Chapter 2

Primary care and integrated care in Denmark

Denmark faces a number of health care challenges including increasing public and political expectations around the continuity of care; increased specialisation in the hospital sector, which typically translates into shorter stays and earlier discharge back into the community; and a rise in the number of elderly patients with multiple long-term conditions, requiring safe and effective co-ordination of care and avoiding unnecessary hospitalisation.

This chapter assesses how well positioned Danish primary care is to meet these challenges, particularly the challenge of integrated care. The chapter begins by describing the current configuration and outcomes associated with primary care in Demark, and the quality initiatives implemented by the sector. A section focussed on integrated care follows, before closing with an assessment of the gaps and opportunities in Danish primary health care quality.

Whilst Danish GPs have actively developed a number of in-house quality initiatives, enthusiasm for cross-sectoral working is much less evident. The sector is well placed, however, to modernise its offer, including new ways of working such as making better use of advanced nurse practitioners. Better information infrastructure is key, as will be combining national vision with local freedom to innovate.

2.1. Introduction

Reconfiguration of the hospital sector and changes in public expectations are presenting new challenges to Danish primary care, as are demographic trends

Denmark, in common with most European countries, is undergoing a transition to a more elderly demographic: the population aged over 65 years is expected to nearly double by 2050, from its 2010 level of 16.6%, while fertility rates are below the replacement rate of 2.1 children per woman that achieves population stability. On most estimates, around two fifths of the general population and four fifths of the elderly population suffer from a long-term condition such as diabetes or hypertension or, in many cases, multiple long-term conditions simultaneously (Moth, 2012; Nolte, 2008). Even if living healthily, this demographic shift inevitably implies increased contact with, and support from, the health care system. Inevitably, patient expectations around the proper co-ordination, safety and effectiveness of care for long-term conditions are mounting.

Primary care services are seen as central to meeting the challenge of providing effective, co-ordinated care for patients with multiple needs (King's Fund, 2010). In particular, a key objective for the primary care sector is to reduce the number of avoidable hospitalisations, which are costly, unwelcome and often complicated by adverse events. Primary care is being asked to offer more proactive and ambitious packages of care in the community, focussed on risk stratification, tailored management and patient education. This is in the context of a more general drive to deliver as many health care services as possible outside the hospital setting, driven by advances in drugs and other treatment technologies and, in particular, patients' preference for care closer to home. Reorganisation of the hospital sector into fewer, more specialised units, as explained in the next chapter, means that these pressures are particularly acute in Denmark. The community sector is being expected to deliver a wider and more complex set of health care functions and primary care, naturally, is expected to play a central role in managing and delivering this shifting pattern of health care use. For example, the number of inpatient cases for cataract surgery has dropped by 16.5% in the past decade in Denmark, while the number of day cases has grown by 8% (OECD, 2012).

At the same time, primary health care has an important public health function to deliver. Whilst the percentage of daily smokers in Denmark has dropped dramatically from 47% in 1984 to 19% in 2009 (such that smoking rates are now below the OECD average), the obesity rate among adults – based on self-reported height and weight – was 13.4% in 2010, up from 9.5%

in 2000 and 11.4% in 2005 (the OECD average for countries providing self-reported data was 15.1% around 2009). Obesity's growing prevalence foreshadows increases in the occurrence of health problems (such as diabetes and cardiovascular diseases), and higher health care costs in the future.

Taken together, these factors suggest major fiscal challenges in the future if Denmark is unable to adapt its primary care sector to accommodate for more complex demand for care. This chapter assesses how well positioned Danish primary care is to meet these challenges, particularly the challenge of integrated care. Some aspects considered in Chapter 1, such as overall quality governance, patients rights and complaints and systems for handling adverse events, are not repeated here.

2.2. Configuration of primary care in Denmark

General practitioners play a central role in Danish health care and will be called upon to meet the challenges set out above

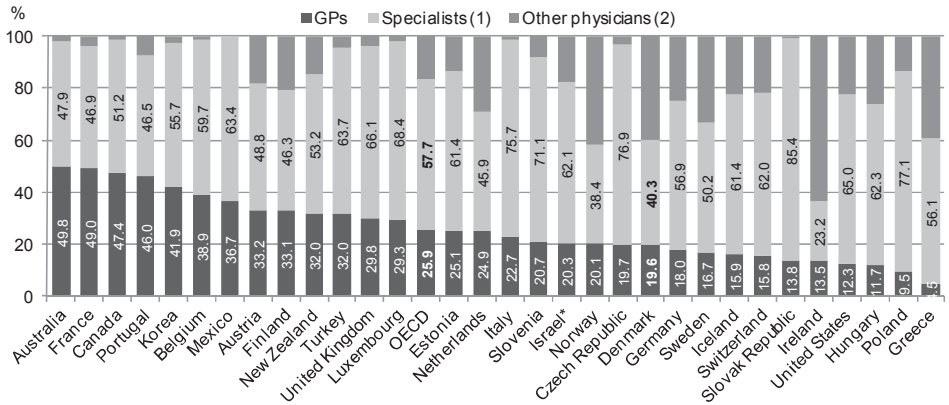
"Primary health care" looks very different in configuration and delivery from country to country. The model followed in Denmark centres around a medical practitioner trained to be the first point of contact for unselected acute, chronic and preventive health care issues, and with whom the vast majority of the population register long term, on a one-to-one basis and who acts as a gatekeeper for non-acute access to most other specialities (the "general practitioner" or GP). This closely resembles the models of primary health care in the Netherlands and United Kingdom. In recent review of 31 countries in the European region exploring the strength of various features of primary care such as the degree of gate keeping access to other services, the breadth of services offered by GP, its academic status and GPs' remuneration, the role played by primary care in Denmark was found to be particularly strong compared to other countries' health systems (Kringos et al., 2013).

Although general practice was first recognised as a medical speciality in Denmark in 1994, the Danish College of General Practitioners was founded in 1970 and the first university Department of General Practice in 1974. Indeed beyond this, there is a recognisable tradition of GP in Denmark for at least a century. In defining the speciality, the Danish College of General Practitioners (DSAM, Dansk Selskab for Almen Medicin) uses the widely adopted WONCA[1] definition. This describes GP as, among other things, the usual first point of contact within the health care system, dealing with all health problems regardless of the age, sex, or any other characteristic of the person concerned. Uniquely, GP is responsible for providing longitudinal, on-going management including acute, chronic and preventive health care, integrating physical, psychological, social, cultural and existential dimensions relevant to the patient and her health care concerns. GP is also

characterised by close working with other professionals in the primary care setting (such as community nurses) and by managing the interface with other specialities as necessary.

There are around 3 600 GPs currently in practice in Denmark, around 20% of employed physicians. Compared to hospital specialists and other doctors, this is relatively few compared to the OECD average, but comparable to Scandinavian peers (Figure 2.1).

Figure 2.1. General practitioners, specialists and other doctors as a share of total doctors, 2009 or nearest year



1. Specialists include paediatricians, obstetricians/gynaecologists, psychiatrists, medical specialists and surgical specialists.

2. Other doctors include interns/residents if not reported in the field in which they are training, and doctors not elsewhere classified.

* Information on data for Israel: *http://dx.doi.org/10.1787/888932315602.*

Source: OECD Health Data 2011.

In Denmark, then, the GP is a central figure in the health care system. Danish GPs deliver around 40 million contacts to the population per year (PLO, 2012a). Just over half of these are face-to-face contacts, with the remainder comprising telephone contacts, e-consultations and home visits. Four per cent of patients seen are referred to hospitals, 2% to community specialist care, and 2-3% to auxiliary services such as physiotherapy. As well as dealing with ad hoc medical complaints as they arise, Danish GPs are responsible for the systematic monitoring of weight, physical activity, smoking status and alcohol misuse in their patient group, with appropriate lifestyle advice and referral to further intervention in the municipality as necessary. With an average list size of 1 600 patients each, the average consultation rate is seven contacts per year, in line with consultation rates in

other countries such as the United Kingdom. Out-of-hours (OOH) care in each region is organised by GPs with the assistance of other doctors employed as freelancers to cover evenings, weekends and at night-shifts.

Choice of GP in Denmark is free but in practice limited to a geographic radius of 15 km (beyond which, the GP is permitted not to refuse registration given potential difficulties in performing home visits). Registered patients have free access to their GP, as well as free access to other community services, hospital specialists, laboratory, x-ray, and pathology services. No co-payments or deductibles apply to these services, although they do require referral. Prescribed medications incur a co-payment, initially of DKK 865, tapering off at higher out-of-pocket spends. Low-income individuals, seniors and pregnant women are not exempt from medication co-payments, although some groups such as low-income old age pensioners receive additional social benefits or other supplementary contributions.

A very small number of Danes (less than 1%) participate in a residual "Group II" scheme and pay a per-visit fee in return for the right to visit any GP, specialist or diagnostic service without referral. Those registered to this scheme are typically elderly who by tradition have been used to paying out of pocket for medical services. There are no systematic differences in the standards of the care and medical services across Group II members and the majority population (most Group II still, in fact, rely on the GP to discuss specialist referral); it is generally believed that the Group II scheme will eventually disappear.

Danish GPs contract their services to local government

The larger Group I scheme, to which the vast majority of Danes subscribe, functions as the national health insurance scheme. It was established in 1978 and is funded through progressive taxation. Within this scheme, responsibility for purchasing and providing primary care services falls to the mid-tier local governments, recently reorganised into five regional authorities ("the regions") as described in Chapter 1. The most recent OECD *System of Health Accounts* data for Denmark in 2010 shows that, out of a total national spend on health of USD PPP 4 464 (equivalent to 11.1% GDP), 28.4% is spent on ambulatory care, 45.1% on hospital care, 13.4% on nursing and residential care and 11.5% on purchase of drugs and medical goods (OECD, 2010).

