

Disease Management Programs In Germany's Statutory Health Insurance System

A Gordian solution to the adverse selection of chronically ill people in competitive markets?

by **Reinhard Busse**

ABSTRACT: The introduction in 1996 of free choice among sickness funds in Germany was accompanied by a "risk structure compensation" (RSC) mechanism based on average spending by age and sex. Because chronically ill people were not adequately taken into account, competition for newly insured consumers concentrated on the healthy. The introduction in 2002 of disease management programs addresses this problem: Insured people in such programs are treated as a separate RSC category, making them a more "attractive" group that no longer generates a deficit. The degree of sickness fund activities and the fierce dispute with physicians are valid indicators that the incentives work.

STATUTORY HEALTH INSURANCE (SHI) in Germany through sickness funds is compulsory for workers whose gross income does not exceed a certain level, for unemployed and retired people, and for certain other population groups (such as farmers, artists, and students). Employees with incomes above the threshold may be voluntary sickness fund members if they have been members before. Around 88 percent of the population is covered by the SHI—74 percent obligatorily and 14 percent voluntarily.¹

In this paper I discuss a fairly recent innovation in Germany's SHI system: the addition of disease management programs (DMPs) for chronic illnesses. I first set the background by describing factors that led to the adoption of disease management. I then discuss specific implementation challenges, including political opposition to specific guidelines. I conclude by discussing implications for the German system and for others, such as the U.S. health care system, that have struggled with risk selection in health insurance and managed care.

The Road To Disease Management

At least four characteristics of the German health care system facilitated the recent introduction of DMPs: (1) free choice among not-for-profit sickness funds,

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which must balance income and spending; (2) risk-structure compensation between sickness funds aiming at narrowing contribution differences that are attributable to differences in members' incomes and risk levels; (3) "sectorization" of health care, especially strict separation between ambulatory care and inpatient care delivered by hospitals; and (4) quality and efficiency problems, especially for the chronically ill.

■ **Introduction of free choice among sickness funds.** Traditionally, the majority of SHI-insured people had no choice of sickness funds; they were assigned to the appropriate fund based on geographical or job characteristics, or both. This mandatory distribution of membership led to greatly varying contribution rates because of members' different incomes and risk profiles. All sickness funds are required by statute to balance income and spending and are not allowed to make a profit. Contributions are calculated as a percentage of income up to a certain threshold. Only voluntarily insured people had the right to choose among several funds and to cancel their membership, with two months' notice. Other white-collar workers (and certain blue-collar workers) could choose between a general regional fund and so-called substitute funds when joining a fund or changing jobs. Because this group grew substantially over the decades, around half of the population had at least a partial choice of sickness funds by the early 1990s. The Health Care Structure Act of 1992 gave almost every insured person the right to choose a sickness fund freely (starting in 1996) and to change funds yearly, with three months' notice. All general regional funds (*Allgemeine Ortskrankenkassen*, or AOKs) and all "substitute funds" were legally opened up to everyone and must contract with all applicants. The company-based funds (*Betriebskrankenkassen*, or BKKs) and the guild funds (*Innungskrankenkassen*, or IKKs) may choose to remain closed, but if they do open up, they also must contract with all applicants. Only the relatively small farmers', miners', and sailors' funds still retain the system of assigned membership.

■ **Risk structure compensation to equalize income and risk profiles.** To provide all sickness funds with a level field for competition—that is, to avoid having all insured people choose funds with a low contribution rate because of a historically good risk profile—a risk structure compensation (RSC) scheme was introduced.² The aim of the RSC was to equalize differences in contribution rates that are attributable to variations among sickness funds in income levels and risk structure. The RSC was introduced in two steps, 1994 and 1995, with the second step including retired insured people and thereby replacing the former sharing of retired people's actual expenses among funds.

Participation in the RSC is mandatory for all sickness funds except the farmers' funds. To calculate differences in income, the so-called contributory incomes of the insured (their wages up to the threshold) are taken into account. To compensate for differences in the risk structure, average spending across all sickness funds for men and for women in one-year age categories is used. All benefits included in the uniform, comprehensive package are included in this calculation,

but the funds' administrative costs and additional benefits are not included.

