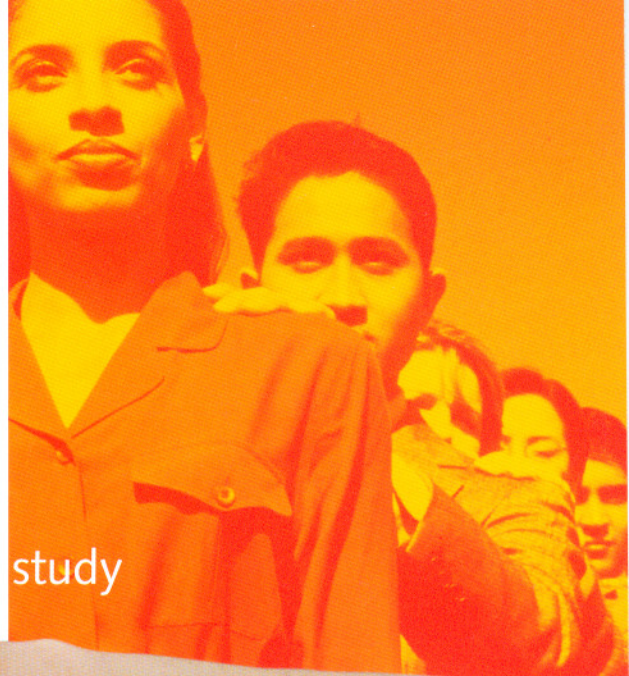


a case study

An **innovative** approach to

Employee Diabetes Management

How the Asheville Model adds a valuable link to the diabetes care delivery chain

Asheville
NORTH CAROLINA

Introduction

An innovative approach to employee diabetes management

Employers are facing seemingly unmanageable health care costs. The contemporary tools of employee health care cost management don't seem to be getting the job done.

By their actions these employers seem to be saying, as the adage goes, that "if you want a job done right, do it yourself." Additionally, some of the proactive employers have come to view the health care delivery system as broken, producing substandard results. Expressed as a formula, the situation has reached the point where:

Limited Effectiveness of Employee Health Management + **Inability/Unwillingness to Absorb More Costs** = **Forced Employer Health Care Innovation**

This report describes one such innovation, the Asheville Model[1,2], that has been repeatedly validated and used by employers for almost 10 years to improve the health outcomes and decrease costs of a serious and costly disease: diabetes. Here's what follows:

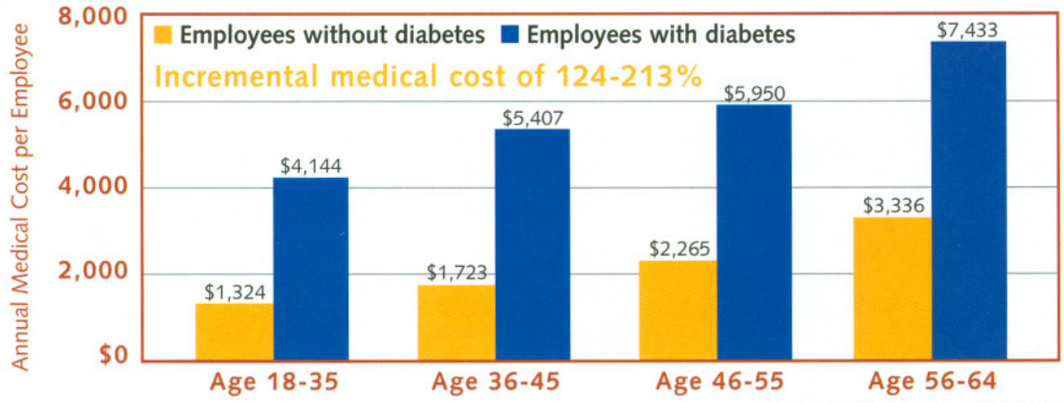
- Diabetes impact on employers
- Asheville Model
  - > Background
  - > How does it work?
  - > Clinical and financial outcomes
  - > Why does it work?
- Employer validation of the Asheville Model
- What employers have learned

[1] *J Am Pharm Assoc.* 2003;43:173-84.

