Assessment and recommendations

Denmark has traditionally been a leader in policy development for quality of care among OECD countries. The Danish health care system is decentralised and largely publicly run, with successive governments and regions having prioritised equal access and responsiveness to community needs. However, co-ordination across multiple levels of government and multiple actors remains an ongoing challenge that needs to be successfully negotiated if Denmark is to make the most of the good programmes it has in place to monitor and improve the quality of health care.

Denmark spends more than most OECD countries on health care. Health care accounted for 11% of GDP in 2010 – the fourth highest among members of the European Union and fifth highest in the OECD. Funded predominately through local and general taxation, health coverage is universal and largely free of charge at the point of service. Denmark also has lower levels of private payments, which represent only 15% of health financing and help ensure that financial barriers do not stand in the way of people's access to health care. Health care legislation encourages equal access to health services and its administration through decentralised government means that regions and municipalities play a critical role in planning and providing public services. This is supplemented by a long-standing tradition of GPs, who act as gate-keepers to secondary care and play a strong role in maintaining population health.

Over the past few years, the Danish health system has seen significant reforms that have rationalised its governance structure. In 2007, major administrative reforms merged 13 counties (and three municipalities with country functions) into five regions whose main responsibility was to deliver hospital care and contract with physicians. These reforms also rationalised the number of municipalities from 275 to 98. Following these reforms, municipalities have a financial stake in the funding of hospital services and are directly responsible for providing long-term elderly care, rehabilitation, supported or institutional housing for older people, public health, school health services, child dental treatment and some aspects of prevention.

Alongside the recent reforms to the split of administrative responsibilities, central and regional governments have embarked on major hospital reforms. Central government authorities provided guidance on the planning and location of certain hospital medical specialties and there have been efforts at both levels of government to rationalise the number of small hospitals. Regional governments bore the bulk of responsibility for translating the guidance of central government into major changes to the structure of hospital services on the ground. Hospitals are owned by regions and are paid on a DRG basis for providing secondary and tertiary care through employing salaried doctors. In contrast, general practitioners are self-employed professionals who are paid mainly on a fee-for-service basis in combination with a significant fixed monthly payment.

Denmark is ahead of most OECD countries in efforts to monitor and improve clinical health care quality. Central, regional and municipality government all share responsibility for quality monitoring depending on the services they deliver or oversee. Over time, Denmark has set up strong institutions for tracking and improvement the quality of health care, ranging from accreditation to clinical guidelines, quality registries and quality indicators.

This governance structure and impressive reforms have helped to create a health care system that supports citizens' good health. Many health status indicators compare favourably with other OECD countries. Seven out of ten Danish people rate their health as being good or very good. Life expectancy, at 81 years in 2010, and mortality from all causes, are in line with OECD averages. The share of obese adults in the population was only 13.4% in 2009, among the lowest in the OECD, and smoking rates have been cut by nearly 40% in the past decade, highlighting the success of health prevention and promotion initiatives. Mortality from ischemic heart disease for both men and women and prevalence of diabetes in the adult population (5.7% in 2011) fall below OECD averages, and Denmark also features low admission rates for some preventable conditions.

That said, while reforms in recent years have focused on efforts to improve quality and efficiency in the hospital sector, general practice has not been modernised to deliver the new set of functions in care co-ordination and integration that they ought to perform. A number of challenges remain to improve the quality of care in Denmark:

- Different and sophisticated quality assurance mechanisms are still mostly focused on secondary care and lack overarching coherence and linkages – quality monitoring does not necessarily drive improvement efforts in a systematic way and quality information is not yet presented in ways that support patient choice.

- While Denmark is focusing its efforts on the long-term organisation of secondary care, the vision for general practice remains undefined. This is against a background of increasing numbers people with multiple chronic conditions, demanding policies and better data to improve primary care, particularly with a view to improving care continuity.

- Municipalities have been asked to take on additional health care responsibilities, around long-term care and rehabilitation. Here too, however, the lack of quality-related data is stark. There is an urgent need to develop indicators of effective, safe and patient-centered care which focus on these new functions; an initial focus on falls, infections and pressure ulcers in nursing homes and rehabilitation facilities would be one way forward.

- At the same time, many municipalities report having little capacity to take on new roles in primary care, rehabilitation and nursing care; their potential for preventing people from entering hospitals and for shifting care provision to the community has not been maximised.

- Denmark is not taking full advantage of the data generated from the hospital specialisation reform to support inter-hospital comparisons based on quality and help hospitals improve their offer vis-à-vis peers.

