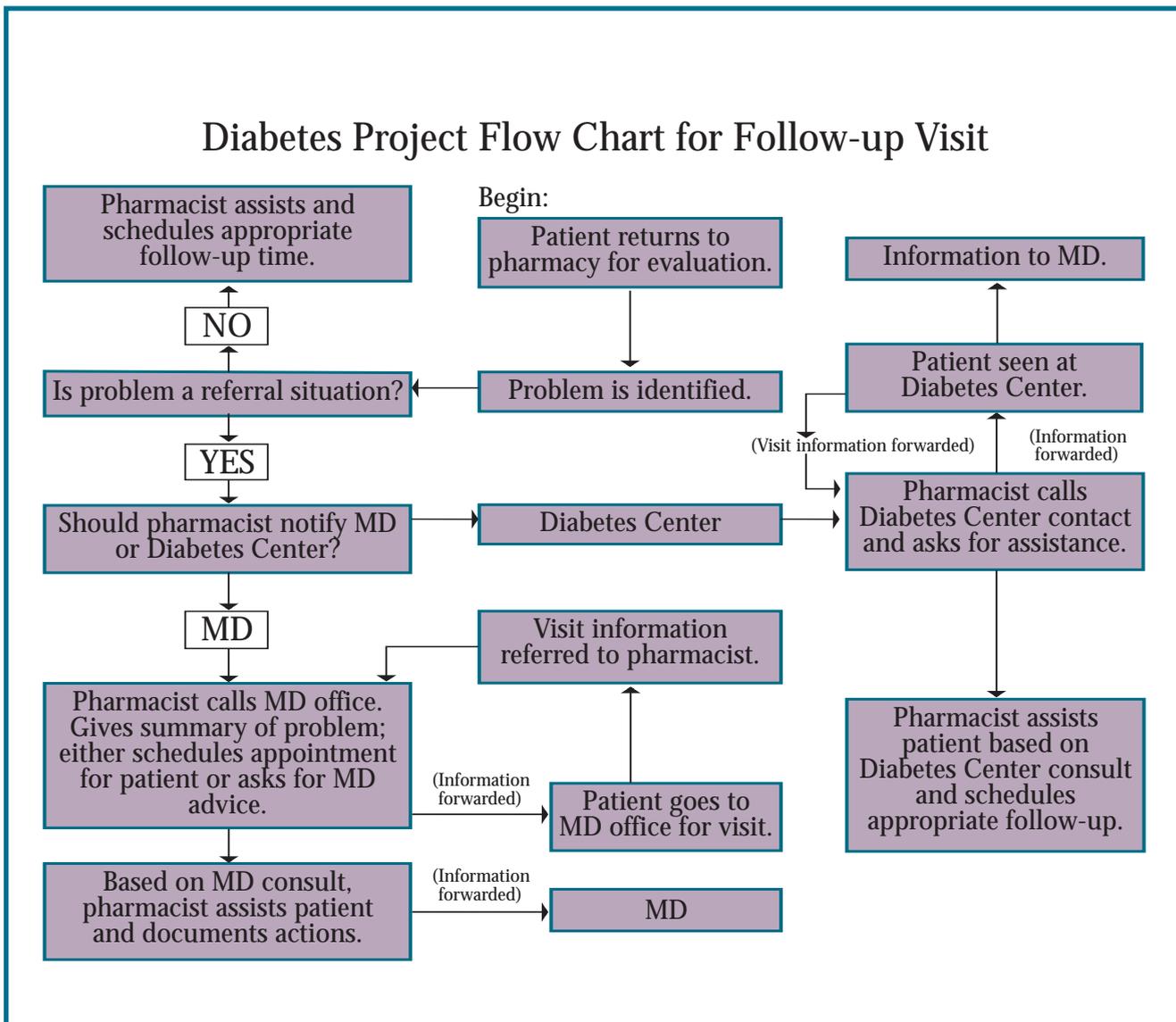
References

1. Klein R. Hyperglycemia and microvascular and macrovascular disease in diabetes. *Diabetes Care* 1995;18(2):258-268.
2. Diabetes Control and Complications Trial

Research Group. The effect of intensive treatment of diabetes on the development and progression of long-term complications in insulin-dependent diabetes mellitus. *New England Journal of Medicine* 1993;329:977-986.

