The German Health System is a polycentric system

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Abstract

The German Health System is quite complex (e.g., Latal et al., 2017; Knieps, Reiners, 2015). Therefore, the effects of political measures regarding the health system on the lives of certain groups are rather hard to discern. In effect, often political measures do not bear the intended results. Due to its complexity and the involvement of many political layers and institutions, a thorough theoretical understanding of the German health system is hard to handle. Therefore, this paper proposes to use the Institutional Analyses and Development Framework (IAD) established by Elinor Ostrom (Ostrom, 2007) to do a more profound and coherent examination of the German Health system. To show that the method used can be valuably, a part of the health system (hospital financing) is taken and scrutinized using this method.

Keywords: health care, Institutional Analyses and Development Framework, hospitals, structures

1. Introduction

The health system is one of many areas of public policy. It is also subject of many debates and discrepancies (even more since the Covid-19-pandemic). In some countries market-based supply of health care has been the policy choice. But many countries – including Germany – have opted for a far more regulated, structured system that is supervised or operated by public institutions. There is some reasoning behind it, e.g., the assumption that in health care the mechanisms of a market do not work properly. Taking the German health care system as it is, it has many different parts where different kind of policies are in place. The same is true for the different reasonings behind that. Both aspects make in difficult to analyze the system thoroughly.

Furthermore, health is not a subject that is easily understood and defined. The causes of ill health can come from self-induced behavior like smoking. But it can also result from broader societal as well as political and economic backgrounds. These causes need to be separated to address policy correctly, because mixing them within policy measures might lead to unintended results. E.g., addressing health care issues related to lung cancer incorporated at least 3 different aspects: air quality, smoking behavior, and treatment possibilities. Smoking could be addressed through preventive or educational measure. But air quality is a broader issue. And treatment possibilities depend on medical option as well as on availability of health care institutions – so quite different aspects. So, no educational measure (like a campaign on not smoking) is helpful for those people already suffering from lung problems. These people need treatment and therefore well working health care institutions. This paper basically looks at the last aspect accepting that other measure might be in place but have not worked (yet or for certain groups).

Health care institutions in Germany are subject to a wide array of measures mostly defined by formal regulations. It will be shown that these regulations do not fit into a strictly hierarchal setup but rather into a multilayered, polycentric setup. Therefore, an analytical framework allowing for this kind of setup is need. To do this analysis in a systematic manner, it is proposed to use the Institutional Analyses and Development Framework (IAD) established by Elinor Ostrom (Ostrom, 2007) as a tool and method. It will also be shown that this tool is helpful to examine German Health system profoundly and coherently.

As health care policy consists of an array of parts, this paper selects one area of the German healthcare system and its corresponding policies, the hospital financing. Hospital financing accounts for one-third up to half of the spending in the German health care system, it seems reasonable to use this large part as an area for analysis. The aim is thereby, to find the focal points of possible problems rooting in the logic of the German health care system.

The paper is organized as follows. After this brief introduction, a first explanation of how the German health system can be analyzed is given. It is followed by a deeper look on the IAD and the reasons why it might be helpful to be used here. Then, the method is exemplified for the system of hospital financing. Finally, a conclusion will show that the IAD is a valuable way to scrutinize and find focal points of positive or negative effects on certain groups in German health care policy.

2. Possible Methods

Accepting that the German Health system is quite complex is the first step of any analysis of it. The next step is finding tools to reduce this complexity to not only understand it, but also to work with it. One way to reduce complexity is to use models; another one is to use some analytical framework.

Models as a simplified, strongly reduced version of reality will have to make strong assumptions about the general way in which systems work. Also there needs to be a technical method that relates to this kind of model like a mathematical basis or sociological philosophy. The trouble with models is, therefore, that they imply some pre-supposition on how a system works before it can be used to reduce complexity. With a health care system that has evolved since the 18th century when the first health insurance was established and some kind health care system since the beginning of mankind, this does not seem to be a task easily to be handled. Especially, if the focus of this paper is to find a method that tries to find crucial junctures in today's health care system.

One example of this approach could be to view the health care system as the economics of health care and then use economic theories and models to analyze it. The concept of economics of health care for example, usually only incorporates individual lifestyle factors that can be helped or hindered by policies. A purely economic model usually states that health care is some product (or service) that can or cannot be bought. A consumer can decide according to preference, needs or individual budget which kind of health services he or she buys. (cp. e.g., Adida et al. 2017, Andritsos et al. 2018, Arrow 1963)

The theories of public health as part of an economic theory of health care give a normative orientation that is situated between using health care options and the individual freedom of living one's own lifestyle (including not doing sports and smoking). Health care options are supplied either by the state and / or by the market and each person can and has to choose when to use it. In the German health care policy, the public health care is driven by the additional assumption that some parts of health (or better: ill-health) cannot be envisaged individually (in terms of amount and the point in time of needed treatment) such that there is an obligation to insure oneself against sickness. Insurance might be market-based, though, as well es parts of the care system (cp. Lauterbach et al. 2010). Basically, this amounts to a triad of state, market and individual. This triad is regulated strongly and structured heavily. This leads to the trouble, that beside the triad there are also huge numbers of institutions and regulative features that need be analyzed to understand where and how the system works. Regulatory theory, as has been e.g., examined by Laffont and Tirole (cp. Laffont et al. 2002) and focuses mainly on the transactions within the triad. Regulatory measures are then taken to reduce or level market failures such as informational deficits, external effects, and inefficiencies. Though they are not meant to change systematically any aspect of that market.

The economic view focuses on the transactional basis of health care and by that might ignore aspects related to the specialties of health as part of human behavior and existences. It might also leave out political perturbations and power that influence how health care is supplied (via companies as well as the public). As the German health system consists of an abundance of actors, institutions, areas and structures the sole selection of one model might leave out relevant parts of it that might also incorporate the mentions aspects systematically. In fact, a more interdisciplinary, broader approach might, therefore, be necessary. Peters (2014) speaks of it as "system thinking".

Another way than using disciplinarily restricted models is to use some framework that gives a structured questionnaire or systematic to find the basic points of analyzation. There are not too many frameworks in political science that take a systematic approach on policies and including mechanisms inside an existing system. As this paper focuses on palpable elements of the German health system using frameworks from policy analysis should do to trick. The word "policy" – in contrast to "politics" and "polity"- describes the content of a political system in terms of form and measure, laws, and programs (cp. Blum et. al 2018, p. 12, Schubert et al. 2014, p. 5). The advantage of using methods from policy analysis is also that it can work on an interdisciplinary level and that might help to find all relevant aspects of the German health system.

