Information regarding 10 process indicators representing five dimensions of quality and coordination of care was collected using interviews with staff and registered data. Indicators and dimensions had a particular focus on case-finding and case-management and coordination and collaboration between primary care and community services to support integrate services. Interviews with GPs and nurses in managing positions in primary care were matched with interviews with nurses at nearby community services to support triangulation and to gain additional information from a community perspective. Respondents were asked to provide examples where possible. In total, 24 semi-structured interviews were conducted by one of the authors (AHG) without prior knowledge about the level of utilization of hospital care among the eight providers. This principle of ''blinded'' interviews was performed to prevent bias in the collection and comparison on qualitative data. All interviews were audio taped enabling review by the co-author.

Data from interviews were complemented with registered data used within a P4P scheme in primary care regarding continuity of care, number of medicines reviews to elderly 75+ and number of individualized care plans for elderly in home care. Based on the performance of these and other indicators, primary care providers in Region Skåne were able to generate up to 3% additional payments in 2012.

Based on the collected data, differences between the eight practices were analysed in a ranking exercise. For each indicator, providers were assessed from one to three, where a higher value indicated a favourable position compared to other providers in the sample. The final assessment for each practice was communicated to interviewed GPs and nurses, who had the opportunity to comment and add or clarify information. Overall, the final assessment was accepted.

Ranking of providers was compared with data from two outcome indicators reflecting utilization of hospital care: average number of bed-days for patients 75+ with significant needs, and number of visits to hospital emergency units without hospitalization for patients 75+. These outcome indicators were used in Region Skåne for comparison of different primary care providers. One of them (number of visits) was used within the P4P scheme.

Regression models

A quantitative approach was used to analyse the association between indicators of hospital utilization (outcome indicators) and a number of factors among all 150 primary care providers in Region Skåne reflecting both process indicators and non-controllable variables from the perspective of primary care providers. Registered data from year 2012 were used in step-wise regression modelling. The same outcome indicators as in the ranking exercise were used as dependent variables:

- average number of bed-days for patients 75+ with significant health care needs;
- number of visits to hospital emergency units without hospitalization per 1000 patients 75+.

Average, rather than median, in-patient days were used as most patients had not been admitted to hospital in-patient care at all. As the average is more sensitive to outliers, patients with 100 or more bed-days during the year were omitted from the analysis. Data related to avoidable hospitalization based on relevant diagnoses for this selected group of frail elderly patients were not available.

Independent variables were chosen from registered data reflecting the same process indicators that were used in the qualitative study. An additional variable reflecting proportion of direct admissions to hospital wards (i.e. side-stepping the emergency intake at hospital) was also included. Most practices used this option to a limited degree and it was not relevant when comparing differences between the eight selected practices in the ranking exercise. Independent process variables were combined with other independent (control) variables reflecting location, ownership, health care needs and socio-economic status of registered individuals across providers. In total, eight independent variables were included in the analysis:

- continuity (proportion of patients meeting the same GP during three consecutive visits);
- proportion of direct admissions from primary care or nursing homes to hospital wards (by-passing the hospital emergency units);
- number of medicines reviews in collaboration with pharmacist and community staff (in relation to number of elderly patients with significant health care needs);
- number of individualized care plans regarding care and social services established in collaboration between primary care and community services (in relation to number of elderly patients with significant health care needs);
- location of provider (five districts with different community and hospital services);
- socio-economic status of registered individuals (measured through care need-index, CNI for each provider in May 2012)