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Differences in the quality of care in Danish hospitals

1. Introduction and conclusion

1.1. Purpose and conclusion

1. This report concerns quality of care in the Danish hospitals and unfounded differences herein. The report addresses quality of care delivered within the following areas of disease: heart failure, chronical obstructive pulmonary disease (COPD), cerebral apoplexy (stroke) and hip fractures.

Quality of care
In the report, quality of care is defined as the clinical practice guidelines and indicators recommended by clinical experts to achieve the desired outcome of the treatment of diseases.

2. The purpose of the Danish health-care system is to promote the health of the population by preventing and treating disease in the individual patient. A prerequisite for achieving this objective is that all patients have easy and equal access to high-quality care.

3. In its report *Health Care Quality (2013),* the OECD focused on health-care systems in a number of European countries. The OECD pointed out that in spite of the fact that spending on health care in the countries reviewed was high and increasing, some patients received care of a poor quality, which indicated a need to focus on the effectiveness of health-care spending. The purpose of such an exercise would be to ensure that the health-care systems delivered the best possible care at the lowest possible cost. Achieving this objective would demand, among other things, greater transparency. In the report *Health Care Quality – Denmark*, the OECD recommended that Denmark should implement a monitoring system. One of the recommendations concerned monitoring the quality of care provided in the hospitals to determine whether the care delivered to the patients – irrespective of their background – was consistent with the quality indicators set in the Danish health-care system.

4. The Ministry of Health and the regions have put focus on geographical differences in the quality of care through various initiatives. Since 2012, data on the quality of care have been monitored by *Regionernes Kliniske Kvalitetsprogram* (The Danish Clinical Registries (RKKP)). The RKKP monitors whether the patients receive care that is consistent with the clinical practice guidelines. In doing so, the RKKP creates knowledge of the quality of care provided in the regions and of any differences between the regions and hospitals. However, the RKKP data have not been applied to investigate whether patients with the same disease, but with different backgrounds, receive the same high quality of care.

Clinical practice guidelines
This term refers to recommendations for patient care that are systematically developed on national level. They are based on scientific research, data or evidence, and are used to guide health-care decisions for defined clinical conditions.

Differences in quality of care are not necessarily a problem, if they are the result of a deliberate professional choice. A deliberate professional choice is based on the circumstances of the individual patient, the severity of the disease, competing diseases and need of care in combination with the patients' own needs and wishes in terms of care. However, it is a problem, if the differences emerge in the absence of deliberate professional decisions. In the study, such differences are characterised as being unfounded.

Process indicators
A process indicator is a measurable variable for monitoring and evaluating the quality of a specific process in the form of a specific type of treatment.

5. The study is based on the data from the national clinical quality databases that the regions use to follow up on the quality of care in the hospitals. These data are also included in the Ministry of Health and the Danish Regions' measurement of performance against the national target set for high-quality care. The data reflect the indicators that clinical experts have defined for recommended care. All Danish hospitals measure their performance against these indicators. The study looks at performance against all relevant process indicators, i.e. is the patient receiving care that is consistent with all the process indicators, unless it has been determined through a medical assessment that one or several of the indicators are not relevant for the patient in question.

6. The report focuses on the quality of care and unfounded differences herein concerning four common diseases: heart failure, COPD, stroke and hip fractures. These diseases have been selected for the study, because they affect a large number of patients and most of the hospitals in this country. Additionally, the quality of care concerning these four diseases has been measured systematically and comprehensively for several years.

The report includes a registry-based analysis of the development in performance against all relevant process indicators developed for the four diseases. The analysis clarifies whether there are differences in the performance against all relevant process indicators for the patients and whether these differences may have an impact on the patients' subsequent risk of emergency hospital admission (in the following referred to as readmission) and death.

