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Understanding the role of physicians within the managerial structure of Russian hospitals

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Highlights

- New accountability mechanisms have been established in Russian hospitals.
- The resulting governance structures create obstacles to effective mechanisms of accountability. .
- Hospitals exhibit a leaky system of coordination, blocking horizontal information exchange.
- There is little evidence of a learning culture to prevent repeating errors.
- Including Russia in comparative research reveals different implementation patterns of New Public Management tools.

Abstract

This article examines the role of physicians within the managerial structure of Russian hospitals. A comparative qualitative methodology with a structured assessment framework is used to conduct case studies that allow for international comparison. The research is exploratory in nature and comprises 63 individual interviews and 49 focus groups with key informants in 15 hospitals, complemented by document analysis. The material was collected between February and April 2017 in five different regions of the Russian Federation. The results reveal three major problems of hospital management in the Russian Federation. First, hospitals exhibit a leaky system of coordination with a lack of structures for horizontal exchange of information within the hospitals (meso-level). Second, at the macro-level, the governance system includes implementation gaps, lacking mechanisms for coordination between hospitals that may reinforce existing inequalities in service provision. Third, there is little evidence of a learning culture, and consequently, a risk that the same mistakes could be made repeatedly.

We argue for a new approach to governing hospitals that can guide implementation of structures and processes that allow systematic and coherent coordination within and among Russian hospitals, based on modern approaches to accountability and organisational learning.

Keywords

Hospital governance; clinical management; medical leadership; coordination of accountability mechanisms; comparison; Russia

Background

This article seeks to understand the role of the physician within the overall managerial structure of Russian hospitals. The clinical encounter between the physician and the patient is at the heart of the hospital yet, with the increasing complexity of healthcare, it will only be effective if the work of the hospital is well-managed, so that all the elements necessary to deliver care, such as appropriately trained health professionals and specialised facilities and equipment, come together in the right place at the right time. This will only happen if there are appropriate systems of governance in place, enabling those in managerial and clinical roles to work together for the common good, balancing accountability upwards with delegation of decision-making downwards. Developing and implementing these systems is always difficult, especially in a country such as the Russian Federation, which has a tradition of rigid hierarchical management structures in many sectors.

In this article we describe the role of physicians in Russian hospitals and, especially, those occupying managerial roles. We ask whether the structures and processes that are in place are able to promote high quality, appropriate, and cost-effective care. In interpreting our findings, we draw on four bodies of literature.

The first relates to governance of health systems. Thus, one analysis, drawing on case studies from different parts of health systems, argues that good governance is characterised by what it terms TAPIC, or Transparency, Accountability, Participation, Integrity, and policy Capacity.^{1,2} Each is important and interlinked. Thus, accountability without transparency means that those reporting what they are doing may not know

why they are doing so, and thus what is important. Accountability without participation, for example to agree goals, can lead to gaming and other forms of opportunistic behaviour. Integrity includes hiring and promotion on grounds of merit, which is more likely where there is transparency. Capacity relates to the ability to take evidence-based decisions, which is aided by participation by those who best understand the problem. The major benefit of this approach is its focus on interlinked governance outcomes, which makes it possible to move beyond the narrower concept of organisational management.

A second body of literature comes from clinical management research, exploring the relationship between clinicians and managers, and especially clinician managers, including the extent to which different groups assume positions of leadership and coordinate the work of those involved in delivering care, while placing these roles and relationships within a wider health system context.³⁻¹⁰ This literature has highlighted the importance of emergent connections between hospital governance and clinical management and different levels of decision-making.¹¹ Thus, Denis and van Gestel, drawing on Canadian and Dutch data, highlight the ways in which characteristics of health systems influence the potential for alignment between soft (trust, collaboration) and hard (financial incentives) levers, ideally combining clarity and stability of policy with openness to local experimentation.⁵ Duran and Saltman describe important transformations in decision-making that flow from new governance paradigms.¹¹ They highlight how new forms of interaction between different levels of public hospital governance 'create networks of actors, rather than according to the old model of explicit relationships of decision-makers and decision-takers. ... authority cannot be exerted anymore the way it used to be in the past'.¹¹ The authors identify many reasons why 'publicly operated hospitals need to pursue their objectives free from the influence of monolithic, command-and-control models',¹¹ a particular challenge in all former Soviet countries.^{12,13}