Nearly all Danish GPs are independent professionals working on a contractual base with the regional authorities, and are commissioned to provide primary care services either from their own facilities, or (less often) renting space from a publicly run local health care clinic. GPs are paid through a mixed system comprising both capitation sums (about 30% of GP income) and fee-for-services sums (about 70%), negotiated between the regions and GP representative bodies and applied uniformly across the

country. Fees are earned on consultations, home visits and minor surgery; some preventive health care work also attracts a fee, such as vaccinations and child health programmes. There is, however, no direct quality-related component in the current payment structure for primary care provision.

Physician density is regulated to ensure even geographic access for patients and even income for GPs across the country, reducing any tendency to avoid practice in poorer or less populated areas. Nevertheless, in response to some persistently understaffed districts, recent contracts allow regions to establish primary care clinics and employ GPs on a salaried basis, or for independent practitioner GPs to employ other GPs on a salaried basis in branch facilities.

Other professionals in Denmark's primary health care workforce include 3 700 dentists (similar to the number of GPs) and 245 community pharmacies. All citizens are entitled to home nursing for phases of acute, chronic or palliative care, provided by their municipality. When prescribed by a GP and assigned by the municipality home nursing and any necessary equipment or home modifications delivered by the municipalities, are free of charge. Danes also have access to physiotherapists, provided free of charge for people with serious physical disabilities or subsidised if otherwise prescribed by a GP. Every region also has a medically qualified public health officer, whose role is administrative, advising the regional authorities on environmental and communicable disease threats, as well as broad supervision of all health activities in the area.

Training to become a GP is formalised, but thereafter professional development is unstructured

All Danish medical graduates are exposed to GP as part of their undergraduate training, which consists of around a month of clinical practice, accompanied by theoretical lectures and examined in the final qualifying exams. This is broadly similar to the extent to undergraduate exposure in other OECD countries. Additionally, however, about 80% of Danish medical practitioners work in GP after qualifying as part of their basic clinical training. For those planning a career in GP, specialist training comprises five years, made up of a further six months in an approved training GP setting, followed by various hospital posts (typically including general medicine, surgery, paediatrics, gynaecology/obstetrics and psychiatry) over four and a half years, throughout which the trainee continues to work 1-2 days a month in GP. Clinical practice is supported by a theoretical course of 200 hours, organised at regional level with other local trainees; a research training module is also included. These arrangements for specialist GP training are very similar to other OECD countries. After specialist qualification, continuous medical education or professional development (CPD) is self-regulated and managed by GPs' professional

association. At present, there is no formal system of CPD for GPs, setting out expectations or documenting GP's professional development.

One issue pertinent to the continuing professional development of GPs is the notable predominance of solo practitioners in Denmark. A solo (or "single-handed") GP manages patients in a geographical area in isolation without daily interaction with other GPs, or may share premises but be uniquely responsible for the care of patients on her list. Although solo practice has historically been associated with professional isolation and poor quality (Collings, 1950), recent studies have not found evidence that lone GPs provide worse care (Chambers 1994; Campbell, 2001; Majeed, 2003). Nevertheless, CPD can be more difficult, unless mitigated by learning groups or other initiatives (Beyer, 2003). The solo practitioner model is nevertheless slowly becoming less common: now, around 40% of the general practitioners in Denmark now work in group practices, compared to around 25% some decades ago, a trend in keeping with a steady evolution towards a more collective approach to the provision of primary care seen elsewhere. Those solo practices which persist are largely a metropolitan phenomenon – for example almost 70% of GPs in the Copenhagen area work alone, compared to 48% in South Denmark; this is thought to be due to difficulties in obtaining sufficiently large premises in urban areas (PLO, 2012b). Nevertheless, even within collective provision, practice sizes in Denmark remain small with around half comprising just two GPs and another 25% three GPs.

Denmark's future GPs are likely to demand different working conditions

Two demographic trends stand out amongst the Danish GP workforce: increasing age and increasing feminisation. Currently, around a third of Danish GPs are aged over 60 (PLO, 2012a) and the proportion of female GPs has risen from around 10% in the 1980s to close to 50% today. Younger and female doctors are more likely to request working flexibly or part time (Johannessen and Hagen, 2012; Simoens and Hurst, 2006), although part-time working is popular amongst Danish GPs more generally. Anticipating the likely impacts on medical labour supply implied by these preferences, the Ministry of Health reports significant concern around ensuring even distribution across rural and urban areas. Likewise, the GP professional association estimate a current shortfall of approximately 150 GPs (4% of the workforce), concentrated in the periphery (specifically, North Jutland and Lolland Falster), but also in large cities (PLO, 2012b). To offset these possible shortfalls, training capacity in general practice has been increased from 104 training posts/year to the current 180 posts and a further increase to 230 posts/year is planned (Ministry of Health, 2008b).

2.3. Outcomes associated with primary care in Denmark

Although little data is available, Danes appear satisfied with primary care services

Levels of satisfaction with primary care services in Denmark appear high. In a recent Eurobarometer survey, 91% of Danish respondents rated the quality of family doctors as "good", compared to an EU27 average of 84% (European Commission, 2007). This concurs with findings from a 2008 survey undertaken by the GPs' professional association, when 86% of those polled said they were satisfied or very satisfied with their GP, and 4% dissatisfied (PLO, 2012a). In an industry-sponsored, pan-European survey of consumer satisfaction with health care services (including secondary care), Denmark was the second highest ranking country out of 34, behind the Netherlands (Björnberg, 2012). Only 3% of Danes switch GPs per year (most often because of a change of address), again suggesting satisfaction with individual practitioners.

One area of slight concern relates to access. In the Eurobarometer survey, gaining access to a GP was rated as "easy" by 82% of Danish respondents, below the EU27 average of 88% (European Commision, 2007). Financial access, however, was not an issue, with Danish respondents reporting the lowest rate of unaffordability at 1%, compared to an EU27 average of 11%. It has also been shown that for the same level of need, low-income people are more likely to visit a GP than those with higher income in Denmark (Devaux and de Loooper, 2011). While this is true in several other OECD countries, the pro-poor gradient of GP visits is especially marked in Denmark. The theme of health and health care equity is explored further in Chapter 4.

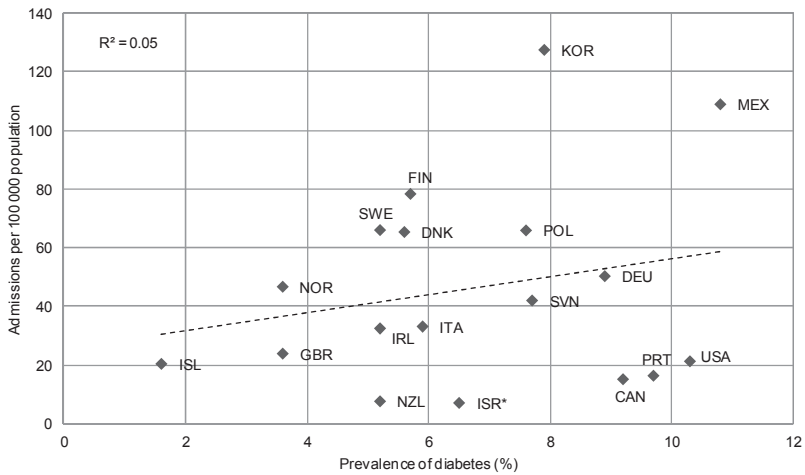
Since 2001, a patient satisfaction survey called DANPEP (Danish Patients Evaluate Practice) has been used in Denmark to systematically collect patient reported measures of the quality of primary care, including experience of the patient journey, degree of involvement in decisions about their care and co-ordination of care. DANPEP evolved from the EUROPEP questionnaire, which was developed and validated by a task group of research institutes from eight different European countries (Wensing, 2000). Every practice is obliged to conduct a survey on a sample of patients at least every three years and receives a breakdown of results by individual doctor, by practice and by region. Analysis of recent DANPEP results found high levels of satisfaction overall, with the most positively rated aspects of care being confidentiality, empathy and precision, while the poorest levels of satisfaction regarding GP availability by phone and amount of waiting time in the waiting room. Elderly patients, frequent attenders, patients who had a long history with the GP and patients with a good self-rated health were those who were most satisfied in general (Heje, 2010).

Objective indicators of primary care quality, however, are not always reassuring

The OECD collects a number of internationally comparable indicators reflective of the quality of primary health care. These largely relate to long-term conditions such as asthma and diabetes which should be fully manageable in the community – any hospital admission for these conditions is likely to reflect a lapse in the quality of primary health care. Denmark performs well in some of these indicators. Asthma admission rates at 36.5 admissions per 100 000 population (aged over 15, and age and sex standardised to the 2005 OECD population) are well below the OECD average of 51.8 admissions (OECD, 2012). Likewise, for congestive heart failure, Denmark has the lowest standardised admission rate amongst similar European countries.

Other indicators are less reassuring. The standardised admission rate for poorly controlled diabetes, at 65.4 admissions per 100 000 population aged over 15, is higher than the OECD average of 50.3. This aberration cannot be linked to a higher diabetes prevalence, which in Denmark is very moderate (Figure 2.2). Furthermore, the lower limb amputation rate amongst diabetics in Denmark is one of the highest in Europe (OECD, 2012) – a distressing eventuality which should be avoidable irrespective of the background prevalence of diabetes.