- Despite a strong commitment to equitable health care and evidence pointing to widening inequalities in risk factors to ill health, Denmark is not applying its sophisticated data infrastructure to the regular monitoring of inequalities in health and health care.

Facing up to these challenges will require further reform.

Further efforts are needed to improve coherence in assuring the quality of health care services

Denmark has a sophisticated array of quality assurance mechanisms in place

Quality assurance policies represent a major foundation of the Danish health care system. Over the years, Denmark has established an array of mechanisms for monitoring and improving health care quality that few other OECD countries have. Indeed, Denmark provides a useful case of a country which has managed to maintain a focus on quality improvement in the context of decentralised governance where most of the decision making and service delivery is done closer to local communities and at the regional level.

Denmark's experience with formal health care quality assurance mechanisms extends over at least 20 years. Denmark's national quality strategy was first published in 1993 and updated in 2002. Over this period, stakeholders in Danish health care have developed a number of robust initiatives to assure the health care quality, such as licensing of professional competences, accreditation of health care facilities and certification of the quality and safety of drugs and medical devices. Recent years have seen further internationally pioneering activities related to patient safety, such as the Danish Safer Hospital Programme. Another important component is the Danish system for adverse event reporting, co-ordinated by the National Agency for Patient Rights and Complaints (NAPRC).

The central priorities driven through Denmark's array of quality programmes have been balanced with local freedom to innovate and contextualise. In doing so, many actors across the health care landscape have concurred in making quality of care a key priority. The central government reaches agreements with the Danish regions on high-level service goals such as mortality or adverse event rates, without specifying more detailed targets for population-based health care outcomes. Similarly, the Danish Health and Medicines Authority (DHMA) develops service quality standards, such as disease management models, but allows them to be adapted to be operationally useful at regional level. Regions have taken it upon themselves to ensure that quality assurance and improvement are well embedded in their activities. For example, each region has a department dedicated to quality that monitors and initiates programmes for quality improvement with some also hosting quality Knowledge Centres. At the local level, municipalities are responsible for assuring quality of the care they provide or contract within nationally determined standards.

Coherence across initiatives and across levels of government ought to be the priority

Having established several quality monitoring and improving mechanisms, Denmark now needs to start creating effective links and synergies between its various quality initiatives, so that it addresses quality in the health care system as a whole. This is particularly important for patient pathways that span health care services managed separately by regional and local governments. At present, most quality assurance mechanisms, such as accreditation, guidelines or patient safety initiatives focus on specific services in hospitals. The next logical step is to evolve towards approaches that focus on the mix of health services a Danish citizen might receive. Such an approach would provide a greater emphasis on continuity of care and integrated care delivery and offer opportunities for streamlining quality assurance. Examples of how this could be implemented in practice include accreditation of pathways of care, clinical guidelines setting out the generic principles for management of patients with multiple long-term conditions and piloting of indicators which measure the quality of integrated care.

At the same time, some remaining quality assurance gaps need to be filled. General practice, home care and nursing homes do not have an accreditation system (although systems are being developed) and formal continuing professional education requirements are not in place. At municipal level, quality assurance mechanisms in long-term care and rehabilitation are not well developed and there appears to be significant variation in how quality assurance is organised across the country at the municipal level. In order to exploit the strengths of Denmark's decentralised governance framework, central leadership on filling these gaps should be balanced against the freedom to develop local solutions to local problems. A diverse array of locally owned, bottom-up solutions is often more effective than a single prescribed template.

Denmark has very good databases on quality of care but the goldmine is only partly exploited

Denmark has been a pioneer in the use of clinical quality registers, which monitor patterns of care for particular patient groups. Innovation continues today, with work being undertaken to seek the possibility of cross-quality-register data linkage via unique patient identifiers. This would allow for tools such as cluster-reporting that is currently being trialled for diabetes (which jointly looks at the contribution from hospitals, GPs and municipalities in individual patients' diabetes management). Likewise, development of a national biobank of patients' blood and tissue samples will yield a richer set of measures (both determinants of health and health care outcomes), that can be linked to data on the type and quality of care received.

Across the health care system, however, there is little evidence of quality indicators being used to guide and drive system-wide service improvements. Whilst not necessarily advocating target-setting or thresholds, and whilst recognising the limitations of discrete indicators, there is clear potential for better use of Denmark's indicator sets, at the same time as developing new indicators as mentioned above. Among others, open comparisons of quality of care across providers and across regions, as successfully happens in other countries, could be one important step in this direction. Similarly, while the various registers produce separate annual reports on quality improvement relevant to their particular disease, there is no overall report on “the quality of health care in Denmark”. Publishing one would mark an important advance in taking a system-wide and patient-centered approach to health care quality.