In policy analysis there are a great many of ways to analyze and describe systematically one field of policies. Their origins and theoretical backgrounds have different depths and explanatory potency.

Health care policy – according to Reiter 2017 is part of social policy and should therefore be part of policy analysis. In her introduction she points to Georg Tsebelis' veto player theory as explicitly relevant for German health policy (Reiter 2017, p. 20). In addition, and among other, party differences, institutional aspects (including veto player theory) are listed as approaches to study the field (ibid., p, 41).

Together with Thomas Gerlinger, she considers the field of German health policy with means of policy field analysis (ibid., p.222). They look at the three dimensions "regulatory structure", "financing structure" and "supply structure". Based on these dimensions, they examine changes in German health policy since 1975. They also make references to the degrees of changes according to Hall (1993) and Streeck et al.(2005) and their path dependencies. This approach has also been used by Köppe (2022) to analyze changes in German health policy due to the Covid-19-Pandemic. Unfortunately, these approaches focus more on changes or results of measures already taken and their origins. They are looking more from a retrospective. Few is said about a systematic reason why or where measure might be pointed at to trigger profound changes within the existing structures.

Also used in this context is the analyzation via a policy circle. „Policy Circle" examines policy areas based on phases and processes. These often resemble the PDCA ("Plan-Do-Check- Act") cycle from the organizational and management theory/method. It essentially consists of the phases of policy definition, agenda setting, policy formulation, policy implementation, evaluation (Jann/ Wegrich, in: Schubert et al. 2014, p. 106). The naming of the phases sometimes differs depending on the author. In terms of content, they basically encompass the same aspects of a political process. Occasionally, the boundaries of the processes are also based on the political function, e.g. extraction, regulation, distribution (cf. inter alia ibid. p. 102). The policy cycle analysis is particularly effective if either a single political measure is to be planned before it is put into action (cp. Knoepfel et al. 2007) or if the success of this measure is evaluated retrospectively (cp. Jann et al. in: Schubert/ Bandelow 2014, p. 117).

A different approach to policy fields and processes classifies certain policy types or policymakers. Lowis classifies the policy types as distributive, redistributive, regulative, and self-regulative. Depending on the type, the political arena has certain characteristics and control principles (cp. Heinelt, in Schubert et al. 2014, p. 135).

Braun et al refer to two different functions of state activity: distribution and public order. These determine the instruments of policy that must be distinguished. (Braun et al in: Schubert et al. 2014, p. 180).

There is a broad field of methodological approach to the policy area to be examined. In policy analysis, both qualitative and quantitative and a mixture of both are used. A qualitative approach is theory-testing case studies. Crucial cases, most-likely-cases and least-likely cases can be used. Comparative case studies that work with the difference or concordance method could also be used here (Treib, in: Schubert et al. 2014, p.213)[1]. In qualitative policy research, very different sources can be used. These range from expert interviews to public and non-public documents of any kind (ibid. pp. 214-215). In this work, a large part of the methodological approach will be based on such sources, since many documents can be found, especially in the health care system or self-administration, which can give deep insights into the working methods of the same. Quantitative methods, which are mainly used in comparative policy research (cf. ibid. p. 220), are hardly relevant

[1] Also mentioned are theory-oriented interpretative case studies and hypothesis-generating case studies as options in policy research (Treib, in Schubert et al. 2014, p.212).

to the question of this work here. Descriptive statistics might be helpful to support explanations, though.

According to Reiter et al. 2014, an analytical framework is "more abstract and concrete than a theory" (Reiter et al. 214, p. 28). This makes it helpful to investigate complex situations even without adhering to certain models and theories. An analytical framework such as the Institutional Analysis and Development Framework (ibid.) is proposed – especially if there is uncertainty about the causes of phenomenon. The causes of observable inequality in the German health sector can be diverse and possibly diffuse. Therefore, the use of an analytical framework is expedient. Already mentioned elements from the above-mentioned theories can be used, so that no determination must be made solely on one theory (and method). This approach is also described as a meso-level approach, in which a part of a political system constitutes the unit of investigation (ibid. p.34).

In the following part the IAD is introduced.

3. The IAD and polycentricity

The Institutional Analysis and Development Framework (IAD) by Elinor Ostrom is an approach that is particularly widely used in resource and climate policy. In her words, it becomes clear that this approach can be used multifunctionally: “Economic theory, game theory, transaction cost theory, social choice theory, and theories of public goods and common-pool resources are all compatible with the IAD” (Ostrom 2007, in: Sabatier 2007, p. 26). It is an approach in policy analysis that uses various explanatory variables for "observable results (output) and outcomes (outcome) to combine collective trade on a metatheoretical level into a uniform, disciplinary framework of analysis across language boundaries." (Reiter et al. 2014, p. 68) Howlett et al. note: „a health policy, for example, consists of a series of decisions on building health facilities, certifying personnel and treatment, and financing health-care provision, among many other related items. “(Howlett et al. 2009, p. 9)

Since the health care system through its combination of medical-biological questions, economic issues as well as sociological (and political) aspects and corresponding actors (doctors, economists, politicians, etc.) is an interdisciplinary field, it seems completely sensible from this reasoning to use such an interdisciplinary method as the IAD is.

The IAD has its origins in institutional economics but is nonetheless a very interdisciplinary approach. Interdisciplinary approaches differ from the widespread and increasingly controversial approaches of today's economics – mainstream economics – in that they leave the perspective of pure equilibrium consideration and allow a broader perspective on economic processes. While pure market equilibrium analysis assumes price as a singular coordination mechanism of economic processes, institutional economics focuses on other additional mechanisms. Especially against the background that in the field of illness and health more elementary considerations play a role for individual decisions – after all, it is often about the decision between life and death – it seems advisable to choose an approach to analysis that goes beyond price and budget incentives.

Wall says: „While institutional economics is made up of a number of different schools of thought, all tend to suggest that economics is shaped by forms of governance “(Wall 2014, p. 3) Important in this context is the distinction between the concept of "organization" and the "institution". Organizations are the composite institutional rules and persons, while institutions represent the totality of (different) rules (cp. Wall 2014 p. 53, Cole et al. 2017, p. 14). Ostrom thus expands the pure organization-related view of structures by their internal and external rules. "Polycentrism" is the buzzword she uses. It describes the idea that not a single factor is decisive for a sequence, but rather a myriad of factors gives a result. This myriad of simultaneous and/or successive factors should be systematically investigated to enable impact assessments in the event of changes in individual factors (cp. Wall 2017, p. 53) Wall describes the procedure systematized by the IAD as grammar (ibid. p. 59).

