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ARTICLE

New governance of the digital health agency: a way out of the joint decision trap to implement electronic health records in Germany?

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Abstract

Fragmentation in health systems leads to discontinuities in the provision of health services, reduces the effectiveness of interventions, and increases costs. In international comparisons, Germany is notably lagging in the context of healthcare (data) integration. Despite various political efforts spanning decades, intersectoral care and integrated health data remain controversial and are still in an embryonic phase in the country. Even more than 2 years after its launch, electronic health record (*elektronische Patientenakte*; ePA) users in Germany constitute only 1 per cent of the statutorily insured population, and ongoing political debates suggest that the path to broader coverage is fraught with complexities. By exploring the main stakeholders in the existing (fragmented) health system governance in Germany and their sectoral interests, this paper examines the implementation of ePA through the lens of corporatism, offering insights based on an institutional decision theory. The central point is that endeavours to better integrate health data for clinical care, scientific research and evidence-informed policymaking in Germany will need to address the roles of corporatism and self-governance.

Keywords: health data governance; electronic health records; institutionalism; corporatism; Germany

1. Integrated care, integrated data

Fragmentation in health systems leads to discontinuities in the provision of health services, reduces the effectiveness of interventions, and increases costs (Busse *et al.*, 2017). A fragmented model is characterised by the utmost autonomy of the players, contractual relationships between the parties, and ample freedom of choice both for patients and healthcare providers. Thus, in such non-integrated models a network of providers comprised of self-employed physicians and hospitals acts independently from one another, recalling in many respects a market system (Toth, 2020). Fragmentation, especially between primary care and specialised services in the ambulatory care sector and in-patient services in hospitals, is a major health policy concern in Germany (Busse *et al.*, 2017). Indeed, the country ranks at the bottom in international comparisons in health service integration, based on an integration index measuring the following dimensions: (i) integration of insurer and provider; (ii) integration of primary and secondary care; (iii) presence of gatekeeping mechanisms; (iv) patients' freedom of choice and; (v) solo or group practice of general practitioners (GPs) (Toth, 2020).

Health systems based on integrated care, on the contrary, put the focus squarely on patients, seeking to enhance effectiveness and efficiency in their continuum of care to improve their health and well-being (Reynolds and Sutherland, 2013). Integrated care is person-centred care, both in

terms of prevention and treatment (Goodwin *et al*., 2017). It is a means to coordinate health services from multiple providers during single visits and multiple health services from a provider in a single visit (Sebert Kuhlmann *et al*., 2010). Instead of disconnected health service provision from different healthcare providers, integrated health systems offer incentives to optimise treatment (Preusker, 2017: 66). For this reason, integrated care is recognised as a possible contributor to improving the quality of care, patient experience and health outcomes. In health service delivery, multidisciplinary integrated care models contribute to patient safety and treatment quality by diminishing or delaying the occurrence of adverse events (Mora *et al*., 2017). At the system level, integrated care can make health systems more resilient, mitigate costs and increase health service quality (Reynolds and Sutherland, 2013; Milstein and Blankart, 2016).

Healthcare provision is inevitably constrained by the larger environment of the health system. To reduce fragmentation and increase efficiency, improvements in the essential functions of health systems such as health governance, financing, service delivery and information systems are required (Reynolds and Sutherland, 2013). Hence, the integration of health services necessitates breaking down and recombining different administrative, financial and organisational silos, within and even outside of the conventional health system. The crucial point here, however, is to understand that the concept of recombining these silos for integrated care is not necessarily about bringing all the essential infrastructure and workforce under one roof. Health systems can enable the provision of ambulatory care in a hospital and still have different legal and administrative bases for the remuneration of healthcare providers. On the contrary, patients can be treated in different settings that are physically apart from each other and still belong to an integrated system.

If there is one element that integrated health systems, or systems that enable a continuum of care, must include, it is the data structures that can link patients' health information over time (Reynolds and Sutherland, 2013). The establishment of electronic health records (EHRs) is the basis of digitalised healthcare, as they record individuals' most important medical information in a digital documentation system and make this information available to healthcare professionals across disciplines, facilities and sectors (EFI, 2022b: 98). Today, EHRs allow multiple users to access, edit and contribute to the medical record of patients, including patients themselves (Leventer-Roberts and Balicer, 2017). Moreover, combined with other datasets, EHR data can help researchers and policy-makers understand the determinants of ill-health in specific populations and thereby improve resource planning for better prevention and treatment services, a process also known as secondary use of health data. From this point of view, integrated care, a topic that might seem like a matter of healthcare provision at first glance, becomes a subject of health data governance. This insight shifts the focus of discussions about health service integration from the continuum of *care* to the continuum of *health data*.

Despite the political efforts undertaken for decades, one might wonder why intersectoral care and health data integration in Germany remain controversial and are still in an embryonic phase. Introducing the electronic health card[1] and securing safe data exchange through an EHR system (*elektronische Patientenakte*; ePA) have formed the core of political efforts to digitalise healthcare for almost two decades (Blümel *et al*., 2020: 205). Yet, even more than 2 years after its launch, ePA users in Germany amount to only 1 per cent of the statutorily insured population, and ongoing political debates suggest that the path to broader coverage is fraught with complexities. For instance, with the onset of the COVID-19 pandemic, experts advising the German government argued that a further delay of ePA would no longer be compatible with a modern health system and recommended its implementation at the population level with the highest priority (Expertenrat der Bundesregierung zu Covid-19, 2022; *SVR Gesundheit*, 2021). Paradoxically, around the same time medical profession called for a 1-year moratorium on the digital health projects of *gematik*, the institution known also as the National Digital Health Agency[2] since

[1]*elektronische Gesundheitskarte* (eGK).
[2]See: https://fachportal.gematik.de/ueber-uns.

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the 20. legislative period (2021–2025) and entrusted with the deployment of ePA (ÄrzteZeitung, 2021). By exploring the main stakeholders in the existing (fragmented) health system governance in Germany and their sectoral interests, this paper examines the implementation of ePA through the lens of corporatism, offering insights based on an institutional decision theory.

2. Approach

Within the German statutory health insurance (SHI), ambulatory care, which encompasses GP and out-patient specialist care, as well as dental care, is separated from in-patient services in organisational and financial terms. Compared to other welfare states, it is a peculiarity of the German health system that medical services are administered via numerous governance structures, even though this approach is anything but person-centred. In his comparative analysis of health policies across four nations, Leichter (1979) demonstrated that structural factors, including but not limited to, the number, strength, and legitimacy of interest groups play a crucial role in understanding why governments do what they do. In a similar vein, the dominant concepts of corporatism and self-governance in Germany highlight the fact that governance is wider than simply what governments do. Most of the legal rights and responsibilities in healthcare are vested in corporatist associations of payers and healthcare providers (Blümel *et al*., 2020: 29), which is the reason they are also often called legitimised civil society organisations (Blümel *et al*., 2020: xxii). However, this mechanism can, as will be illustrated below, suffer from a political paralysis and fail to implement the solutions available for preventive, integrated and person-centred care. Since the interplay between data integration and integrated care can only be understood after unveiling the main motives of the corporatist actors, this study first explores the governance mechanisms and *raison d'être* of the institutions that have been in charge of the roll-out and implementation of ePA.