The possibilities for patients to make use of quality data, whether about their own care or local services more generally, are even more limited. Researchers are able to access anonymised data to track patients’ pathways across the health system, but this information could also be useful patients or their GPs to see what services they have interacted with, and with what outcomes. Electronic health records are progressing at different speeds in the various regions and some sectors, notably municipality-led care, are trailing far behind in the implementation of e-solutions to better health care. This uneven approach implies a risk that initiatives to improve health care quality are not consistently applied. A national stock-take and strategic review of the e-health agenda seems warranted.

The patient perspective exists in theory but can be strengthened in practice

Denmark has several laws in place that assure patient rights, including a modern, formal system for entering into dialogue with patients about service quality, including handling complaints. Patients’ involvement in quality assurance has grown in recent years, as evidenced by the rich array of quality-related information made available to patients through the *sundhedskvalitet.dk* website and the pioneering Danish Society for Patient Safety’s *Patient Handbook*, which is designed for patients and their families to use throughout a hospital stay and encourages patients to ask questions, understand the details of their care, and voice concerns.

Nevertheless, although patient centeredness is set out as a key principle for steering and monitoring care, this ambition needs further operationalisation in practice. For example, patient councils and patient representation in the management structure of hospitals and nursing homes are not compulsory and patient involvement in setting the standards for care does not always happen. Likewise, patient experiences are reported annually at hospital level but their impact on changing service delivery is not clear and the National Association for Patient Rights and Complaints, as a standalone entity, does not benefit from the command and authority that it might have if formally connected to the DHMA.

Strengthening primary care in Denmark

The Danish primary health care system is good, but an ageing population and hospital reforms call for modernisation and reform

The Danish primary care model centres around a medical practitioner (the "general practitioner" or GP) 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 on a long-term, one-to-one basis. This system supports the development of long-term relationships between patients and GPs and gives the latter the opportunity to co-ordinate and advise on complex patterns of care and support patients in primary and secondary preventive efforts. Access to primary care is available 24 hours a day (either through a patient's regular GP or a deputising service), free at the point of use and even after adjusting for differences in need, low-income patients see their GP more often than higher-income groups. Patient satisfaction rates are higher than the European average and some quality indicators, such as low admission rates for asthma (36.5 per 100 000 population versus an OECD average of 51.8) suggest good primary care and co-ordination for some clinical areas.

While the primary care system has served well its role up to now, demographic changes and important 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 the primary care sector to co-ordinate their care safely and effectively, making best use of resources and avoiding unnecessary hospitalisation. Public and political expectations are that health care be well co-ordinated and seamlessly patient-centered.

This expectation is further reinforced by reforms taking place in the Danish hospital sector. Hospital rationalisation and increased specialisation of care mean that hospitals are refining the services they provide to more specialised functions, and shorter hospital stays mean that more patients are being discharged earlier. This places even more demands on primary care services, particularly on GPs, to play an even more central role in managing this shifting pattern of health care use.

Health sector reforms and quality initiatives have focussed primarily on secondary care, leaving modernisation of primary care behind

Danish general practice is not currently stepping up to the task demanded of it. In many ways, primary care remains a passive recipient of knock-on effects of administrative and hospital reforms, with few ambitions for a modern national primary care service. Although GP services are included in biannual region-municipality negotiations to standardise and improve local health services in response to the challenges outlined above, the independent-contractor status of the majority of Danish GPs means that they are not directly obliged to follow these service agreements and achieving compliance can be difficult.

Perhaps as a consequence, many of the quality initiatives that have been the hallmark of the Danish health care system have not reached the primary care sector. The Danish Health care Quality Model at present only covers hospitals, although accreditation standards for GPs are being developed. Denmark's National Indicator Programme includes few ambulatory care sensitive conditions; for those that are included (COPD, diabetes, heart failure and depression) the indicators are overwhelming focussed on secondary care. The Danish Society for Patient Safety's *Patient Handbook* and various demonstration projects mostly concern hospital stays. Similarly, the National Institute for Health Data has not published any reports on activity or quality in primary care. The Danish General Practice Database (DAMD) for primary care falls far short of being comparable to the clinical quality registers developed in the specialised care sector; it is primarily administrative (supporting fee-for-service payments) and does not systematically contain procedure or diagnosis codes.