The attraction of the IAD is that this method does not deal with the purely economic processes and the market participant institutions but tries to cover all the areas involved through a defined methodological structure and to track down mechanisms that ultimately lead to an observable result. E. Ostrom assumes that in order to change the observable results, it is necessary to track down the decision points that significantly influence these results.

In her Nobel Prize speech, she defines: „The IAD framework is intended to contain the most general set of variables that an institutional analyst may want to use to examine a diversity of institutional settings including human interactions within markets, private firms, families, community organizations, legislatures, and government agencies. It provides a metatheoretical language to enable scholars to discuss any particular theory or to compare theories. “(Ostrom 2009, S. 414)

The aim of the analysis is above all to contribute to problem solving by making the triggering moments recognizable in a structured way (cp. Wall 2017, p.60). In the sense of this work, the IAD can thus help to identify those nodes and paths that shape the result – namely, for example, a disadvantage of groups of people in the German health care system – to reform these nodes and paths with the aim of changing the results. Immergut speaks of veto points in the context of health policy (using the example of Sweden) (Immergut 1992, p. 8).

Basically, the basic framework of the IAD is merely a method with the help of which a structuring of policy areas can be carried out. For the German healthcare system, such a method carries the risk that the model will impose further complexity on an already complex system. On the other hand, an already well-structured model such as the IAD can help simplify the complexity of the German healthcare system by structuring it. In addition, the dimensions of culture according to Hall and the different policy types or arenas of Lowi et al. (2015) can be integrated in the IAD from the theories mentioned.

The basic model of systematized analysis with the IAD includes the following elements:

- The physical and material conditions
- The characteristics ("attributes") of the community
- The common rules ("Rules-in-Use")

These three elements influence the action arena, which in turn influences the interaction schemes and then the result. Interaction scheme and result can be understood as evaluation criteria. This means that the result and interaction scheme can be evaluated as a final criterion and can be evaluated, while the other elements are merely described and considered and described in their effect on the last two components of the scheme. Graphically, this can be shown as in Figure 1.

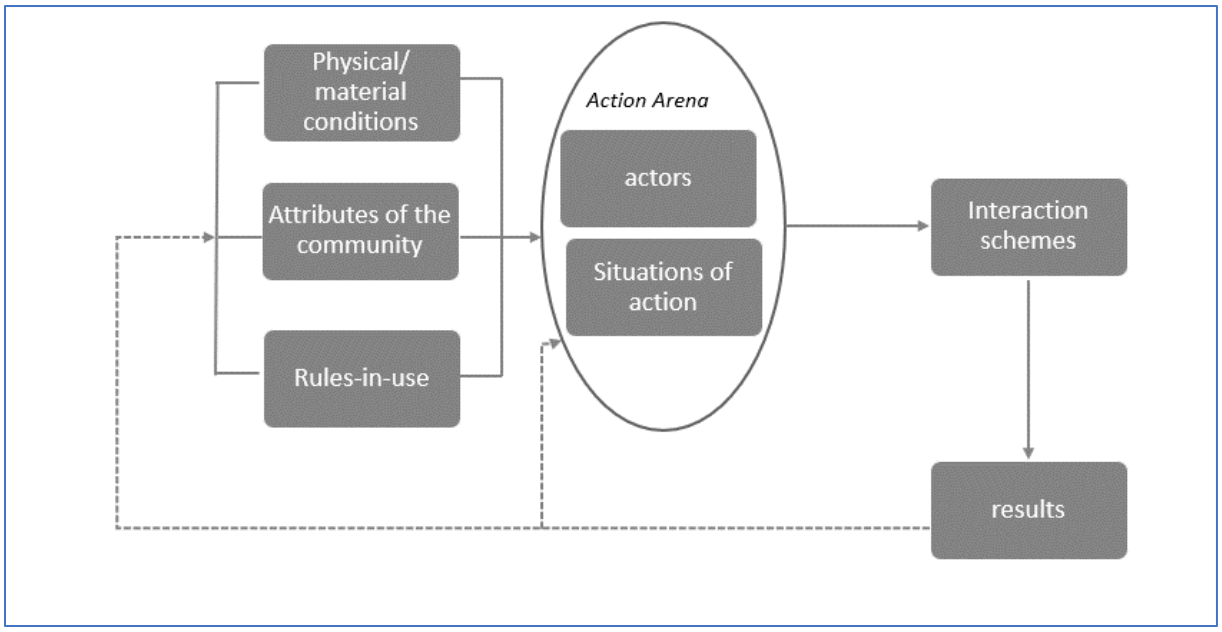

Figure 1: IAD, own depiction according to Ostrom 2007

The following part will put this approach into action.

4. The German Hospital Financing in an IAD

As in the entire German healthcare system, there are basically three different levels of institutional action in inpatient health care and in the financing of hospitals. These are the nationwide framework legislation (in the broader sense), a detailed framework at the state levels and finally the concrete implementation in the individual hospital budgets. A systematic recording of the policy field of hospital financing must take these interacting levels into account, as all levels are designed differently on the one hand and on the other hand have an impact on the results of the field. All three levels can be broken down using the IAD. As a showcase, here the IAD is applied to the local level, i.e., the implementation in the individual hospitals.

The physical and material conditions of financing hospitals at the lowest level, the local level, include, in addition to the peculiarities of the region in which a hospital is active, the construction of the house itself, the potential clientele, the relevant labor market, possible competitors for hospital services and the referring institutions. However, it should not be forgotten that hospitals as local institutions often have a history that has a direct impact on their range of services, the financial situation, and the equipment. In addition, there are different forms of hospital ownerships whose own financial situation has a direct impact on the hospital itself.

These factors influence the physical and material conditions of each individual hospital and thus the starting point for budget negotiations and the overall financial possibilities of the hospital in a variety of ways.