In the second step, the paper draws on the seminal work of Scharpf (1988) about the 'joint decision trap' in Germany. Drawing on governance issues arising from the complexity of the German federalism, he states that the central government is not free to respond creatively to external demands; instead, its actions are determined directly by the immediate self-interests of its members (Scharpf, 1988: 255). Given this strong dependency, he argues, the policy output of joint decision systems will be less responsive to the public interest and more oriented towards institutional self-interests (Scharpf, 1988: 254). As a conclusion of his study, he suggests that besides decision-making mechanisms in federalist systems, the logic of the 'joint decision trap' might apply in a wide range of fields, such as business partnerships, political coalitions, neo-corporatist arrangements and self-government (Scharpf, 1988: 272). Apart from the applicable decision rules (unanimous, majority, or unilateral decisions), the decision styles of institutions are found to be crucial in contributing to both the nature and the difficulty of a policy problem (Scharpf, 1988: 258). As in his work, this paper also uses Richardson's categorisation of decision styles (Richardson, 1982 in Scharpf, 1988: 258): (i) bargaining; (ii) confrontation; and (iii) problem solving. Through the lens of these three decision styles, the paper interprets the institutional changes in the governance of *gematik* to shed light on the challenges that Germany has been facing in implementing ePA. To put the current discussions about ePA into context, the next section will elaborate on corporatism and the corporatist actors in the German health system.

3. Corporatism and its stakeholders

Building a complex structure based on corporatism, self-governance and federalism, the guiding principles of the modern German health system have been non-state operations and decentralisation (Altenstetter, 2003). Seen from a historical perspective, the limited role of the state in health policies has been a deliberate decision. Conflicts between the medical profession and sickness funds starting from the 1890s culminated several times in physicians' strikes that could be

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resolved not earlier than 1913 with the Berlin Convention on Ambulantory Care, stipulating that representatives of these two interest groups would form joint commissions to channel their conflicts into constructive negotiations for health policies (Busse *et al.*, 2017). The government endorsed corporatism, both to streamline negotiations by engaging with a single, unified group and to delegate the management of conflicts to the leadership of physicians and sickness funds. Hence, the corporative system in Germany, which resulted from these joint commissions, is better compared to executive bodies with considerable self-regulatory power than to political pressure groups (Döhler, 1990: 103). Corporations under public law[3] are entrusted with the task of making policy decisions to ensure health service provision, representing, in a way, the second state authority (Mayntz and Scharpf, 1995: 150). As corporations under public law, the representative institutions of office-based physicians and dentists in Germany are authorised to assume the role of the state and mandated to ensure the provision of out-patient care. In line with the principle of decentralisation, out-patient care providers are organised into Regional Associations of Statutory Health Insurance Physicians (*Kassenärztliche Vereinigungen*; KVs)[4] at the federal state level across 16 *Länder*. The Regional Associations of Statutory Health Insurance Dentists (*Kassenzahnärztliche Vereinigungen*; KZVs)[5] resemble the associations of physicians and take responsibility for dental care (Blümel *et al.*, 2020: 27).

The regional associations of physicians and psychotherapists (KVs) as well as dentists (KZVs) deserve special attention when looking at the German health system, as they represent a unique form of institutionalisation of the medical profession in international comparison. At the latest with the legal status of "corporation under public law" which they gained in 1955, the political power of KVs andKZVs was politically cemented (Bandelow, 2004). In Germany, all office-based physicians (including psychotherapists) and dentists must be member of and pay fees to their regional associations to be registered in SHI and thus granted the right to provide SHI services to patients (*Pflichtmitgliedschaft*; compulsory membership).[6] As such, these regional associations collect obligatory membership fees from SHI-accredited physicians and dentists. Unlike chambers, they have an explicit economic objective and represent the financial interests of their members (Bandelow, 2004). One key task of the regional associations is to negotiate out-patient fee schedules with the sickness funds at the federal state level (Döhler, 1990: 120; Bandelow, 2004). Another vital role for KVs and KZVs is to guarantee the local availability of out-patient care services for all specialities in urban and rural areas (*Sicherstellungsauftrag*; responsibility for guaranteeing provision of services).

Their federal-level interest representation organisations are the National Association of Statutory Health Insurance Physicians (*Kassenärztliche Bundesvereinigung*; KBV) and the National Association of Statutory Health Insurance Dentists (*Kassenzahnärztliche Bundesvereinigung*; KZBV). Analogous to regional KVs and KZVs, both KBV and KZBV are corporations under public law; they assume the role of the state within the system of self-governance and at the same time, represent the political interests of SHI-accredited office-based physicians and psychotherapists (KBV) and dentists (KZBV) in dealings with the federal government. Apart from these two institutions, which ensure out-patient care, the umbrella organisation for in-patient care and that for sickness funds are key associations for corporatist decision-making in the German health system (Bandelow, 2004), as will be explained below.

Concerning in-patient care, the umbrella organisation at the federal level, the German Hospital Federation (*Deutsche Krankenhausgesellschaft*; DKG) represents the interests of hospitals in

[3]*Körperschaft des öffentlichen Rechts* (KdöR) in German. They are not-for-profit, quasi-public corporations.

[4]There are in total 17 KVs in Germany; each of the 16 federal states has one KV, except for North Rhine-Westphalia which has two KVs.

[5]There are in total 17 KZVs in Germany; each of the 16 federal states has one KZV, except for North Rhine-Westphalia which has two KZVs.

[6]Beyond that, each physician/dentist must be registered with the Federal State Chamber of Physicians/Dentists (*Ärztekammer/Zahnärztekammer*) as a prerequisite for a licence.