Figure 2.2. Uncontrolled diabetes hospital admission rates and prevalence of diabetes, 2009 or nearest year

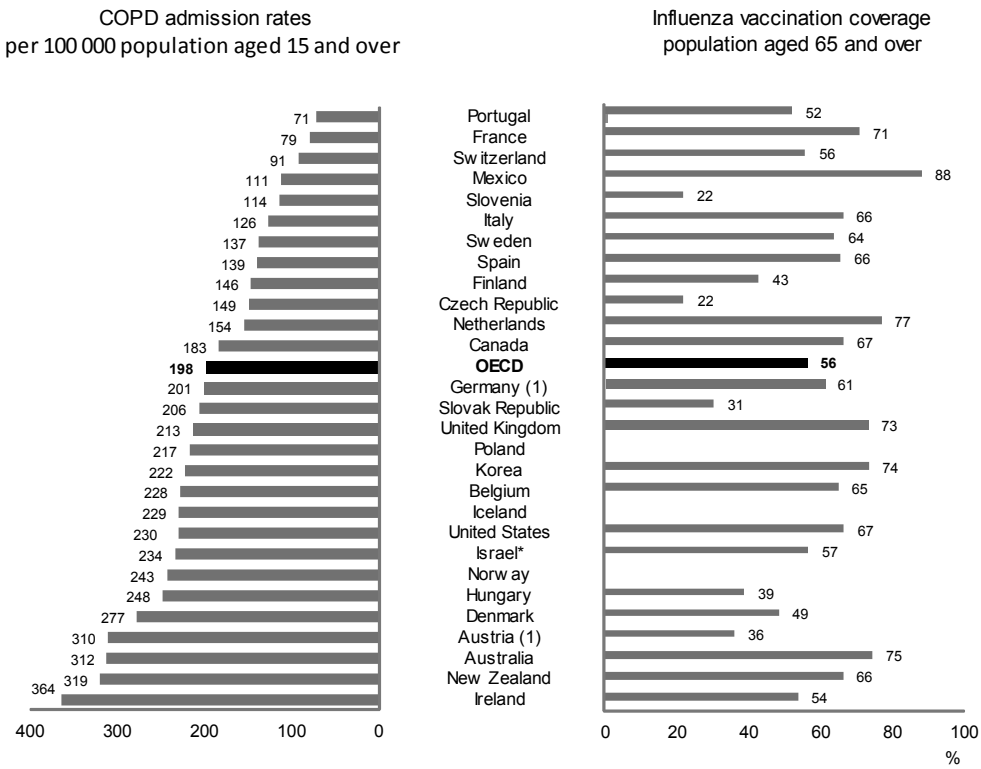


* Information on data for Israel: *http://dx.doi.org/10.1787/888932315602.*

Source: OECD Health Data 2011.

Likewise, the admission rate for chronic obstructive pulmonary disease (COPD) at 277 per 100 000 population aged over 15, far exceeds the OECD average of 198 admissions. Whilst this may relate to Denmark's historically high smoking levels, referred to in the opening paragraphs of this chapter, cause for concern is compounded upon noting Denmark's relatively poor record at vaccinating older people against influenza (Figure 2.3) – a vital primary care function, which reduces the risk of hospitalisation in patients with COPD and other chronic illnesses (Nicholson et al., 1995).

Figure 2.3. COPD hospital admission rates and influenza vaccination coverage, 2009 or nearest year



Note: Rates are age-sex standardised to 2005 OECD population.

1. Influenza vaccination coverage population aged 60 and over.

* Information on data for Israel: *http://dx.doi.org/10.1787/888932315602.*

Source: OECD Health Data 2011.

2.4. Primary care quality initiatives in Denmark

Danish primary care has developed a number of quality initiatives, particularly around clinical data capture

The Danish General Practice Quality Unit (DAK-E) was established in 2007 as a unit under the Foundation for Quality and E-Health in Denmark. DAK-E aims to monitor and improve the quality of Danish General Practice, and is funded jointly by the Danish regions and GPs' professional organisation, the PLO, who both reaffirmed quality as a shared priority in their most recent contract negotiations. Funding for DAK-E was recently reduced however, leading to a decision to focus activity on the DAMD data-platform, described below, rather than other activities such as training and educational activities for GPs.

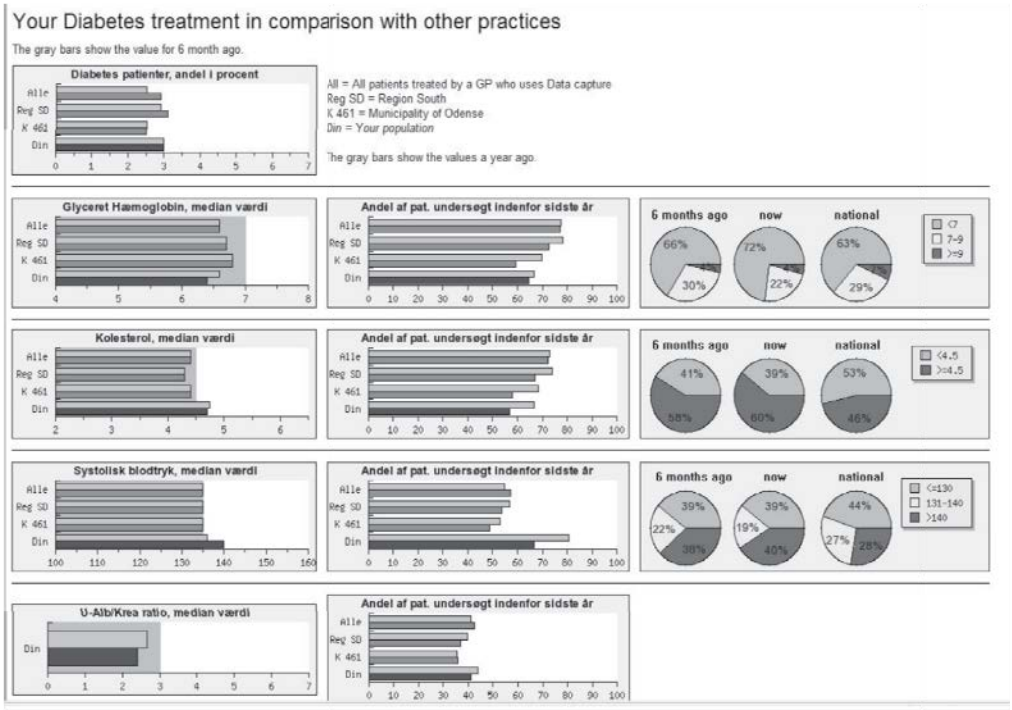
Close to 100% of Danish GPs use electronic health records for in-house patient management of their patients and over 80% of communications with other service providers are electronic (Ministry of Health, 2008a). Although Danish GPs use a variety of software packages for patient and practice management, a requirement to code all activity for chronic disease management using the International Classification of Primary Care coding system (ICPC-2) should facilitate shared activities and communication between them, at least in the area of chronic diseases. ICPC-2 allows classification of the patient's reason for encounter, the problems/diagnosis managed, interventions (including medications, procedures and referrals) and administrative data (WHO, 2003). An e-learning programme is supporting GPs with implementation.

Additionally, Denmark uses a system of automatic data capture from primary care records to monitor quality. The data include diagnoses, procedures, prescribed drugs and laboratory results. Most data is collected automatically, limiting any additional burden on GPs themselves, although annual data checks and specific research projects may request additional data via occasional pop-up screens. Participation was initially voluntary at set up of the system in 2006, but since April 2011 every practice is obliged to participate within two years (currently, just over 70% of practices are participating). Data are sent to the Danish General Practice Database (DAMD) hosted by the University of Southern Denmark.

DAMD provides a platform through which GPs can access quality reports from their own practice for over thirty areas, including management of chronic diseases such as depression, COPD, diabetes or heart failure; routine care such as childhood vaccination and provision of contraception and aspects of effective practice administration. As well as being able to identify individual patients that are sub-optimally treated, the system allows them to

benchmark their practice against other practices at municipal, regional, and national levels (see Figure 2.4 for an example relating to diabetes management). Patients can also monitor their own clinical data (Figure 2.5).

Figure 2.4. DAMD output allowing GPs to compare the quality of their practice with peers

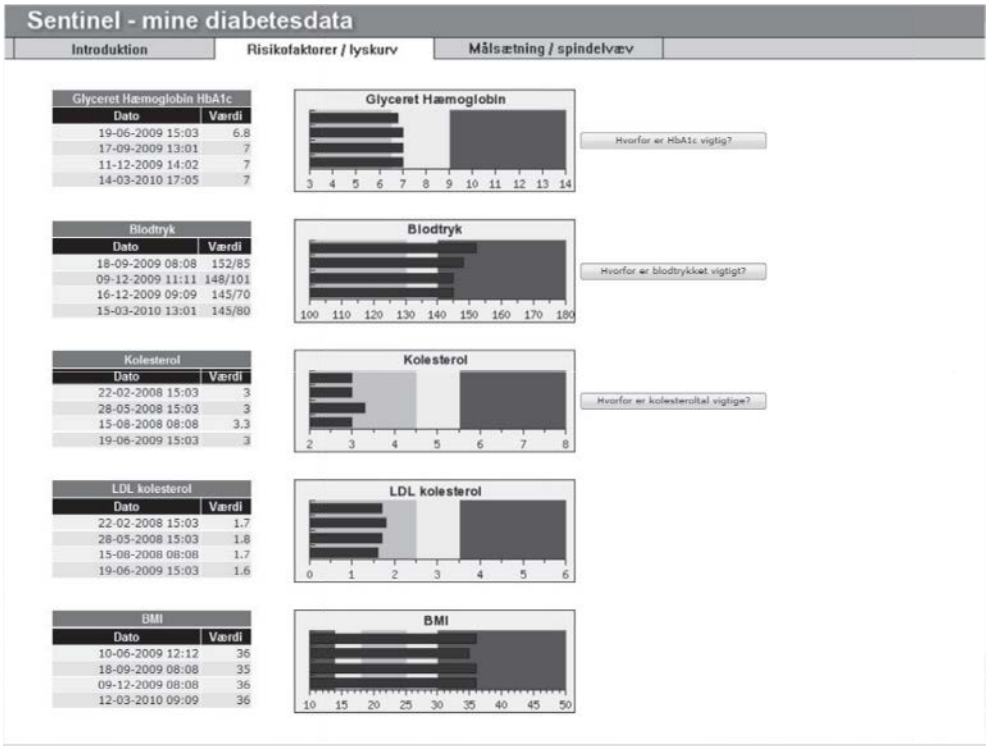


Glossary: *Median værdi*: median value; *andel af pat. undersøgt indenfor sidste år*: proportion of patients with an annual check in the last 15 months.