Hence, modernisation of the primary care sector has been relatively cautious and incremental. There are few mechanisms to reward quality and continuity of the care that GPs provide, whether through financial or other instruments. The fact that most GP income derives from fee-for-service may not be best suited to the provision of holistic, integrated care. Initiatives on Bornholm and in Copenhagen offering GPs significant cash incentives to participate in integrated care projects met with unexpectedly low uptake, for example, GPs citing too high a workload to engage in additional activities. Neither are there strong sanctions to actively discourage and reduce poorly co-ordinated care. GPs' ways of working have not been modernised, either: 37% of Danish GPs still work as lone practitioners (although this proportion is slowly reducing), an organisational model that may not perform well with the complexity of the tasks primary care is asked to deliver.

A vision is needed for primary care, focussed on an explicit responsibility for assuring integrated care

Now is an opportune moment to discuss a 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 and safe care, that is easily accessible, personalised and successfully negotiates the organisational boundaries of complex health and social care systems. This could take place in the context of updating the national quality strategies of 1993 and 2002 into a nationally agreed conception of health care quality in the primary care sector.

The right balance between supporting, encouraging and requiring GPs to deliver a modern primary care service needs to be found. Underpinning this would be further development of clinical guidelines for primary care practice (which, in other settings, have been shown to contribute positively to the development and professionalisation of health care actors). In developing clinical guidelines and patient management programmes, attention should be given to ensure that they go beyond disease categories to address care of elderly patients, care at hospital discharge or care of the patient with multiple long-term conditions. Some incentives or sanctions around compliance with these guidelines, suitably adapted to local conditions, may be appropriate.

Central to building a modern primary care sector would be continuing to encourage the natural evolution away from solo toward group practice. This does not need to imply any loss of the continuous, personalised care rightly valued by Danish patients; other countries have moved from solo practices to small group practices of three or four clinicians without losing this ethos. At the same time, support will be needed to extend the quality, safety and peer-support gains of group practice to those GPs working in settings where group practice is less feasible, such as those working rurally. Tele-networking and facilitation for these GPs to spend structured face-to-face time with colleagues are obvious solutions.

Specific quality initiatives in primary care should focus on the patient experience and the pathway

Well co-ordinated care, which treats each patient as an individual and takes account of their circumstances and preferences, matters to patients and their families. At the same time, Danes value the personal and long-standing professional relationship they have with their GP, as their initial and most frequent point of contact with the health care system. It makes sense, then, that modernisation of the the primary care sector should focus on the patient experience and pathways of care, especially for long-term conditions. The following seem to deserve high priority:

- The hospital accreditation programme should be expanded to include primary facilities (GP clinics, nursing homes, municipal health centres, etc). While it has been acknowledged that Denmark should move away from institution-based accreditation to something that more closely reflects the patient pathway, it remains unclear how this would be achieved. A transparent agenda with targets and timelines should be pursued.

- 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. Such incentives need not be financial: public reporting of health care provider performance has been associated with improvements in health care quality in other settings.

- There is a need to strengthen initiatives around co-ordination between primary and secondary care, which is known to generate a significant number of patient complains and adverse events in many countries. Initiatives such as pathway co-ordinators and designated contact persons whom patients can approach with questions during admission and multiple ambulatory visits, ought to be assessed and if appropriate, replicated.

- There is a particular need for quality initiatives in long-term care (LTC). Municipalities' ambitions to deliver quality care in this new role is not met by sufficient support or capacity to develop LTC quality indicators, or accreditation and care workers' standards. Denmark could learn from the experiences of other countries such as the Netherlands, the United States and Germany to develop quality measures and policies in this area.

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 and limited use of what exists, 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. Although Denmark's General Practice Quality Unit (DAK-E) collects and transmits data back to Danish GPs on some aspects of chronic disease management, there is little evidence that GPs use this to systematically improve their practice. Unless backed-up by incentives or sanctions to participate in audit cycles or other evidenced quality improvement activities, investment in such feedback systems is wasted. Additionally, more complete recording of all primary care diagnoses, prescribing and procedures will enable more robust analysis of patterns and quality of care. A complementary priority would be to push ahead with a centralised quality register of primary care patterns. A particular oversight to be corrected is that the long-term care sector appears to have been forgotten in these initiatives: municipality home nurses, for example, have no access to a patient's electronic health record. This inevitably raises care continuity and patient safety issues and should be resolved.