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relation to other stakeholders and the federal government. Its members consist of 16 federal state-level and 12 national associations, encompassing a wide variety of hospital types such as university, public municipal, and private for-profit institutions (Blümel *et al.*, 2020: 27). Unlike the sickness funds or institutions for office-based physicians and dentists, DKG is not a corporation under public law but a registered association.[7] Compared to office-based physicians, hospitals have held a weaker position due to divergent objectives that resulted in less effective political interest representation (Bandelow, 2004). Nonetheless, DKG is integrated into the self-governance of the German health system and performs legal tasks accordingly as part of the Federal Joint Committee (*Gemeinsamer Bundesausschuss*; G-BA).[8]

As for payers, the National Association of Statutory Health Insurance Funds (*Spitzenverband Bund der Krankenkassen*; GKV-SV) is the central association of the sickness funds. Similar to KBV and KZBV, it is a corporation under public law. This umbrella organisation supports the sickness funds and their regional associations in fulfilling their tasks and representing their interests at the federal level. All (almost 100) sickness funds in Germany are members of GKV-SV. One of the most important points to keep in mind for the purposes of this study is that the mandate of KVs/KZVs to guarantee health services (*Sicherstellungsauftrag*) requires sickness funds to conclude collective agreements with the regional associations of healthcare providers. Hence, through collective contracts, the regional associations of physicians and dentists (KVs/KZVs) possess the sole authority to allocate resources collected from sickness funds to individual healthcare providers, based on negotiated out-patient fee catalogues that define the reimbursement rates for services covered by SHI. The regional associations also choose the approaches and processes by which to distribute payments to their members, hence ruling out competition among physicians, psychotherapists and dentists in financial and political negotiations with the sickness funds (Busse *et al.*, 2017). In-patient care services in hospitals, on the contrary, are funded directly by sickness funds based on a Diagnosis-Related Group (DRG) system, without collective contracts. The relevance of collective contracts to integrated care and the implementation of ePA will be detailed below.

4. Health system governance and financing

Given that the integration of health services in Germany requires a paradigm shift from disease-oriented care to person-centredness, discussions about integrated care and health data integration should be evaluated in the context of how healthcare providers are paid within the current system and how person-centred, integrated care could affect their remuneration. In line with the administrative separation, financial incentives for healthcare providers in Germany in the in-patient and out-patient sectors are also different, although this approach is counterproductive to ensuring well-coordinated care (Nolte, 2017). The separate financing systems for in-patient and out-patient care services have been the natural result of the lack of cooperation between these two sectors. Given that there is no common budget for in-patient and out-patient care, incentives to realise savings in the other sector at the cost of one's own budget have been low (Milstein and Blankart, 2016). Generally speaking, in all Organisation for Economic Co-operation and Development (OECD) countries, the remuneration of physicians, both GPs and specialists, is higher than the average wage of all workers. In Germany, this variation is much wider than in many other OECD countries. In the out-patient sector, a self-employed GP earns 4.4 times more than the average worker and a self-employed specialist 5.4 times more. Salaried specialists, who work mostly in hospitals, earn 3.4 times more than the average (see Figure 1). One of the main reasons for this gap lies in the financing mechanism for out-patient care services and the strong bargaining power of corporatist bodies of office-based physicians through collective contracts. In accordance with collective contract agreements, GPs and

[7] *eingetragener Verein* (e.V.)
[8] See: https://www.g-ba.de/english/structure/.

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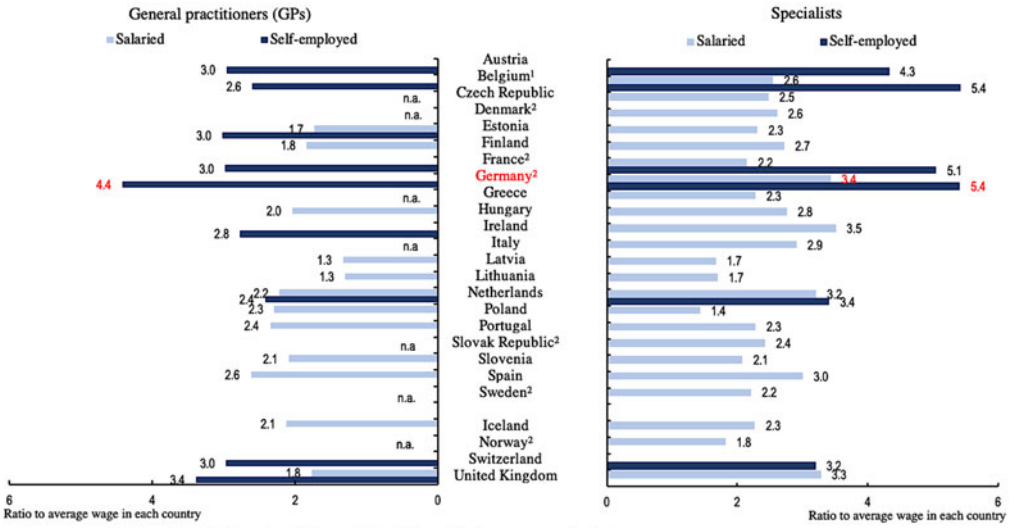

Figure 1. Remuneration of doctors, ratio to average wage, 2020 or nearest year (adapted from OECD, 2022: 181).

specialists in Germany are mainly reimbursed on a fee-for-service (FFS) basis (Blümel and Busse, 2020).

Notably, the FFS-financing scheme has three main pitfalls (Nolte, 2017). Firstly, FFS is likely to increase spending on healthcare through supplier-induced demand, as more services bring in more fees. Secondly, rewards resulting from the FFS scheme incentivise neither intersectoral working nor investing in prevention, as it focuses on volume rather than value, and funds episodic, reactive care rather than comprehensive, coordinated care. Lastly, FFS can delay the uptake of innovations or technologies that are not yet reimbursed and require negotiation for reimbursement. Coupled with an information gap between treatment cases in different sectors due to the absence of a cross-sectoral EHR system, the out-patient care financing mechanism based on FFS has exacerbated the undesirable effects of fragmented care in Germany (OECD/European Observatory on Health Systems and Policies, 2019). The situation led to an overall expansion of health expenditure given that healthcare providers could increase the supply and thus their income by offering more services, without necessarily delivering better quality care (Barber *et al.*, 2019). To overcome this problem, the total amount of services per provider in out-patient care was capped in 2005, remaining subject to a ceiling. Moreover, a mechanism combining capitation and FFS based on a centrally negotiated fee catalogue[9] was put in place in 2009 (AOK-Bundesverband, 2023).

The uniform fee catalogue that defines the value of medical services of office-based physicians based on the FFS payment model (of individual services or combination of individual services into flat rates) is negotiated between sickness funds and regional associations of physicians (Blümel and Busse, 2020) and applies to all office-based physicians, physiotherapists and dentists in the SHI system (Barber *et al.*, 2019), building the basis for collective contracts. Until the beginning of the 2000s, such collective contracts had been the only authorised form of agreement. As introduced earlier, under collective contracts, sickness funds are not allowed to enter into contracts with individual healthcare providers for out-patient services and are obliged to commission

[9]*Einheitlicher Bewertungsmaßstab* in German, EBM for short; English translation: uniform value scale. A similar form *Einheitliche Bewertungsmaßstab für zahnärztliche Leistungen* (BEMA) applies to dentists.