The sum of these average expenditures for all members of a sickness fund determines that fund's "contribution need." The sum of all funds' contribution needs divided by the sum of all contributory incomes determines the compensation scheme's rate, which is used for comparing actual contributions and "contribution need" to calculate the sum paid to those funds receiving compensation from the scheme, or the sum required from those funds making payments into the scheme. In doing so, the RSC also equalizes for different income levels and differences in the number of dependents, since they are included on the expenditure side, while the calculations of dependents' actual contributions are entered as zero.

■ **Impact of free choice and RSC.** The impact of both the free choice and RSC schemes on the structure of the sickness funds, the actual movement of members between funds, the development of the contribution rates, and transfer sums between funds can be summarized as follows. Even before the period of actual free choice for the insured began, sickness funds began to merge, thereby almost halving the number of funds between 1993 and 1996. Since then, the number has halved again (Exhibit 1). Members left funds and joined others. Although no data on actual moves are available, net losses or gains in membership numbers may be taken as an indicator: Since the introduction of free choice of sickness funds in January 1996, the AOKs have lost 14.6 percent of their membership (now 18.9 million). Also, the "white-collar" substitute funds have lost 7.3 percent (now 16.5 million). The company-based funds (BKKs) made the largest membership gains: They increased by 86 percent, to 9.7 million. Smaller gains were achieved by the "blue-collar" substitute funds (18.7 percent, to 0.9 million) and guild funds (3.5 percent, to 3.1 million). These net losses/gains are correlated to the contribution rates of the funds—that is, funds with higher-than-average contribution rates, mainly because of adverse selection, lost members, while those with lower-than-average rates gained members.

The movement of members between funds has not equalized the different risk structures (which would result in diminishing transfer sums). Quite to the contrary, the transfer sum as a percentage of total spending has increased from below 8 percent to more than 10 percent (Exhibit 2); that is, differences in the risk struc-

EXHIBIT 1
Number Of Sickness Funds In Germany, 1993–2003

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
AOKs	269	235	92	20	18	18	17	17	17	17	17
BKKs	744	719	690	532	457	386	361	337	318	287	257
IKKs	169	160	140	53	43	43	42	32	28	24	21
All other funds	39	39	38	37	36	35	35	34	33	27	24
Total	1,221	1,152	960	642	554	482	455	420	396	355	319

SOURCE: Federal Ministry of Health and Social Security, "Ergebnisse der GKV-Statistik, KM1" (various years).

NOTES: Numbers are as of 1 January each year. AOKs are general regional funds. BKKs are company-based funds. IKKs are guild funds. "All other funds" includes substitute funds, farmers' funds, the miners' fund, and the sailors' fund.

EXHIBIT 2
Transfer Sums In Risk Structure Compensation (RSC) Scheme: Absolute Figures, In Billions Of U.S. Dollars, And Relative To Statutory Health Insurance (SHI) Spending, 1995–2002

Year	RSC transfers (\$)	SHI expenditure excluding administration (\$)	RSC transfers as percent of SHI spending
1995	9.23	116.99	7.9
1996	9.78	120.88	8.1
1997	10.34	118.29	8.7
1998	11.01	119.71	9.2
1999	11.60	123.21	9.4
2000	12.03	125.94	9.6
2001	13.52	130.63	10.3
2002	13.92	134.33	10.4

SOURCE: Author's calculations based on Federal Ministry of Health and Social Security, "Rechnungsergebnisse der gesetzlichen Krankenversicherung nach der Statistik KV45" (various years).