7. The purpose of the study is to assess whether the Ministry of Health and the regions have taken steps to obtain knowledge of any unfounded differences in the quality of care provided in the hospitals. The study answers the following questions:

- Have the Ministry of Health and the regions established frameworks that adequately ensure that all patients have equal access to quality care in the hospitals, which makes it possible for the regions and the hospitals to identify the causes of any differences in the quality of care in the hospitals and reduce unfounded differences?
- Are there unfounded differences in the extent to which the care provided in the hospitals to patients with heart failure, COPD, stroke and hip fractures is consistent with all relevant process indicators?

Rigsrevisionen initiated the study in June 2017.

Conclusion

It is Rigsrevisionen's assessment that the Ministry of Health and the regions have not taken adequate steps to obtain knowledge of whether there are unfounded differences in the quality of cared provided in the hospitals. This means that the ministry and the regions are unaware of any unfounded differences in the quality of care and their impact on the patients' subsequent risk of readmission and death.

The registry-based analysis in the study shows that a significant number of patients did not receive care that was consistent with all relevant process indicators in the period from 2007 to 2016. This finding also applied to the patients suffering from heart failure, stroke and hip fractures that had the best prospects of receiving care consistent with the process indicators. However, the number of patients who did receive care consistent with all relevant process indicators was increasing for patients suffering from heart failure and stroke, but remained stable for patients with COPD and was dropping for patients with hip fracture. The results do not show any systematic differences between the regions. The results of the study concerning COPD are however subject to reservations, because registration of the severity of the disease has been inadequate.

Patients with the best and worst prospects
The study shows the quality of care provided to two categories of patients with different characteristics: those with *the best prospects* and those with *the worst prospects* in relation to going through all the relevant steps of care laid down for the four disease areas.

Moreover, the registry-based analysis shows that the care provided to the patients with the worst prospects was only to a minor extent consistent with all relevant process indicators compared with the patients with the best prospects within all four disease areas. These differences were not reduced in the period from 2007 to 2016. On the contrary, the differences for patients with heart failure and hip fractures grew. The results do not show any systematic differences between the regions. Besides, the registry-based analysis shows that the differences between the patients with the worst and the best prospects are repeated for the majority of the individual process indicators.

The registry-based analysis indicates that most of the differences relating to readmission and death can be traced to factors beyond the hospitals' control. The registry-based analysis also shows a statistical connection between differences in consistency with all relevant process indicators and the risk of readmission and death. Thus, the registry-based analysis indicated that for patients with the worst prospects within three of the four diseases, differences in consistency with all relevant process indicators might potentially have an effect on their subsequent risk of readmission and death. The registry-based analysis indicates that some readmissions and deaths could probably be prevented or postponed for the group of patients with heart failure with the worst prospects, if there were no differences in consistency with the process indicators between the patients with the best and the worst prospects. The mortality rate for stroke patients with the worst prospects could be marginally reduced. For patients with COPD, readmission could probably be reduced, but this result is subject to reservations. For patients with hip fracture and the worst prospects, the 1-year mortality rate and readmission rate could probably not be reduced.

It is Rigsrevisionen's assessment that the framework defined by the Ministry of Health and the regions does not adequately ensure consistency in the quality of care in the hospitals. The ministry and the regions work to ensure that the quality of care is consistently high for all patients. The study shows a lower performance against the target set for high-quality care on national level as well as on regional level in the period from 2015 to 2017. The study shows that the ministries and regions follow up on regional differences in the quality of care provided in the hospitals, and their causes. However, the quality has not been organised and followed up with specific focus on whether patients with similar needs for care, but different circumstances, receive the same high quality of care. This means that the ministry and the regions have no data on differences in the quality of care provided to patients in different circumstances, nor do they know what effect a potential difference might have on the patients' risk of readmission and death.

Rigsrevisionen has not examined why the care delivered to the patients is not consistent with all relevant process indicators. Rigsrevisionen recommends that the Ministry of Health and the region regularly assess whether failure to provide care in consistency with all relevant process indicators affect only patients with distinctive characteristics. This information could provide the basis for steps to improve the quality of care for this type of patients and thus support the ministry and the regions' objective to provide consistently high-quality care to all patients.