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these services from the regional associations (Milstein and Blankart, 2016). Thus, for decades, only the KVs/KZVs have negotiated with sickness funds and possessed the sole authority to allocate the collective budget to their members. Despite some easing of regulations, most of the funds for healthcare providers in out-patient care are still allocated through collective contracts, ensuring that there is no direct contractual relationship between individual healthcare providers and the sickness funds.

Unlike the collective contract scheme in out-patient care, which obliges sickness funds to commission services from KVs/KZVs, there is no intermediary for in-patient care in hospitals; these services are paid for directly by sickness funds (Milstein and Blankart, 2016). Since the beginning of the 2000s, the DRGs payment system has incrementally been implemented in the funding mechanism of German hospitals. Today, healthcare services to patients in hospitals are reimbursed almost exclusively based on DRGs. Although prices are mostly calculated at the federal level, the federal states can deviate from the overall price level within a predefined range (Barber *et al*., 2019). In contrast to the unbundled FFS-financing scheme, DRGs classify patients by grouping their main and secondary diagnoses. This system aims to establish, to the extent possible, homogeneous treatment prices for comparable clinical profiles (Preusker, 2017: 130). Unlike the office-based physicians working in out-patient care with FFS reimbursement scheme, physicians working in hospitals are salaried employees. All of these factors have an influence on the hospitals' position towards ePA implementation, as will be explained in the next section.

For many decades, hospitals in Germany have not been allowed to perform out-patient care, with a few exceptions (Döring and Paul, 2010), such as those belonging to specific disease management programmes or rare diseases (Preusker, 2017: 13), or out-patient centres of university hospitals (Döring and Paul, 2010). Based on 2019 data, hospitals allocate 94 per cent of their budget for in-patient care, leaving only 4 per cent for out-patient services; the remaining 2 per cent is used for long-term and day care services (OECD, 2021: 203). The main reason for this separation is that ever since the 'victory' of monopolising out-patient treatment through the Imperial Committee of Physicians and Sickness Funds in the early 1900s, office-based physicians have resisted any policies that would allow hospitals to offer out-patient services, such as pre-hospital diagnostics and therapies after discharge (Rosewitz and Webber, 1990; Busse *et al*., 2017) to protect their financial interests in both diagnostic and therapeutic services (Rosewitz and Webber, 1990: 61). Nonetheless, despite opposition from office-based physicians, legislation since the early 2000s has led to a loosening of this strict separation, with the government increasingly encouraging the use of out-patient facilities at hospitals staffed by salaried physicians (Immergut *et al*., 2021: 513).

5. Implementing EHRs and corporatism

One of the main steps towards better coordinated and integrated care in Germany has been the introduction of a nationwide, interdisciplinary and cross-sectoral EHR system (ePA). In particular, the 2004 SHI Modernisation Act[10] paved the way for a digitally interconnected health system, laying the foundation for ePA. This law launched the electronic health card (*elektronische Gesundheitskarte*; eGK) project, with functionalities to be added over time through a step-by-step approach. The plan was to start with the storage of emergency data and to follow with additional features such as discharge documents and image data, leading eventually to a comprehensive EHR file of patients (Deutsch, Duftschmid and Dorda, 2010). All SHI-insured persons in Germany (almost 90 per cent of the population) were supposed to have an electronic health card as of 1 January 2006, which was intended to 'enhance the economic viability, quality and transparency of the care provided' (Jähn *et al*., 2005). To this end, *gematik*,[11] the operating

[10]Under the Red-Green Coalition (The Social Democratic Party and the Greens).

[11]*Gesellschaft für Telematikanwendungen der Gesundheitskarte mbH* in German, *gematik* for short; English translation: Corporation for Telematic Applications of the Electronic Health Card.

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company for telematics infrastructure for the German health system, was founded in 2005 (*gematik*, 2023) and entrusted with the task of introducing, maintaining and further developing the electronic health card for ePA, electronic prescriptions, and other telematics applications.

5.1 Past: bargaining

Perhaps the most interesting part of the history of ePA implementation attempts in Germany was the initial governance structure of *gematik*, whose members consisted of the representative bodies of sickness funds and healthcare providers, as well as the umbrella organisation of pharmacies (Figure 2). They were responsible for both funding and oversight of the eGK project and held equal shares in decision-making; although the Federal Ministry of Health (MoH) was allowed to participate in board meetings, it had no voting rights (Lang and Mertes, 2011a, 2011b). Arguably, by giving the responsibility to the self-governing bodies in 2005, the legislature had underestimated the complexity of self-government for a project that would lead to a fundamental transformation in the health system (EFI, 2022a: 95). Similar to the fate of the quality assurance promises of the Federal Joint Committee, which is governed by the same corporatist institutions, for *gematik*, too, the legislature charged 'the same actors with solving the problems that they created in the first place' (Busse *et al.*, 2017), and this is how the self-governing bodies had once again joined forces. Together, they embarked upon building an infrastructure for connected health services under *gematik* with the premise of acting 'according to the principle of quality before speed' (BÄK, 2005).

Following 'the principle of quality before speed' (BÄK, 2005), years passed without any tangible outcome for patients. The eGK project encountered strong resistance from the medical profession, causing several years of delay (Hoerbst *et al.*, 2010). Owing to 'data security and insufficient evidence for cost-reduction that this innovation could offer', the 112. German Medical Assembly rejected the introduction of the electronic health card in 2009, stating that they would otherwise refuse to provide health services (Lang and Mertes, 2011a, 2011b). A year later, statements from the 113. German Medical Assembly included: 'We have created important barriers in recent years and stopped the [electronic health card] project for years, and we will continue to do so' (Ärzteblatt, 2010). The 115. German Medical Assembly continued to call for a halt to this project, as it allegedly would threaten the doctor–patient relationship and freedom of therapy (ÄrzteZeitung, 2012). They claimed that only sickness funds, politics, and the industry looking for new markets would benefit from this 'political' project, whereas patients and healthcare providers would be the ones who bear the cost and burden (ÄrzteZeitung, 2012).

As the SHI system in Germany is composed of corporatist actors, consisting predominantly of the representative organisations of healthcare providers and sickness funds rather than patients, and given that the electronic health card project has tremendous potential to push the system towards person-centred care, it is safe to argue that with the idea of ePA 'the solid core of corporatist healthcare governance has become ripped around the edges' (Bogumil-Uçan and Klenk, 2021). Since the decisions of shareholders had to be passed with a 67 per cent of the *gematik* board's votes, it was common practice for payers and healthcare providers to block each other's proposals, thus impeding progress (*SVR Gesundheit*, 2021: 31). Given the great institutional power of self-administrative bodies to hinder the transformation of the health system towards person-centred care, *gematik* failed to become the driver of technological developments (Bertelsmann Foundation, 2018). Viewed from the perspectiveof healthcare providers and sickness funds, the abeyance of the electronic health card project can be better put into context.