There is also clear potential for more extensive data linkage within the primary care sector and across the primary and secondary care sectors. A chronic care quality register, holistically describing patient needs and service use across all health care sectors, would go beyond a site/silo conception of health care quality. Denmark would be able to move towards a patient-pathway perspective when setting standards and judging health care quality, for example around preventable admissions. In particular, thought must be given to developing indicators around co-ordinated and continuous care. Although a difficult area to measure, candidate indicators might relate to medication errors, waiting times and surveys of patient experience.

Linking hospital reforms to quality

Denmark's central government and the Danish regions have undertaken an ambitious programme of hospital restructuring

Denmark is pursuing ambitious and worthwhile reforms to encourage the further specialisation and rationalisation of its hospital sector. This plan is a good example of efforts to improve the quality of secondary and tertiary care while balancing economic priorities. Over the past decade, hospital beds have fallen from around 25 000 in 1996 to 18 000 beds by 2009. As the owners and operators of hospitals, since 2007 the Danish regions have sought to accelerate this process through further closures of small hospitals across the country and concentration of certain "specialised" hospital services (accounting for about 10% of all services delivered) into a handful of major hospitals across the country.

The reform has been facilitated by a large capital investment, 60% of which was funded by central government. This capital investment was used alongside an expanded role for the Danish Health and Medicines Authority (DHMA) to determine whether the nominated specialised hospital services ought to occur at a one or a small number of hospitals for the whole country or at one or a small number of hospitals in each of the five regions. By prescribing which services could be delivered where, the central government's decisions had flow-on implications for the health and capital planning of individual regions. Regions' capital plans were submitted to the central government, along with bids for investment to modernise services that often included closing or scaling down smaller hospitals. Currently, capital investments are being rolled out as part of a decade-long investment programme that shall amount to the equivalent of an additional 2.5% of health spending per year.

The restructuring of specialist hospital care is being led by both quality and efficiency concerns. Many of the small hospitals that have been closed down had up to 100 beds at most, well below thresholds regarded internationally as desirable to deliver safe and appropriate services. In an environment where the literature on optimal size and volume provides limited guidance for policy making, decisions regarding hospital configuration and appropriate volume thresholds were made by the DHMA, but drew heavily on the input of clinicians and administrators. This was informed by considerations such as the rarity of a disease, the technological intensity of treatment and the skill mix needed to undertake a given procedure. It is commendable that as hospitals are authorised to deliver specialist services, they are also obliged to collect and submit data to the DHMA for evaluating the results of these changes. The specialisation plan should address the concern amongst surgeons and policy makers in Denmark that there were certain specialist services being delivered in potentially unsafe circumstances. While it is too early to systematically evaluate the impact of these reforms, it will be important for policy makers to use changes in the supply of hospital services to drive improvements in quality of care.

Individual clinician performance should be tracked at a hospital level and central authorities should proactively support the diffusion of best practice

According to the literature on volume and quality, the volume of services a clinician delivers is a better determinant of patient outcomes than hospital volumes. To help evaluate the success of the plan and monitor quality on an ongoing basis, the DHMA should seek that hospitals internally monitor data on the performance of individual clinicians, alongside system-wide efforts already being undertaken to evaluate the performance of specialist hospitals. This would help improve the richness of monitoring on quality-of-care outcomes in the short term. Such information would also help build a base of expertise in hospitals which could in the future help refine the DHMA's guidance on volume thresholds for certain services, which may extend to specifying minimum clinician volumes, alongside volumes for the institutions in which they work.

Having established guidance for the volume at which certain hospital services should be delivered, central government should also support hospitals in exchanging and disseminating good practices across regions. Major teaching and specialist hospitals that are also centres of excellence for particular specialisations can often be the source of innovations in new medical procedures and processes. The Danish authorities could encourage the exchange of best-practice clinical research, from the few highly specialised hospitals to the system at large. One possibility is to establish a forum to help translate knowledge from specialist centres into practical improvements in accreditation and in the measurement of patient experience that meets the need of different types of hospitals. More broadly, central government agencies should see their role as increasingly one of evaluation and "best practice diffusion" by supporting regions to develop common assessments of clinical outcomes, disseminate information and learn from top-performing regions.

This would also encourage the spread of new and successful models of care. To date, there has only been a small number of new models of care that have emerged which take advantage of larger, more specialised hospitals. Denmark ought to consider models of care such as that available in Australia, which has used the concentration of highly specialised cancer services to develop programmes such as specialist-led cancer teams for very complex patients, which are based in a tertiary hospital and linked to other health care services. The new structure of the hospital sector also unleashes new opportunities for greater medical research. The Danish government should work with universities, speciality groups and regions to review the structure of medical research facilities and ensure that they evolve to make the most of the opportunities provided by larger scale specialist hospitals.