[2] *J Am Pharm Assoc.* 2005;45:130-7.

Diabetes impact on employers

Many employers are not fully aware of the cost of diabetes to their company. Consider the diagram below:



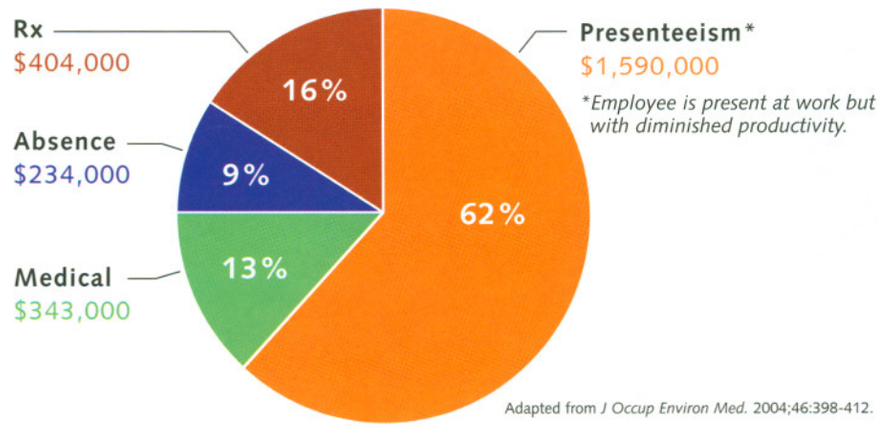
Adapted from *Diabetes Care*. 2002;25:23-9.

The incremental annual medical cost of employees with diabetes is from $2,820-$4,137, or 124-213% more per year.[3]

Here's another way to look at the cost of diabetes to employers ...

this time from the perspective of an employer of 10,000. Note, the most costly aspect of diabetes for employers by far is *presenteeism*, which is the on the job productivity losses of employees with diabetes.

Total annual diabetes cost of $2.57 million for 10,000 employees



Adapted from *J Occup Environ Med*. 2004;46:398-412.

It's hard not to conclude from the eye-opening data above that the diabetes care model employers are paying for is having limited success. That was the conclusion in Asheville, North Carolina, and the impetus for employers and pharmacists to come together to try a different diabetes care management approach.

[3]Adapted from *Diabetes Care*. 2002;25:23-9.

Asheville Model

Background

What has become known as the Asheville Model of employee health management was first implemented as a diabetes management demonstration project in the late '90s in Asheville, North Carolina. The driving force behind the initiative was the North Carolina Center for Pharmaceutical Care, a coalition of the state's pharmacy organizations. The Center provided the operational and administrative mechanism for field testing the concept of pharmaceutical care services, the movement within the pharmacy profession to expand the pharmacist's role to include patient care. More specifically, the Center wanted to answer this question: *Could properly trained Asheville pharmacists assess, counsel, help manage and improve the health status of people with diabetes? Further, could they do it cost-effectively?*

The first employer sponsor of the "Asheville Project," the City of Asheville, signed on in 1997. The second, Mission-St. Joseph's Health System, also in Asheville, signed on in 1999. The term of the original demonstration project ended with great success and notoriety in 2001. The systems and care processes it created, however, are still being used by employers in Asheville to help manage employee health, so the original Asheville Project lives on. And in fact, based on the diabetes management success, the ongoing program has been expanded to also include asthma, hypertension and hyperlipidemia. What's more, the Asheville Model has been subsequently adopted and validated by other employers.

How does it work?

As depicted in Figure 1 on the opposite page, the three elements of the Asheville Model are: proactive employer; employee with diabetes; and specially trained pharmacist providing pharmaceutical care services. The underlying principle in Figure 1 is that the employer, employee and pharmacist can work together to improve diabetes care management while simultaneously reducing costs. How? The face-to-face meeting of the employee and the pharmacist adds a valuable link to the diabetes care delivery chain. The added value of the pharmaceutical care visit intends to educate, motivate, and empower the employee to better manage their condition with resultant improved health status and reduced diabetes-associated cost.

