



INTERNATIONAL HEALTH CARE SYSTEMS

Integrated Ambulatory Specialist Care — Germany's New Health Care Sector

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Founded in 1883 by Otto von Bismarck, Germany's Statutory Health Insurance (SHI) program today insures about 90% of the country's population. The program is predominantly employment-based, with

contributions from employees and employers calculated as a percentage of wages; nonworking spouses and children are covered free of charge (see table). Coverage is offered through independent "sickness funds" (health plans), which all offer mandatory comprehensive benefits but may compete with one another by offering optional ones. In this decentralized system, federal, state, and local governments make policy, which is implemented by associations of sickness funds and health care providers.

 An interactive graphic is available at NEJM.org

A prominent feature of the

German health care system is the rather strict segregation of ambulatory and hospital care delivery — a division that dates back to 1931, when a physician strike inspired Chancellor Heinrich Brüning to issue an emergency decree granting physicians in private practice a monopoly on ambulatory care and essentially prohibiting hospitals from providing outpatient care.¹ To mitigate the negative effects of this division on the integration and quality of care, legislation was passed in 2004 allowing hospitals to apply for outpatient care privileges for the treatment of patients with rare diseases or dis-

eases with severe trajectories. But ambulatory care providers were not keen on competing with hospitals, and few such privileges were granted. So the SHI Health Care Structures Reform Law, passed in 2012, created a third care sector called integrated ambulatory specialist care (IASC).²

This new care model separates from traditional ambulatory care the treatment of rare diseases and diseases with severe trajectories, as well as highly specialized care. Only ambulatory or hospital specialist networks that contract with the ambulatory care physician association are permitted to provide such care. Ideally, networks include both private-practice- and hospital-based specialists. The scope of services in IASC comprises diagnosis and treatment of complex conditions that require

Selected Characteristics of the Health Care System and Health Outcomes in Germany.*	
Variable	Value
Health expenditures	
Per capita (U.S. \$)	4,683
Percentage of GDP	11.3
Out-of-pocket (% of private health expenditures)	50.8
Public sources (% of total)	76.3
Percentage of population with health insurance in 2011	99.9
Average physician income (U.S. \$ [multiple of average German wage])†	
Self-employed general practitioner in 2011	191,840 (4.02)
Salaried specialist in 2010	120,920 (2.76)
Self-employed specialist in 2011	251,600 (5.27)
Generalist–specialist balance (%)	
Generalists	41
Specialists	59
Access	
No. of hospital beds per 10,000 population in 2011	82
No. of physicians per 1000 population in 2011	3.8
Total government health expenditures spent on mental health care in 2011 (%)	11
Primary care physicians using electronic medical records (%)	82
Life and death	
Life expectancy at birth (yr)	81
Additional life expectancy at 60 yr (yr)	24
Annual no. of deaths per 1000 population	11
No. of infant deaths per 1000 live births in 2013	3
No. of deaths of children <5 yr of age per 1000 live births in 2013	4
No. of maternal deaths per 100,000 live births in 2013	7
Fertility and childbirth	
Average no. of births per woman	1.4
Births attended by skilled health personnel in 2011 (%)	98
Pregnant women receiving any prenatal care in 2004 (%)	100
Preventive care	
Colorectal-cancer screening generally available at primary care level	Yes
Children 12–23 mo of age receiving measles immunization in 2013 (%)	97
Prevalence of chronic disease (%)	
Diabetes in persons ≥18 yr of age in 2014	7.9
HIV infection	0.09
Prevalence of risk factors (%)	
Obesity in adults ≥18 yr of age in 2013	15.7
Overweight in children <5 yr of age in 2006	3.5
Underweight in children <5 yr of age in 2006	1.1
Smoking in persons ≥15 yr of age in 2013	24.5

* Data are from the World Bank, the German Federal Statistical Office, the Organization for Economic Cooperation and Development, the Commonwealth Fund, the World Health Organization, and the Robert Koch Institute and are for 2012, except as noted. GDP denotes gross domestic product, and HIV human immunodeficiency virus.

† No official data are available for the income of salaried general practitioners.

special qualification, interdisciplinary cooperation, and specific equipment. So far, Germany's Federal Joint Committee (formed by the 2004 merger of five public health committees) has prioritized nine conditions for such care: five rare diseases — active tuberculosis, Marfan's syndrome, pulmonary hypertension, cystic fibrosis, and primary sclerosing cholangitis — and four diseases with severe trajectories — certain gastrointestinal tumors, gynecologic tumors, rheumatoid diseases, and heart failure. The latter are defined by codes in the *International Classification of Diseases* (ICD) plus at least one other criterion for advanced disease (e.g., lymph-node involvement, metastases, recurrence or progression, or non-response to treatment) or are reflective of a severe underlying condition with very low prevalence.

The overall framework for the design and general requirements of IASC is detailed in a general directive by the Federal Joint Committee. It is augmented by disease-specific guidelines detailing quality requirements and the scope of services, which are limited to the defined diagnosis and disease trajectory. Any additional care that patients may need is provided outside the IASC setting in the usual care context, although exceptions can be made if hospitals want to protect patients from undue strain.