Studies from Germany shedding light on the barriers to shared decision-making and person-centred care report a paternalistic attitude of GPs when it comes to sharing medical records with patients, since GPs view medical records as belonging to them rather than to patients (Warda, 2005; Müller *et al.*, 2020). Instead of exploring the possible benefits that EHRs are able to bring to clinical pathways, physicians in Germany may show reluctance (Baudendistel *et al.*,

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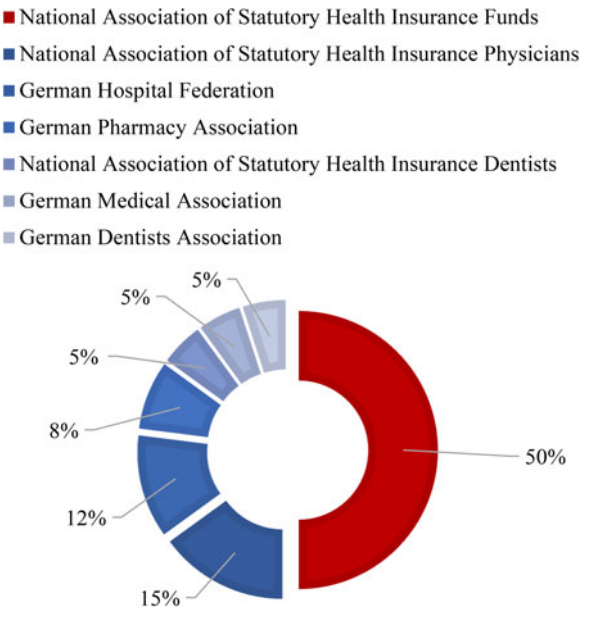

Figure 2. Governance of *gematik* until 2019.

2015) and even resistance to using EHRs as they fear being controlled and losing autonomy (Müller *et al.*, 2020), in addition to bearing the additional costs that this innovation brings (Deutsch *et al.*, 2010). They may be suspicious about the reliability of patients' data on EHRs in terms of their accuracy and completeness as well as the potential liability issues associated with these data and clinical treatments (Baudendistel *et al.*, 2017). Furthermore, office-based physicians in Germany may also simply lack interest in innovation (Poss-Doering *et al.*, 2018).

The situation looks, however, different for hospital physicians, who work as salaried employees. With the DRGs system, hospitals receive an inclusive payment to cover all associated costs for a procedure or diagnosis, incentivising the best possible use of resources for diagnostic services (Jähn *et al.*, 2005). For this reason, using patients' medical history (available within their EHRs) is more efficient for hospitals. However, information flows from healthcare providers to sickness funds and, in turn, money flows from sickness funds to healthcare providers are closely tied together (Pohlmann *et al.*, 2020). In other words, if the protected administrative, financial and data silos in the health system are demolished, healthcare providers may face budget cuts and fines for services provided below standards. In the statements of provider organisations in Germany, often the confidentiality of the doctor–patient relationship is given as a reason for not supporting health data integration, which in actuality may be grounded on their fear of greater transparency (SVR Gesundheit, 2021: 13). Indeed, this confidentiality argument is often misused to hinder innovations or to avoid substantial discussions on deeply rooted weaknesses of the health system (Pohlmann *et al.*, 2020).

Regulations in Germany do not allow sickness funds to have access to patients' ePA data (Verbraucherzentrale, 2023). Thus, it can be presumed that from the viewpoint of GKV-SV the full potential of this innovation is not realised. Nonetheless, since health data integration has a positive impact on clinical pathways, the sickness funds have been much more open to the idea of ePA than healthcare provider organisations (GKV-Spitzenverband, 2010, 2011, 2015). In general, it can be stated that sickness funds are willing to bring digitalisation in healthcare; however, the financing of the necessary infrastructure is usually a matter of dispute, slowing down the pace of their integration into standard care (EFI, 2022a, 2022b: 33). Moreover, as a

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corporatist body, GKV-SV is not in favour of disruption; it does support the implementation of ePA, however without significant changes in the current SHI system with long-standing tradition of self-governance (Bogumil-Uçan and Klenk, 2021).

The initial 'rules of the game' for negotiations in *gematik* reflect, in many respects, the bargaining style of decision-making that is characterised by appeals to the individual self-interests of participants and the use of incentives (Scharpf, 1988: 259). Since the participants (i.e. payers and healthcare providers) pursue their individual self-interest, according to Scharpf (1988: 260), an agreement through bargaining can only be obtained if the added value of the agreement is at least as high for each participant as the (anticipated) benefit of non-cooperation. In this governance structure, GKV-SV's positioning was inadequate for making a significant impact or overcoming the resistance of healthcare provider organisations, which held equal shares in *gematik* as GKV-SV. The corporatist bodies of physicians, benefiting from the fragmentation of health service provision under the current financing scheme, would not have been the winners but rather the losers of this innovation that aims to integrate health services and data; a situation that is not subject to change with financial compensations, as will be detailed below. Although, compared to others, bargaining seems to be a less demanding and more robust decision style (Scharpf, 1988: 259), a deal can only be struck if individual valuations of tradable goods are sufficiently different to allow both parties (in this case, payers and healthcare providers) to increase their respective utilities. Otherwise, disagreement may be an entirely acceptable outcome (Scharpf, 1988: 260).

5.2 Present: confrontation

Although disagreement within *gematik* had indeed been an acceptable outcome for about 15 years, the Federal Court of Auditors eventually published a detailed inspection report in 2019, disclosing inefficiencies in *gematik*'s functioning and called for a top-down decision-making process within the organisation, to be managed by MoH (Bundesrechnungshof, 2019). On the one hand, it is true that at the federal level, MoH is responsible for healthcare, long-term care, and prevention (Preusker, 2017: 104). On the other hand, according to law, MoH usually sets only the framework conditions for healthcare policies and assumes a supervisory role; hence, its political power in relation to corporatist actors is highly limited (Busse *et al*., 2017). Indeed, the fact that a separate MoH was not even established until 1961 serves as an indicator of the government's limited monitoring capacity, attributable to a historical lack of administrative centralisation (Döhler, 1990: 69). Before that, regulations on social insurance, including sickness funds, fell under the competency of the Ministry of Labour, and policy fields concerned with accreditation in the health professions, hygiene, communicable diseases, and preventive care were handled by the Ministry of the Interior (Lindner, 2003).

