

**ORIGINAL RESEARCH**

# General Practice and Primary Health Care in Denmark

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**General practice is the corner stone of Danish primary health care. General practitioners (GPs) are similar to family physicians in the United States. On average, all Danes have 6.9 contacts per year with their GP (in-person, telephone, or E-mail consultation). General practice is characterized by 5 key components: (1) a list system, with an average of close to 1600 persons on the list of a typical GP; (2) the GP as gatekeeper and first-line provider in the sense that a referral from a GP is required for most office-based specialists and always for in- and outpatient hospital treatment; (3) an after-hours system staffed by GPs on a rota basis; (4) a mixed capitation and fee-for-service system; and (5) GPs are self-employed, working on contract for the public funder based on a national agreement that details not only services and reimbursement but also opening hours and required postgraduate education. The contract is (re)negotiated every 2 years. General practice is embedded in a universal tax-funded health care system in which GP and hospital services are free at the point of use. The current system has evolved over the past century and has shown an ability to adapt flexibly to new challenges. Practice units are fairly small: close to 2 GPs per unit plus nurses and secretaries. The units are fully computerized, that is, with computer-based patient records and submission of prescriptions digitally to pharmacies etc. Over the past few years a decrease in solo practices has been seen and is expected to accelerate, in part because of the GP age structure, with many GPs retiring and new GPs not wanting to practice alone. This latter workforce trend is pointing toward a new model with employed GPs, particularly in rural areas. (J Am Board Fam Med 2012;25:S34–38.)**

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## Overview of the Danish Health Care System<sup>1</sup>

Denmark has 5.4 million inhabitants. Like the other Scandinavian countries Denmark has a strong welfare state with universal access to health care. All Danish residents have free and direct access to general practitioners (GPs); ophthalmologists; ear, nose and throat office-based specialists; and hospital emergency services. Access to other office-based

specialists and hospital care is free, provided there is a referral from a GP. Danish GPs function much like family physicians in the United States and are gatekeepers to the more specialized part of the health care system. Free access also includes ambulance transport, rehabilitation, and palliative care. The nature and extent of treatment is left to medical judgment of the physician in charge, and there is no minimum or maximum package of care.

Health care is financed largely through taxes. Patient copayments make up approximately 17% of total health expenditures. The 2 biggest copayment services are prescription medicines and adult dental care. Municipal health services such as home nursing, home help (assist the disabled with activities of daily living), school health services, health visitors (to mothers with newborns), rehabilitation, and child dental services are also free.

Private hospital care is available, but publicly owned and operated hospitals provide 97% of all

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hospital services. A typical GP's office receives 95% of its operating income from public funds. Hospitals are staffed by salaried physicians, and unlike in the United States, office-based specialists do not have hospital privileges. GPs and office-based specialists are self-employed and contract with the public funding authorities. The contracts cover reimbursable services and a fee schedule. They are renegotiated every 2 years. Contracts also cover other issues such as accessibility, including opening hours, and the patient's right to get an appointment within 5 weekdays.

The health care system is embedded in a decentralized administrative structure consisting of 5 regions and 98 municipalities. Regional governments run the public hospitals (planning, operation, financing) and office-based health services such as general practice and office-based specialists (planning and financing). The municipalities run local services already described and are responsible for primary prevention. Patient surveys show a persistently high level of patient satisfaction (90% of the respondents are either satisfied or very satisfied).

Denmark historically has kept health care costs below OECD-average growth rates. In 2007, health care costs were approximately 9.7% (2007)<sup>2</sup> of Denmark's gross domestic product. General practice, the main clinical primary care function, makes up approximately 8% of overall health expenditures.

### General Practice (Family Practice)

To become a GP requires 6 years of training after medical school: 1 year of basic training and 5 years of specialist training, after which the doctor receives the title of Specialist in General Medicine. There is no requirement for recertification, but the regions allocate funds for continuing education for each GP. Some important characteristics of general practice are the patient list system, the gatekeeper function, out-of-hours services, the remuneration system, and GP practice ownership.