So far, no restrictions have been put into place regarding the number of providers that can participate in IASC or, in general, the volume of services they can provide. To participate, qualified providers apply to a state-wide committee, which grants an IASC designation if quality requirements are met. These requirements include measures related to

training, processes of care, and practice equipment, as well as threshold volumes for volume-sensitive conditions. Physicians can meet all training requirements through regular board certification and specialist qualification, and nursing staff may seek certified specialization through the appropriate medical societies. Other requirements in terms of quality of care include cooperation in an interdisciplinary team, appropriate documentation and evaluation, 24-hour emergency availability, the implementation of interdisciplinary case conferences, timely execution of diagnostic and therapeutic procedures, sufficient treatment capacity on weekends, special capacities for treating immunocompromised patients, and implementation of evidence-based guidelines, among others.

Care is supposed to be delivered by an interdisciplinary team consisting of a team leader, a core team, and associated physicians. The team leader is responsible for coordination and quality of care. All team members must be board-certified physicians, and they enter into a contract detailing their individual responsibilities; they need not deliver IASC full time and may have a separate practice as well. The team may also collaborate as necessary with providers of social services, physiotherapy, home care, and palliative care, as well as with specialized nurses. Services must be provided by means of joint visits with the team at the facility of the team leader, unless specialized technologies such as laboratory equipment are needed. The team must be able to make arrangements within a reasonable period for access to nearby 24-hour emergency care and intensive care and must make special

MYOCARDIAL INFARCTION

A 55-year-old man with no serious health conditions has a moderately severe myocardial infarction.

When Mr. Müller realizes he is having the typical symptoms of an acute myocardial infarction, he can visit his general practitioner or go to the emergency room at the closest hospital. His intense pain persuades him to call the emergency number for an ambulance. The phone is answered by a medically trained coordinating manager, who alerts the paramedics and the emergency physician. Both separately speed to Mr. Müller's home and arrive within 10 to 15 minutes. (If the coordinating manager hadn't suspected that the patient was having a myocardial infarction and had sent only an ambulance, the paramedics would have requested an emergency physician once they arrived.)

The paramedics reach Mr. Müller first, so they check his vital signs and begin monitoring them, using a four-channel electrocardiogram (ECG) and monitors for blood pressure, oxygen saturation, and blood glucose level. When the physician arrives, an IV line is inserted, two doses of nitroglycerin are administered, a 12-channel ECG is obtained, and therapy based on evidence-based guidelines is initiated. Though in some regions the emergency physician would fax the ECG to the closest hospital with a cardiac catheterization laboratory, the emergency physician in Cologne admits Mr. Müller directly to the nearest emergency room that has such a laboratory. The time from the patient's initial medical contact to admission is just under an hour (58 minutes is the median in Germany, though there's a wide range); his door-to-needle time is 30 minutes (range, 11 to 75).

Once in the hospital, Mr. Müller will be treated in an intensive care or intermediate care unit, as needed. After 2 days, he will be shifted to regular care and then be transferred to a rehabilitation clinic where he will be instructed about secondary prevention of cardiac disease. All his care will be covered by the Statutory Health Insurance.

arrangements for immunocompromised patients and outpatient facilities for transfusion and administration of systemic therapy.

Patients require a referral to obtain IASC, unless they receive their routine care from an IASC team member. Usually, the referring physician arranges both the appointment and any transitional care required after treatment, but patients provide their own transportation to IASC facilities. The use of an electronic medical rec-

ord is not mandatory but will eventually be necessary to comply with expectations for documentation and evaluation of care.

When they are admitted to an IASC facility, patients receive detailed information about the care team, the results of consultations such as the interdisciplinary case conferences, and the risks and benefits of the proposed treatment alternatives. Patients should participate in all decisions about their care. At the end of each

PREGNANCY AND CHILDBIRTH

A healthy 23-year-old woman is pregnant for the first time.

Germany has a century-old tradition of prenatal care. Its current scope, outlined in maternity care guidelines, comprises regular screenings, diagnosis and treatment of potential health risks and diseases, and counseling on pregnancy, childbirth, and parenthood. When Ms. Schmidt suspects that she is pregnant, she makes an appointment with a gynecologist of her choice. Her first visit includes manual and ultrasound examinations; checking of blood pressure, hemoglobin levels, and vaginal pH level; a urinalysis; and assessment of the distention of the uterus, the fetal heart sounds, and the position of the fetus in the uterus. She receives a maternity booklet in which her results will be documented after each visit. Examinations are scheduled at 4-week intervals until the 32nd week of gestation. Thereafter, Ms. Schmidt is seen every 2 weeks or as needed, and her visits include fetal cardiotocography. Since hers is an uncomplicated singleton pregnancy, she undergoes three ultrasound examinations, as well as serologic tests for infections such as syphilis, rubella, hepatitis, and if needed, human immunodeficiency virus and toxoplasmosis.