3. MacKeigan LD, Larson LN. Development and validation of an instrument to measure patient satisfaction with pharmacy services. *Medical Care* 1989;27:522-536.

4. Larson LN, MacKeigan LD. Further validation of an instrument to measure patient satisfaction with pharmacy services. *Journal of Pharmaceutical Marketing and Management* 1994;8(1):125-139.



Working Together to Improve Patient Care:

Asking the Right Questions Is Key

By Paul Martin, MD

When physicians are approached about someone else's unsolicited involvement with our patients, we tend to ask more than a few pointed questions. Like good journalists, we want to know who, what, where, when, how, and why? We take our responsibility for an individual's health care seriously. As the saying goes, "Too many cooks spoil the broth," and nothing spoils a person's well-being like a fragmented health care delivery system.

In today's world of managed care, physicians are also asking questions like:

"Exactly who is managing this patient's care?"

"Who should be managing it?"

"Is The Asheville Project just an attempt by a pharmacy benefits management company to tell me how to practice medicine?"

I've had my share of concerns. Even so, after hearing the facts about medication compliance problems in this country and after working closely for over a year with pharmacists participating in The Asheville Project, I have a very specific question of my own: Why aren't we involving pharmacists more?

Consider the following: Nearly 50% of medications fail to produce the desired results because they are not taken as directed. Ten percent of hospital admissions among the elderly are due to failure to comply with prescribed medications. Poor medication compliance is estimated to add \$100 billion to U.S. health care costs annually.

The truth is, many people with chronic health conditions need encouragement to actively participate in their own care—with help from their physician, as well as physician extenders like family nurse practitioners and physician assistants. We physicians are finding that we need additional resources to properly monitor patients with chronic illness. The good news is, when it comes to medication therapy, we have access to "extenders" who are uniquely qualified to help us and our patients in this area: pharmacists educated and trained to assist in the monitoring of specific health problems.

Physicians do not and cannot interact with patients as often as pharmacists, who see patients five times more often than any other health care provider. Every time an individual enters the drugstore to purchase medicine or supplies, the pharmacist has a chance to ask

Dr. Martin is the medical director of the City of Asheville, North Carolina.



Paul Martin, MD, physician for the City of Asheville's Employee Health Services, takes a closer look at the eyes of Ed Lennon, a participant in the Asheville Project. Untreated, diabetes can lead to blindness.

how things are going and to answer questions about medication and its proper use. When lines of communication between pharmacists and physicians are open, physicians, pharmacists, and patients learn. Constrict or block those lines of communication, and everyone is left sitting in silence, wondering why a patient's condition has not improved.

From my perspective, the most important question we physicians can ask is, "What is best for our patients?" The Asheville Project's most significant achievement—and, in fact, the driving force behind the project—is improved patient care. Data that were gathered during the project clearly show that strides have been made in blood glucose control, participants' understanding of their disease, and compliance with medications.

At the same time, economic benefits have been realized by the City of Asheville, a self-insured organization trying to balance a firm commitment to the well-being of its employees with harsh financial realities. In addition, thanks to The Asheville Project, physicians have had the benefit of a second set of eyes and ears monitoring their chronically ill patients—without hiring extra staff and without

working extra hours. Individuals with diabetes are feeling better about themselves and taking better care of themselves. They don't get sick as often and are much more likely to avoid the serious health consequences that can result when self-care is neglected.

Pharmacists are valuable partners. With specific training and education, pharmacists can provide many complementary services to assist in compliance with disease management. Physicians involved in The Asheville Project have benefited from the pharmacists' compliance/adherence monitoring, efficacy monitoring, side effect/adverse effect monitoring, patient education, and monitoring of over-the-counter medication use. Patients who were significantly out of compliance were referred to their primary care physicians for reevaluation.

The comments from Asheville-area physicians printed on this page reflect what I am pleased to report is the overwhelmingly positive view our medical community has taken with respect to The Asheville Project. I believe it is time for physicians, pharmacists, and payers across the nation to ask one final, critical question about involving pharmacists in patient care, and that question is: Why not?

