HealthManagement
Promoting Management and Leadership

Volume 9, Issue 5 /2007 - Capacity Planning

Capacity Planning in German Hospitals:Excessive Capacities as Result of Inadequate Incentives

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Capacity in hospitals is determined by production facilities and production factors (Sibbel 2004). Facilities like beds or departments, needed for the provision of services are predetermined on the federal level by hospital plans. Hence, for hospitals, efficient management of production factors— like physicians and nurses, play the most important part in capacity management and planning.

In Germany, hospitals are facing excess capacities of beds, which are the result of faulty regulatory incentives by hospital plans and the financing system. Since the introduction of DRGs in 2004, hospitals are confronted with a more competitive environment increasing the need for efficient capacity planning and management.

Regulatory Environment

Officially, hospital investments in Germany are financed by federal states, while patients reimburse operating costs, usually by their health insurances (dual financing, KHG 1972). Since hospitals have to apply for investment funding, this system leads to additional administrative costs. It also does not afford the possibility to optimise investment decisions with respect to operational costs. Additionally, hospitals receive a fixed rate of funding per bed (DKG 2006), creating incentives to keep beds. With the introduction of DRGs in 2004, hospitals find themselves in a more competitive environment than before. Investments become crucial for hospitals that want to improve their competitiveness. This increases the need to establish a monistic financing with investments and operational costs stemming from one source and, thus, giving hospitals full responsibility over their investments (SVR 2007). It is noteworthy that due to restrictions of public budgets in recent years, dual financing is not working well either. About 20% of all hospital investments are already financed by hospitals themselves (DKI 2005) – virtually in contradiction to the law.

The federal states plan supply of hospital capacities. Until recently, capacity has been defined by the number of beds. Most federal states forecast future demand for bed capacity with a target level (TL) for occupancy rates, an estimate of demographic changes, hospital length of stay (LOS), and frequency of hospitalisation (FH) using the so called Hill- Burton formula (Kuntz, Scholtes & Vera 2007):

Bed capacity = (LOS x FH x population)/ TL x 365 days.

Some federal states use additional information such as hospital diagnoses with the Hill-Burton formula or other methods. Hence, hospital plans differ by method, depth, and planning horizon (Kortevoß 2005). The observed excess capacities in Germany seem to be the result of erroneous incentives by dual financing and federal hospital plans (SVR 2007).

Capacity planning and management With increasing cases, decreasing LOS and a shift towards outpatient treatment, hospitals have to focus on efficient process management while continuing to reduce excess beds (Sibbel 2004). Shifting planned beds or departments between hospitals of the same regional hospital operator is one option in reaction to market changes within rigid hospital plans. Regardless of local boundaries, hospitals can cooperate to optimise procurement and utilisation of service facilities.

However, given existing tensions between hospital planning and a competitive hospital sector, th expectation is that federal states will reduce the

depth of their hospital plans (Busse, Schreyögg & Gericke 2006). With fewer regulations, strategic capacity planning will become more and more important. Indeed, the federal state of North-Rhine- Westphalia aims at reducing the depth of regulation in hospital planning in 2007.

Forecasting Hospital Demand

Hospitals have to take into account several external developments when planning their supply (e.g. beds, personnel, operating rooms). The most important ones are

• local demographic change,

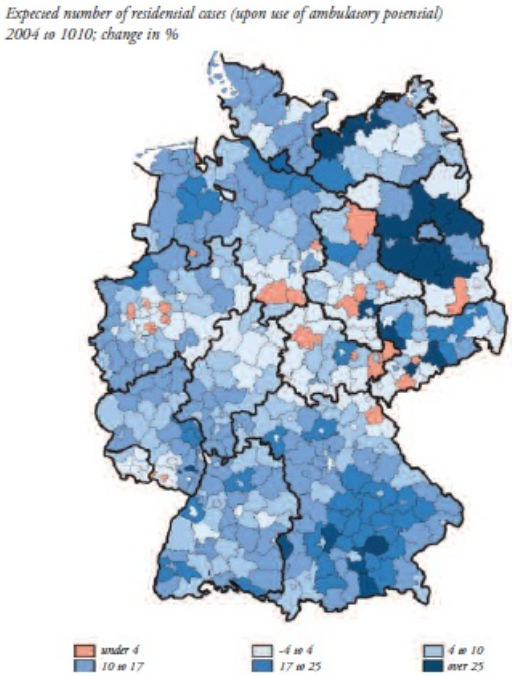
• technical progress, and

• regulatory changes.

Since hospital business is primarily a local, demand for hospital services is strongly determined by the local demographic structure. Management has to forecast demand – sometimes even for each DRG. If possible, expected regulatory changes have to be taken into consideration. In Germany, the legislator encourages a shift towards outpatient treatment. This means that, for some DRGS, the number of inpatient cases might decrease, even though the total number of cases will increase. Inpatient and outpatient capacities have to be planned accordingly. The following figure shows a forecast of the growth in the number of cases by 2020 taking into account local demographic changes, a shift towards outpatient treatment, and steady technical progress (Augurzky et al. 2007).

In addition, – but with more difficulty – hospital management has to take into account the business strategies of their competitors and hospital admissions based on referrals by local practitioners. In Germany, patients with a mandatory health insurance (90% of the population) are not allowed to use hospital services without referral from a practitioner – except for emergencies. Therefore, general practitioners' decisions on patient admissions have a substantial impact on hospital performance.

Planning and management options An analysis of the current product portfolio comprising data on diagnoses, procedures, and resulting DRGs is essential to the optimisation of recent capacities. Together with forecasts in demand, they are the necessary basis for capacity planning. Methods for strategic capacity planning range from models of investment theory over efficiency analyses (Kuntz, Scholtes & Vera 2007) to methods derived from operations research (Preater 2002). Sibbel (2004) provides an excellent overview of these more theoretical methods for capacity planning in hospitals.



When it comes to optimising capacity, usage cooperations prove to be successful. Horizontal and vertical alliances show an improving effect on capacity utilisation (Vera 2006). Horizontal alliances with other hospitals show economies of scale with service facilities and improve leverage in negotiations with suppliers. They can be used to channel patient flows and hence increase occupancy rates. Resulting efficient capacity utilisation primarily and significantly contributes to cost containment.

However, capacity utilisation also seems to influence quality of care in hospitals (Mennicken 2007). Vertical alliances with practitioners lead to improved referral behaviour and increasing market shares. Vertical alliances at the other end of the healthcare supply chain, e.g. with rehabilitation centres or nursing homes, improve treatment processes and quality of care.

Conclusion

Capacity planning plays an important role for hospital management. So far, great emphasis in Germany is put on the efficient utilisation of capacities, since beds and departments are mostly predetermined. However, it is quite likely that in the near future regulations in many federal states will be reduced. Hospitals will then have more managerial freedom to plan their capacities according to their product portfolio.

For references, please contact francais@hospital.be

Published on : Mon, 24 Dec 2007