Implementing Disease Management Programs for Type 2 Diabetes in Germany

Germany has been able to enroll more than a million people with type 2 diabetes in DM programs through legislation that created incentives for physicians and insurers

HEINZ NAGEL, MD; THOMAS BAEHRING, PHD; WERNER A. SCHERBAUM, MD, PHD, German Diabetes Center, Leibniz Center for Diabetes Research at the Heinrich Heine University of Duesseldorf, Germany

Objectives

The objective of this study is to examine the acceptance of disease management programs (DMPs) for type 2 diabetes among patients as well as physicians in Germany.

Background

DMPs began in the United States in the 1990s. The German government developed interest in DMPs for specific conditions and implemented them nationwide in 2003 for patients with diagnosed type 2 diabetes. The goal was to improve the quality and efficiency of diabetes care nationwide. Participation in the program is voluntary for both patients and physicians.

Methods

Data were systematically collected from the publicly accessible Web sites of the Federal Insurance Agency (Bundesversicherungsamt) and the State Associations of Ambulatory Care Physicians (Kassenaerztliche Vereinigungen). In addition, these agencies were contacted directly by phone to verify the completeness and accuracy of the data.

Results

Since the national implementation of DMPs in Germany, the most dramatic growth in patient enrollment occurred during the first year with a doubling every three months until the 1 million mark was reached in July 2004. Since then the enrollment has shown a slower but steady growth rate, with 1.76 million patients with type 2 diabetes currently enrolled.

About 75 percent of primary care physicians have enrolled in a DMP. However, there are significant regional differences in enrollment rates from state to state.

Conclusions

About one third of all patients with type 2 diabetes and three quarters of all primary care physicians are currently enrolled in a DMP. This implies a high rate of acceptance by both patients and physicians. One of the main reasons for the success of the programs with regard to enrollment has been the passage of risk adjustment legislation, which created an incentive for health insurance companies to enroll patients with chronic conditions, rather than creating disincentives to enrollment. This finding may be of interest to other countries that already have DMPs in place or that are considering the introduction of DMPs into their health care system.

Early reports show an average improvement of glycemic control in enrolled patients, but further studies need to be done to examine whether this leads to an overall improvement in patient outcomes.

Author correspondence:

Heinz Nagel, MD, MHS
German Diabetes Center at the Heinrich-Heine-University of Duesseldorf
WHO Collaborating Center in Diabetes
Auf'm Hennekamp 65
40225 Duesseldorf
Germany
Phone: (01149) 211-3382600
E-mail:
Heinz.Nagel@ddz.uni-duesseldorf.de

INTRODUCTION

The number of people with diabetes is rising in Germany as well as worldwide, posing previously unknown challenges for health care systems. Data analysis of a random sample involving nearly 20 percent of all members of the largest health insurance company (Allgemeine Ortskrankenkasse, AOK, 2.3 million insured) in the state of Hessen in Germany found a prevalence of diagnosed diabetes of 8.79 percent in 2001. After correction for the total German population, the prevalence is nearly 7 percent, or nearly 6 million people with diabetes in Germany.[1] It is estimated that an additional 2 million to 3 million people are living with diabetes but are undiagnosed.[2] A population-based study by the German Diabetes Center in the southern German city of Augsburg in 2000 found that in the population 55 to 74 years old, about half of the cases with diabetes are undiagnosed.[3]

To better address the growing epidemic and to improve the quality and efficiency of diabetes care, the German government in 2002 passed legislation for a national introduction of disease management programs (DMP). Such programs were developed in the United States in the 1990s. As a first step, three diseases were selected for the DMP in Germany: type 2 diabetes, breast cancer, and coronary heart disease.

The purpose of this paper is to describe the history, current situation and the trend in voluntary enrollment of patients and physicians since implementation of the type 2 diabetes DMPs and to explore the underlying reasons for its growing acceptance and popularity.

BACKGROUND

A unique feature of all DMPs is that participation is voluntary for both physicians and patients. However, once signed up, physicians are obligated to treat patients according to clinical practice guidelines, adhere to strict referral rules, and follow meticulous documentation through computerized forms. Physicians are required to define individual treatment goals in cooperation with the patient and to follow that up with an individually designed treatment plan for each patient. They also have to join quality improvement networks (Qualitaetszirkel), which allow them to exchange their experiences with other physicians in the program. Patients are obligated to sign up with a participating primary care provider, attend problem-oriented diabetes education classes, and commit to regular office visits.

DMP legislation applies only to the statutory health insurances (SHI), which cover about 88 percent of the German population and are mandatory for every employee with an annual gross income of €47,500 ($60,500 U.S.) or less. Persons with an annual income greater than €47,500, and some other groups (self-employed, civil servants, etc.) may enroll voluntarily in one of the SHIs or join one of many private health insurance companies. About 10 percent of the population is privately insured and the rest is covered by sector-specific insurance plans (military, police, etc.). The number of uninsured is estimated at 0.2 percent. Since 1996, people enrolled in an SHI are free to choose among a large number of SHIs (262 in July 2005). The SHIs are not-for-profit health insurance companies, which by law are obligated to provide a comprehensive health care package through a third-party payer system. Copayments are modest and limited to €5–€10 ($6–$12 U.S.) per prescription for medications, €10 for the first ambulatory physician visit every three months and €10 per day of a hospital stay. In addition, copayments by patients are limited to a maximum of 2 percent of the household income (1 percent for patients with chronic disease). People with very low income, welfare recipients, and children younger than 18 are completely exempt from copayments.