The focal point of the physical and material conditions of the hospitals lies in the region to be supplied and its population density. Rural hospitals (and insular houses) have fewer potential patients. They are thus in a significantly different situation than hospitals in conurbations, which have more patients and thus more potential "customers" per se. This problem is particularly inherent in the system when there are so-called holding costs - i.e., essentially fixed costs for the maintenance

of the supply, which are independent of the real performance events. In the current flat-rate case system, however, hospitals only receive remuneration for treatments not for standby-services. This problem can be observed in particular in obstetric facilities and emergency rooms. These have a very large proportion of unpredictable treatment services but must be equipped at all times. The problem is recognizably due to the fixed costs for the provision of (basic) services. In addition, it should also be noted that even with these costs, there are cost differences, e.g., due to different salaries, etc. This problem is addressed partly via the so-called “Sicherstellungszuschlag” (safe-guarding premium). In some areas around 50% of the hospitals get these (cp. Gemeinsamer Bundesauschuss 2022).

The distribution of the population in Germany varies both in terms of demographic and socio-economic characteristics and in terms of population density. Demographic and socio-economic characteristics can also affect morbidity in terms of the burden of disease or the frequency of occurrence of (certain) diseases. Morbidity, in turn, affects the frequency of hospitalization of the residents and thus the potential number of services of the respective accessible hospital in the sense of "more people sick, more cases". The population density directly determines the potential number of services in the sense of the equation "more inhabitants, more cases". The socio-economic structure also affects the financial possibilities of the hospital, on the one hand through potential possibilities of additional services for patients with higher purchasing power, on the other hand through the possibilities of the county and region to generate additional funds (especially for investments) from the tax funds and to make them available to the hospital.

The structure of each individual hospital can differ significantly from the structure of other hospitals. There are, for example, the different number and type of wards, their respective size, the number of beds, the equipment, and the spatial conditions. In addition, there is the operational and legal structure of the hospital. Regarding the legal form alone, there are many possibilities that are permissible for hospitals. Since each of these legal forms has different legal requirements for auditing, supervision, taxes and duties as well as the internal structure (e.g., with regard to legal responsibilities), this alone provides a differentiation of financial and structural possibilities. In addition, there are the possibilities of influence of possible stakeholders, which result directly from the legal form.

Among the other structural characteristics of hospitals mentioned above, a frequently used feature is the number of beds or bed size classes. The Federal Statistical Office reports 10 bed classes for general hospitals[2] , ranging from 1 to 49 beds to 1000 or more beds. In 2017, the share of the smallest hospitals was 18%, but there was also a relatively large proportion of hospitals in the medium-sized segments. Very large hospitals are rather few to be found (Statistisches Bundesamt 2022).

As a further physical and material characteristic in addition to the size of the hospitals and the sponsorship, the potential patients, and the settlement structures as well as locations and historical background, the alternative treatment options (available specialists, other hospitals, available family doctors) must be considered. This influences the ways in which patients go to the hospital for treatment.

The characteristics of the community in the hospital sector are characterized by hierarchies. The hospitals themselves are characterized in their diversity by hierarchies between doctors, nurses, and the administrative service as well as other services. Often there are also hierarchies within the individual occupational areas as well as between the stations or departments or medical focuses.

[2] General hospitals are hospitals that have a supply contract with the health insurance companies according to the hospital plan. To be distinguished from this are Bundeswehr hospitals, day and night clinics as well as psychiatric clinics (§ 3 KHG).

In addition, there is the relationship between the patients (as well as their relatives) and the doctors and nurses. Here, too, there are hierarchies of various kinds, e.g., information hierarchies and the authority to issue instructions.

The administration plays only a limited role here, as it has more to do with the health insurance companies. A direct billing of hospital services between patients and the hospital takes place only for private patients or services not remunerated by the health insurance companies.

Health insurance funds are also part of this community. As corporations under public law, the statutory health insurance funds are usually also very hierarchically structured. Relevant for the local level are primarily the departments of hospital billing and budget negotiation. They are subject to certain conditions resulting from regulatory parameters. Also, there are often internal health insurance regulations on financial restrictions and specifications for the scope of services for individual hospitals as well as for the interpretation of legal requirements. In addition, there are the private health insurance companies, whose internal structure and financial requirements differ significantly from the statutory health insurance companies. With regard to the composition of the insured, the health insurance companies sometimes differ significantly, which is reflected at the latest in the discussion about the risk adjustment scheme and the different interpretation of the implementation of the legal requirements for the individual components of the hospital budgets.

With the rules-in-use at the local level, various elements must be considered. On the one hand, in the internal proceedings of a hospital, the medical opinion basically has a sacrosanct status. The idea of the "God(ess) in White" often applies not only to the interaction between patients and doctors, but also to communication between health insurance employees, medical controlling, controlling and management. For tactical reasons, the responsible chief physician is often brought in in the budget negotiation to explain the importance of a particular treatment method to be negotiated. The appearance of the lab-coat-wearing expert is intended to support the argument of the clinic side that this (usually expensive or new) treatment must be financed by the health insurance funds. Profitability aspects and aspects of quality assurance then often fade into the background. On the other hand, managing directors of the hospitals do not want to deny the chief physicians this treatment option, because otherwise they may leave the clinic.

Another common rule is the flow of budget negotiations. There are only vague requirements on the part of the legislation. A time limit is only regulated if no agreement is reached in the budget negotiation (six-week period according to § 4 KHG) and the arbitration board is called. The procedure at the local level is regulated in §11 KHEntgG. However, this paragraph contains only general provisions on the documents to be submitted to the insurance company and the authorities. It is common to have at least one joint appointment for a negation face-to-face (usually in the respective hospital, sometimes also in the premises of the negotiating fund). The hospital then sends the so-called request documents digitally 2-3 weeks before the appointment to the negotiating (= leading) insurance company, which then distributes these documents to the other health insurances. Sometimes there is already a counteroffer from the insurance companies before the actual negotiation date. This pre-litigation procedure is explicitly mentioned in the KHG.