A programme of professional development for individual clinicians ought to be implemented

The changes to the role of hospitals will demand health care providers to evolve into different roles. For example, whilst not losing their valued generalist role, further skill specialisation amongst some GPs could be explored. Interested GPs could develop extended competencies in defined clinical areas (e.g., dermatology, ear nose and throat, paediatrics, obstetrics and gynaecology). Similar developments of GPs with special interests have proved popular amongst both patients and professionals in other settings. Likewise, there is scope for some nurses to develop enhanced competencies, for example around co-ordinating the care of patients with multiple chronic conditions, developing clinical management skills for defined conditions (such as COPD or diabetes) or dealing with minor ailments. These advanced nurse practitioners have been shown to provide effective, safe and cost-effective care in other OECD countries, particularly if introduced in an incremental manner.

Denmark may wish to consider a more formalised system of continuous professional development (CPD). In contrast to several other OECD countries that have formalised CPD requirements to a minimum number of hours per year, requirements around this are not formalised in any way in Denmark. Thought should be given to whether a similar requirement could lead to quality gains in the Danish system, or whether a system of positive rewards or incentives would be appropriate. New specialist hospitals that act as clinical centres for excellence could play a major role in assisting with continuous professional development of doctors working in general hospitals. Over the longer term, Denmark needs to consider how the public can remain assured of the on-going competence of health care professionals, particularly doctors. It may wish to consider whether maintenance of professional licensing should be contingent upon a programme of annual appraisal by peers, as in other OECD countries such as England, or whether other solutions would be more appropriate to the Danish context.

Monitoring health inequalities

Health care financing and access in Denmark is provided equitably

The Danish health system is built on the principle of equal access for all citizens, however it should not assume that generous social policies automatically lead to health equity and should rather work on embedding equity considerations within the process of quality measurement and improvement.

Legislation encourages equal access to health services within the context of a decentralised system of governance. Patients enjoy free choice over specialists and hospital services. There is good access to care, facilitated by low out-of-pocket spending. Public spending as a share of GDP is among the highest in the OECD (9.5% of GDP in 2010), and 86% of health spending is public. Out-of-pocket spending accounts for 13.2% of total health spending, well below the OECD average of 19.4% in 2010. State revenues redistributed to localities via block grants take into account socioeconomic differences and population size, while half of the allocations to hospitals also reflect hospital admissions. This is regarded as being a fair resource allocation system that takes into good account geographical variation in need. Denmark also has a large health workforce to serve its population's health needs.

Recent initiatives seek to reinforce the commitment to equitable access by eliminating user charges in the hospital sector. A government platform

(“Equality in Health”) to address inequalities has been established, involving stakeholders from the regions, the central government and three municipalities; GPs will also be involved in due course. The Danish regions have published in 2010 an overview of regional initiatives to address inequities and adjust health care services to the specific needs of different population groups. Other ongoing initiatives include National clinical guidelines to reduce variations in quality of treatment and outcomes across regions. These each demonstrate an awareness of equity issues, although their impact on re-orienting the system to better support the disadvantaged remains to be seen.

There is some evidence of growing socioeconomic inequalities in health and low-income people having trouble accessing quality care

Although a traditionally egalitarian society, the income gap between the richest and the poorest in Denmark is expanding, with the Gini coefficient showing an upward trend since the 1980s to its current level of 0.25 (which nevertheless remains low by international standards). Socioeconomic inequities in risk factors for ill-health are also widening: for example, the difference in prevalence between the highest and lowest educated groups for obesity has increased from 10.2% in 1987 to 16.9% in 2010; equivalent figures for daily smoking are 17.9% and 27.7% (though smoking prevalence halved over that period). Unsurprisingly, people with less than ten years of education are more likely to have a longstanding and limiting illness (over 78% compared to those with 12 or more years), experience long-term restrictions in activity due to illness (more than 118%), and experience work cessation due to illness (more than 178%) than people with 12 or more years of education, while higher incomes have been shown to predict longer life expectancy in Denmark, as elsewhere.

There are currently inequalities in the utilisation of health services, including preventative services. The proportion of low-income women having had cancer screening in the past two years is only slightly over 10%, the lowest among 15 OECD countries. Data show that people from lower socioeconomic backgrounds are less likely to participate in breast cancer and uterus cancer screening, and are at higher risk of being readmitted to hospitals for preventable conditions.