Hence, the Federal Court of Auditors' suggested top-down decision-making process led by MoH in *gematik* was anything but customary in German health policymaking, thereby deviating from established corporatist practices. The audit report from 2019 had a direct impact on the governance of *gematik*. In the same year, *gematik* was authorised to make resolutions with a simple majority, and MoH obtained a controlling ownership stake in *gematik*, with 51 per cent of the voting rights in the board structure (SVR Gesundheit, 2021: 32). This enabled MoH to make decisions against the votes of self-governing bodies (Figure 3). Jens Spahn, the former Minister for Health, who also established a digitalisation department within MoH, attributed the lack of progress in digitalisation over the past 15 years to the governance of *gematik* (Handelsblatt, 2021). Indeed, following this change, the roll-out of ePA gained remarkable momentum: in 2021, the long-awaited nationwide, interdisciplinary and cross-sectoral EHR system began to be implemented in standard care (*gematik*, 2023). However, due to a combination of its opt-in model and an ineffective deployment strategy, ePA has attracted only 1 per cent of the statutorily insured population as of 2023.

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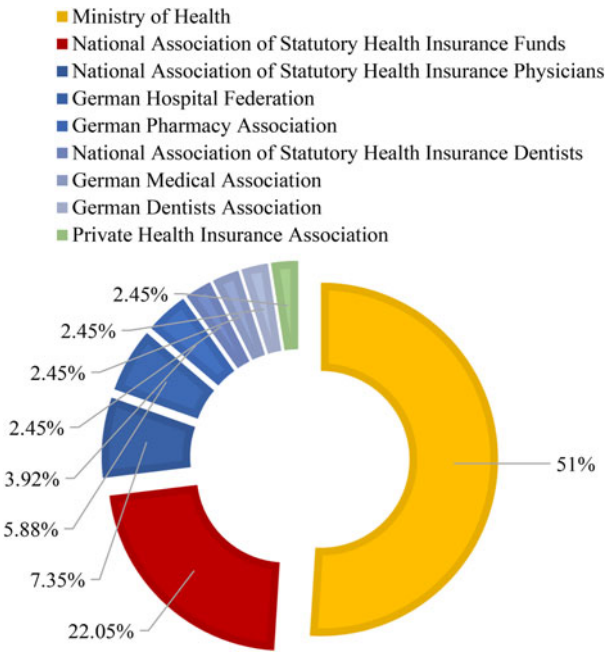

Figure 3. Governance of *gematik* as of 2023.

As per the financial arrangements for the ePA deployment, physicians are reimbursed for filling the ePA of their patients with findings, referral letters, and other documents that are relevant for the treatment of their patients with a one-off reimbursement of EUR 10 per patient. In case patients' ePA are not filled out for the first time, physicians are given a flat rate of EUR 1.67 and an additional flat rate of EUR 0.33 for recording, processing, and storing medical data per treatment case per quarter.[12] Although such financial compensations are arguably necessary, a restricted budget or poor resources have been shown to have little impact on the implementation of EHRs in health systems (Fragidis and Chatzoglou, 2018). Scholars from public administration and political science stress the fact that EHR adoption in Germany is less about the financial burden that it may impose on healthcare providers and more about the changes in power structures that could be to the detriment of physicians' status in the health system (Bandelow, 2004; Lang and Mertes, 2011a, 2011b; Bogumil-Uçan and Klenk, 2021).

After the shift from self-governance to state administration in 2019, the roll-out of ePA followed a rather fast-track approach, resulting in a subpar performance within healthcare organisations due to technical failures in the telematics infrastructure. The frustration on the front-line was amplified by their corporatist bodies with complaints about financial constraints and unclear responsibilities in the process of informing patients about ePA (DKG, 2016, 2017, 2019; KBV, 2018a, 2018b, 2020; KZBV, 2020a, 2020b), which can be regarded as somewhat paradoxical given that they had been the actual shareholders of *gematik* until 2019, alongside sitting in its advisory board and architectural board (Lang and Mertes, 2011a, 2011b). Notably, a June 2021 press release from the regional association of physicians (KV) of Baden-Wuerttemberg raised eyebrows when they declared that physicians would have 'no time to play computer games', associating ePA adoption with a leisure time activity. Signed as 'your physician's office team', this open letter was to be disseminated to patients by the office-based physicians in

[12]See: https://www.gematik.de/anwendungen/kim/faq-1 (data from 2021; up-to-date information can be found under the fee schedule of KBV: https://www.kbv.de/html/online-ebm.php).

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Baden-Wuerttemberg. The official statement was deleted shortly after its release[13]; however, self-governance came once again under the spotlight following this action. Since the roll-out, conflicts between *gematik* and its shareholders have indicated a political blame game (gematik, 2022; GKV-Spitzenverband, 2022; KBV, 2022; KZBV, 2022).

At the time of writing (May 2023), the situation portrays the following picture: *gematik*, a limited liability company of which the majority shareholder is MoH, practically imposes what self-governing bodies, namely quasi-public corporations representing the second state authority, should execute for the introduction, functionality, and further development of the ePA infrastructure, to be paid by the membership fees of patients to sickness funds. Disputes between the *gematik* shareholders result not only in a perplexing situation from a governance perspective but also in rising explicit and implicit opportunity costs; explicit because the service is funded by the SHI contributions of patients, and implicit because with every passing year, chances to use health data for better healthcare, scientific research and evidence-informed policymaking are missed. This decision-making style of *gematik* can be best described as confrontation that appeals to the interests of the dominant institution and uses power and coercion as the ultimate sanction (Scharpf, 1988: 259). Scharpf (1988: 259) considers confrontation as the least promising style for policy changes and institutional reforms in joint decision systems due to the strong dependency of the 'dominant' institution (i.e. MoH) on other, 'weaker' actors in the coalition (i.e. self-governance). He argues, if progress is to be achieved at all, it must be accomplished within a bargaining or problem-solving framework (Scharpf, 1988: 259). As discussed earlier, since the corporatist actors of *gematik* failed to find a common ground through bargaining, the problem-solving approach should be worth considering for the future.

5.3 Future: problem solving?

At the most general level, the problem solving approach can be described by the appeal to common (solidaristic) values and by exclusion as the ultimate collective sanction (Scharpf, 1988: 259). This decision-making style is based on the premise of a common utility function and the irrelevance of individual self-interests for the decision at hand, either because individual interests become part of the common interest or because the institutional arrangements separate the pursuit of common goals from the distribution of costs and benefits (Scharpf, 1988: 260). Hence, in problem solving, where the common commitment to the common goal delegitimates an open non-cooperation, disagreements become rare events. However, this does not mean that an agreement is easily obtained: what exactly the common goal should be and how it could be achieved can lead to tough discussions between parties (Scharpf, 1988: 260). An orientation towards common interests, values, or norms, which are distinct from the individual self-interest of participants, builds the precondition of problem solving, as these would facilitate voluntary agreements despite individual self-interests (Scharpf, 1988: 261). However, these preconditions are hard to achieve and fragile, as they can easily be eroded in cases of ideological conflict, mutual distrust, or disagreement over the fairness of distribution rules (Scharpf, 1988: 265).