COMMENTS FROM PHYSICIANS

"A chronic illness like diabetes requires a lot of self-management. Pharmacists educated and trained to assist in the management of that specific health problem can make a difference by monitoring people with diabetes and encouraging them to follow through on self-care and with other providers. The fact that supplies were provided free of charge to the participants in The Asheville Project was extremely important. This type of program works best as a team effort, with primary care physicians, endocrinologists, pharmacists, educators, case managers, data managers, and hospital administrators working together." — Jeff Russell, MD, endocrinologist and medical director for The Diabetes Center of Mission St. Joseph's

"In my clinical experience, the insulin-resistance syndrome is the major risk factor for African Americans who develop coronary, carotid, renal, and peripheral vascular disease. The City of Asheville-NCCPC Diabetes Project offers the consistent, compulsive detection, treatment, and preventive medicine program necessary to address this problem." — John Russell, MD, Asheville Cardiology Associates

"I feel the program is of great benefit, as the one city employee I have as a patient has shown better compliance and blood sugar control. I think it may be something private companies may wish to adopt as well, to lower absenteeism due to complications related to uncontrolled diabetes." — Robert J. Uhren, MD, family practice physician

An Investment in Health Offers a High Return for All

By John Miall, Jr., ARM

As director of risk management for the City of Asheville, North Carolina, I have been involved with the city's benefit programs for more than 18 years. The City of Asheville is self-insured, providing benefits for 830 full-time employees and their dependents, as well as for 200 retired workers. Over the years, we have designed cost-effective benefits programs using unique and creative approaches. As an employer with a record of taking cutting-edge approaches to health care, we were a natural choice when the North Carolina Center for Pharmaceutical Care (NCCPC) and Mission St. Joseph's looked for a company to take part in a pilot disease management program.

I have had plenty of opportunities to see how a chronic condition like diabetes or hypertension can lead to much more serious, even fatal, health problems. Professionally, I am focused on the cost associated with these conditions. That's why I was more than willing to listen when I was approached by the NCCPC to consider participating in The Asheville Project. As the NCCPC explained it, the purpose of the year-long study was to observe the impact pharmacists can have on disease management.



"For anyone in risk management, this is a no-brainer," says John Miall Jr., ARM, City of Asheville.

According to Hospitals and Health Networks, the five conditions most often

targeted for disease management are diabetes, hypertension, asthma, arthritis, and gastroesophageal disease/ulcer. With the help of our third party administrator, we collected data that enabled us to determine that our employees with diabetes should be the focus of the pilot disease management program.

Our TPA identified 60 city employees and dependents who have diabetes, which is statistically consistent with figures for the general population. The group consisted of 31 men and 15 women, including 12 retirees.

We initially committed to an expenditure of about \$2,000 for at-home glucose monitoring equipment. We already had a drug card program in place with a \$5 co-pay for generic drugs and a \$15 co-pay for brand name medications. Our plan had always covered insulin, syringes, and test strips, so these were not added expenses, but we decided to waive the employees' co-pays on insulin and supplies as an incentive for them to enroll in the program.

In addition, if the pilot proved successful, we agreed that the city would compensate the pharmacists for their time. NCCPC and Mission St. Joseph's Health System in Asheville would pick up all other expenses, including the pharmacists' training, lab tests, and outcomes tracking.

The response from our employees was favorable from the outset. Living with a chronic disease like diabetes can be stressful and at times overwhelming. At the initial meeting to announce the program, one employee came up to me crying and grabbed my hand. She said, "I can never tell you how much this means to me."

After 3 months, our nurse was noticing that the individuals involved in the study were taking better care of themselves than they had in years in terms of diet, sleep, exercise—in every regard. I'm convinced that simply having someone knowledgeable to talk with about their health concerns benefits these patients a great deal. They think of the pharmacist as their "coach."

Feedback from all the employees participating in the project was so positive that I arranged to compensate the pharmacists ahead of time, instead of waiting until the end of the pilot as planned. Six months into the project, savings had already been realized, in spite of the fact that one participant diagnosed with leukemia incurred costs over \$9,000 above those of the control period. We were also seeing improved emotional, physical, and mental health for the participants, and improvements in cholesterol, triglyceride, and hemoglobin levels.