Source: www.dak-e.dk.

The DAMD produces weekly quality reports as well as occasional in-depth analyses of particular topics. For example, a recent analysis examining the quality of diabetes primary care reported significant improvements in the proportion of diabetics on antidiabetic, antihypertensive and lipid-lowering medications where appropriate (Schroll, 2012). Absence of a control group, however, precludes any firm conclusion that the improvement in the quality of care observed was a direct result of the DAMD tool, although a smaller cluster randomised controlled trial using an earlier version of the tool in Vejle municipality reported similar positive impacts on appropriate prescribing (Guldberg, 2011).

Figure 2.5. DAMD output allowing patients to self-monitor their management



Glossary: *Lyskurv*: traffic light; *værdi*: value; *blodtryk*: blood pressure; *hvor er 'x' vigtigt?*: Why is 'x' important?

Source: www.dak-e.dk.

Nevertheless it remains far from clear whether GPs make regular, effective use of the information available to them through DAMD – the most recent data show that only one in six GPs open the practice quality reports they are sent (DAK-E, 2013). Hence, the challenge now is to encourage and implement activities related to feedback, such as reflection on individual or group practice or discussion through quality circles.

In general, quality initiatives in primary care are disconnected from broader system quality initiatives or have been slow to develop

In assessing the likelihood of meeting the challenge above, it should be noted that many of the quality initiatives discussed in Chapter 1 have only poor "reach" into primary care. For example, Denmark's National Indicator

Programme "measures the quality of care provided by the *hospitals* to groups of patients with specific medical conditions";[2] of the eleven disease areas NIP addresses, few have an important primary care component. Of those that conceivably do, namely COPD, diabetes, heart failure, low back pain and depression, their focus is mostly on secondary care (the standards around depression, for example, refer entirely to hospitalised patients or hospital outpatients). Only the indicator sets for low back pain, COPD and diabetes capture primary care activities. Meanwhile, the articulation between NIP and primary care's home-grown indicator project, the DAMD platform described above, is only partial. Principally, whilst NIP sets out specific standards and timeframes, with threshold values for what proportion of patients should achieve a certain standard within a given timeframe, DAMD does not specify standards, timeframes or threshold values. Instead, its function is to provide quantitative feedback to GPs on how their clinical and administrative management compares to their peers. As of April 2012, however, a new project is exploring how patient-level data held by DAMD and NIP on diabetes management can be brought together to give a more integrated picture of the quality of care. Similar work is planned for COPD.

Likewise, the Danish Institute for Quality and Accreditation in Health care (IKAS) manages an accreditation programme across Denmark's health system. Accreditation involves determining minimum standards of quality, assessing health care providers against these, and using any deficiencies identified as an empirical basis to improve quality, as described in Chapter 1. An underlying aim is to develop a culture where all institutions engage in ongoing learning and continuous quality development. To date, all Danish hospitals, public as well as a number of privately owned units, have been visited by the IKAS programme and given an accreditation status.[3] Accreditation standards have also been agreed for the pre-hospital emergency care sector, for Danish pharmacies and for municipal health care services and many of these services have completed the accreditation process. To date, however, systematic accreditation in the primary care sector is not in place.

An agreement was signed late 2010, however, between IKAS, the Danish regions, the PLO and DSAM to begin work on developing and piloting accreditation standards for primary care. The version being piloted has 19 standards in four areas: a general section on availability of appointments, telephone access, efficient referrals and care for vulnerable patients; patient involvement and information; patient safety; management and organisation. There are also some additional standards around the management of diabetic patients. Piloting by 26 practices across Denmark took place over 2012, with an independent consulting firm collecting users'

feedback on the process and results. The plan is to have a formal, national system of primary care accreditation in place by 2014.

In a similar vein, Denmark's national patient safety programme concerns only hospital care and the Danish Society for Patient Safety's widely acclaimed *Patient Handbook* and various demonstration projects only concern hospital stays (although a demonstration project for community care is currently under discussion).

2.5. Initiatives to support integrated care in Denmark

Although evidence is scant, Denmark's provision of integrated care seems under par

The Danish population's expectations of health and social care, particularly long-term care, is distinct vis-à-vis other European countries. Danes are most likely to want to be looked after by a professional care service at home during older age (46%; Hungarians, 8%, were least likely) and most likely to expect it (51%; Croatians, 4%, were least likely; Eurobarometer 2009). A decisive element is who gives the care: Danes are least likely to want to be looked after at home by a relative (20%; Polish respondents, 70%, were most likely to want this; idem). The implication is that Danes have a clear expectation that public services make a comprehensive offer of health and social care, within a fully personalised physical setting and social context. Hence there is a need for co-ordination between regional and local health prevention, treatment and care in order to offer smooth, patient-centered solutions. Yet, within those with experience of such care, Danes were the most likely to report that they felt the care received fell somewhat short of their needs (16% reporting that care was "only partly appropriate"; Greeks, 4%, were least likely). Some caution here is needed, however, because but numbers responding to this particular question were small.

One crude measure of care integration is waiting times between one element of care starting after being referred from another, or after self-referral. Denmark routinely monitors expected and actual waiting times *within* the acute care sector,[4] these are shown in Figure 2.6 for 18 selected surgical procedures and treatment for cancer during the period 1998-2011. In general, waiting times are stably low or have been declining in recent years (apart from an increase in 2008 explained by a two-month general strike among hospital personnel).

Box 2.1. Seamless continuity of health and social care – an increasing expectation from patients and their carers

Given the context of an epidemiological transition towards longer lives and an increasing prevalence of long-term conditions – and, in some cases, care needs – health and social care systems across the world are grappling with the problem of how to deliver high-quality, personalised care whilst controlling costs and maintaining overall efficiency. More concretely, their task is to ensure that individual patients get appropriate care for acute episodes of ill-health, as well as effective management over longer periods to stabilise their health and avoid costly and unpleasant deteriorations (Kodner and Spreeuwenberg, 2002). The services responsible for delivering and sequencing such care include primary and ambulatory health care, emergency and specialist health care and social care services, hence a critical issue is ensuring that interactions between these providers about individual cases, and patient transitions from one service to another, are timely, safe and minimally disruptive for the patient and their family or informal carers. Co-ordination is an issue both within the health care sector (as a patient prepares for discharge from a hospital into the community, for example) and across the interface between health and social care (such as when a patient requires additional home help to live independently) and is particularly important for patients with chronic conditions and the elderly who may have difficulty navigating fragmented care systems (Oxley, 2009).

Increasing concern for health care quality and patient safety are major drivers of the pursuit of better integrated care, indeed the concept of well co-ordinated, patient-centered care has become one of the key objectives of modern health care systems. The Institute of Medicine's influential 2001 report *Crossing the Quality Chasm* (Institute of Medicine, 2001) identified better co-ordinated care as a central feature of health care quality; since then an increasing body of evidence has demonstrated that orienting a health system around the preferences and needs of patients improves overall patient satisfaction and health outcomes, as well as reduces costs (Oxley, 2009; OECD, 2010). Studies based on information from "root-cause" analysis of specific incidents suggest that poor design of health care delivery processes and fragmentation, rather than technical incompetence of professionals, underpins the majority of medical errors (Hofmarcher et al., 2007). Patient expectations are also driving the demand for better co-ordinated care. Unsurprisingly therefore, a 2007 OECD survey indicated that policy makers in virtually all responding countries were concerned about inadequate care co-ordination within their health system (Oxley, 2009). Policy discussions about care co-ordination are most closely linked to goals of quality of care, followed by cost efficiency and, to a lesser degree, on ensuring access to care (Hofmarcher et al., 2007). Before going further, it is worth noting that variety of terms are in use to describe the concept, including "managed care", "shared care" or "transmural care"; throughout this volume we use "integrated care".