The face-to-face meeting of the employee and the pharmacist adds a valuable link to the diabetes care delivery chain.

Figure 1*

THE ASHEVILLE MODEL OF EMPLOYEE DIABETES MANAGEMENT

Financial Incentives

- Waived co-pays on diabetes meds and supplies
- 'Free' home blood glucose monitor
- 'Free' diabetes education

Pharmaceutical Care Services

- Care monitoring
- Counseling and coaching
- Feedback to physician
- Referrals to diabetes educator

> *"I'm getting a 4-to-1 return on my investment. I can afford a lot more medications and physician visits than I can trips to the emergency room."*
>
> **— John Miall, Risk Manager, City of Asheville, NC**

"In N.C., improving worker health – and cutting costs," *The Washington Post*, Aug 20, 2002.

*This is a pictorial representation of the actual model.

[4] *J Am Pharm Assoc.* 2003;43:173-84.

[5] *J Am Pharm Assoc.* 2003;43:185-90.

Who did What

The essential elements of the Asheville Model and as depicted in Figure 1 are discussed below.

EMPLOYER
Benefit Design

The Asheville employers participating in the project made a commitment to do three things.

First, they agreed to make payment to participating pharmacists for pharmaceutical care services. A fee-for-service was negotiated (the mean reimbursement per visit was $27.14)[6] for the time pharmacists would spend with employees in the program.

Second, the employers agreed to create financial incentives[7] to induce their employees with diabetes to enroll in the program. The employee incentives were: waived co-payments for diabetes medications and related supplies; a free home blood glucose monitor; no-cost pharmaceutical care visits; and no-cost certified diabetes education.

Finally, the employers had to establish the payment mechanisms that would accommodate participating employees' waived co-payments and pharmacist charges for pharmaceutical care services. To accomplish this, the employers contacted their respective PBMs and TPAs, which, as discussed subsequently in this report, developed systems and processes accordingly.

[6] *The Asheville Project. Pharm Times (Supp).* October 1998.

[7] *J Am Pharm Assoc.* 2003;43:173-84.

EMPLOYEE WITH DIABETES
Incentives/Behavior

Employees of the two project sponsors were made aware that a new, no-cost health benefit was being offered for those with diabetes.[8] The essential and mandatory *quid pro quo* of the program was explained to interested employees: If **you** will agree to meet monthly with a pharmacist about your diabetes, then **we** will agree to pay for your diabetes medications and supplies and give you a home blood glucose monitor. It was made emphatically clear to program enrollees that regular pharmacist visits were mandatory. If they missed their pharmacist meetings, they would be "kicked out" of the program and their diabetes co-pays would be reinstated.

There was another stipulation of program participation. Employees who had not previously received formal diabetes education or, who had received their education more than two years ago, were required to attend no-cost diabetes education classes.

It was further explained to program enrollees that they could chose from a list of participating community pharmacists for their care visit, and that their meetings with them would be "free." The purpose of the pharmacist visits would be to discuss their medications, health status and to set and monitor diabetes treatment goals.

[8] *North Carolina Pharmacist.* Jan/Feb, 2000.

PHARMACIST
Care Managers

The pharmacist network participating in the Asheville Project was established by the North Carolina Center of Pharmaceutical Care (NCCPC). Registered pharmacists in the Asheville area who were interested in putting their clinical knowledge to new uses, in the personal aspect of patient care services and in having a new source of income, were recruited to the program. To participate in the program, the pharmacists were required to receive professional training in the management and monitoring of diabetes. Accordingly, each pharmacist received 32 hours of classroom instruction as arranged by NCCPC.[9]

The scope of pharmacists' services provided to employees with diabetes were: health status monitoring and counseling; medication Q&A and compliance review; and physical assessment of feet, skin, blood pressure and weight. In addition, pharmacists referred employees to their physician or diabetes educator as required.[10]

[9] *North Carolina Pharmacist.* Jan/Feb, 2000.

[10] *J Am Pharm Assoc.* 2003;43:149-59.