Cost-Benefit Analysis

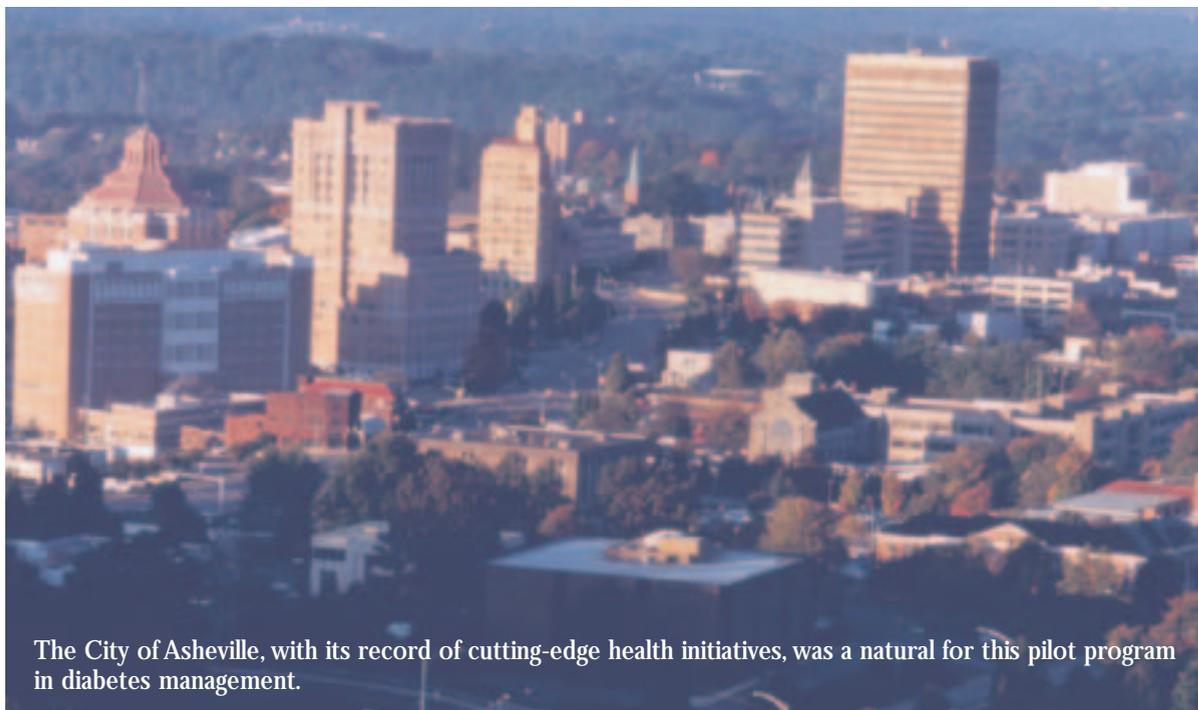
I arranged to pay the pharmacists \$75 for their initial assessments, \$45 to \$65 for intermediate assessments that lasted 30 to 45 minutes, and \$20 for routine visits. That brought

our initial investment to \$8,000. Payment for formal diabetes education for participants through The Diabetes Center of Mission St. Joseph's Health System in Asheville added a little over \$6,000.

All told, our start-up expenses for the project did not exceed \$14,000—even after compensating the pharmacists and The Diabetes Center for their services retroactive to the beginning of the program.

Compared to our \$4 million-per-year benefit program, \$14,000 is a drop in the bucket. If you're preventing one diabetic patient from facing an amputation in the future by improving his/her care now, you're saving between \$30,000 and \$50,000.

Now that I have seen an analysis of our 12-month data, I am more convinced than ever that we need to continue this project for the foreseeable future. As Asheville Mayor Leni Sitnick has observed: "The Asheville Project is a true partnership between the City, local pharmacists, and a segment of employees with certain health problems. It is another opportunity for us to provide a positive health benefit for our employees."



The City of Asheville, with its record of cutting-edge health initiatives, was a natural for this pilot program in diabetes management.

Using Existing Resources to Prepare Pharmacists for an Expanded Role

by Cindy Spillers, MS, RD, CDE

DDiabetes is a complex syndrome of disorders, and successful management of the disease relies on day-to-day choices made by the person with diabetes. People with diabetes require knowledge about the various factors that raise and lower blood glucose levels. They must balance food, activity, and possibly medication, even as they continuously monitor and learn about the disease. The person with diabetes is the key member of the diabetes care team. The role of health professionals on the team is to provide support and to assist that individual in

his or her effort to achieve optimal self-care.