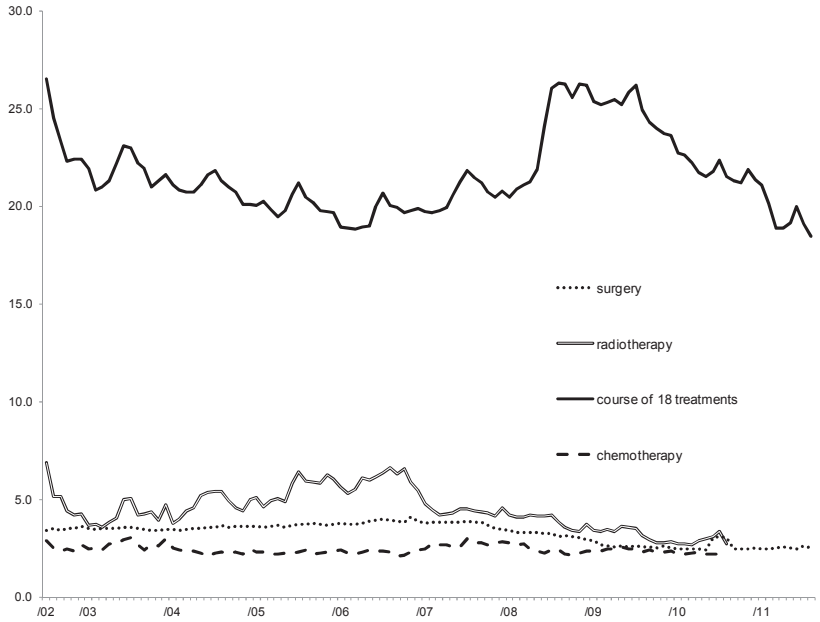
A recent King's Fund review (Curry and Ham, 2010) identifies common features of successful integrated care programmes: first, proactively identifying individuals that are at high risk of using services intensively and crossing frequently between ambulatory and acute care, or having simultaneous, intensive health and social care needs; second, setting up multidisciplinary teams to provide and take responsibility for care co-ordination, including delivery of social care services, allowing individuals to go to one place to access a range of

services; third, preferentially investing in effective lower cost services (such as home care) whilst embedding incentives to use them rather than higher costs substitutes (such as admission to long-term residential care). The authors note that effective integration of care requires action across several levels of a care system. At a macro-level, this includes shared goals, planning and purchasing across health care commissioners and providers, perhaps within a single institution. Kaiser Permanente in the United States is a well known example. Integration at a micro-level refers approaches such as case management or virtual wards to deal with individual patients. In between is meso-level integration where the focus is on the needs of particular groups of patients (Curry and Ham, 2010). Most, if not all, care systems place the primary care professional as a key agent (often, *the* key agent) delivering integrated care at the micro-level, and to some extent, at the meso-level. Hence, this quality review considers the provision of integrated care as a central issue alongside the assessment of the quality of Danish primary care.

Nevertheless, personalising the health and social care offer to separate individuals with complex needs and distinct preferences is difficult. Each case is essentially novel and unique, there are no absolutely "correct" solutions and there are few generalisable rules to guide resolution other than at an abstract level. Hence, health care providers face a classically "wicked problem" with no straightforward solution (Conklin, 2005). Surveying countries' policy response to the problem, Oxley reports that problems in co-ordination most often appear at the interface between levels of care, particularly as patients leave acute care settings: around two thirds of countries agreed with the statement that difficulties exist at transitions from ambulatory care and four-fifths at the level of transitions from acute care. 30% of countries indicated problems of care co-ordination within hospitals, suggesting potential to improve organisation within the acute care sector; it was also reported that long-term care services were poorly formulated to meet the challenge of care co-ordination (Oxley, 2009).

Financing arrangements were identified as a particular obstacle, given that funding care from multiple individual silos tends to encourage cost shifting, rather than shared activity. Similarly, strong limitations exist on the roles different care professionals are allowed to take or there is a lack of professional esteem between professional groups were also suggested as impediments to integrated care (Oxley, 2009). Adding to these difficulties is on-going uncertainty around how effective integration can be measured (and by implication, rewarded). Some existing quality metrics actually encourage clinicians to avoid or deprioritise medically complex patients, by exempting such patients from quality measurement programmes. Indicators which might plausibly reflect the extent of integrated care are currently limited to measures around waiting times and self-reports from patients regarding their experience of care (OECD, 2013; Schoen et al., 2011). There is still much work to be done before these metrics are validated and generally accepted as being useful, either for within-country performance assessment or for cross-country comparison.

Figure 2.6. Expected waiting time (weeks) for cancer treatments, Denmark, 2002-11



Source: Sundhedsstyrelsen "Ventetid", Danish Health and Medicines Authority, available at: *www.sst.dk/Indberetning%20og%20statistik/Sundhedsdata/Ventetid.aspx.*

Nevertheless, only 52% of Danes were satisfied with the waiting time for ordinary treatment (Sundhedsstyrelsen, 2011a). Waiting times in other parts of the health sector are not routinely measured, although the Ministry of Health reports that there are no significant problems around patients being unnecessarily maintained in acute care settings because transfer to a more appropriate setting (such as a nursing home) cannot be arranged. As already mentioned there are, however, few other reliable metrics of care integration routinely available.

Some further insight is available from the academic literature. Schiotz et al. compare admission and readmission rates, average length of stay and mortality rates for heart disease, hypertension and COPD between the Danish national health system and the Kaiser Permanente health system in the United States, using data from 2002-07 (Schiotz et al., 2011). No difference in mortality rates is seen, but nearly all other outcomes are worse in the Danish system: admission rates for ischaemic heart disease are ten times higher and readmission rates two times higher for example. Whilst alternative explanations are possible (such as supply-induced demand, since there are more beds available in the Danish system), the authors conclude

that the Danish health system "is a more fragmented system with GPs, hospitals, preventive and rehabilitation services being paid from different public sectors, without aligned incentives or a proactive approach to prevention." They also identify intersectoral cultural differences and mistrust, as well as a lack of information integration, as decisive factors in Denmark's higher readmission rates. It should be noted that the study uses data from before Denmark's reform of local government and that comparisons between Kaiser Permanente and other health systems comparable to Denmark's have generated considerable controversy regarding validity (Feachem, 2002; Ham, 2003).

Based on studies such as these, the European Observatory on Health Systems and Policies recently reported that patient pathways in Denmark are poorly coherent, particularly across primary/secondary care, probably due to a lack of mutual understanding between providers and to inadequate communication systems (Olejaz et al., 2012).

Clinical guidelines and pathways show promise, but remain narrowly defined and unevaluated

As described in Chapter 1, Denmark has developed an extensive set of clinical guidelines and pathways. Good examples are the fast-track cancer pathways, in place since October 2007. These comprise clinical guidelines setting out diagnostic and treatment standards alongside maximum waiting times which translate into a predefined course of appointments, booked ahead as a patient enters the pathway. Pathways relating to over 30 different cancer types are now in place, including pathways for unknown primary tumours and for non-specific presentations with "red-flag" features that could indicate cancer. Similar pathways for defined presentations of heart disease and mental illness have also been implemented.

Although these pathways offer potential for better integrating care (particularly within the acute care sector), their impact remains unevaluated. In fact, the possibility of evaluation may remain remote for some time, since one recent discussion of these pathways noted that problems with registration mean that very few data are available for evaluation (Olejaz et al., 2012). Evidence from the United Kingdom demonstrates the need for careful evaluation; there, some fast-track cancer pathways were associated with significant service disruption as GPs channelled increasing numbers of patients through them, with ever lower thresholds for fast-track referral, crowding out routine referrals and follow-ups (Potter et al., 2007).

A second issue is that these pathways remain narrowly defined, each addressing a single disease. Whilst welcome and necessary, they are still insufficient to meet many patients' expectations of integrated care. No clinical

guidelines for the management of patients with multiple, complex care needs or explicitly around the integration of care are in place. In order to address the more complex needs of patients with multiple chronic illnesses, local initiatives have piloted new roles such as "pathway co-ordinators" and a designated contact person who patients and families can approach with questions during an admission or across multiple ambulatory visits.

Other initiatives have also been held back by low enthusiasm amongst GPs

One Danish innovation often referred to is the *Praksiskonsulenterordningerne* (PKO) scheme, sometimes referred to in English as "General practitioners as advisors in hospitals". The PKO role, which began on the island of Fyn in 1991 and has since undergone adoption and local adaption in nearly all Danish counties, is typically co-located across both primary care and hospital settings (Olesen et al., 1998). He or she will fulfil a number of roles, such as becoming involved in individual complex patient cases which could benefit from the attention of a professional focussed on care co-ordination (micro-level care co-ordination, to use Curry and Ham's terminology), and supporting hospitals and local primary care services to develop working practices which contribute to co-ordinated care (meso-level co-ordination). Although an evaluation of the PKO scheme reported positive impacts found on co-operation and communication between primary and secondary care (Sundhedsstyrelsen, 2003), only modest levels of enthusiasm were found among hospital consultants and management for continuation or development of the scheme and the lowest levels of enthusiasm were found amongst GPs themselves: in some regions just over half of GPs felt that resources put into the PKO scheme could be better used for something else. The authors conclude that greater support and interest from GPs is necessary to sustain the scheme. No subsequent evaluations of the PKO scheme are available.

Likewise, Frolich et al. describe a quality improvement project focussed on integrated rehabilitation for patients with COPD, diabetes, heart failure and falls, shared between GPs, the University Hospital and local government in Copenhagen (Frohlich et al., 2010). The authors found that only 50% of managers and health care professionals perceived integration of care in Denmark to be satisfactory. Regarding the integrated rehabilitation programme for COPD, less than half the GPs surveyed rated it positively. In particular, GPs disliked the amount of additional work (mainly investigations to assess disease severity) needed to refer pts to the programme. Several barriers to integrated care were identified: lack of integrated IT systems, misaligned economic incentives and established ways of providing care that did not support sharing patients between organisations.

Another example relates to the integration of the DAMD and NIP data on diabetes management referred to earlier. This project has the potential to compare individual GPs' actual practice alongside the national standards and thresholds set out in NIP. GPs, however, were resistant to this level of exposure; consequently, the initial approach will be to try "cluster quality reporting", where reports will be issued at the level of a hospital catchment area.