The negotiation date itself is subject to certain rituals[3]. It is common for the insurances' negotiators to meet in a room for a preliminary meeting. The responsible employees of the hospital also do this. Then they meet in a negotiation room, which, depending on the standard of the hospital (or tactics), is equipped with drinks and food to make the health insurance negotiators sympathetic. The budget negotiation is heralded by different greeting rituals. This can be a simple verbal greeting; from time-

[3] These rules are usually unknown to outsiders. The author has participated in several such negations on either side and the following descriptions stem from personal observations.

to-time guided tours of the house are planned. Very common is also a lecture of the hospital on the current work of the house. The purpose is on the one hand that the negotiation atmosphere ought to be nice; on the other hand, this often serves to professionally underpin the request documents by presenting the work of the hospital. If, for example, a new service area has been set up, this is usually reflected in changes in the required services. Presenting this is then helpful for the other side to understand the demand. After the greeting, the similarities and differences are exchanged - depending on the focus of the respective party with corresponding focal points. Usually, one then agrees on the order of consultation. After the first exchange, there is usually a break in consultation, during which the parties break up and consult internally on the counterclaims and questions. Then they meet again and negotiate. Then it goes back into consultation breaks and again into negotiations. This goes back and forth several times. Usually, the negotiations last at least one day, often into the night, interrupted only by the consultation breaks and a joint lunch, which is provided by the hospital. This procedure of negotiation is not required by law but is common. At the end of the day of negotiations, there is either the postponement of problematic points to another negotiation date, a (partial) agreement or already the statement that one side is not willing to respond to the demands and the arbitration boards will be called. In the event of an agreement, the preparation of the collected budget documents with the corresponding data and documents will take some time. This is usually compiled digitally and followed by a so-called signature procedure, in which the responsible managers of the hospital sign a written budget contract with attachments and signatures of the individual health insurance funds. One of the parties then submits the complete documents together with the signatures to the competent authority, which then approves the result of the negotiations (cf. §18, 5 KHG). Only after the official approval by the state authorities, billing in accordance with the new budget contract is done.

However, the usual rules also include the actual implementation of the legal requirements in the budget negotiations and here the scope of these formal requirements is often interpreted broadly.

To sort the whole thing into the IAD logic, these outlined rules are classified here into the different types of rules according to Ostrom (see, among others, Ostrom et al. in: Colle/ MCGinnis 2017, p. 71.). These are: limits, position, authority, aggregation, scope, information, and payoff. In summary, the following limits can be identified in the hospital sector: status of insurance, solvency, medical reasons, permissible treatment spectrum, ethical reasons, residency, differentiation from outpatient services. Accordingly, all the other types of rules can be broken down as well. For reasons of conciseness these rules will not be detailed here.

The arena of action basically consists of different sub-spaces, each with definable, but also overlapping actors. On the one hand there is the room "budget negotiation", on the other hand the room "negotiation preparation of each insurance itself" and “negotiation preparation of the insurances together” and then also "negotiation preparation within the hospital"“. In addition, there is the room "financing distribution / use of funds / management within the hospital”, which takes place after the budget has been agreed upon.

The action area "negotiation preparation of each insurance itself " concerns first the respective preparation for the budget negotiation within the individual fund. Here, above all, the own billing data for the hospital to be negotiated are considered in order to be able to assess an impact of possible budget scenarios. A health insurance company that only occasionally accommodates patients or rather cheap ones in the respective hospital brings a different perspective to the budget negotiation than a fund that has to pay for services for many and rather expensive patients in that hospital. Also taken into account are the respective hierarchies within each insurance company and decision-making authority of the budget negotiators. If necessary, supervisors set targets that the budget negotiator must adhere to.

Furthermore, a distinction needs to be made between different groups of health insurances, that might pre-negotiate within themselves. One large group is the so-called „Unternehmensnahe“ insurances[4]- including the subgroup vdek[5]. This group is comprised of 3 different groups of insurance each individually consists of several single insurances. Of the groups, usually only individual representatives sit in the negotiation itself and have the power of attorney for their respective group. In addition, the private health insurance companies form a group in the Association of Private Insurance (PKV). Due to its low bed occupancy (due to fewer members), however, the PKV does not sit in the room in most negotiations and plays almost no role even in the negotiation preparations. The AOK has only local structures and does not form a specific group. In the preparation (and follow-up) of the negotiation, the health insurance companies communicate with each other on the negotiation strategy, offers and at the finalization of the budget negotiation. The result of the negotiations must be signed by all participating health insurance companies before it can be submitted (together with the signature of the hospital) to the approving authority.

The action area "preparation of the budget negotiation in the hospital" includes all activities and participants in the preparation of the needed documents. Depending on the size and range of services of the hospital, controlling, medical controlling, personnel controlling, individual chief physicians, nursing service managers, training coordinators, quality management, external consultants, etc. are involved in the preparation of these. In the case of small hospitals, the circle of participants is rather small, as functions are often carried out in personal union. In the case of larger hospitals, the functions are more differentiated, and the documents are more comprehensive and complex. Due to the possible large number of the participants, the communicative relationships between the participants are correspondingly multi-layered.

From the action arena “preparation of the budget negotiation in the hospital" there is direct link to the “financing distribution / use of funds / management within the hospital”, as the current requests are mostly based on actual (up to date) data of the present and previous year. Additionally, there are parts of the budgets that are re-financed one-to-one and hospitals must prove that the means are used according to their legal purposes. If it is already known in advance that the funds cannot be used in accordance with the rules – e.g., because the job creation cannot be implemented due to a lack of applicants – then this budget component does not need to be included in the negotiation preparation. In the case of budget components whose use of funds does not require formal proof, however, the participants can dispose of the budget relatively freely in this area of action.

Tangentially demarcated from the former arenas of action is the action arena around the negotiation, meaning around the hospital itself. The regional stakeholders include the region in which the budget negotiations are located. Since a hospital is firmly connected to a property, the space refers to the physical level of the region. In a broader sense, however, the budget negotiations can also have supra-regional consequences, by, for example, leading the way for negotiations in other regions. For the direct context of "budget negotiation", the immediate effects and feedback at the regional level are important. As an institution "hospital", it serves as an employer, buying company and more in a region. The results of a budget negotiation have a direct impact on the economic situation of the region, e.g., through job cuts. At the same time, regional changes such as population growth or new motorways in the region have an impact on the potential range of services. In addition to these interdependencies, changing political constellations must also be

[4] Roughly translated as „business-related “. These are health insurances that come from a history of captive insurance companies. These are bkk and ikk as well as SVFLG and Knappschaft and the vdek.
[5] Verband der Ersatzkassen: TK, BARMER, DAK, hkk, hek and KKH.

considered as well as the organizing institution. A district administrator will be more interested in the budget negotiations of a hospital under municipal ownership than in a hospital of a private corporation, if only because he has the possibility of intervention through the supervisory board of the municipal clinic. The same applies to hospitals in church and other non-profit ownership, where the corresponding church can be active as a stakeholder if necessary. This is not necessarily about active participation or intervention in budget negotiations. Rather, it can be an indirect influence through the setting of implicit or explicit guidelines that the negotiators on the hospital side want or have to take into account. In privately owned hospitals, this influence can be exerted by the owners and/or shareholders, which set different targets compared to public and non-profit institutions of the budget negotiation- a more yield-oriented thrust can be assumed. In addition, there are the possible influences on the part of the population and other regional actors such as companies that are directly or indirectly associated with the hospital. In particular, when the range of services is reduced – e.g., the discontinuation of obstetrics – which are provided for in the hospital planning of the country but ultimately implemented through the negotiation of services in the budget negotiation, regional stakeholders feel affected. At the same time, in the context of the negotiation, the hospital side may already be able to imply this concern and adjust the negotiation strategy accordingly. Even the insurances can often not ignore this regional concern in the event of major changes.