NOTE: To exclude the effect of exchange rate fluctuations, Euro values have been transformed into U.S. dollars, assuming a constant rate of one to one.

ture between sickness funds have widened further. People who change funds tend to be healthier than average for their age and sex. Evidence shows that rapidly growing funds (those with mainly newly insured members) have below-average per capita spending. The fastest-growing funds, with growth factors higher than 20 between 1995 and 1999, had 20 percent lower drug spending and 30 percent lower hospital spending in 1999 compared with the "standardized" average expenditure used in the RSC (Exhibit 3).³

The RSC scheme, not competition, has reduced the variation in contribution rates among funds. Although 27 percent of all members paid a contribution rate

EXHIBIT 3
Spending Profile Of Sickness Funds With Different Rates Of Development Of Number Of Insured People, 1995–1999

Rate of development of number of insured, 1995–1999	Number of insured in 1999 (thousands)	Spending compared with standardized spending in 1999 (%)	
		Drugs	Hospitals
Decreasing/stable	48,356	101.0	102.8
Growth up to factor 2	19,768	97.7	92.0
Growth factor >2 to 5	765	88.3	83.5
Growth factor >5 to 10	284	80.8	79.5
Growth factor >10 to 20	127	81.9	75.0
Growth factor >20	422	79.5	70.3

SOURCES: Modified from F. Buchner and J. Wasem, "Needs for Further Improvement: Risk Adjustment in the German Health Insurance System," *Health Policy* 65, no. 1 (2003): 21–35; data based on C. Jacobs et al., *Zur Wirkung des Risikostrukturausgleichs in der gesetzlichen Krankenversicherung: Eine Untersuchung im Auftrag des Bundesministeriums für Gesundheit* (Baden-Baden: Nomos, 2002).

differing by more than one percentage point from the average in 1994, only 7 percent did so by 1999. Since then, however, the increasing movement of relatively healthy people to less costly funds has stopped this (positive) development.

The percentage of insured people ready to switch between funds is steadily rising. Although only 8.4 percent of all insured people indicated in 1999 that they were thinking of changing their fund, 23.4 percent did so in 2003.⁴

■ **“Sectorization” of health care and the delayed introduction of “integrated care.”** Strict “sectorization” is an important characteristic of the German health care system. Separation of ambulatory care from inpatient care is particularly striking: Physicians’ associations, mandatory organizations with a high level of legally delegated powers (similar to the sickness funds on the payer side), have a monopoly to provide all ambulatory care. Hospitals, except for university hospitals, may provide only inpatient care. Regulations and actors responsible for decision making differ by sector concerning benefit coverage, reimbursement, accreditation of providers, and quality assurance. In the ambulatory sector, decision making was, until the end of 2003, delegated to the Federal Committee of Physicians and Sickness Funds. Reimbursement and accreditation decisions are adjusted at the regional level in joint committees. In the hospital sector, decision making on benefits and reimbursement has until recently been entirely dependent on sickness funds’ negotiations with individual hospitals. The SHI Health Reform Act of 2000, however, introduced a Federal Committee for Hospital Care and a Coordinating Committee, the latter charged with the coordination of decisions between the sectoral joint committees. The sickness funds, the Federal Association of SHI-Accredited (ambulatory) Physicians, the Federal Physicians Chamber, and the German Hospital Organization were represented on the Coordinating Committee.⁵

Although the legal framework had allowed so-called pilot projects, thus giving sickness funds and provider representatives an opportunity to test new integrated models of care since 1993, this did not yield any viable concepts or measures. New provisions for so-called integrated care were therefore introduced as part of the SHI Health Reform Act in 2000.⁶ These provisions were intended to improve cooperation between ambulatory physicians and hospitals as well as among physicians and other health care professionals on the basis of contracts between sickness funds and individual providers or groups of providers. However, the system of self-governance caused long delays, mainly between the federal associations of physicians and sickness funds, because the setting of minimum standards for participation requirements, quality standards, and other actions had to be concluded first. Therefore, only a few initiatives were established on the basis of these legal provisions.

■ **Quality and efficiency problems.** There is also growing doubt over whether the comparatively high level of spending on health care in Germany—which ranks third among countries in the Organization for Economic Cooperation and Development (OECD)—translates into high-quality care and cost-effective use of re

sources.⁷ To a large extent, this discussion was stimulated by the *World Health Report 2000*, which ranked Germany only twenty-fifth in health system performance (that is, the efficiency of goal attainment compared with financial resources spent).⁸ Based on a survey of all major health care stakeholders, including payers, providers, self-help groups, and government agencies, the Advisory Council for the Concerted Action in Health Care recently identified much scope for efficiency gains and quality improvement. This expert committee found evidence of overuse and economic inefficiencies but also of underuse and avoidable harm from medical care for most common chronic diseases.⁹ In agreement with many survey respondents, the council argued that the sectorization not only of health care delivery but also of finance and regulation was a major barrier to improving adequacy and efficiency of care.