Beyond the health sector, efforts to achieve greater integration between health and social care have focussed on attaching GPs to municipality social services departments. As for PKO, a bimodal pattern of work managing individual cases whilst pursuing broader organisational integration, is typical. The reverse configuration, where municipal social workers are located within health care premises, is less often seen. This is despite the fact that this configuration is probably preferable, since the social worker would be able to interact directly with the full health care team, including nurses, midwives, psychologists, drugs and alcohol counsellors, as well as secondary care services. Joint health and social care positions, however, of whatever configuration have been less extensively trialled than the PKO role.

An organisational shift which has the potential to encourage closer health and social care working are multidisciplinary health centres. These typically house a number of GPs, usually working in group practice, jointly with other health care professionals (including hospital specialists running outreach clinics), alongside professionals from other sectors, notably social work and other local authority services. The model is still undergoing development and retains great flexibility. Despite the potential offered by municipality health centres for patient-centered care, a particularly striking feature has been their slow and tentative emergence. This may be related to a prevailing bias amongst Danish GPs that patients are best served when general practice premises are not too big, not too institutionalised and not too bureaucratic. Whether this is a sentiment shared by Danish patients, or whether this service philosophy is any less achievable in a municipality health centre, remains unclear.

Disease management programmes have recently been introduced, but success depends upon adequate engagement from GPs

A 2007 survey of OECD member states' approach to integrated care found that while there were few countries with specific care co-ordination programmes in place nationally, many were experimenting with pilot programmes (Hofmarcher et al., 2007). This has recently been addressed by introduction of a national chronic care model, launched by the DHMA in conjunction with the regions and the municipalities. The model is based on the chronic care model developed in the United States (Wagner, 1996) and

emphasizes patient education, a continuum of services provided by interdisciplinary care teams with a strong primary care sector in a co-ordinating role, and use of non-financial and financial incentives to align activities. In particular, the model recommends developing disease registers and proactively identifiying patients with complex needs (for example those with poorly controlled disease) through risk stratification and assigning case managers (Frohlich et al., 2008).

In addition to national guidelines and pathways, Denmark's 2007 Health Act requires that all municipalities and regions jointly develop and regularly review *sundhedsaftaler* or "health contracts" to address continuity of care across their respective health functions, including general practice. These have tended to focus on cardiovascular disease, diabetes, COPD and musculoskeletal disorders thus far. A number of common, broad requirements for these health contracts are specified, for example that they include aspects of prevention and health promotion and pay due attention to mental health needs. A recent evaluation carried out by Sundhestyrelsen (Sundhestyrelsen, 2011b) found that the contracts were good platforms for strengthening co-operation but faced challenges in remaining up to date and adequately reflecting service developments, particularly the increasing transfer of care away from hospital settings. Furthermore, *sundhedsaftaler* are not binding on individual GPs and there have been reports of low uptake or compliance with their requirements.

Translating *sunhedsaftaler* into real improvements in integrated care for patients depends heavily on adequate engagement from GPs given the expectation placed on them to fill a central co-ordinating role. It remains unclear, however, whether this engagement will be forthcoming. One recently implemented programme for diabetics, for example, offered GPs a financial incentive of DKK 1 000 to participate in the chronic care model. Few GPs chose to participate, however, citing too great an increase in their workload and uncertainty whether the scheme would be sustained (Wadmann, 2009).

2.6. Maximising primary care's contribution to quality health care in Denmark

Whilst Danish GPs have actively developed a number of in-house quality initiatives, enthusiasm for cross-sectoral working is much less evident

Although Danish GPs have developed a number of quality initiatives in co-operation with regional and national agencies, some important gaps remain and coherence with broader system quality drives is not always fully exploited. For example, DAMD offers impressive real-time feedback to GPs

on how their practice processes and clinical management of patients compares to that of their peers, but covers only a limited set of clinical areas. For now, it fails to provide a comprehensive picture of the spectrum of primary care activity and, most notably, has only partial links to the National Indicator Project. This is a particularly unfortunate omission for indicators with a strong primary care component, such as depression or heart failure. These structural limitations are compounded by GPs' apparent limited motivation to make use of DAMD data, with only a small minority opening their quality reports, as indicated earlier.

Equally apparent, it seems, is GPs' lack of interest in initiatives which pursue cross-sectoral work and seek better integrated care. Even the home-grown PKO initiative met with only moderate support in the primary care sector and other initiatives, such as the chronic care models for diabetes attracted limited uptake, despite a financial incentive to participate. Whether the flexibility and potential offered by municipality health centres will be embraced also appears uncertain, although this is also dependent upon municipalities themselves demonstrating sufficient backing and competency.

Nevertheless, given that GPs manage the vast majority of Danes' contacts with the health system and satisfaction levels are generally high, GPs have a critical role to play in providing better integrated care. The need for an expanded role, clearly defined and enthusiastically adopted, is made more urgent by the challenges bearing upon Danish health care set out at the beginning of the chapter: increasing public and political expectations around the continuity of care; increased specialisation in the hospital sector, which typically translates into shorter stays and earlier discharge back into the community; and a rise in the number of elderly patients with multiple long-term conditions, requiring safe and effective co-ordination of care and avoiding unnecessary hospitalisation. Added to these are Denmark's high admission rates for COPD and diabetes, which signal that primary care quality and the quality of care co-ordination have substantial room for improvement. The next sections consider the ways in which this could be achieved.

Leadership at national level is needed to develop the potential of primary care services, whilst supporting local innovation

Although the last decade has seen a number of quality initiatives develop within primary care and health care more widely, still lacking is a *unifying* national vision of what primary care in Denmark should look like over the next five to ten years. While it may be the case that each stakeholder in primary care claims to have a vision for the sector's future, it does not seem to be the case that these visions are closely aligned or are as

ambitious as they could be. This stands in marked contrast to other sectors, where clearly articulated visions for development of the hospital sector (described in the next chapter) and for community provision of long-term care, both focussed on quality, exist. A national vision for the future of primary care services would start by reaffirming the central role played by GPs in Danish health care and their identity as providers of longitudinal care that integrates physical, psychological and social aspects whilst working closely with other professionals. It would also, however, emphasize the need for modernisation.

Modernisation in the context of the health care challenges set out earlier means a more ambitious approach in dealing with multiple chronic morbidity. A new approach which secures pro-active, tailored and better integrated care is needed, both at individual patient level as well as at the service level. Identifying the new tasks, roles and ways of working that ensue would benefit from a national working group involving professional and academic associations, and central, regional and municipal levels of government. Some of these new ways of working, and the tools to embed quality alongside them, are detailed below; they include an expanded role for primary care nurses and a more ambitious programme of continuous professional development for individual practitioners.

While it seems clear that Denmark would benefit from a nationally renewed aspiration for primary care, this should not preclude development of local solutions to pressing health care challenges. The chronic care model described earlier demonstrates a good approach to resolving this tension: articulation of goals and expectations at national level, with practical action designed locally. This is particularly relevant to the issue of integrated care, since effective solutions will depend heavily on local factors. Amidst a diverse array of bottom-up solutions, the role of the centre is to ensure a broad equality of service provision and to support identification and diffusion of particularly successful innovations; nevertheless, there are some underpinning elements that would benefit from being established at a national level. Foremost, is the information infrastructure underlying primary care.

Better information infrastructure is key to sector modernisation

Many stakeholders noted a relative lack of data on primary care activity compared to other health care sectors. The level of data currently available does not easily permit assessment of the extent to which GPs and other primary care professionals are meeting community health care needs, particularly with respect to chronic disease management. Clearer scrutiny of primary care activity patterns would clarify, for example, the amount of GP time spent on routine monitoring of stable patients – a task which could be

shifted elsewhere, freeing up GP time to concentrate on more complex cases. It would also allow more detailed profiling of the practice population, identifying the local burden of disease and numbers of patients with intense resource needs. Such pro-active risk stratification is a key component of effective chronic care provision (Coleman, 2009). A priority therefore is to move towards centralised or local registries of primary care activity patterns. The necessary elements are already in place with the DAK-E data capture system and recent agreement to code all activity for chronic disease management using the International Classification of Primary Care coding system, although the recent decrease in DAK-E's funding, noted earlier, may limit its ability to expand.

Bearing in mind the imperative of better integrated care, there is also potential for more extensive data linkage within the health sector and across the health and social care interface. Typically, for example, community-based health care providers other than GPs feel "forgotten" when new IT initiatives are designed. The community nursing service in Denmark, for example, can access a patient's basic medical information through *sundhed.dk* (such as diagnoses and lab results), but not the full medical record including recent consultations and treatment plans. Given that community nursing is not an adjunct but a core role within the primary care service, this may raise care continuity and patient safety issues. More complete record sharing across the primary care team should be easily resolvable through local agreements – although national impetus may be needed to make this happen.

A more intractable issue is the lack of information jointly held across primary, secondary and social care services, despite the fact that increasing numbers of patients make intensive use of all three sectors. Denmark has taken an important early step to correct this deficit by setting up a common data set for individual patients, to be used as a "back-bone" for cross-sector communication (see *www.medcom.dk/wm111943*). This data-set is not intended to function, however, as a register of those with complex chronic care needs. A conceivable additional step would be to establish jointly held chronic care registries. As well as listing residents with chronic care needs, this would holistically describe their service use across all sectors, moving beyond a silo approach to service planning and better capturing the patient experience. Chronic care registries, as well as being internationally innovative, would allow Denmark to focus more fully on the patient pathway and integrated care – something identified by several experts as the necessary next phase in the health care quality agenda. New guidelines, standards and indicators could be developed, around the care co-ordinator role, for example.