PHYSICIANS AND DIABETES EDUCATORS
Care Coordinators

Significant efforts were taken to inform the participating employees' physicians about the program.[9] It was carefully explained that the pharmacists were not in any way infringing on the patient-physician relationship, but were another set of professional eyes and ears assessing and monitoring the patient on an ongoing basis. Further, a fundamental protocol of the program was for pharmacists to immediately contact employees' physicians if diabetes-related problems were uncovered.

Certified diabetes educators (CDEs)[9] were also a resource for the program. On the front end of the program, they provided the education to participants who required diabetes education. On the back end, employees who were assessed by their pharmacists to be in need of further diabetes education were referred to CDEs.

PBMs AND TPAs
Payment Process

During the design phase of the project, data from the pharmacy benefits managers (PBMs) were used to identify the diabetes medications and supplies that would qualify for waiver of co-payments. Then, the specific products were identified to the PBMs, as well as the names of the employees qualifying for the waived co-payments. The PBMs adapted their internal systems and processes to ensure that when the participating employees filled their diabetes prescriptions and purchased related supplies at retail sites, no out-of-pocket payment was required.

Third party administrators (TPAs) came into play for reimbursement of pharmaceutical care services. With the assistance of NCCPC, unique billing codes with associated payment amounts specific to the employee-pharmacist diabetes visits were developed and identified to the employers' TPAs. The TPAs then developed and adapted systems and processes to receive and recognize charge claims from the pharmacist and make payments as appropriate. Finally, the TPAs, as wells as the PBMs, were required to provide the employers and NCCPC with reports of program activity.

"I probably wouldn't have signed up without the incentive."

— Asheville Project employee participant

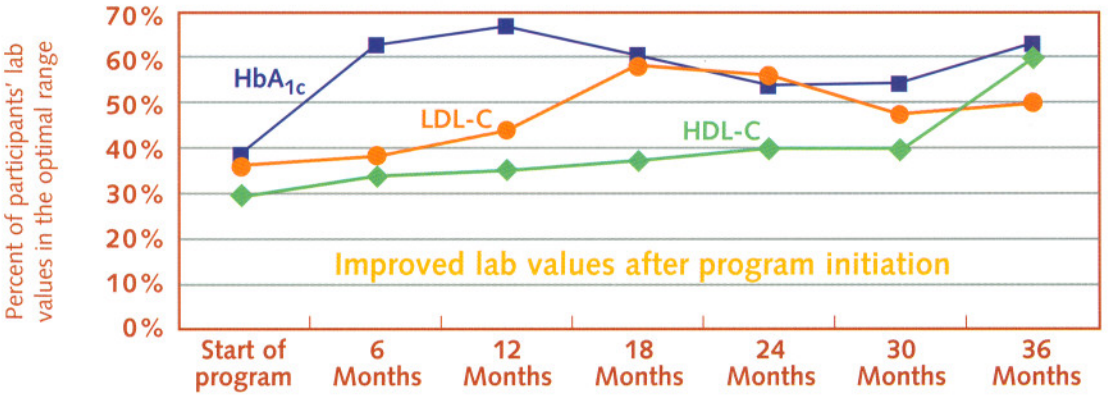
*J Am Pharm Assoc.*2003;43:185-90.

outcome

Clinical and financial outcomes

So was the Asheville Project successful? A BIG YES.

One of the fundamental objectives of the Asheville Project was to improve the health behaviors and status of employees with diabetes. The change in program participants clinical indicators over time demonstrate that success was achieved. Here, for example, is what happened to enrollees blood glucose and lipids at 6-month intervals, as measured by percent of lab values in the optimal range. Their lab values improved significantly.