During her entire pregnancy, Ms. Schmidt has access to midwife care and counseling regarding nutrition, sexuality, preparation for birth, and motherhood. She is granted paid leave from work, lasting from 6 weeks before her due date until 8 weeks after delivery. In addition, she will have paid leave to attend checkups and paid time during the workday for breast-feeding.

Ms. Schmidt's postnatal care will include daily midwife visits until day 10, plus 16 additional visits as needed until the child is 8 weeks of age. The Statutory Health Insurance will pay for preparation and recovery classes and for a housekeeper, if necessary, before and after the delivery. Approximately 6 to 8 weeks after Ms. Schmidt gives birth, another visit with the gynecologist will mark the end of her postnatal care.

treatment episode, patients receive written information on treatment results, further procedures recommended, and their medication regimen, as well as a transition letter (written in patient-friendly language) if care is to be continued outside the IASC setting.

The Federal Joint Committee defines the scale and extent of services for which IASC providers can be reimbursed for each relevant disease. Each caregiver

bills the sickness fund separately. Currently, fee-for-service reimbursement is used for both hospitals and ambulatory care physicians providing IASC, but it is not subject to budget restriction. When a separate fee schedule is ultimately developed, it will probably furnish lump-sum payments based on diagnosis-related groups. Because the state provides hospitals with financing for buildings and medical equip-

ment, a 5% deduction is made from their IASC compensation. In a novel move for ambulatory care, the "prohibition right," which allows for reimbursement for the use of effective new technologies before approval by the Federal Joint Committee, is being applied to IASC.

Although the law mandates evaluation of IASC patient satisfaction, quality of care, and costs to providers, patients, and sickness funds, no results are yet available. But with the implementation of IASC, Germany aims to improve coordination, quality, accessibility, and patient-centeredness of specialist care for patients with rare diseases or diseases with severe trajectories and those who require highly specialized care. For the first time, a uniform legal framework has been created for the delivery of specialist services in both inpatient and outpatient settings. Although IASC implementation will not appreciably advance standards that are already in place in other countries, through care models such as the patient-centered medical home or disease-management programs,³ it will apply these standards to specialist care and will bring specialists together, both physically and legally, in joint care teams.

So how likely is it that IASC will succeed? A number of factors are working against it. Like many past care models, it uses a disease-specific approach, requiring patients to seek help outside the network for any other conditions. As it currently stands, the German IASC enterprise falls well short of international standards for health information technology (HIT), since no sector-spanning joint electronic medical record

has been implemented.⁴ In combination with the lack of mandatory team building involving specialists from both the ambulatory care and hospital sectors, these HIT limitations will probably hamper the flow of information, the coordination of care, and possibly the quality of care.

In addition, although the government intends to develop a specific, lump-sum payment system for IASC, it's unclear whether that system will link payment to outcomes — indeed, there are no mechanisms in place for changing the payment scheme from a volume-driven to a value-driven one. With an extrabudgetary reimbursement system and without planning of demand on the basis of morbidity and demographic changes, the payment system will probably provide an

incentive for providers to expand services.

But the most important limitation may be that, as with the precursors to patient-centered medical homes in the United States, implementation of IASC does not systematically or fundamentally transform practice or service delivery.⁵ Given these facts, it remains to be seen whether the new care model can be put into practice in such a way as to reorganize health care delivery to increase value for patients, achieve good medical outcomes at acceptable costs, and improve the experience of specialist care for both patients and providers.

Disclosure forms provided by the author are available with the full text of this article at NEJM.org.

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Restructuring Medicaid as Block Grants — Unconstitutional Coercion?

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In February 2015, Senators Orrin Hatch (R-UT) and Richard Burr (R-NC), along with Representative Fred Upton (R-MI), unveiled the Patient Choice, Affordability, Responsibility, and Empowerment Act (Patient CARE Act).¹ Although its terms remain sketchy, the proposal deserves serious attention. The Budget Resolutions passed by each House of Congress in late March, though nonbinding, assume enactment of some version of the proposal, and Hatch and Upton chair the Senate Finance Committee and the House Energy and Commerce Committee, respectively, two of Congress's most powerful health committees.

The Patient CARE Act would repeal the insurance reforms of the Affordable Care Act (ACA) and substantially scale back its insurance-premium tax subsidies.² In addition, in the name of “modernizing” and “reforming” Medicaid, it would fundamentally restructure the program. First, the proposal would eliminate all federal funding for the ACA's expansion of Medicaid eligibility for adults. Second, it would end Medicaid's historical entitlement to comprehensive coverage for low-income children, pregnant women, and families with dependent children, along with the entitlement to long-term care

services and support for elderly or disabled Medicaid beneficiaries. For these groups and services, it would replace Medicaid's open-ended financing structure with a block grant that would allocate a fixed sum to each state; these allotments would be allowed to grow over time only in accordance with a specified formula, at a rate well below that of medical inflation. As if to underscore the seriousness of its effect, the proposal notes that “Importantly, no changes would be made to the funding for the acute care of low-income elderly and disabled individuals and traditional Federal matching payments would