Denmark should better exploit its solid data infrastructure for regular measurement and reporting of health inequalities

Denmark has an excellent data infrastructure and a largely untapped potential to profile inequalities in health. The Danish civic registration system makes it possible to link age, country of origin, socioeconomic variables with health status information. Every four years, the Danish regions and the Danish National Institute for Public Health conduct a national survey – the Danish National Health Profile (last published in 2010), which provides a picture of self-assessed health status, quality of life and health behaviours. The data enable benchmarking across regions and has the potential to be used for analysing inequities in health. Similarly, the data from National Health Interview Surveys carried out by the Danish National Institute for Public Health could be used for measuring health inequalities.

Despite the wealth of data, measurement of health inequities is not yet systematic. For example, while the Danish Health and Medicine Authority published a report on health inequalities in 2011, there is no regular report focusing on inequalities in health. Periodic surveys do not allow for regular monitoring of changes in health utilisation and disease prevalence. There are no disaggregated quality indicators by population groups, especially with regard to community-based care, and no appraisal and regular monitoring of the equity impact of health activities at regional and local level.

Information available in national disease quality registers should be used for supporting monitoring of clinical information disaggregated by socioeconomic groups. The rich data infrastructure could be used for regular reporting on health utilisation and quality in hospital care, which should be disaggregated by socioeconomic groups. Significant efforts should go to addressing data gaps in primary care in particular. Work underway to improve data collection on variation in chronic diseases in general practice should be strengthened. Critically, it will be important to ensure that information on inequalities in health is then effectively used to tackle inequalities at local and regional level, through on-going central guidance as appropriate, agreeing targets, disseminating and encouraging the scaling-up of successful local initiatives to tackle inequalities and other measures.

Geographical inequalities and the impact of hospital reorganisation on access to care should be closely monitored

While Denmark has good supply of doctors, beds and technologies relative to other OECD countries, there are some indications of clustering of health care services around urban centres, although the lack of data makes it difficult to ascertain the extent of geographical inequities. Incentivising or requiring young doctors to practise in underserved areas during their early years of practice may be one way to address geographical disparities.

Initiatives to reduce geographical inequalities in health care capacity should be monitored and strengthened. If the government wishes to address health inequities, it would be important for equity to be an explicit consideration in health service planning decisions, both at local and regional level. This does not seem to systematically occur today. Indeed, a concern remains that by specialising certain hospital services at a higher level, patients will have to travel further for care. Several other OECD countries have observed an equity gradient in lower socioeconomic status persons being less willing (or able) to travel for care. While the distances in Denmark are significantly smaller than most other OECD countries, and hospital planning decisions to date have tried to take into account the patient travel burden, striking a fair balance between safety considerations and patient accessibility ought to remain an important priority. The closure of smaller hospitals may impact disproportionately on elderly populations, for whilst elderly patients do have their expenses for transportation refunded, the burden of increased travel, especially for regular hospital visits, may in itself be significant. For this, Denmark should continue to monitor the equity impact of any major reform affecting health services such as the hospital specialisation reform. For example:

- Unique patient identifiers linked to social security information currently allow researchers to assess the travel burden faced by patients. Using its data advantage, Denmark may wish to pioneer monitoring of the frequency of travel to hospitals for treatment.

- Regions could review whether after-hours GP access and ambulance services are equipped to ensure that patients access needed care. Reporting average travel times to the nearest hospital, the performance of ambulances, and the extent to which patients have had to travel to reach primary care or emergency services, as in the Netherlands, would be important. While greater use of mobile teams as in the Netherlands and ambulance services as in France come at high unit costs, these should be traded off against safety considerations.

Steps to reduce the financial burden of low-income people should be especially targeted to primary care and prevention

Publically funded health care in Denmark provides broad coverage of diagnostic, preventative and curative services, with low cost-sharing by OECD standards. While financial barriers do not seem to be the main barrier to access health care, there are concerns that rising out-of-pocket costs and the lack of income thresholds triggering exemptions from co-payments might pose a significant burden on low-income groups, beneficiaries of social benefits and seniors. Relatively high co-payments for pharmaceuticals, dental care, physiotherapy and eye products can impact disproportionately upon low-income groups. For example, people on low income have a much lower probability of having visited a dentist in the past 12 month than in most OECD countries. The growing role of voluntary private health insurance for services that are only partially reimbursed by the public system has also raised concerns that inequities in prompt access to services would widen, despite significant efforts to reduce waiting time for elective surgery.