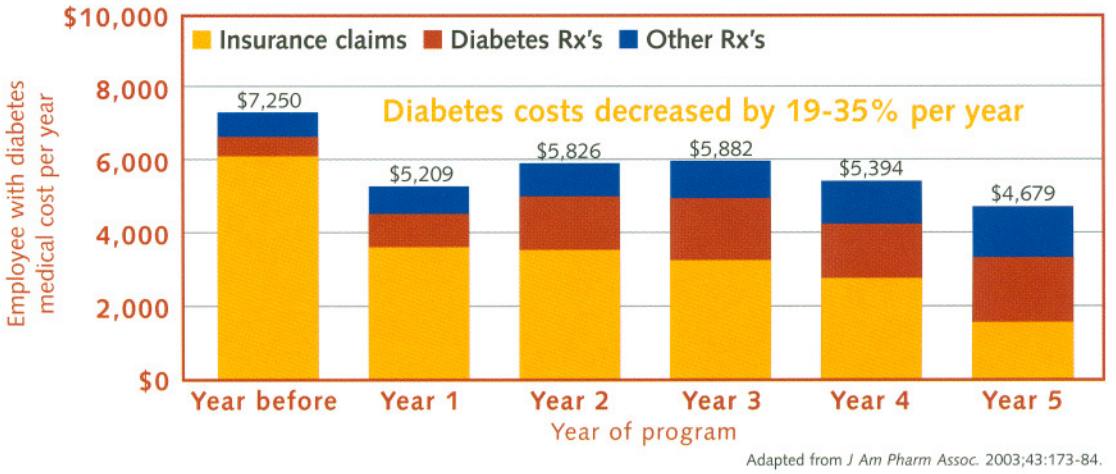


Adapted from *J Am Pharm Assoc.* 2003;43:173-84.

HbA_{1c} = glycosylated hemoglobin, the gold standard of blood glucose measurement. Optimal range is < 7.0%.
LDL-C = low-density lipoprotein. Optimal range is < 100 mg/dL.
HDL-C = high-density lipoprotein. Optimal range is > 55mg/dL for women, > 45 mg/dL for men.

Mean HbA_{1c} decreased at all follow-ups, with more than 50% of participants demonstrating improvements at every measurement. Also, more than 50% of participants showed improvements in lipid levels at each follow-up.[11]

The financial outcomes of the Asheville Project were commensurately positive with the clinical outcomes. As presented in the chart below, the direct medical costs of diabetes borne by the employer program sponsors decreased during this program.



Adapted from *J Am Pharm Assoc.* 2003;43:173-84.

Employer program sponsors realized decreases in total direct medical costs that ranged from $1,622-$3,356 per program participant.[11]

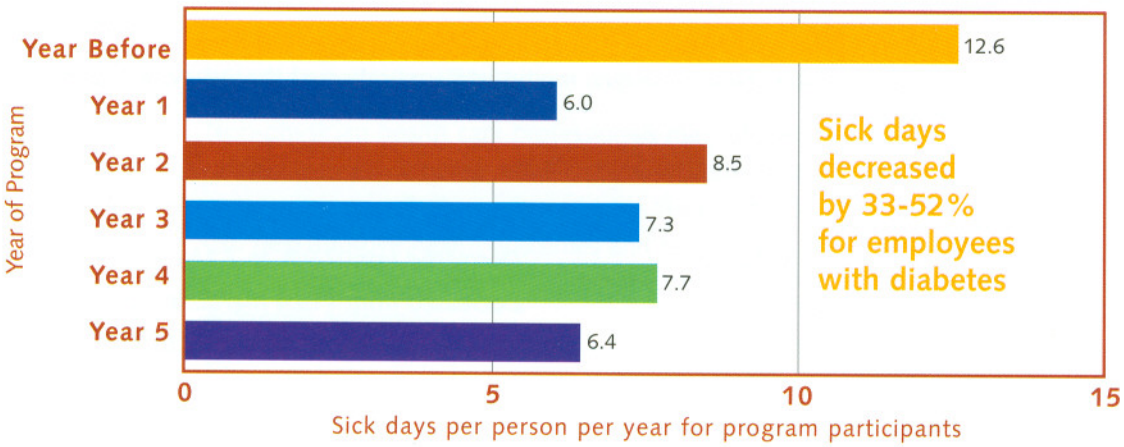
[11] *J Am Pharm Assoc.* 2003;43:173-84.

"Just having people at work is a wonderful return on the dollar."

— Bill Schaefer, Finance Director, City of Asheville

"In N.C., improving worker health – and cutting costs," *The Washington Post*, Aug 20, 2002.

