Benchmark Model

Unique benchmark model of Switzerland's symedric Inc.
To overcome the mechanisms of market failure in hospital financing and other asymmetric markets in order to achieve managed competition.

Starting point

The system of hospital financing in Switzerland separates the levels of tariff structure, in the narrower sense the system of SwissDRG fixed rate per cases, from pricing in tariff negotiations and the extended framework conditions, such as for example the politically determined financing factors between social security provider and canton, cantonal subsidies via public service contributions and payments of third parties. It should be noted that with regard to pricing by means of benchmarking (second level) there has been insufficient utilisation of the already existing possibilities of a DRG system. In this the current models in many cases work on the assumption that a comparison via the Case Mix Index is only expedient within hospital categories or subgroups of hospitals (see hospital categories of the Federal Statistical Office, algorithm on hospital classification in accordance with the Federal Office of Public Health, cluster analysis etc.). Some models additionally include performance and structural variables, which, however, may be influenced (and manipulatively?) by the service providers themselves. A third, important influencing factor is dependent on the so-called compression effect of the tariff structure (lack of explanatory power of the SwissDRG tariff structure due to the currently inadequate cost allocation and data quality), which in terms of quantity has hitherto been poorly recorded and updated. These models inevitably lead to vague target values and a potentially incorrect or excessively broad range of final prices (baserates).

State of model development and benchmark-index

We carried out various simulation calculations on different statistical models in order to ensure that with the help of a so-called benchmark index, which takes into account several additional features of a hospital (as it were the overall geopolitical situation), a stronger relationship between costs and range of services as well as costs and location is established. In this way the aforementioned weaknesses in the model used in the benchmark to date can be minimised in order to explain as objectively as possible the causes of variances in the average case costs between hospitals. In this calculation the average costs of a case pursuant to the Health Insurance Act, according to the average degree of severity of each of the patients treated in the individual hospitals, are corrected using a **weighted Case Mix Index** of the SwissDRG system. In addition, a correction using the **benchmark index** is carried out, which based on the data recorded via the statutory population statistics includes important regional factors that currently exist today and cannot be influenced. These model calculations, which use the currently applicable SwissDRG tariff

structure and take into account reasonable other variables, suggest that a price corridor can be mathematically defined and justified. According to the specifications for the model (robustness) this price corridor should ultimately ensure that at the time of the data analysis all services offered within the scope of the Health Insurance Act can be sufficiently financed/refinanced with the existing hospital structures.
Greater areas of uncertainty may result from the data that has been provided and has only been in part adjusted correctly. Here there is potential for further improvement of the mathematical model (see separate publications). In addition, the sample of the hospitals included significantly influences the explanatory power.

Initial results, area of application and potential

Initial comparisons with currently negotiated baserates of the group purchasing organisation HSK already show that the selected hospitals with comparatively high baserates may currently be under a greater cost pressure than “subjectively” cost-effective hospitals with a lower or below average baserate. Therefore it is not only a potential for savings by gradual lowering of the average Swiss price level by identifying hospitals that are demonstrably too expensive that is to be expected, but also a high potential for reasonable (fair) redistribution of the available resources.

Application scenarios and services

The practical application of the model is possible in various scenarios, which are oriented towards the available data and requirements of the negotiating situation. The model is used for the purposes of comparison or as a supplement to the processes used by the insurer. The insurer decides on the format to be delivered by the hospital, the tariff-relevant calculation basis and granularity of the data (see ITAR-K = Integrated Tariff Model Based on Cost Unit Accounting, VKL or REKOLE = Revision of Cost Unit Accounting and Activity Recording). The hospital data (in particular the CMI and average, chargeable operating costs and facility fees as per the Health Insurance Act) is at most adjusted by the insurer (client) according to the insurer’s own procedures. Individual figures may additionally be subjected to a review or plausibility check by symedric. At most catalogue effects and case shifts due to the change to a new SwissDRG version may justify additional deviations of the CMI and these can be visualised. symedric accordingly calculates a target value and a confidence interval of the baserate per hospital in accordance with the specifications for the robustness of the model. The insurers can apply their own benchmark test, continue using it in a refined form and justify it in the context of assessment processes. If requested further prospective reimbursement and financing elements may be discussed and quantified.

Further considerations

Completely fair financing is not achievable. The model approach with the tariff structure development tries to estimate as best as possible future costs irrespective of place of service

provision and irrespective of the type of hospital. It is therefore not the responsibility of the tariff structure to represent as best as possible structures, such as a university hospital for example; instead it is oriented towards services, no matter where those services are provided. These services are described medically via the SwissDRG system and provided with a rating that is as up to date as possible. The existing limitations with regard to the attained and attainable quality of the SwissDRG tariff structure are published by the SwissDRG AG with every new version of tariffs. Here what is also important is the determination of the board of directors of the SwissDRG AG on the mapping of cost differences by the SwissDRG tariff structure and implications for differentiated baserates. Applying the benchmark of symedric is congruent to the approach of tariff structure development. It respects in particular the separation of tariff structure, price negotiation and the framework conditions. The results provide encouragement that vital improvements in the benchmark can be achieved. This makes a more direct price competition possible and paves the way for a combined price and quality competition.

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Annexes: Application of DRGs in the Swiss healthcare system

The fixed rate per case system SwissDRG ensures that the service-related financing of acute somatic services, which is a legal requirement, takes place by remuneration of individual hospitalisations. SwissDRG as a remuneration system follows the principle of fixed rate per case payment. In contrast to an individual service tariff there is no accumulation of services; instead a case is described as a whole and only a fixed rate per case (DRG) is invoiced. The SwissDRG system specifically takes into account the individual medical case and the severity of that case. Groups of cases, which are similar medically and in terms of their cost structure, are assigned a single cost weight. The reimbursement of a medical case ultimately results from multiplying its case cost weight with the so-called base case rate of the hospital. As part of a tariff system effective throughout Switzerland, it is agreed between the hospital and insurers in individual tariff negotiations that a base case rate (to cover operating costs and facility fees) will be applied to the SwissDRG tariff structure.

Insofar as it is within the field of competence of the SwissDRG AG, since the start of the work on the new tariff structure the healthcare partners involved have determined the interaction of tariff structure and pricing. With the development strategy 2013+ the longer-term objectives of tariff structure development were defined explicitly. A nationally standardised tariff structure should represent the best possible services available for all inpatient cases irrespective of the place of service provision. The statistical concepts and the calculation model for the development of the tariff structure are established so that the SwissDRG AG can ensure the necessary independence and objectivity. Therefore development is primarily driven by current medicine, thus making it possible to take into account continuous change in healthcare practice (e.g. outpatient care in preference to inpatient care, the shortest possible hospitalisations, targeted and individual investigations and treatment, the entire spectrum of highly specialised medicine, etc.). The SwissDRG tariff structure can therefore explain only those differences in cost that can be assigned to the patient and the services that are necessary. Regional differences, e.g. in wage level, non-wage labour costs, property or rental costs are not represented and do not play a vital role in the further differentiation of the tariff structure.

Conclusions for tariffs and prices

Knowing that the tariff structure cannot represent all differences in cost, the tariff partners draw the necessary conclusions for the benchmarking and tariff negotiations. Negotiable, differentiated base case rates reflect the basic principles of a competition, in which intercompany comparisons and a benchmark within the framework of pricing are possible. The named framework conditions set the desired incentives for a cost-efficient and quality-oriented pattern of working. The merits of the overall system and a fair, performance-related remuneration as the basis of a competitive system are distinguished by the interaction between incentive-based tariff structure and benchmarkable prices.