At the same time, it is important not to lose sight of the need to continue developing richer measures of the quality of care sector by sector. A particularly urgent need in Denmark is to develop quality indicators for the new health care functions delivered by municipalities (rehabilitation and nursing home facilities). Initial candidate indicators include falls, infections and pressure ulcers.

New ways of working in primary care are also needed to underpin sector modernisation

One drive that should be continued is the evolution toward group practice in primary care. Although studies do not always associate group practice with better quality care, this is nonetheless the desired direction of travel given the advantages that individual practice becomes visible to a peer group, that complex cases can be more easily discussed and that efforts toward individual and organisational professional development can be shared. Furthermore, group practice may offer other benefits relevant to better integrated care. These include the ability to pool some tasks such as overnight care, or facilitate task shifting, such as monitoring of stable chronic disease to specialist nurses.

Expansion of nurses' roles deserves special attention. Throughout the OECD, development of the nursing role is another major current in primary care reorganisation – more and more countries are moving toward independent nurse practitioners working alongside doctors. In Denmark, nurses have taken on new roles managing elderly patients and others with complex, chronic care needs, particularly in the context of services provided by the municipalities. Indeed, municipal health centers are frequently managed and predominantly staffed run by nurses. Nurses in Denmark cannot, however, prescribe. Although this, for now, is typical (very few countries have licensed nurse prescribers, and then often with restricted activity; Masseria, 2009) nurse prescribers have been used effectively elsewhere to develop their role in providing primary care. For now, Denmark also lacks advanced nurse practitioners (ANPs). These are nurses that have attained special competencies in a discrete disease area such as COPD, including organisation and interpretation of investigations, treatment modification, and referral rights. Elsewhere, ANPs have been shown to provide effective, safe and cost-effective care, particularly around better care integration and if introduced in an incremental manner. Hence, a national working group examining the future of primary care in Denmark should also examine the future of nursing.

At the same time, it would also be worth revisiting the PKO role. Although there is a degree of ambivalence about the role amongst GPs, as

shown earlier, the positive impacts on care co-ordination associated with PKOs means that it is worth exploring how the role can better meet local needs. This may, of course, mean reducing GPs' involvement and employing more nurses in this capacity instead. Perceived legitimacy is likely to be critical to the success of a relatively unusual role which seeks to work across sectors and, if the situation demands it, reallocate duties and responsibilities between them. Hence, consideration should be given to developing national standards and guidelines for the PKO role, since in other sectors these have been shown to support professionalisation and build legitimacy (most notably for GPs themselves, over the 1970s and 1980s). As previously, national guidance should not forestall local solutions, and regional or national professional networks for PKOs should also be established to support practitioners and diffuse best practice.

Finally, thought must also be given to the role of incentives and sanctions in promoting better quality primary and integrated care. In Denmark, the preference is for soft incentives (through performance feedback and peer comparison), with a view that tying clinical performance to payment may adversely distort practitioners' priorities, particularly with respect to difficult-to-treat patients or patients with non-incentivised conditions. Although there is some evidence that such fears may be founded (Campbell, 2009), the absence of a quality-related pay component or strong, third party sanctions for poorly co-ordinated care has been noted as a weakness by other authors (Wadmann, 2009) and is now somewhat unusual in the European context. An EC survey in 2009 found that just over half of countries surveyed had some element of quality-adjustment in their pay structure for GPs (Masseria, 2009). Hence, it may be appropriate to trial further incentive schemes in conjunction with GPs and other primary care professionals. Of note, any scheme must be perceived as being viably sustainable, since this was a factor that limited uptake in the chronic disease model incentive schemes discussed earlier.

An ambitious programme of professional development for individual clinicians, linked to quality assurance, could be implemented

Danish GPs engage in regular continuous professional development and learning, although expectations and requirements around this are not formalised in any way. In contrast, several other countries have moved towards formalised CPD requirements of a minimum number of hours per year (in some cases, compliance is necessary to maintain scientific society membership). Other countries, such as the United Kingdom, have gone further and implemented a programme of annual appraisal where CPD and other elements of professional practice are assessed by a peer. Successful

completion is necessary to maintain professional licensing. Again, then, Denmark has adopted a soft, self-regulatory approach to this area which contrasts with primary care systems elsewhere. Thought should be given to whether formalised CPD requirement and/or annual appraisal could lead to quality gains in the Danish system. The primary care accreditation pilot currently being undertaken by IKAS would provide a suitable vehicle for this.

Accreditation could also consider moving away from institution-based accreditation to something that more closely reflects the patient pathway. Accrediting local pathways of care could be achieved by setting standards around timeliness, information exchange and patient involvement, for example. This would again represent an international innovation led by Denmark, but one that is widely identified as being necessary. Furthermore, similar to the discussion on ANPs earlier, a renewed focus on professional development of the GPs also offers additional opportunities relevant to Denmark's health care challenges. In response to hospital sector reform, some GPs could develop extended competencies in defined clinical areas, such as dermatology or paediatrics, whilst not losing their valued generalist role. Similar developments of GPs with special interests have proved popular amongst both patients and professionals in other settings.

2.7. Conclusions

While Danish GPs have fulfilled the primary care function well over many years, demographic changes and far-reaching structural reforms in the Danish hospital sector demand a different, stronger and modernised primary care sector. Demographic trends and the rise in the number of elderly patients with multiple long-term conditions place pressure on GPs to co-ordinate their care safely and effectively, making best use of resources and avoiding unnecessary hospitalisation.

While health system reforms in recent years, however, have focused on efforts to improve quality and efficiency in the hospital sector, modernisation of the primary care sector has been relatively cautious and incremental. The fact that most GP income derives from fee-for-service may not be best suited to the provision of holistic, integrated care. Neither are there strong sanctions to actively discourage and reduce poorly co-ordinated care. GPs' ways of working have not been modernised either – a large minority still work as solo practitioners, an organisational model that may not perform well with the complexity of the tasks primary care is asked to deliver. There are few mechanisms to reward quality and continuity of the care that GPs provide, whether through financial or other instruments.

Now is an opportune moment to reach a unified, national vision for what primary care in Denmark should look like over the next 5-10 years. This

should focus on continuous and co-ordinated care for those with multiple long-term conditions and highlight the GP-patient partnership as the key relationship in ensuring high-quality, patient-centered and safe care.

Specific quality initiatives in primary care should focus on the patient experience and the pathway; in particular, there is a need to strengthen initiatives around co-ordination between primary and secondary care and more appropriate incentives for primary care professionals to work in larger teams and take responsibilities for the whole patient pathway are needed. Consideration could be given to recognising and incentivising quality in primary care in contractual renegotiation, moving beyond mere productivity. At the same time, quality initiatives in long-term care should be strengthened and the hospital accreditation programme should be expanded to include primary facilities.

Success will depend upon radically developing the data infrastructure underpinning primary care as a first immediate step. Relative lack of data on primary care activity, compared to other health care sectors, makes it difficult to know how effectively GPs and other primary care professionals are meeting community health care needs. There is also clear potential for more extensive data linkage within the primary care sector and across the primary and secondary care sectors.

Notes

1. WONCA is the commonly used acronym for the World Organisation of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians, an international organisation of national colleges, academies or professional bodies focussed on the academic aspects of primary care. See *www.globalfamilydoctor.com/*.

2. See *www.nip.dk*; italics not in the original.

3. Accreditation is carried out every three years. One of the following outcomes is awarded: *accredited* (if the standards in all essentials are complied with, and any shortcomings are of marginal significance); *accredited with comments* (if not all standards are fulfilled but are can be shown to have been done so within reasonable time); *not accredited* (if the institution cannot meet accreditation standards within a reasonable timeframe). Outcomes are made publicly available on the IKAS website.

4. The *experienced waiting time* is defined by Sundhedsstyrelsen as the time that an average patient without complications has actually waited from referral by a GP or a practicing specialist to the beginning of final hospital treatment, while the *expected waiting time* is the estimated maximum waiting time from referral to being seen at a hospital for examination or treatment. Other relevant waiting times, such as from diagnosis to start of treatment, or between consecutive episodes of treatment within a spell of treatment are currently not monitored in Denmark.

Bibliography

Beyer, M. et al. (2003), "The Development of Quality Circles/Peer Review Groups as a Method of Quality Improvement in Europe: Results of a Survey in 26 European Countries", *Family Practice*, Vol. 20, pp. 443-451.

Björnberg, A (2012), "Euro Health Consumer Index", Health Consumer Powerhouse, Brussels, *www.healthpowerhouse.com/files/Report-EHCI-2012.pdf.*

Campbell, S.M. et al. (2001), "Identifying Predictors of High Quality Care in English General Practice: Observational Study", *British Medical Journal*, Vol. 323, pp. 784-187.

Campbell, S.M. et al. (2009), "Effects of Pay for Performance on the Quality of Primary Care in England", *New England Journal of Medicine*, Vol. 361, pp. 368-363.

Chambers, R. and J. Belcher (1994), "Predicting Mental Health Problems in General Practitioners", *Occupational Medicine*, Vol. 44, No. 4, pp. 212-216.

Coleman, K., B.T. Austin, C. Brach and E.H. Wagner (2009), "Evidence on the Chronic Care Model in the New Millennium", *Health Affairs (Millwood)*, Vol. 28, No. 1, pp. 75-85.

Collings, J.S. (1950), "General Practice in England Today: A Reconnaissance", *The Lancet*, Vol. 1950, pp. 555-585.