Disease Management Programs As The Heart Of Changes To Address Problems

■ **Legislative responses.** In 2001 the problems of increasing variation in the risk pool, the apparent unattractiveness of insuring chronically ill people, the de facto blocked introduction of integrated care, and problems with quality and efficiency, especially for the chronically ill, became the subject of active political discourse. Two main laws were passed to address the problems. The first one changed the rules for switching sickness funds: Instead of an annual three-month open enrollment period, fund members can now change funds at any time but must remain insured with their (new) sickness funds for at least eighteen months if the fund does not increase its contribution rate; if the rate is increased, the insured may change even within the eighteen-month period. It was felt that the previous rule had made special advertising campaigns, encouraging people to change sickness funds, attractive to the funds. Spending on such activities was viewed very critically in the public debate.

The second piece of legislation, the Act to Reform the Risk Adjustment Scheme (in force as of 1 January 2002), addressed the increasing criticism of redistribution of money among sickness funds more directly. Lawmakers especially wanted to take measures to ensure that sickness funds are not penalized financially for devoting resources to the care of the chronically ill. They felt that competition among sickness funds in the framework of the pre-2002 RSC scheme turned the chronically ill into “bad risks.” The new law aimed to improve compensation for differences in the morbidity structure, to avoid “cream skinning” among sickness funds and to give them an incentive to care for chronically ill insured people. The act combined an immediate measure with medium-term changes: The existing compensation for differences in income, age, sex, and incapacity to work was supplemented by a high-risk pool (compensating sickness funds for 40 percent of all expenses for specific people, over a certain limit). Starting in 2007 the RSC will be “morbidity oriented.”

Until then, insured people who join DMPs are labeled “chronically ill” for the purpose of the RSC scheme, and spending is calculated separately for them.

Therefore, sickness funds with a high share of DMP participants receive higher compensation from the scheme. It was hoped that this would provide a stimulus for the sickness funds to try to attract chronically ill people (instead of looking at them as “bad risks”).

Relatively early on, critics pointed to the fact that the act would provide mainly an incentive for the sickness funds to enroll as many chronically ill people as possible but not necessarily to improve their care, as the individual sickness funds get compensated for the average expenditure of all DMP participants across sickness funds (adjusted by age and sex).¹⁰

■ **Rationale for choosing disease management programs.** Disease management has been proposed as a strategy to improve the quality and cost-effectiveness of health care for chronic conditions. Quality of care is expected to improve within DMPs through the implementation of evidence-based clinical practice, by means of guidelines, care protocols, and formulary lists of effective drugs and by improving coordination among different providers and assuring integration and comprehensiveness of care (that is, establishing clinical pathways).¹¹

German health minister Ulla Schmidt stated recently that despite major advances in diagnosing and treating diabetes, patients still have too many secondary complications, such as kidney failure and diabetic retinopathy. She also said that too many women have unnecessary breast removals and radiation therapy. DMPs should help to avoid repeat diagnostic testing by general practitioners, specialists, and hospitals, thereby contributing to overall cost containment.¹²

The Ministry of Health (MoH) anticipated that DMPs would offer the opportunity to reorganize the fragmented care of chronic illness across sectors, institutions, and professions. At the same time, they should promote increased coordination of prevention, treatment, and rehabilitation; a more active role for patients in the treatment process; the regular evaluation of treatment results; and a reinforced gatekeeper role for family doctors. If programs are implemented judiciously and all participants cooperate, this could lead to a partial reduction in overprovision, underprovision, and inappropriate provision over the medium term.¹³

The MoH also assumed that new attitudes and behavioral patterns, such as adherence to evidence-based guidelines and a more active role of chronically ill patients in the treatment process (which is “rehearsed” by patients and providers participating in DMPs), will serve as models for health care in the twenty-first century and have positive effects on the provision of health care in other areas. According to that assumption, the implementation and development of the programs will also serve as an impetus for the development of evidence-based guidelines, since the need for them will increase considerably.