On the productivity front, one of the sponsoring employers, the City of Asheville, was able to track sick day utilization of its employees with diabetes who participated in the program. Here's what it discovered.



Adapted from *J Am Pharm Assoc.* 2003;43:173-84.

Further, the City of Asheville estimated a value of $18,000 annually for increased productivity of program participants.[12]

Why does it work?

Those involved in the Asheville Project say that the primary reasons that it was successful were:

Enabling employers. Employer sponsors were challenged by the failure of traditional strategies to control their health costs, and were willing to do something unconventional: pay pharmacists for patient care services.

Meaningful financial incentives. The waived co-pays for diabetes drugs and supplies were what convinced employees to get on board.

Employee empowerment. Regular visits with pharmacist increased knowledge and confidence required for improving diabetes self-management skills. Employees' perception of their diabetes was improved.

Improved communication and continuity of care. Information transmission from the pharmacists to the employees' physicians and diabetes educators helped to integrate and coalesce the care provided to the employee with diabetes.

No insurmountable implementation or PBM/TPA issues. There were some obstacles, but since all parties had the aligned incentives of either making or saving themselves some money, or in the case of the PBMs and TPAs, in doing what their client requested of them, ways were found to get around the roadblocks.

[12] *J Am Pharm Assoc.* 2003;43:173-84.

Employer validation of the model

For almost 10 years now, the Asheville Model of employee chronic disease care facilitated by a low cost health care professional has been used by numerous employers in numerous locales to achieve the same positive results. One of the larger scale implementations has been a coordinated project involving 10 employers in four states that started in 2003 and continues on today.[13] Employers participating in this project include Mohawk Industries, Ohio State University and Kroger. Collectively, a total of 250 employees with diabetes participated in the first year study phase of the project.

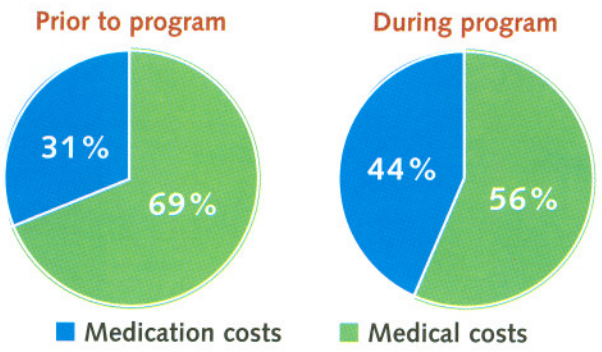
The clinical findings from this multi-employer, multi-state application of the Asheville Model as presented in the table below have been impressive.

Health Indicator of Employees with Diabetes Selected Conclusions	First Year Results	Degree of Improvement
Blood glucose as measured by HbA_{1c}	*Decreased from 7.9% to 7.1%*	**10%**
Blood lipids as measured by LDL-C	*Decreased from 113.4 mg/dL to 104.5 mg/dL*	**8%**
Blood pressure as measured by mean systolic blood pressure	*Decreased from 136.2 mm Hg to 131.4 mm Hg*	**4%**
Influenza vaccination rate	*Increased from 52% to 77%*	**48%**
Foot examination rate	*Increased from 38% to 80%*	**111%**

Adapted from *J Am Pharm Assoc.* 2005;45:130-7.

Distribution of employees' diabetes costs

As seen in the adjoining pie charts, the employers in the multi-state Asheville Model application have observed some shifting in their employees' diabetes costs from inpatient and outpatient medical services to medication costs.



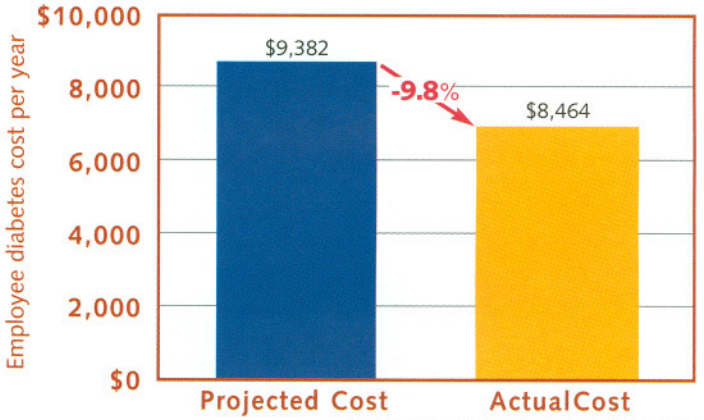
Adapted from *J Am Pharm Assoc.* 2005;45:130-7.