Conklin, J. (2005), *Dialogue Mapping: Building Shared Understanding of Wicked Problems*, John Wiley & Sons.

Curry, N. and C. Ham (2010), *Clinical and Service Integration: The Route to Improved Outcomes,* The King's Fund, London.

DAK-E (2013), "The Danish Quality Unit of General Practice", *www.dak-e.dk*, accessed 22 March 2013.

Devaux, M. and M. de Looper (2012), "Income-Related Inequalities in Health Service Utilisation in 19 OECD Countries, 2008-2009", *OECD Health Working Papers*, No. 58, OECD Publishing, doi: *10.1787/5k95xd6stnxt-en.*

European Commission (2007), *Special Eurobarometer 283: Health and Long-term Care in the European Union, http://ec.europa.eu/public opinion/archives/ebs/ebs_283_en.pdf.*

Feachem, R.G. et al. (2002), "Getting More for their Dollar: A Comparison of the NHS with California's Kaiser Permanente", *British Medical Journal*, Vol. 324, pp. 135-141.

Frolich, A. et al. (2008), "The Chronic Care Model – A New Approach in DK", *Health Policy Monitor*, Survey No. 11, *http://chronisante.inist.fr/IMG/pdf/HPM-Surveys.pdf.*

Frolich, A. et al. (2010), "Integration of Health care Rehabilitation in Chronic Conditions". *International Journal of Integrated Care*, Vol. 10, 8 February 2010.

Johannessen, K.A. and T.P. Hagen (2012), "Variations in Labor Supply Between Female and Male Hospital Physicians: Results from a Modern Welfare State", *Health Policy,* Vol. 107, No. 1, pp. 74-82, *www.sciencedirect.com/science/article/pii/S0168851012001534.*

Guldberg, T.L., P. Vedsted, J.K. Kristensen and T. Lauritzen (2011), "Improved Quality of Type 2 Diabetes Care Following Electronic Feedback of Treatment Status to General Practitioners: A Cluster Randomized Controlled Trial", *Diabetic Medicine*, Vol. 28, No. 3, pp. 325-332, *http://dx.doi.org/10.1111/j.1464-5491.2010.03178.x.*

Ham, C. et al. (2003), "Hospital Bed Utilisation in the NHS, Kaiser Permanente and the US Medicare Programme: Analysis of Routine Data", *British Medical Journal*, Vol. 327, p. 1257

Heje, H.N. (2010), "Patienternes vurdering af de praktiserende læger", *Ugeskr Læger*, Vol. 172, No. 15, pp. 1105-1112.

Hofmarcher, M.M., H. Oxley, E. Rusticelli (2007), "Improved Health System Performance through Better Care Coordination", *OECD Health Working Paper*, No. 30, OECD Publishing, doi: *10.1787/246446201766.*

Institute of Medicine (2001), *Crossing the Quality Chasm: A New Health System for the 21st Century*, National Academy Press, Washington.

King's Fund (2010), *Avoiding Hospital Admissions: What Does the Research Evidence Say?*, The King's Fund, London.

Kodner, D.L. and C. Spreeuwenberg (2002), "Integrated Care: Meaning, Logic, Applications and Implications – A Discussion Paper", *International Journal of Integrated Care*, Vol. 2, p. e12.

Kringos, D. et al. (2013), "The Strength of Primary Care in Europe: An International Comparative Study", Netherlands Institute for Health Services Research (NIVEL), Utrecht.

LUP – Landsdækkende Undersøgelser af Patientoplevelser (2006), "Patients' experiences in Danish Hospitals", The National Danish Survey of Patient Experiences, *www.patientoplevelser.dk/log/medie/Rapporter/Survey_2006_english.pdf* and *www.patientoplevelser.dk/index.asp?id=210.*

Majeed, A. et al. (2003), "Association Between Practice Size and Quality of Care of Patients with Ischaemic Heart Disease: Cross Sectional Study", *British Medical Journal,* Vol. 326, p. 371

Masseria, C., R. Irwin, S. Thomson, M. Gemmill and E. Mossialos (2009), "Primary Care in Europe", LSE Policy Brief, London School of Economics and Political Science, London.

Ministry of Health (2008a), "Health Care in Denmark", *www.sum.dk/Aktuelt/Publikationer/~/media/Filer%20-%20Publikationer_i_pdf/2008/UK_Health care_in_dk/pdf.ashx.*

Ministry of Health (2008b), "Almen praksis' rolle i fremtidens sundhedsvæsen" [The role of general practice in the future health care system], Ministeriet for Sundhed og Forebyggelse, Copenhagen, *www.sum.dk/Aktuelt/Publikationer/Publikationer/Almen_praksis_rolle_i_fremtidens_sundhedsvaesen.aspx.*

Moth, G., M. Vestergaard and P. Vedsted (2012), "Chronic Care Management in Danish General Practice – A Cross-sectional Study of Workload and Multimorbidity", *BMC Family Practice*, Vol. 13, p. 52.

Nicholson, K.G., R. Snacken and A.M. Palache (1995), "Influenza Immunization Policies in Europe and the United States", *Vaccine,* Vol. 13, No. 4, pp. 365-369.

Nolte, E., C. Knai and M. McKee (2008), "Managing Chronic Conditions, Experience in Eight Countries", WHO Regional Office for Europe, Copenhagen.

OECD (2010), *A System of Health Accounts*, OECD Publishing, doi: *10.1787/health-data-en.*

OECD (2012), *OECD Health Data 2012*, OECD Publishing, doi: *10.1787/health-data-en.*

OECD (2013), *Waiting Time Policies in the Health Sector – What Works?*, OECD Publishing, doi: *10.1787/9789264179080-en.*

Olejaz, M. et al. (2012), "Denmark Health System Review", *Health Systems in Transition*, Vol. 14, No. 2, pp. 1-192.

Olesen, F., P.B. Jensen, P. Grinsted and J.S. Henriksen (1998), "General Practitioners as Advisers and Coordinators in Hospitals", *Quality in Health Care*, Vol. 7, No. 1, pp. 42-47.

Oxley, H. (2009), "Policies for Healthy Ageing: An Overview", *OECD Health Working Papers*, No. 42, OECD Publishing, doi: *10.1787/226757488706.*

Pedersen, L.B., T. Kjaer, J. Kragstrup and D. Gyrd-Hansen (2012), "General Practitioners' Preferences for the Organisation of Primary Care: A Discrete Choice Experiment", *Health Policy, http://dx.doi.org/10.1016/j.healthpol.2012.03.006.*

Potter, S., S. Govindarajulu, M. Shere, F. Braddon, G. Curran, R. Greenwood et al. (2007), "Referral Patterns, Cancer Diagnoses, and Waiting Times After Introduction of Two Week Wait Rule for Breast Cancer: Prospective Cohort Study", *British Medical Journal*, Vol. 335, pp. 288-290.

Praktiserende Lægers Organisation (2012a), "Faktaark om almen praksis" [Factsheet on general practice], *www.laeger.dk/.*

Praktiserende Lægers Organisation (2012b), "Notat om Prognose for praktiserende læger 2011 til 2025" [Note on the forecast for practitioners from 2011 to 2025], *www.laeger.dk/.*

Praktiserende Lægers Organisation (2012c), "Aktivitet og økonomi i almen praksis i dagtid og vagttid 2000 til 2011" [Activity and the economy in general practice in the daytime and time on call from 2000 to 2011], *www.laeger.dk/.*

Schiotz, M. et al. (2011), "Something is Amiss in Denmark: A Comparison of Preventable Hospitalisations and Readmissions for Chronic Medical Conditions in the Danish Health care System and Kaiser Permanente", *BMC Health Services Research*, Vol. 11, p. 347.

Schoen, C. et al. (2011), "New 2011 Survey of Patients with Complex Care Needs in Eleven Countries Finds That Care is Often Poorly Co-ordinated", *Health Affairs (Millwood)*, Vol. 30, No. 12, pp. 2437-2448.

Schroll, H. et al. (2012), "The Danish Model for Improvement of Diabetes Care in General Practice: Impact of Automated Collection and Feedback of Patient Data", *International Journal of Family Medicine*, *http://dx.doi.org/10.1155/2012/208123.*

Simoens, S. and J. Hurst (2006), "The Supply of Physician Services in OECD Countries", *OECD Health Working Papers*, No. 21, OECD Publishing, doi: *10.1787/608402211700.*

Sundhedsstyrelsen (2003), "Evaluering af praksiskonsulentordningerne i Danmark", Copenhagen, available at *www.sst.dk/publ/Publ2003/Praksisrapport.pdf*

Sundhedsstyrelsen (2011a), "Sundhedskvalitet", Danish Health and Medicines Authority, *www.sundhedskvalitet.dk/Noegletal.aspx.*

Sundhedsstyrelsen (2011b), "Evaluering af sundhedsaftalerne – sammenfatning og perspektivering", Danish Health and Medicines Authority, *www.ssk.dk/.*

Wadmann, S., M. Strandberg-Larsen and K. Vrangboek (2009). "Coordination Between Primary and Secondary Care in Denmark and Sweden", *International Journal of Integrated Care,* Vol. 9.

Wagner, E.H., B.T. Austin and M. Von Korff (1996), "Organizing Care for Patients with Chronic Illness", *Milbank Quarterly,* Vol. 74, No. 4, pp. 511-544.

Wensing, M., J. Mainz and R. Grol (2000), "A Standardised Instrument for Patient Evaluations of General Practice Care in Europe", *European Journal of General Practice*, Vol. 6, pp. 82-87.

WHO (2003), "International Classification of Primary Care", Second edition (ICPC-2), Geneva.