Legal Basis Of German-Style Disease Management Programs

The 2002 reform law defined a complicated process for the introduction of DMPs, which was the result of several considerations. On the one hand, the gov-

ernment was worried that the self-governing actors could de facto block its initiatives, as the politically laid-out introduction of integrated care had just demonstrated, and it therefore wanted to introduce a higher degree of pressure. On the other hand, DMPs were to be introduced by exactly these actors, which required not only their agreement but their actual involvement. Furthermore, the intended cross-sectoral aspects as well as the relatively high necessity of data collection (and transparency) required new solutions.

The newly formed Coordinating Committee, which until then had not really started to work, was charged with recommending to the MoH, first, which major chronic diseases to select and, second, DMPs' minimum common requirements for these diseases. This was a new division of labor: The self-governing bodies propose, and the MoH passes an ordinance.

The act also stipulated the factors that the Coordinating Committee must take into account when selecting a disease for DMPs—namely, number of patients, potential for quality improvement, existence of evidence-based guidelines, need for trans-sectoral care, potential for improvement through patients' initiatives, and high expenditure. Regarding the minimum requirements, it mandated that the Coordinating Committee propose regulation on the following issues: treatment guidelines for providers, necessary quality assurance measures, conditions and process of patient enrollment, training of and information for providers and patients, documentation, evaluation of effectiveness and costs, and duration of program accreditation. The act then described the process further: Based on the defined minimum requirements, sickness funds contract with providers and install their own provisions of informing and convincing people to enroll (which is voluntary), patient education, and program evaluation.

Such a DMP “package”—that is, the actual contracts with the providers plus their own activities—then needs to be accredited by the Federal Insurance Office, which mainly checks whether the program fulfills the legal requirements. Upon accreditation, the sickness fund may then actually run the program. It was felt that such a complicated procedure was necessary, because the introduction of new categories of “DMP participants” within the RSC might have considerable implications for the amount of money being transferred among the sickness funds.

Implementation Of Disease Management Programs

A few weeks after the act became law on 1 January 2002, the Coordinating Committee proposed the first four conditions for DMPs: diabetes, breast cancer, asthma, and coronary heart disease. Although these selections can be justified by evidence from epidemiology and health services research, it was also influenced by the current political agenda; for example, it pleased female voters, since 2002 was an election year.

The process to define the minimum standards had already been contentious and time-consuming. However, based on recommendations in May and June, re-

spectively, on June 27 the MoH issued an ordinance that went into effect on July 1 specifying the requirements for DMPs for diabetes mellitus type II and breast cancer. It was then up to the contractual partners—sickness funds on the one side, providers on the other—to devise specific contracts, which the sickness funds use to apply for accreditation of the programs by the Federal Insurance Office.

This took place only a few months before the elections, at a time when all polls showed the opposition parties clearly in front of the governing Social Democratic–Green coalition. While the first contract—on diabetes in the region of North-Rhine—was ready to be signed, the main representatives of the physicians decided to block the whole enterprise, because the opposition parties had indicated that they might abolish it after their election victory.

The blockade was made possible through a national assembly of all regional physicians associations, which passed a motion that no regional association should sign a DMP contract “as long it is not clear that the legal basis continues to exist.” Besides this tricky election argument, two (official) arguments were put forward against DMPs: The fear that quality of care would suffer greatly and that data on individual patients will have to be disclosed to the sickness funds.

The quality of diabetes care, as defined by the guidelines set out in the requirements for diabetes DMPs, was fiercely attacked by more than ten scientific societies. They claimed that the sickness funds and the government favored a minimal program based solely on studies with the highest level of evidence. Despite the fact that a joint committee of physicians, sickness funds, and hospitals had approved the guidelines, the president of the Federal Physicians’ Chamber, Jörg-Dietrich Hoppe, complained that the programs were prepared under extreme time pressure: “The main mistake is that only minimal standards have been agreed [upon].” The Federal Association of SHI-Accredited Physicians questioned whether sickness funds should be able to review all personal and treatment data to achieve financial advantage.