This leaves us with the question of how the necessary preconditions for the problem solving approach within the future *gematik* can be achieved. In line with the underlying rationale of this paper, the answer should be sought in the structures facilitating or hindering integrated care. According to the recent digitalisation strategy of MoH (BMG, 2023), *gematik*, as the new National Digital Health Agency, will soon undergo complete ownership by MoH itself (Figure 4). Despite this new governance arrangement, the financing of *gematik* will continue to rely on SHI contributions made by patients to sickness funds as before, rather than being funded through taxation (health-care-com, 2023). Thus far, this plan has not garnered support either from the sickness funds (GKV-Spitzenverband, 2023) or the physicians (Ärzteblatt,

[13]Although the official statement was deleted from the website of the Association, it can be seen here: https://medium.com/healzz-blog/arztzeit-oder-computerspiele-50fad35d818a.

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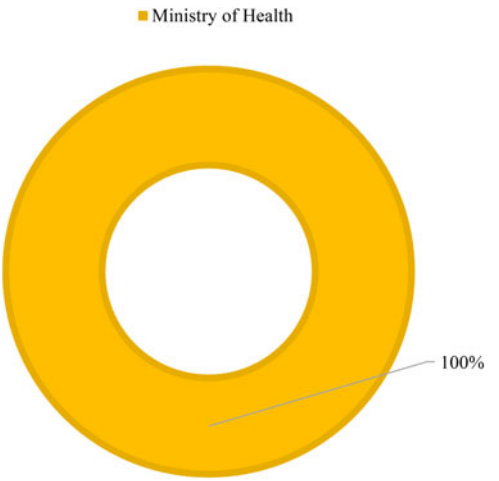

Figure 4. Governance of *gematik* in the near future.

2023); hence, it can be expected that the consequences of state ownership of *gematik* will negatively impact the effective implementation of ePA. When considering the daily practices of healthcare providers and the steps they must take in their routine work to populate ePA data, it is important to note that if they lack motivation to collect, share, or exchange information, they are likely to find excuses to avoid these tasks.

Yet, a discussion about the motivation of physicians towards integrated care and data would be incomplete without considering two main points. Firstly, healthcare providers in Germany are not a monolithic bloc. Even within a single institution, the priorities and standpoints may differ; for instance, GPs and specialists, both belonging to KBV, are in competition with one another in questions of resource allocation in out-patient care. In a similar vein, hospitals represented by DKG differ in size, ownership status, and types of service provided. This causes difficulties in presenting a united front for policies on in-patient care. Secondly, the interests of medical institutions advocating for a particular policy agenda may diverge from those of their individual members. As introduced above, office-based physicians and dentists are required to be members of KVs/KZVs (*Pflichtmitgliedschaft*), if they want to be self-employed and treat SHI patients, who constitute 90 per cent of the population. Given that, under these circumstances, their participation is more of an obligation than a voluntary choice, it would be naive to assume their membership arises from genuine professional engagement. Indeed, in contrast to the assertions made by self-governing bodies of physicians, statements from the German Medical Students' Association indicate a high level of openness towards the digitalisation of the health system, the use and re-use of health data, and shared decision-making with patients (bvmd e.V., 2021). A study from Germany evaluating data-sharing practices demonstrates that while medical students strive to engage patients for person-centred care through open health records, experienced office-based physicians disagree with this approach and prefer to act as autonomous and self-controlled professionals; this finding suggests that professional values are shaped by the social setting in which practical experiences are gained after medical training (Müller *et al.*, 2020). International comparisons show that self-employed physicians working in solo practices have a lower level of EHR adoption than the physicians working in salaried health centres, group practices or other practice types (European Commission, 2018). Yet, unlike in several other European countries, self-governing bodies of physicians are of high political relevance in the German health system and have decision-making power to enforce their interests at the expense of patients, or even their members.

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Since the early 2000s, funding through collective contracts and thus the service guarantee agreement (*Sicherstellungsauftrag*, the most important power resource of KVs/KZVs) have been called into question (Bandelow, 2004), paving the way for selective contracts. Most reformers in Germany have recognised the need for better coordination of care and, towards that end, have promoted flexible (selective) contracts, bypassing KVs and KZVs (Altenstetter, 2003). Under selective contracts, prices are agreed upon through negotiations between individual payers and healthcare providers (Barber *et al*., 2019), and physicians are allowed to conclude a contract directly with sickness funds. Since selective contracts shift the focus from the supply of health services to the needs of patients, they are crucial for overcoming sectoral boundaries (WHO Regional Office for Europe, 2015; Milstein and Blankart, 2016). Although selective contracting is essential to integrated care, it mostly co-exists with the standard delivery of care in Germany as it has faced the resistance of the physicians' associations supporting collective contracts (Milstein and Blankart, 2016). Today, most selective contracts reimburse only additional services of healthcare providers (e.g. better documentation of services), while the largest part of out-patient care is still financed under collective contracts through KVs. Thus, the original aim of past governments' policies to break the monopoly of the physicians' associations and to increase competition between the healthcare providers in out-patient care could only be partially achieved (Milstein and Blankart, 2016).

Despite the prevailing disinterest and resistance of their corporatist actors, the commitment and involvement of healthcare providers will be crucial for the effective implementation of ePA in clinical settings (Fragidis and Chatzoglou, 2018; Poss-Doering *et al*., 2018; Ploner *et al*., 2019). To achieve this, ePA should be interpreted not as a mere digital health solution but as a means to overcome the fragmented health system in Germany. Overcoming the silo mentality can only be achieved by providing incentives for cross-sectoral collaboration that shifts the focus from volume to value, thus from disease-orientation to person-centred care (Naumann *et al*., 2019). Through integrated care payment schemes such as bundled payments, healthcare professionals can agree to share the financial and clinical responsibility for the entire episode of a patient's healthcare. Such financing schemes support a health system that focuses on patients' needs and aims to make the best use of medical data. Similarly, policies that could foster collaboration between the sectors, such as the introduction of hybrid-DRGs with equal remuneration across sectors, as stated in the coalition agreement (SPD, Bündnis90/Die Grünen, FDP, 2021), can be expected to support the implementation of ePA. Arguably, the full potential of ePA and its positive impact on healthcare to tackle the fragmentation issue can only be realised when it is viewed as a useful instrument for person-centred care by all involved parties.