A third body of work, which also applies a health system and multi-level governance approach, looks in more detail at governance arrangements *within* hospitals. Thus, [names withheld for anonymity of submission] developed an assessment instrument and used it to examine hospital governance and management in seven western European countries, taking different levels, structures and actors into account.¹⁴ They identified three emerging patterns: integrated control and coherent coordination; partly

integrated control with diversity of coordination and some fragmentation of cost and quality controls; and fragmented control with uneven and limited coordination, with a gap between quality, controlled by medicine, and cost control, by management.⁹ This study concluded that, while there may be different organisational structures, what is important is that structures and functions are coordinated. It also highlighted the need for a shift in engagement of the medical profession with management, with management increasingly 'internalised in the minds of doctors'.⁹

A comparative study in OECD countries confirms increasing involvement of doctors in management, linking this to quality improvement.¹⁵ Yet, despite some evidence of the benefits of medical leadership,¹⁶ caution is needed because quality depends on many different factors.^{10,17} A Dutch study, for instance, reports an overall weak correlation between quality orientation of managers and hospital governance,¹⁸ with no clear linear relationship between quality orientation and hospital performance identifiable.¹⁸ Similarly, Jeurissen et al. argued that new hospital policies and management models will likely fall short in delivering better quality of care and lower growth in health expenditure.³ These authors reminded us of the many and complex reasons why success is often elusive, which span from protecting interests of the hospitals to various forms of technical difficulties in handling new tools.³

A fourth body of work on hospital governance deepens the analysis on the micro-level and examines the decisions that managers and clinicians make. This can involve direct observation (participant or non-participant), seeking to understand the workings of the complex relationships between managers and clinicians,^{8,19} and the extent to which governance arrangements support their functioning. One important finding is that organisational structures often fail to support new tasks of doctors adequately. This not only reduces the efficiency of the organisation but causes stress for the individual doctor.²⁰ Other findings from Nordic countries highlight the capacity of professionals to drive innovation and the importance of 'participation' in the transformation processes,^{4,21,22} which was more generally identified as a key dimension of 'good governance'.² However, the focus on micro-level processes reduces the opportunities offered by cross-country comparison and knowledge translation. We do not know which of the many possible factors facilitate (or block) innovation and at what level of governance; these limitations are apparent in several studies seeking to link quality-related outcomes to governance changes.^{3,18}

The research that has been undertaken so far has been concentrated in the European Union (EU) member states and English speaking high-income countries elsewhere. There has been little such research in low and middle-income countries,²³⁻²⁵ with none, to our knowledge, in the Russian Federation. Yet a detailed understanding of how Russian hospitals operate is important for various reasons. Firstly, from an international perspective, hospitals in the Russian Federation offer a different type of institutional setting and hospital management model, which may help to better understand issues of convergence and context-dependency in hospital governance and clinical management.

Secondly, reflecting the Russian Federation's very high burden of disease, including high levels of mortality amenable to healthcare,²⁶ the Russian government has placed a high priority on addressing this issue. Long term underinvestment in facilities, equipment and people, meant that although the Soviet system it inherited provided basic coverage to a widely dispersed population, the quality of care was often poor.²³ In 1993, the Russian health system underwent radical reform, with introduction of a mandatory health insurance system, using a national model but organised regionally. This has allowed for diversity in the way the health system is configured in different parts of the country. From 2005, the Russian government has developed a series of initiatives, including a major federal investment programme, which includes substantial investment in new equipment.²⁷ However, for this programme and related efforts to achieve their full potential, there is a need for a good understanding of the structures and functions involved in governance of hospitals that benefited from this investment. This paper begins the process of providing this understanding.