Approximately 3600 GPs serve the Danish population and they make up 20% of the physician workforce. The GPs are distributed across 2200 practice units, meaning that most practices have 1 or 2 GPs. These practices also employ about 3100 ancillary personnel, mainly nurses and medical secretaries. On average, Danes have about 7 GP contacts per person, including clinic consultations,

home visits, and telephone consultations.<sup>3</sup> Estimates of referrals from GPs to other providers (office-based specialists, in- and outpatient hospital treatment, physiotherapy, and various municipal health services) vary from 10%<sup>4</sup> to 20%<sup>5</sup> of all contacts.

### *The Patient List System*

All Danes are eligible to be listed with a GP and approximately 98% do so. GPs are responsible for serving the patients on their list, which averages 1561 patients.<sup>3</sup> Unlisted patients have a small co-payment for GP visits and can see office-based specialists without referral. Despite this option, the number of unlisted patients has declined steadily and today comprises approximately 2% of all Danes. When a GP's list reaches 1600 persons, he or she is allowed to close the list to new patients. This panel size threshold is low compared with Holland and England. In principle, citizens are free to choose their own GP, but it is not possible to choose a GP who has closed his or her list. Once a person chooses a GP, they must wait at least 3 months before selecting a new one. The list system enables the GP to develop a better knowledge of the individual patient (continuity of care) and knowledge of the family (spouses and children often have the same GP, hence the synonymous term *family doctor*) and it allows them to focus better on the whole population. As discussed later, the list system is a prerequisite to capitation payment.

### *Gatekeeper Function*

GPs control access to most office-based specialists and inpatient and outpatient hospital care through a referral system. This preserves the GP's role as the first point of contact. This gatekeeping system essentially is designed to support the principle that treatment ought to take place at the lowest effective care level along with the idea of continuity of care provided by a family doctor. GPs collaborate closely with municipal services and can refer to some services, for instance, home nursing.

### *Out-of-Hours Services*

GPs organize care coverage for weekends and out-of-hours services. GPs in a given geographical area rotate staffing of regional out-of-hours service centers, which often are located at but independent of the local hospital emergency department. Patients can call their out-of-hours service center to talk

with the on-call GP, be seen in the out-of-hours service center, or arrange a home visit by the “roaming” mobile GP unit in the given geographical area. People also can go directly to hospital emergency departments, but even these visits increasingly require a referral by a GP or out-of-hours staff.

The current organization of out-of-hours services goes back to 1992 and has inspired similar arrangements in other countries.<sup>6</sup> Currently it is being discussed whether the initial triage function could be handled by an experienced nurse. There is also discussion about merging hospital acute admission departments/accident and emergency care with the out-of-hours services, but this is meeting considerable resistance from the Organization of GPs.

### ***Entry and Exit of GPs***

In principle, any doctor with a specialty in general medicine can set up an office, but to receive reimbursement from the public authority, a GP provider number must be granted for services to be free to patients. In reality there are no GPs without a provider number because patients are unwilling to carry the full costs. The provider number system is used to control the supply of GPs and, to a certain extent, to control expenditures. GPs are allowed to sell their provider number and their office facilities. A number of rules set down by the Organization of GPs govern the sale, including the value of an asset such as “good will.” GPs are self-employed, so this transaction takes place without interference from public authorities.

### ***Remuneration of GPs***

GPs’ annual income level is typically above that of senior hospital consultants. Apparently it is a deliberate policy to attract and retain GPs. The reasoning is that, although being a GP may not be as prestigious as being a cardiac surgeon, there at least should be an added monetary reward. GPs are paid by a mixture of per-capita payment and fees for services. Approximately one third of a GP’s income comes from capitation payment from patients on their list and two-thirds come from fee-for-service payments.

Health economists recommend this mixed payment system without agreeing on the percentages for the 2 components. The system tries to combine 2 types of incentives: (1) the treatment of patients

on the list irrespective of how often they consult the GP and (2) an incentive to work efficiently when seeing patients. The trick is to strike a good balance. Currently the prevailing opinion is that the fee-for-service component is too dominant, potentially squeezing out time-consuming consultations related to lifestyle issues and more general counseling.