In the respective rooms, there are various actors and action situations that have already been briefly described: health insurance funds, hospital, and regional stakeholders. These are described further below.

The health insurance companies are obliged by law to conduct joint budget negotiations and to conclude agreements (so-called obligation to contract acc. § 108 para 4 sentence 3 SGB V). Health insurance companies are only involved in the budget negotiation if they had at least a share of 5% in the previous year – based on the occupancy and calculation days (cf. § 18 abs. 2 KHG), i.e., funds with very few members [6] who were cared for in the respective hospital are not involved. In the health insurance funds, which as individual institutions are corporations under public law or as associations constitute themselves in the form of registered associations, people of various backgrounds work. Budget negotiators are no exception, especially since the profession of "budget negotiator" does not exist as training per se. Often, these people have been trained within the health insurance funds from the formal apprenticeship as social security assistants – either through a supplementary course of study or an internal health insurance training. However, there are also former medical assistants, nurses or geriatric nurses, physician assistants and others who have acquired the necessary qualifications through supplementary training or simply by learning on the job, to, on the one hand, to be able to implement the corresponding regulations of the SGB, KHG, KHEntgG and the BPflV and on the other hand to be able to use negotiation skills. In addition, they bring their own character traits, political ideas and individual convictions, which may be incorporated into the budget negotiations.

On the hospital side, too, there are actors with their own character traits, political ideas and individual convictions. However, the educational background is often a little different from that of the negotiators on the health insurance side. Depending on the composition of the negotiators and preparers, these can be very much medically influenced (e.g., doctors and nurses) or very financial (e.g., controllers) or coding - technical (e.g., medical controllers)). The spectrum of possibilities here is usually much broader. However, the health insurance companies often also have access to a similar knowledge potential, as the health insurance companies themselves also employ medical controllers, controllers, nurses, and doctors.

[6] Note: Here members are not called "insured". Members are paying insured persons, i.e., co-insured family members are not considered.

The situation is different for regional stakeholders. Here, the spectrum of participants is almost infinite. The bureaucratic district administrator can appear, as can the populist mayor and the activist teacher.

These elements together result in an interaction pattern consisting of the actual budget negotiations and their concrete actors, the associated preparation on the part of the health insurance funds and the hospital and their respective actors. Interactions are, in a broader sense, related activities of actors. [7]

In the first action arena, interactions take place individually in the preparation of the budget negotiations at each of the *individual funds*. Here, the different structure of the funds and their associations must be taken into account. In the case of the AOKs, there is a relatively clear structure in which the regions of the AOK community are each assigned to a single AOK and thus exactly one AOK is responsible for a hospital budget. This responsible AOK only needs to find an internal regulation for the hospital cases insured in their own region from another AOK region. The own cases in the respective hospital can be compared in preparation for the budget negotiation as a data basis with any projections with the demands submitted by the hospital and supplementary data. From this, strategies are then developed in dealing with the hospital. In addition, there may also be overarching strategies from the work of the AOK Federal Association that can be considered in the regional AOK. The situation is different for health insurance companies that do not have a specific regional location and/or act in alliances in budget negotiations. There, data from the individual registers must first be assembled before an analysis is carried out. So within in the vdek, e.g., all the data of the all the 6 vdek- insurances are analyzed and within the vdek collective strategies are developed. For this purpose, the vdek- insurances have regional structures. In addition, there are internal targets in each individual vdek- insurance - and especially those with a high occupancy rate in the respective hospital[8] - which play a role in defining the strategy. For example, one of the requirements may be that the increase in the entire budget (including all surcharges and deductions and other budget components) should not exceed the change value / orientation value according to §10 para 6 KHEntgG. For a while, it was also important, for example, for the substitute funds to ensure that catheter-assisted aortic valve implantation (TAVI) is only used in older patients with concomitant diseases as part of the budget negotiations, because the discussion on this service in the Quality Assurance Subcommittee in the G-BA had not yet been completed (see, inter alia, vdek 2013)[9].

In the further preparation of the budget negotiation, the individual health insurance companies sit down together to discuss a *common approach*. Questions to the hospital or the receivables documents can be collected, or a joint counteroffer can be developed. For the joint work of the health insurance companies in the preparation of budget negotiations, there are so-called "implementation recommendations" from the federal level, which are developed annually by the health insurance associations at federal level (AOK-BV, vdek, BBK DV, IKKe.v., Knappschaft, SVLFG). This includes information on legislative changes, common strategic goals (e.g., about certain quality requirements that are to be enforced) and general recommendations for dealing with arguments of hospitals.

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[7] The term "interaction" is defined differently in nuance depending on the disciplinary point of view. Basically, for example, a market can also be described as an interaction.

[8] These are usually the TK, the Barmer or the DAK. The three other substitute funds have significantly fewer insured persons and thus usually do not have much voting power within the structure of the vdek.

[9] Since 2015, there has been a G-BA guideline for this service, which sets strict quality standards and structures the discussion in the budget negotiations (cf. MHI guideline of the G-BA)

There are similar recommendations for *the preparation of negotiations on the part of hospitals*. There, recommendations are developed by the DKG.

There are many interaction points in *budget negotiations*. At almost every point in the budget negotiation, there are moments when other IAD elements play a bigger or small role.

Strategic decisions can already be made at the point where the hospital or health insurance company issues or receives a request to start budget negotiations. These relate to the time of the request and/or the content of it. Time might be crucial in the process. The insurance might want to wait for decisions on other levels (e.g., contracts on the state level or semi-legislative norms from above). A similar basis for decision-making can be used on the part of the hospital. On the hospital's side also the current financial and treatment activities might be considered. Feedbacks from auditors might be due. Actualizations from public planning process might want to be factored in. Also, regional stakeholders might also want to have their say. Processes concerning the acquisition of new surgeons and the like as well as other internal operative measures might be taking place that have significant effects on the budgets. These effects might want to be factored in as well. Nonetheless, it can be reasonable to negotiate early in the year to secure liquidity. From the point of view of the insurance companies, early negotiations are rarely wise as budget rather tend to increase instead of decrease and will lead to rising expenses. Nonetheless, sometime for reason of predictability of spendings earlier negotiations might also be considered.