Key research questions/objectives

- 1) to understand the governance structures in clinical management in the Russian Federation and the mechanisms in place to ensure accountability for financial decisions and efficiency, for quality and safety, and for upholding professional standards;
- 2) to identify any gaps in the governance structure and any mechanisms that may weaken coordination, thus impacting negatively in the efficiency of hospitals and quality of care;

- 3) to examine the Russian model of clinical management in comparative perspective, identify convergence and/or divergence, and explore how these findings add to the international debate.

Methods

The focus of the study is on public hospitals in the Russian Federation, which provide almost all inpatient care in the country.^{24,28} A glossary of specific Russian terms is in Box 1. Country case studies apply a comparative qualitative methodology allowing for international comparison.^{29,30} The research is exploratory in nature and comprises interviews with key informants in 15 hospitals, complemented by document analysis and review of secondary sources. The material was collected between February and April 2017 in five of the 85 regions of the Russian Federation, in four of the seven Federal Districts, namely the Volga, North-West, Ural and Central Federal Districts. Details of the numbers of individuals interviewed are given in Table 1.

Research design and sampling

The research design is theoretically informed by governance theory² and methodologically informed by the Hospital Control Assessment Framework (HCAF),¹⁴ a tool which was developed and validated in a EU comparative study⁹ as part of the FP7 COST action on medicine and management.⁷ More specifically, the benefit of this assessment framework is that clinical management is placed in a health system context to systematically connect different levels of governance and institutional structures and actors. The instrument focuses on the organisational level, comprising four major dimensions of governance and accountability mechanisms (for details, see supplement Table 1):

- governance structures within the hospital;
- mechanisms to ensure accountability for financial decisions;
- mechanisms to ensure accountability for quality and safety;
- mechanisms to ensure professional medical standards.

The instrument was adapted to the Russian context by the Russian and international team members in an interactive one-day workshop in Moscow in the autumn of 2016. The team discussed in-depth the qualitative methodology and whether and how the main indicators apply to hospital governance in the Russian Federation. Specific

attention was paid to semantic and definitional issues and the translation of key terms. It was decided that the four main categories of the assessment tool were sufficiently generic to be applied to the Russian context. The relatively high degree of standardisation of the tool was perceived as a benefit because it enables both international comparison, and the gathering of qualitative material in different regions and by different researchers. The focus on structures and tools and the definition of groups of actors (e.g. junior doctors, chief executives) is a further benefit of the assessment tool. This allowed us to assess hospital governance in different organisational contexts but without gathering in-depth micro-level data, which would not have been possible, given the available resources and geographical conditions. On this basis, the research design of the present study was specified.

In a country as vast as the Russian Federation, with such diverse geographic and economic characteristics, it is not possible to identify a truly representative sample of hospitals. Consequently, our approach to sampling was purposive, seeking to include regions from across the Russian Federation that have different levels of population size and economic development (Table 2). Thus, our sample covered almost the entire spectrum of economic development (with those selected ranged from 6th to 75th out of 85 in order of Gross Regional Product). However, we also took account of practical travel considerations, thus excluding Siberia and the Far East. Within each region we sampled different types of hospitals.