The removal of the tax credit on private health insurance policies, and further reduction in cost sharing for hospital services and on prescription drugs for chronically ill patients are likely to improve financing equity. However, considering the large share of health expenditure already paid for by the public system, it is unlikely that there would be much room for reducing private health spending even further in Denmark. A more sensible approach could be to make intelligent use of cost-sharing policies to drive health system objectives, for example by:

- Encouraging open and regular review of the criteria (e.g., cost effectiveness) for inclusion or exclusion of specific services from the public benefit package;

- Designing or re-designing cost-sharing to encourage desired behaviour (e.g., compliance with prescribed medical treatment, cost-effective drugs or preventative care) or conversely to discourage unwanted behaviour (e.g., consumption of branded pharmaceutical products when a cheaper bioequivalent is available);

- In addition to preventative policies designed to address health risks, policies that promote equity and good health should be considered, for example child health checks in primary care settings and schools.

Policy recommendations for improving the quality of the health care system in Denmark

The main challenge for the Danish health care system will be to make the many different quality monitoring and improvement mechanisms part of a coherent quality assurance system underpinned by a modernised primary care sector and stronger monitoring of clinical practices in hospitals and of health inequalities. This will require reforms to:

1. Create effective links and synergies between a dense array of disease and service-focused quality initiatives by:

- Aggregating information on the quality of care that is currently stored in separate repositories, for example by using Electronic medical records to create links between quality registers and by organising a strategic review of Denmark's e-health agenda.
- Bringing quality registers together to match typical patient pathways, and exploring the potential for clinical accreditation to typical patient pathways, rather than discrete institutions, as well as long-term care services.
- Considering setting up a set of nationally developed care protocols, guidelines and standards to level-up ambitions and reduce local variations, and developing an annual report on the quality of health care in Denmark based on a uniform vision.
- Strengthening the patient perspective by making patient representation in the management structure of hospitals and nursing homes mandatory and presenting quality information in ways that can better inform patient choice,
- Strengthening regions' and hospital focus on performance, for example by more systematic use of inter-regional and inter-hospital comparisons to drive quality improvement and by setting up agreed quality targets within agreements between the centre and decentralised governments.

2. Modernise the primary care sector by:

- Setting a national vision for how the primary care sector should deliver seamless and co-ordinated care, especially in light of increasing burden of long-term conditions and a faster through-put in specialist care.
- Bringing about a more transparent, formalised and verifiable programme of continual professional development for all primary care practitioners, supported by national standards, guidelines and time-limited financial incentives.
- Rewarding quality and continuity of the care that GPs provide, such as through sharing of useful local experiences of successful integrated care models, encouragement of group-based practice models, and piloting of advanced nursing roles.

Policy recommendations for improving the quality of the health care system in Denmark *(cont.)*

- Developing quality mechanisms – such as clinical guidelines and standards – centered around patients with multiple chronic conditions and long-term care needs, and the co-ordinating role of the general practitioner.
- Strengthening the information infrastructure underpinning quality in primary care, for example by establishing a quality register for chronic care based in primary care and by making better use of the DAK-E data capture system.

3. Link hospital specialisation reforms to quality by:

- Seeking data on the quality performance of individual hospital physicians as well as the hospitals in which they work and using this along with information on patient outcomes to drive service improvement and professional development.
- Working with regions, specialist hospital directors and universities to review how to make the most of the improved possibilities for medical research that are provided by more specialised hospitals.
- Encouraging opportunities for improving care integration, for example by embedding contact details for specialist services in clinical decision aids such as disease or symptom management guidelines and by assessing and encouraging new models of integrated care and continuity.

4. Improve capacity to secure Denmark commitment to equity in health care by:

- Strengthening data to monitor equitable health care, for example by disaggregating quality registers data by socioeconomic group and by improving data collection on variation in chronic diseases within general practice.
- Renewing action and monitoring of risk factors to chronic diseases that falls disproportionately on low-income groups at primary care level, such as obesity, inactivity, smoking and binge-drinking, in addition to wider policies that promote equity, such as early intervention in primary care settings and schools.
- Surveying the impact of hospital sector reforms on geographic access by monitoring patients' travelling time, ensuring that certain patient groups are not force to forego health care because of difficulty travelling and by assessing whether out-of-hours local GP and ambulance services provide safe and effective care, with equitable outcomes, for Danes living in remote areas and for elderly populations.
- Reviewing the impact on access to care of limited cost-sharing exemptions for certain services (dental care, optician services, physiotherapy and pharmaceuticals), and considering innovative cost-sharing approaches focused on encouraging healthy behaviours and efficient health care use, such as to encourage preventative care.

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