Hence, the preconditions for the problem solving style of decision-making towards implementing ePA can be summarised as follows: on the one hand, the competencies of sickness funds for selective contracting with individual healthcare providers should be strengthened, allowing integrated care to replace the outdated sectoral healthcare provision in standard care (Schmitt *et al*., 2023). Parallel to this, in the co-creation of innovations that generate and use health data, patients and healthcare providers as the end users of these technologies (not the administrative bodies supporting fragmented care) should be consulted when making decisions in *gematik*. Ultimately, the proper implementation of ePA can be enabled by a systemic shift to a value-based healthcare model that incentivises healthcare providers to focus on achieving the best outcomes for their patients. This would mean, however, implementing profound changes in the governance structure and financing of the German health system. As highlighted by Scharpf (1988: 265) and discussed above, the achievement and preservation of such a change might be challenging and delicate, as it can be undermined in situations involving ideological conflicts or distrust of individual physicians vis-à-vis sickness funds. Logic suggests that to meet the preconditions of the problem solving approach in *gematik*, institutions supporting preventive and person-centred care would be required to take part in other key decision-making

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bodies, most notably at the Federal Joint Committee, as well. Integrated care and data integration are two sides of the same coin – they should work for each other, not against each other.

6. Discussion

In Germany, there have been numerous successful EHR pilot projects; however, the majority of them were offered through regional, selective contracts without resulting in a scale-up across the country (Bertelsmann Foundation, 2018), mainly due to the lack of motivation of 'guardians of collective agreements' (Robert Bosch Stiftung, 2021). This can be attributed, in part, to the capacity of these interest groups to exert influence on legislative outcomes by leveraging their access to political representatives positioned at crucial veto points within the decision-making process; for instance, in an upper house where its members can be relied upon to exercise a moderating influence by vetoing proposals originating from the lower house (Immergut, 1990). However, in the political debates surrounding the interpretation of the concept of self-governance, the significance extends beyond the question of the relationship between the state and self-governance; indeed, the design of the internal structure of self-governing bodies is of particular relevance in this context (Klenk, 2006). It can be argued that the current governance and internal structure of self-governing bodies are ill-suited to ensure person-centred care through an effective implementation of ePA. Bringing the insights offered in this paper one step further, the obstinate position of corporatist actors of healthcare providers can be attributed, firstly, to their highly specialised technical knowledge and, secondly, to the political careers of those in leadership positions in self-administration.

As discussed earlier, the concept of self-governance originated from the idea of delegating regulatory responsibilities from the state to selected administrative bodies, primarily consisting of liberal professions. This delegation is based on the assumption that individuals engaged in a specific activity on a daily basis are best suited to make decisions within their respective fields due to their technical expertise. Consequently, this approach allows the state to foster professional autonomy and leverage specialised knowledge without the need for additional government spending, effectively tapping into their (medical) expertise in SHI regulations without employing them as bureaucrats in ministries. In short, self-governance is justified as a means of resolving conflicts, facilitating the integration of societal interests into public administration and addressing societal tensions (Klenk, 2006). However, this model has a major downside in the context of innovation policies, as specialised knowledge often leads to selective attention, hindering innovation by impeding the comprehension and consideration of alternatives (Wegrich, 2019). This lack of vision limits innovation by making these technical experts 'blind' to opportunities that lie outside their field of expertise (Wegrich, 2019).

Similarly, it can be argued that the trajectory of a political career within self-administration reinforces self-centred decision-making that narrowly focuses on technical aspects while disregarding the broader context. Despite their absence from party politics, executive board members of theoe self-governing bodies are elected by their members (office-based physicians and dentists) and belong to the same profession. Consequently, unlike generalist bureaucrats in ministries who possess the flexibility to transition between departments and policy portfolios, and advance their careers accordingly, the fortunes of these elected leaders, endowed with specialised expertise, are heavily contingent upon their enthusiasm to defend the sectoral interests of their own profession. This win-or-lose approach, necessitated by re-election or garnering further support from their fellow professionals, inevitably creates tunnel vision, in which the collective good may be disregarded or assigned lower importance. It is, arguably, in part due to these circumstances that progress in health system innovation in Germany, even when an agreement is reached within self-governance, often appears as a modest step rather than a significant breakthrough.

Consequently, in ambitious endeavours such as the implementation of ePA, which has the potential to fundamentally redefine the governance of the health system and data, customary

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impediments can result in costs amounting to billions of euros and a delay of almost two decades. International literature shows that a single health authority with a clear hierarchical structure could be a key factor in explaining the adoption rates of countries for digital health services (Brennan *et al*., 2015). Looking at Swiss, French and Swedish experience, it can be argued that the medical profession in general perceives increase in government regulation as a challenge to professional autonomy (Immergut, 1990). Austria and the Netherlands, historically close to Germany's self-governance structure, took different approaches to increase state influence and reduce the competence of self-governing actors: the former centralised and professionalised social insurance, while the latter opted for reduced corporatism and prioritised managed competition (Schmitt *et al*., 2023). Such profound changes in the governance of the health system are imperative also in Germany to effectively implement innovations that promote person-centred and preventive care.

Instead of interpreting ePA as another digital health solution, this study demonstrated that it is impossible to separate health data integration from integrated care in Germany and politics of self-governing bodies behind it. Taken from this perspective, it showed that the existing governance structures creating a fragmented health system should be scrutinised. Insights from social sciences into ePA are rare to find, except for the thorough comparative analysis by Bogumil-Uçan and Klenk (2021), where they demonstrate that in Germany, traditional stakeholders of self-governance hindered the implementation of EHRs, while in Austria, the dominance of hospitals and the exclusion of office-based physicians from decision-making boards facilitated the implementation (Bogumil-Uçan and Klenk, 2021). This study reinforces that the corporatist nature of interest group involvement in Germany resulted in a closed political system and led to unbalanced, self-interested behaviours of stakeholders that hold power and thus hindered innovations that might contribute to achieving a person-centred, integrated and preventive health system (Bogumil-Uçan and Klenk, 2021). To complement the knowledge gained from traditional institutionalism, future studies can elaborate on the evolution of *gematik* from an actor-centred institutionalism point of view and focus on the role of individual actors (i.e. members of executive boards of self-governing bodies) in influencing the decisions about the ePA deployment.

7. Conclusion

The legacy of traditions, past decisions and practices stands out as the most significant factor influencing the rather incremental policy developments in Germany's health system. At the core, self-governance and non-state actors, as well as the principle of subsidiarity, have been the system's distinctive characteristics. Although generally the subject of praise, those elements have proven to be too rigid to provide resilient and economically sustainable healthcare in Germany in the face of emerging technologies, demands of its ageing population and global health crises. As a shift from corporatist traditions, *gematik* is currently being planned to be transformed into a digital agency that is 100 percent owned by the federal government. However, establishing how to gain the support of physicians engaged in clinical care for ePA will be an essential step for sensible implementation approaches. A salient observation becoming increasingly evident over recent years is that the deployment of ePA and health data use are, and will continue to be, matters of governance, rooted in the tension between the self-governance of corporatist actors and state administration in Germany. Policies for the use and re-use of health data can hardly be achieved without acknowledging and addressing this issue.

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