Fee for service gives GPs an incentive to treat patients by themselves rather than referring them elsewhere in the system. It is obvious that the fee-for-service component is an important incentive in this regard. Nevertheless, although the fee-for-service mechanism is likely to increase GPs’ productivity, capitation aims to prevent GPs from providing unnecessary treatment for the sake of monetary gain. In 1987, the city of Copenhagen changed from a capitation-based to mixed payment, resulting in an increase in volume of fee-for-service activities while referrals to specialists decreased.<sup>7</sup> The fee-for-service system is used deliberately to create incentives for specific (politically high-priority) services. For example, the comparatively high fee for preventive consultations is supposed to encourage GPs to offer longer consultations that focus on broader health and prevention activities.

### ***Daily Work in Danish Family Practice***

GP offices are contracted to be open on 4 weekdays from 8:00 AM to 4:00 PM, with the first hour reserved for telephone consultations. On one weekday, opening hours run to 6 PM or 7 PM. All family practices are fully computerized. The software is developed to handle patient records, send prescriptions to pharmacies and referrals to hospitals, and receive laboratory analysis results and hospital discharge letters. E-mail consultations are also available.

### ***Quality Assurance at the National Level***

The Danish College of General Practice continuously develops clinical guidelines. The guidelines are distributed to all GPs in Denmark. The joint unit for quality development between the Organization of Danish GPs and the Danish Regions, DAK-E (Danish Quality Unit of General Practice),<sup>8</sup> coordinates quality development in general practice in collaboration with the regions. DAK-E is responsible for development and implementation of an advanced software module in all GPs’ electronic record systems. The module collects patient

care data from the physician's computer, including prescriptions, laboratory tests, and information from hospitals. The data are forwarded to a central database and used for quality improvement and research. In return, all GPs have online access to detailed information about to what extent their treatments are in accordance with the clinical guidelines.

DAK-E also runs DANPEP (*Danish Patients Evaluate Practice*), which is a method whereby patients evaluate their doctors and general practices through the use of questionnaires. The results of the survey are used to focus on the quality experienced by the patient and to create changes in practice. The GP receives a personalized report containing the results of the evaluation. The report includes aggregated data for the other participating doctors in the region so that the doctor has the opportunity to compare and provide perspective to her own results.

The Audit Project Odense<sup>9</sup> is another quality improvement assessment that allows GPs to input data about their practice patterns, receive feedback, develop quality improvement interventions, and evaluate them.

### **Organization of Quality Assurance At the Regional Level**

Each region employs a number of quality development staff, typically part-time GPs, who initiate and support local quality development projects. Each region also has a board of GPs, civil servants, and politicians who initiate regional quality development projects, some of which are developed with incentive payments.

### **Trends and Contentious Issues**

Many GPs are nearing retirement and a shortage of GPs is developing. This means that it is increasingly difficult to attract GPs to outlying (rural) areas with predominantly solo practices. In consequence, many solo practices close or join group practices. As a result, there are proposals to open publicly run practices and/or move to employed GP models to cover the outlying areas. The 2011 agreement between the Organization of GPs and the Danish regions is something new that allows for a GP employment model as opposed to the current self employment model. Collaboration between self-employed and often fiercely independent GPs,

public hospitals, and municipal health services can be contentious. Solutions to bridge the gap have been developed. For instance, "contact GPs" are contracted to develop cooperation between hospitals, municipalities, and GPs to ensure (among other things) coherent and continuous care and to develop treatment pathways across hospitals, general practice, and municipalities.

### **Conclusions**

The current structure and position of general practices have developed over more than 100 years. The ability to adapt to changing circumstances and challenges has ensured general practice an important position in the Danish health care system, providing cost-efficient, first-line services and careful gatekeeping. In view of the fact that the Danish health care system to a large extent is not only publicly financed but also publicly operated (that is, public hospitals), it is interesting that the general practice system with self-employed GPs has never been seriously questioned. This probably attests to the fact that it is a flexible system that can adapt to new challenges.

The list system ensures a good degree of continuity of care, and the family physician is also an anchor for patients in an increasingly fragmented health care system. The remuneration system strikes a good balance between opposing incentives even though the balance between income from capitation and fee for service is being debated continually. The gatekeeping system is another important feature that helps to curtail treatment at a too highly specialized level. It gives GPs a great deal of responsibility to make sure to refer patients to more specialized treatment when needed and at the same time the ability to realize when they themselves can provide adequate treatment.

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