The cost savings

achieved by the Asheville Model

How about the bottom line impact of the multi-employer implementation of the Asheville Model? Has it validated employer cost savings? As presented pictorially at right, the answer to this question is also "yes."

The annual cost of an employee with diabetes in the program was $8,464, versus a projected cost of $9,382.[13] Which is to say, that net of all program costs, the Asheville Model saved the employers $918, or 9.8% for every employee with diabetes enrolled in the program.



Adapted from *J Am Pharm Assoc.* 2005;45:130-7.

[13] *J Am Pharm Assoc.* 2005;45:130-7.

What employers have learned

1. Improving employee health saves money. The Asheville Project and the subsequent implementations of the model of care it created support the proposition that healthier employees are less costly employees.
2. Increased pharmaceutical spend can be net cost saving. Increased pharmaceutical cost was an intended consequence of the Asheville Project, but was more than offset by the reduced medical costs of employees.
3. Non-physician health care professionals may add value to the care delivery chain for employee chronic diseases. The Asheville Project demonstrated that pharmacists and CDEs can be valuable links in the diabetes care chain, and can help improve health outcomes and reduce costs. The regular visits with pharmacists improved the diabetes care process and improved clinical and economic outcomes.
4. Never underestimate the power of benefit redesign or financial incentives to change employer health care behaviors. Many patients joined the Asheville Project for the cost savings provided by waived co-pays for diabetes medications and related supplies.[14]
5. Employers shouldn't take for granted that their local health delivery system is taking care of their employees chronic disease management needs. In fact, the improved clinical and economic outcomes of the Asheville Project proved just the opposite.
6. Employers CAN implement change in the way employees' health care is delivered and paid for. When sufficiently motivated, employers can be change agents for their employees health care delivery and quality improvement.
7. Employees can increase their cost-saving, disease self-management skills. The Asheville Project showed that given the right motivation, education and opportunity, employees can become more actively engaged in the management of their own chronic diseases.

> *"The traditional ways of controlling health care costs just weren't working for us anymore. So we agreed to pilot the Asheville Program."*
>
> **— Debbie Arnold, Manager of Benefits Planning, VF Corporation**
>
> Beyond Asheville. *Pharm Times (Supp)*. June, 2005.

[14] *J Am Pharm Assoc*. 2003;43:185-90.

An innovative approach to employee diabetes management

Employer results from the Asheville Project

The Asheville Project — what is it?

A multi-employer health improvement initiative in Asheville, NC in the late '90s targeted at employees with diabetes. The project created what is now known as the "Asheville Model" of employee health management for chronic diseases. The essential elements of the project were:

- A network of specially trained community pharmacists to whom employees with diabetes made regular visits for care monitoring and counseling.
- Employer payment to pharmacists for pharmaceutical care services.
- Waived co-pays on diabetes medications and supplies for employee program participants.

Asheville Project clinical and financial outcomes

Mean HbA_{1c} values of program participants decreased, with more than 50% of participants demonstrating improvements at every measurement. More than 50% of participants also showed improvements in lipid levels at each follow-up. Employer program sponsors realized decreases in total direct medical costs that ranged from $1,622-$3,356 per program participant. One employer had an average reduction of 41% in program participant sick days, and estimated a value of $18,000 annually for increased productivity of program participants.

Conclusion

The Asheville Project demonstrated that: improving employee health can be net cost saving; economic incentives via benefit redesign are key levers for changing employee health behaviors; and pharmacists or certified diabetes educators (CDEs) may be under-utilized resources in the care delivery chain for employee diabetes and other chronic diseases.

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