The first regional DMPs were implemented in 2003 and their total number has now grown to over 3,000 in type 2 diabetes alone. DMPs are negotiated by regional SHIs and by the Associations of Ambulatory Care Physicians (Kassenaerztliche Vereinigungen, KV) for a three-year period and must obtain prior approval from the Federal Insurance Agency (Bundesversicherungsamt, BVA). The BVA sets the guidelines and quality standards, based on federal legislation, and is responsible for the oversight of the entire program and for the collection and analysis of the data. There is a risk adjustment scheme in place that redistributes money among the 262 SHIs based on their member profiles. Factors taken into account to calculate the risk profile of each insured are income, gender, number of premium-free family members (children and non-working spouses), disability, and sick days.

This risk adjustment scheme was amended prior to starting the DMP in such a way that now the SHIs receive additional money from the other SHIs for each patient who voluntary enrolls in a DMP.

According to the BVA, the compensation was an average of€€1,288 ($1,640 U.S.) per year for each enrolled patient with type 2 diabetes in 2004.[4]

METHODS

Data regarding the enrollment of patients in the DMP type 2 diabetes were obtained from the Federal Insurance Agency. All SHIs have to report the number of patients who sign up for a DMP to this agency and the reporting usually occurs about once a month.

Data regarding the enrollment of primary care providers were obtained from the publicly accessible Websites of the Associations of Ambulatory Care Physicians (Kassenaerztliche Vereinigungen, KVs). The KVs are organized at a local and state level. Every physician in private practice in Germany has to be approved and registered by a KV. To get the extra payment for DMP patients, physicians have to notify their state KV about their enrollment in a DMP as a primary care provider (level 1) or as a diabetes specialist (level 2). The KVs update their data daily. We also contacted the previously mentioned agencies directly by phone to verify the relevance and completeness of the data.

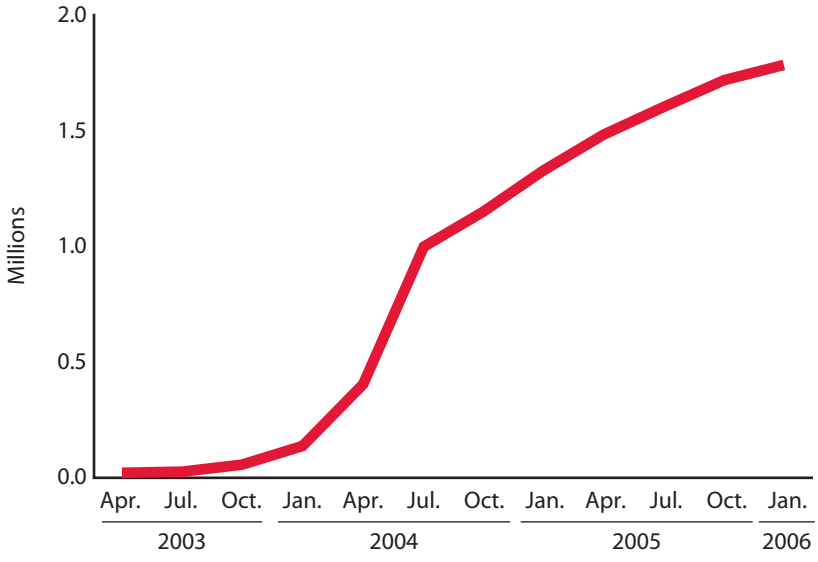
RESULTS

Enrollment of patients with type 2 diabetes

DMPs for type 2 diabetes were implemented stepwise throughout Germany starting in April 2003. The total number of patients that were enrolled in January 2006, the month of the latest available data, was 1.76 million. Figure 1 shows the trend in enrollment since the program's implementation. The DMP had its most dramatic growth during the first year, when the number of enrollees more than doubled every three months, until the 1 million mark was almost reached in July of 2004.

Since then the enrollment rate has continued to show steady growth, although less dramatic than in the first year. Only during the last two quarters has the growth rate slowed somewhat, with less than 100,000 new enrollments per quarter.

FIGURE 1
Number of patients with Type 2 diabetes enrolled in a DMP in Germany.



Although there are currently no official statistics available about the prevalence of diagnosed type 2 diabetes in Germany, it can be estimated that 90 percent of all people with diabetes are type 2 and of these about 90 percent are in the SHIs. Of the 6 million in Germany with diabetes, about 5.4 million have type 2 diabetes, of which 4.9 million are members of an SHI. Based on this estimation, about one third of all SHI members with type 2 diabetes are currently enrolled in a DMP.

Enrollment of primary care providers

The latest available data from July 2005 show that about 75 percent of all primary care providers (PCP) in Germany are participating in this program.[5,6] There are, however, significant regional differences. Table 1 shows the enrollment of PCPs by state and KV region in Germany.