From the beginning, the NCCPC realized that a key factor in the success of The Asheville Project was preparing the pharmacists for an expanded role on the diabetes care team. The pharmacists needed to update their knowledge of diabetes and management issues, including disease monitoring, diabetes-related products, and prescription and nonprescription medications taken by people with diabetes. Perhaps even more important, they needed practical, hands-on training to reinforce the basic education and to enable them to be supportive of the patients.

The staff of The Diabetes Center of Mission St. Joseph's consists of a team of dietitians, nurses, a clinical social worker, and an exercise specialist. The majority of the staff are cross-trained in all areas of diabetes care and are nationally credentialed as Certified Diabetes Educators. The Center offers an ongoing program of education and support for individuals with diabetes. Endocrinologist Jeffrey K. Russell, MD, is our medical director. Dr. Russell is a supporter of the idea that pharmacists educated and trained about the management of a specific health problem are in a key position to monitor and encourage people to follow through on optimal self-care. The Diabetes Center was identified as a major resource for the Asheville Project, along with pharmacists and physicians who are experts in diabetes management.

Faculty members from the schools of phar-



Mission St. Joseph's Diabetes Center provided pharmacists in The Asheville Project with training and education similar to what the Center offers in classes for people with diabetes. Here diabetes educator Mary Beth Horrell, MS, RD, CDE, asks one of her "students" about her self-care routine.

Cindy Spillers is the director of the The Diabetes Center of Mission St. Joseph's.

macy at the University of North Carolina at Chapel Hill and from Campbell University in Buies Creek were enlisted to assist with the training, as well as Diabetes Center staff members and Asheville physicians. Intensive training sessions were provided for the pharmacists over two weekends in January 1997, just a few months before The Asheville Project began.

The Training Program

The format for the training program included lectures, group discussions, and hands-on experience.

During the training, the pharmacists performed many of the tasks that people with diabetes must perform on a daily basis to discover what it's like to be "in their shoes" and to learn how much dexterity and visual acuity are necessary to carry out these tasks. They pricked their fingers and used blood glucose monitors to test their own blood sugar levels and learned to inject themselves—using saline rather than insulin.

In addition, throughout the two weekends, they ate snacks and meals that would be recommended for people with diabetes. We wanted them to see that meal planning is no longer restrictive and that the foods aren't tasteless. In the past, many people diagnosed with diabetes were simply handed a diet sheet and told to follow it. Today, meal planning involves much more interactive education. At both weekend sessions, the pharmacists saw that people with diabetes should have a variety of flavorful foods which are also good for them, and we provided copies of the recipes.

The Faculty

Six physicians from the Asheville community who work with people with diabetes were invited to present lectures and share information with the pharmacists. These six physicians included a cardiologist, an endocrinologist, a nephrologist, a pediatric endocrinologist, a retinal specialist, and an orthopedist, who sees a number of patients with diabetes-related foot problems.

Six members of The Diabetes Center made significant contributions to the training pro-

gram. For example, the center's certified clinical social worker explained how stress can affect patients with diabetes and their families; other educators lectured on topics such as exercise, nutrition and meal planning, and how to teach patients. They also conducted the hands-on classes on insulin administration (devices and techniques) and blood glucose monitoring supplies and techniques.

The remaining faculty and presenters were pharmacists from NCCPC and from the two universities. Their tasks were to review current pharmacotherapy treatment strategies for diabetes, contraindications, how other medications may impact blood sugar, etc.

Measuring Success

The pharmacists were given a "pre-test" and a "post-test." We wanted to see how much they knew before the two weekend intensives, and then how much they knew at the end. The tests showed dramatic improvement.

Feedback in the form of comments from the participants themselves was also encouraging. One of the pharmacists had worked with people with diabetes for several years but still felt she had learned a great deal from the hands-on work. Another participant appreciated the chance to learn how to use a variety of blood glucose monitors as well as the specifics about diet and exercise. He commented that he could now go into detail with patients about how much exercise and what kind of exercise is important, and why it helps improve their physical condition.

Perhaps the best measure of the training's effectiveness has been the response from the city employees and their dependents who are participating in The Asheville Project. Their enthusiasm and improved health are powerful testimonials to the value of the pharmacists' expanded role and the importance of the preparation and training those pharmacists received.

Funding for the pharmacists' training was provided by the North Carolina Center for Pharmaceutical Care, Mission St. Joseph's Health System, and grants from Lilly and Pharmacy Network National Corporation-PNNC.