KHG and the KHEntgG regulate the basic documents and data that a hospital must submit during the budget negotiations. Room for maneuver exist though in terms of currentness of data, the form of supporting documents that are not explicitly specified, and time of submission. Currentness of data – especially with non-prospective negotiations – can include all the current data of the actual year or just a few months, that show a certain kind of output. The form of the evidence for certain budget components is often not precisely defined. Unlike, for example, the care budget, where an attestation of the public accountant is explicitly required (§6a para 3 KHEntgG), no details are specified in the costs for the special tasks for a center surcharge (§5 para 3 KHEntgG). There, hospitals are free to decide in what way it wants to provide evidence. At the same time, the health insurance side can request certain proofs (e.g., invoices, participation lists) to check the basis of the hospital claim. The time of transmission is not clearly specified by law. It is merely formulated that after the request for negotiation, these should be included "immediately" (§11 para 3 KHEntgG). This means that theoretically the hospital can send documents shortly before a hearing appointment in presence, to give the health insurance companies less time to thoroughly analyze the data. Whether this makes sense in any case remains to be seen, especially since the funds can also cancel a scheduled negotiation date. After a successful negotiation, there are settlement files and ultimately a written agreement. This is signed by both sides and submitted to the Ministry by one side. At this point, there can also be an (intentional or unplanned) delay coming from either side. And whether tactical gaps can be exploited if necessary is a question of the skill of the respective actors and thus both on the part of the health insurance funds as well as in the hospital individually. The same applies to the negotiation itself. The extent to which this results in disadvantages is difficult to assess.

After submission to the State Ministry or the respective competent authority, the timing is determined by this. Depending on the workload and/or staffing of the competent body, the approval may have different dimensions in terms of time. With 16 federal states with different equipment and working methods of the ministries, a regional disadvantage is quite within the scope of what is possible.

Even the final billing of the services after approval by the Ministry can contain frictions. The individual components of the budget must be reformulated into so-called fee keys, which enable

digital billing. Fee keys are agreed at the federal level via the data exchange procedure. For services for which no fee keys are yet available, these must be applied for before they can be implemented. Prior to this, the associated service cannot be billed by the hospitals to the health insurance companies. In addition, the corresponding fee keys must be entered into the corresponding systems on the part of the health insurance funds as well as the hospital. This can lead to disadvantages if a hospital is only able to do the latter with a delay due to the material equipment. This can be the case, for example, with very small hospitals, which first have to call in external experts for this purpose. But even very large houses could have problems due to the amount of new fee keys to be processed.[10]

The interactions in the room "Negotiation preparation in the hospital" have not yet been considered here. Here it depends on the staffing, the wishes of the management but also on possible stakeholders, how the preparations can be made. This can look very different for every hospital. The options range from individuals who do all the preparation themselves to negotiation teams or the involvement of external consulting companies in the preparation. What they all have in common is that the data available in the hospital must be processed and created or procured first, so that they have the desired form for the budget negotiation. Depending on the complexity of the performance process and the quantity, this can be a very demanding and time-consuming activity. In addition, tactics or strategies must be developed as to how the data is presented to the insurances in order to achieve certain business goals.

For example, to determine the additive prices for certain treatments (ZE) to be demanded, the additional fees previously billed for current and perhaps previous years, the corresponding required prices for hospital specific ZEs are analyzed and in the medical field it is asked whether further ZE should be used. Depending on the power relations in the respective hospital, the responsible chief physician can present an extensive list of the ZEs that he /she would like to use and then enforce this for the claim. Initially, it does not matter in the demand whether the ZEs are ever actually used. However, the hospital's negotiators could be in such a position internally that this demand from the medical field is fended off beforehand. At the same time, it may make strategic sense to first open up a more extensive demand in order to gradually deviate from it in the sense of a "concession" in the course of negotiations with the funds. It can also be argued against the medical field that the funds did not want to negotiate this or that ZE, so that it should not be used in the hospital. And above all, this only concerns the question of the scope of ZE services. In addition, for some ZE individual prices have to be negotiated. These are then classic price negotiations supplemented by the quantities to be agreed (and/or dose sizes). This will also require internal analyses and, if necessary, negotiations in order to have a quantity of receivables. The amount of the receivable prices can be based on agreed or demanded prices of previous years, comparative prices from other hospitals, the own purchase prices or the Lauer-Taxe[11] . If the hospital has its own hospital pharmacy, this can be included in the price determination.

Ultimately, it is essentially up to the hospital how the agreed budget is *used*, although the billing check on the part of the individual health insurance companies can influence this. In the action arena „money usage“, it is essentially about the operational or business implementation of the funds in the hospital. The hospital itself can optimize the service billing in its own sense by training the coding employees. This does not necessarily have to be done as so-called "upcoding". Sometimes it makes strategic sense to code differently to bypass audits or promote certain areas of performance.

[10] With the improvement of database systems and software applications, this can probably be a negligible friction that does not translate into a disadvantage.
[11] The Lauer-Taxe is a fee-based price list for pharmaceutical products and medical devices.

In addition, the hospital can distribute an agreed budget internally as desired, as it is not paid out as a whole, but is charged over the individual service bills. How the income from the billed services is used in the house itself is subject to the decision of the hospital itself - with the exception of earmarked funds such as the (new) care budget, that can only be used for the salary of the "nurses at the bedside" as well as the training budget and the hygiene supplements. This means that whether gauze bandages are purchased with the non-earmarked budget or whether the highly decorated chief physician is paid, the hospital decides for itself.

By the insurance companies certain service areas can only be "downscaled" by a targeted examination of individual OPS codes[12] and the services invoiced with them, if abnormalities can be proven. This, in turn, can then be addressed in the respective budget negotiation to agree on this service area differently or no longer at all. For example, the OPS code 5-822 (implantation of an endoprosthesis on the knee joint according to OPS-2021) can (theoretically) be specifically questioned in the billing check to intentionally "push" the minimum quantity specifications in a house.