Addressing such criticisms, senior sickness fund managers concluded that “the opposition of certain physicians to these programs results from the deep cultural shock felt by those who thought that medical experts could never come into conflict with evidence-based medicine, which for the first time has become an integral part of official governmental programs. And the physicians’ representatives are not amused that the sickness funds showed their willingness to become players rather than just payers in the development of these new DMPs.”¹⁴

After the reelection of the Red-Green government, the physician representatives quickly stated that many of their accusations and the threat to block the DMP introduction had in fact been a misunderstanding and that they would obviously cooperate in the future. The government took a small step in their direction by slightly modifying the data requirements for the diabetes programs starting in 2003.

From then on, progress was smoother but still full of hurdles. One such hurdle

was the need to disentangle the contracts between several sickness funds and groups of providers. Although DMPs have to be offered by individual sickness funds, funds had typically negotiated conditions with providers collectively. For the providers, especially the many office-based physicians, this meant that they could follow the same treatment guidelines and fill out the same documentation forms for all patients enrolled in a DMP for a particular condition, regardless of the sickness fund. Individually, however, the sickness funds still needed to build their specific patient enrollment regulations, patient information systems, and evaluation plans around that contract.

On 27 February 2003 the Federal Insurance Office accredited the first DMPs for breast cancer in North-Rhine. The DMPs are based on a uniform contract between all sickness funds of the region and the regional physicians' association as well as a number of hospitals. About 950 gynecologists and 20 hospitals are participating in the program. In April the first DMPs for Diabetes were accredited (in Thuringia, Saxony-Anhalt, and Salzgitter city). By early October the association of AOK sickness funds (with nearly 25.8 million insured) reported that 165,000 of its insured had already enrolled in its breast cancer and diabetes programs.¹⁵

Discussion

Just two years ago Germany's SHI system faced a growing number of problems, some of which were created by the earlier reform introducing free choice among sickness funds. Although the RSC scheme helped prevent dramatic differences in contribution rates because of differing income levels and risk profiles of the insured population (in effect, it lessened variation in contribution rates), the sickness funds still had a clear advantage in attracting new members who are healthier and therefore less costly for their age and sex. This resulted in adverse selection, to the disadvantage of the chronically ill—an experience that is all too similar to that in other competitive health care markets such as in the United States.

With the “German-style” DMPs, the government proposed a radical Gordian solution to a knot of intertwined problems. While the actual experience with DMPs is considerably larger and longer in the United States than in Germany, the German approach could be of interest in the United States, where cream skimming and adverse selection have effectively blocked managed care penetration into the Medicare population. One obvious difference is the “ownership” of the DMPs; in the United States they are often linked to pharmaceutical companies or special DMP vendors. When disease management emerged in Germany, similar companies appeared on the market, hoping for commercial success. Some sickness funds contracted them to help them in preparing DMPs, but such companies have more or less disappeared from the market.

The nucleus of the German DMP structure is its tight link to financial incentives for the sickness funds. Because their participation in the RSC is mandatory, all funds will feel the effects of DMPs' introduction. Those that choose not to offer

DMPs will see some negative consequences, as money is transferred to other funds. To ensure that sickness funds do not benefit to an unjustified degree—for example, by enrolling insured people who are not really chronically ill—a high degree of regulation is required. Such regulation comes at the price of disadvantages: Providers, especially office-based physicians, are complaining about the burdensome documentation requirements, which could prevent some of them from taking part.¹⁶ In the long-term perspective, a more worrying disadvantage is that sickness funds are not flexible enough to adapt their DMPs to experience or new treatment options; most changes require a change to the underlying uniform requirements.

However, at least in Germany, sickness funds' adoption of DMPs gives reason to hope that the new double incentive structure is working: Sickness funds will receive higher compensation from the RSC pool and can expect to provide higher-quality, more cost-effective care. Critics maintain that the price could be too high; a recent study concluded that diabetes DMPs, even if implemented well and reaching all diabetics who so far have not received sufficient care, would still not save money but require an additional monetary input of around US\$170 million (€140 million).¹⁷ According to the results of their model calculation, however, the DMPs would avoid more than 2,200 myocardial infarctions, almost 2,000 strokes, more than 400 amputations, more than 400 losses of sight and 24 nephropathies—a total of more than 5,000 serious complications, which could very well be worth the extra expenditure (only 0.1 percent of total SHI spending).