CONCLUSIONS AND DISCUSSION

DMPs for type 2 diabetes are a new model for ambulatory diabetes care in Germany. Participation in DMPs is voluntary for patients and physicians. Nevertheless, enrollment has reached remarkable growth rates. About one third of all patients with type 2 diabetes are now enrolled and three quarters of all primary care providers are participating.

One of the main reasons for this success is the use of risk adjustment legislation, the so-called Risikostrukturausgleichsgesetz (RSA). This legislation was introduced before the freedom of choice in SHI in order to avoid people choosing insurance companies that offer low premiums (because of a historically good risk profile of the insured). The aim of the RSA was to equalize differences in premiums that are attributable to variations in income levels and risk structure among SHIs.[7] The RSA legislation was amended in 2002, before implementation of the DMP, to improve compensation for differences in morbidity structure and to avoid penalizing health insurance companies with a large number of chronically ill people ("bad risks"). According to the new law, insurers receive an additional compensation (averaging 1,288 per year in 2004 throughout Germany) for every patient with type 2 diabetes who enrolls in a DMP, but not for diabetes patients who don't enroll.[4] Instead of punishing the SHIs that have a large percentage of chronically ill patients, the amendment was meant to create an incentive for enrolling people with chronic conditions. Indeed, to date the goals of the amendment have been accomplished. The SHIs have been among the strongest proponents of the DMPs, encouraging their members to sign up through various methods (for example by covering the €10 copayments every three months for patients who signed up). They also launched public information campaigns about diabetes risks and long-term complications.

Another benefit for patients is that they may attend free diabetes education classes. If patients refuse to attend these classes or if they repeatedly miss regular office visits, they can be removed from the program. However, they are allowed to re-enroll at any time, either with the same or a different primary care physician.

As mentioned earlier, the national DMP programs are only open for SHI patients. The 10 percent of patients in the higher income brackets who decide to opt out of the SHI and obtain private health insurance are not eligible to participate in these DMPs. Private health insurance may or may not offer similar programs. Thus, this paper cannot draw any conclusions about the effects of DMPs among the privately insured.

The number of physicians enrolling in a DMP has been increasing as well, despite the initial reservation of many primary care physicians and the leadership of most physician organizations. Their main criticism was that it leads to an over-regulation of medical practice, creates more bureaucracy and costs without benefiting the patients. The additional payments that physicians receive are moderate and limited to compensation for holding diabetes education classes and for detailed documentation of patient data (about €25 for the initial visit and €15 for a routine visit every three months thereafter). Participating physicians re-

TABLE 1
Percentage of PCPs enrolled in a DMP by state and KV region as of July 2005

Baden-Württemberg	n.a.
Bayern	76
Berlin	56
Brandenburg	68
Bremen	83
Hamburg	72
Hessen	73
Mecklenburg-Vorpommern	78
Niedersachsen	86
Rheinland-Pfatz	87
Saarland	49
Sachsen	82
Sachsen-Anhalt	71
Schleswig-Holstein	61
Thüringen	75
Nordrhein (KV Region)	65
Westfalen-Lippe (KV Region)	90
Germany	**75**

ceive a feedback report every six months that tells them to what extent they achieved their treatment goals. It also shows their results compared to other physicians and the data for their patients (e.g., hemoglobin A_{1c}, cholesterol) compared to the national average. Monitoring of individual physicians' compliance with treatment and referral guidelines does not occur.

The initial reluctance of many physicians seems to have subsided and paved the way for a pragmatic acceptance. As a family physician practicing in the Rhine valley comments, "Nobody is really enthusiastic [about the DMPs], but everyone is participating." [8]

He also offers an explanation: "Many doctors didn't find the DMPs very compelling initially, but they signed up out of fear of losing patients to their competitors."

As far as the costs of the DMP are concerned, the BVA estimated that the administrative costs are €84 per year for each enrolled patient, while the costs for documentation average €75 per patient and year. With 1.76 million patients with type 2 diabetes currently enrolled in a DMP, the total administrative costs would be €280 million per year.

Despite popularity among the patients and acceptance by the majority of physicians, the most important questions have not been conclusively answered: Do the DMPs lead to better outcomes for patients with type 2 diabetes, and if so, do the benefits justify the additional activities and costs? There are some early reports by regional KVs and SHIs that show that an enrollment in a DMP led to increased participation in educational programs and an increase of referrals to specialists.

In one quality assurance report by the KV of North Rhine, a moderate decrease in the HbA_{1c} levels was found in patients who had been enrolled in a DMP for at least six months. [9] A patient survey conducted by the largest SHI, the Allgemeine Ortskrankenkasse AOK, showed a satisfaction rate of over 90 percent among patients enrolled in a DMP. [10] A comprehensive and long-term evaluation by an external evaluator is currently under way and intermediary results should be available by the end of this year, but final results are not expected before 2007-2008. [11]

In the meantime, the trend among patients to enroll in a DMP may well continue and two new DMPs, for patients with type 1 diabetes and for patients with COPD/asthma, have recently been added to the list.

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