Decisive for the interactions in this area are, on the other hand, the material and physical conditions of the hospital. For example, the safe-guarding premium can only be agreed or billed by certain hospitals. How the money is then used, however, depends on how the hospital is materially positioned. It can use the money to reduce the balance sheet deficit or for any other measure, e.g., to increase salaries, to increase the attractiveness as an employer, because otherwise it might not be able attract doctors.

Finally, in the sense of the one question raised in this analysis, it must be examined at which points disadvantages arise in connection with the case of "budget negotiations" in hospital. For this purpose, each of the elements of the first three (physical and material conditions, characteristics of the community and rules-in-use should be evaluated within the different action arenas (preparation inside and within the insurance companies, preparation inside the hospital, the negotiation as such, the usage of the money inside the hospital) and then the interactions of these arenas (Figure 2).

[12] OPS = “Operations and procedures key” is the coding system for treatments in health care facilities.

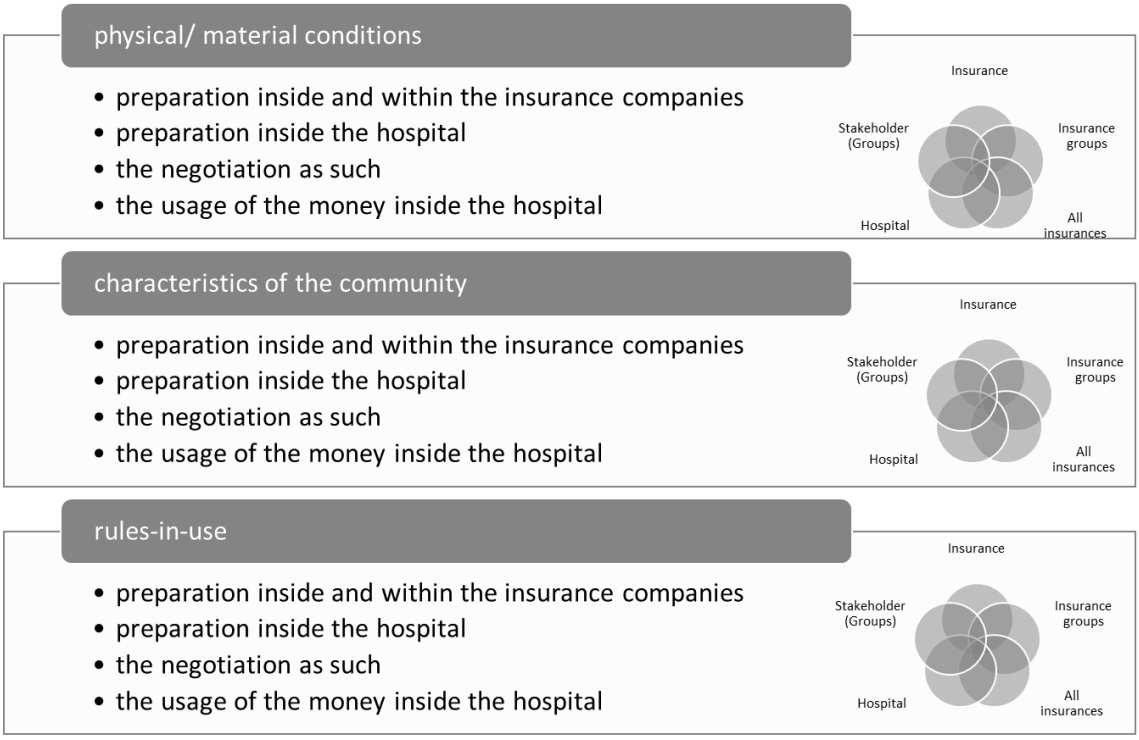

Figure 2: Combination of the IAD-Elements; own depiction

Take the example of the mentioned self-guarding premium for a short provision of this analysis for a hospital in a rural area with few inhabitants but long-standing history. The material and physical background of the hospital and the stakeholders, esp. inhabitants and the politically responsible, means scarce resources. The insurance companies on the other hand have few insured people and therefore less money that they might to spent in the area. Not to speak of the possible worse income situation and health status in this region. So naturally, scarcity, ill health, and also long traveling time to the next (specialized) hospital or ambulatory treatment leave the hospital budget in a difficult situation as it might need to compensate for this but equally there is no incentive of insurance companies to spend much money on the budgets. Furthermore, the hospital might want to spend the money of the budget in a more flexible way than envisaged by the official rule e.g., of the care-budget, for example by employing more case managers and drivers than examined nurses to organize specialized treatment for the inhabitants elsewhere. Also, the characteristics of the community might see the local hospital as the first point of contact for any health issue, even though officially it should only care for inpatients. Additionally, as habits go, physicians and nurse might be forthcoming in this and would rather treat anybody before he or she has to go far away for a treatment. A hospital management will try to find a way around official rules to guaranty liquidity in these cases by postponing budget negotiation as long as possible. The disadvantage of such an interaction point lies in the strict rules for the separation of inpatient versus ambulatory treatment as well as in part of the one-year budgets which will hinder flexible use of money. Rules-in-use though might ease the case by making postponements of negotiations possible. At the same time trying to negotiate the the self-guarding premium (not the lump-sum one) supposedly could ease liquidity problems. It might be seen from this preliminary example that the strict separation of financial assignment of patients plus the possibility to postpone negotiations and the self-guarding-premium work contradictory such that such a rural hospital will be in a disadvantaged (and complicated) situation. Added to this example could be a comparison to a hospital in an urban area. And this could then be the starting point for changes in policies.

5. Conclusion

As can be shown with the example above, the IAD might be a good starting point for a valuable way to scrutinize and find focal points of positive or negative effects on certain groups in German health care policy. Nonetheless it can also be seen that the framework used might lead to an overload of details that have to be looked at. But this could also be due to complexity and richness of details of the existing system of health care in Germany. As the example used here is just one part of the health care system, maybe the next step should be to look further into, first of all, the other layers of hospital financing as well as planning (county as well as state levels). This should also be done in with more precision and for all parts of the system. Additionally, then ambulatory treatment and its structure could be investigated, especially as it is interweaved at certain points with hospital care. Finally, all other elements of the health care system (nursing, medication, etc.) should be analyzed in depth to make the picture complete. The later might not be as large as hospital financing and ambulatory care, as these make up smaller parts of the system as such.

The final conclusion of this paper would then be: there is still work to do, if a full analysis of such a polycentric system of health care is wished for.

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