While DMPs' actual long-term results will not be available for several years, the first winners are the chronically ill, who are no longer seen as “bad risks” but as a customer group worth attracting and caring for. “Bad risks” constitute problems in all competitive health insurance markets, and no risk adjustment model is predicting necessary spending well enough to keep cream-skimming (to the detriment of the chronically ill) from being profitable.¹⁸ In that respect, using enrollment in a DMP as a risk adjuster is an innovation worth watching, especially in the United States, where any solution to the problem of un- and underinsurance, apart from the introduction of a national health service, would require certain transfers from insurers with a good risk structure to those with a worse one.

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NOTES

1. A further 9 percent are covered by private health insurance and 2 percent, by free governmental health care (for example, police officers, soldiers, and people performing other community services), while only 0.1 percent are not insured. A full description of the German health care system is given in R. Busse, *Health Care Systems in Transition—Germany* (Copenhagen: European Observatory on Health Care Systems, 2000). For a shorter version, see R. Busse, “Germany,” in *Global Health Care Markets: A Comprehensive Guide to Regions, Trends, and Opportunities Shaping the International Health Arena*, ed. W.W. Wieners (San Francisco: Jossey-Bass, 2001), 139–152.
2. R. Busse, “Risk Structure Compensation in Germany’s Statutory Health Insurance,” *European Journal of Public Health* 11, no. 2 (2001): 74–77.
3. F. Buchner and J. Wasem, “Needs for Further Improvement: Risk Adjustment in the German Health Insurance System,” *Health Policy* 65, no. 1 (2003): 21–35.
4. K. Zok, “Immer mehr Versicherte wollen wechseln,” *Gesundheit und Gesellschaft* 6, no. 9 (2003): 38–41.
5. Since 1 January 2004, the formerly separate sectoral joint committees and the Coordinating Committee have been merged into one Common Federal Committee of physicians, dentists, hospitals, sickness funds, and—without voting rights—patient representatives.
6. R. Busse, “New German Health Reform Act Passes,” *Euro Observer* 2, no. 1 (2000): 3.
7. According to *OECD Health Data 2003*, Germany spent 10.7 percent of its gross domestic product (GDP) in 2001, while the United States spent 13.9 percent and Switzerland, 10.9 percent. Organization for Economic Cooperation and Development, *OECD Health Data 2003* (Paris: OECD, 2003).
8. World Health Organization, *World Health Report 2000—Health Systems: Improving Performance* (Geneva: WHO, 2000).
9. Advisory Council for the Concerted Action in Health Care, *Appropriateness and Efficiency: Over-, Under-, and Misuse*, Report 2000/2001, Vol. 3 (Bonn: Federal Ministry of Health, 2001). An executive summary, in English, is available at www.svr-gesundheit.de/gutacht/sogu01/0lengl/engl01.pdf (6 February 2004).
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14. N. Schmacke and J. Lauterberg, “Criticism of New German Chronic Disease Management Is Unfair,” *British Medical Journal* 325, no. 7370 (2002): 971.
15. AOK-Bundesverband, “Bereits 165.000 Patienten machen bei Programmen der AOK mit,” *psg Politik* no. 10 (2003): 2–3.
16. In Berlin, for example, only 45 percent of all physicians eligible to take part in the diabetes DMP actually participated at the end of 2003; see R. Schlitt, “Forderungen nach Korrekturen werden lauter,” *KV Blatt Berlin* 50, no. 12 (2003): 26–27.
17. IGES Institut für Gesundheits- und Sozialforschung, *Voraussetzungen für ein effektives und effizientes Disease-Management für Typ II-Diabetiker und seine adäquate Finanzierung im Rahmen der gesetzlichen Krankenversicherung* (Berlin: IGES, November 2003).
18. W.P.M.M. van de Ven and R.P. Ellis, “Risk Adjustment in Competitive Health Plan Markets,” in *Handbook of Health Economics*, vol. 1, ed. A.J. Culyer and J.P. Newhouse (Amsterdam: Elsevier Science BV, 2000).