The hospital system in Russian regions is organised hierarchically. Regional (oblast) hospitals for adults (typically 500–1000 beds) and children (typically 300–600 beds) provide a full range of clinical specialties and act as referral centres for general hospitals within the region. They are usually the setting for clinical teaching by the regional medical school. City hospitals typically have 150–800 beds (adults) or 100–300 beds (children). They provide a more limited range of clinical specialties. There may also be specialised hospitals for infectious and psychiatric conditions. Finally, there are district (rayon) hospitals, with 100–300 beds, offering basic inpatient and outpatient care in internal medicine, surgery, and obstetrics and gynaecology.²⁴

We selected three hospitals per region. These were the regional hospital, the city hospital also located in the regional capital, and a district hospital some distance away from the capital that was identified in consultation with the regional health ministry; the final selection was based on the willingness of the hospital management to participate

in the study. Within the hospitals we focused on those managing patients with cardiovascular diseases, because care for patients with cardiovascular disease (CVD) is firstly, of very high relevance for the healthcare system and secondly, it is defined by comprehensive guidelines, which facilitate comparison of clinical management across hospitals and regions and on international level.

Data collection and analysis

In each hospital, structured interviews were conducted with key informants by the Russian research team, comprising three researchers, either as an individual interview or in focus groups. The topic guide for the interviews followed the categories described in the assessment framework, which made it possible to use broadly similar generic questions for different types of interviews and groups (for details, see supplement topic guide). The individual interviews included the chief physician, and several deputy chief physicians. The focus groups were recruited from among the medical staff in each hospital. They were convenience samples, reflecting the availability of staff at the time of the visit, but also following the same procedure for different departments. Each focus group included the head of a department and a range of senior and junior medical staff of the same department. The interviewees and the participants of the focus-groups were treated as key informants, providing insights into the governance of the particular hospital. The combination of individual interviews and focus groups made it possible to critically review the information in relation to individual perceptions and interactions in the group.

Altogether 63 individual interviews and 49 focus groups with 282 participants were conducted in the 15 hospitals in five regions. The results from the interviews and focus groups were triangulated and written up by the researchers in note form in Russian and used to complete a proforma for each hospital, adapted from the Hospital Control Assessment Framework (HCAF).¹⁴ This information was supplemented with information from documentary sources where relevant. The completed proformas were translated into English (initially using Google Translate, with subsequent revision by a native Russian speaker). Additional field notes were prepared for each hospital. Information from key informants was documented in Russian.

Prior to each interview and focus group, oral voluntary informed consent was obtained: the subjects of the study were informed of the objectives, methods, any possible

conflicts of interest, expected results, potential risks and any other significant aspects of the study. They then agreed to the use of the data obtained for research purposes. Before the beginning of the interview or the focus-group, the participants were notified of the use of information received during the interview or focus group without indicating the identity and details of the organisation.

The information from the interviews was extracted and mapped onto the elements of the assessment framework (comprising structure and action dimensions and different levels of governance)¹⁴ resolving any contradictions or ambiguities by reference to other interviews and documents. This was done by the Russian team, and subsequently by the Russian and international teams at a second workshop in July 2017 in Moscow (lasting 1.5 days, and including 6-8 core members – the Russian and international project leaders and researchers – and a few other experts. Language translation was an important issue; major terms were translated back and forth to ensure international comparability.

Results

Governance structures within the hospital

Historically, hospitals in Russia were subordinate to the corresponding tier of government, at the federal, oblast, city and rayon levels. This has given way to a process of centralisation within the oblast, with the vast majority of hospitals subordinate to the oblast Ministry of Health. The oblast ministry is accountable to the elected oblast governor, although operating within a legal and regulatory framework developed by the federal ministry. We did, however, find a few exceptions, as in Kazan, the capital of Tatarstan, and Nizhny Novgorod, where some city hospitals remain subordinate to the municipal authorities. Within the hospital, the list of managerial positions, reflecting the hierarchical governance structure, is defined in a decree by the federal health ministry, most recently updated in 2012, although this decree only covers managers with a medical qualification. Nevertheless, the dominance of physicians in management means that the overall managerial structures are fairly homogenous at all levels of the system.

Figure 1 illustrates the hierarchical governance structure and accountability arrangements in hospitals in the Russian Federation. Executive power rests with the hospital's chief physician, who is accountable only to the regional Minister of Health.

The chief physician must, obviously, be medically qualified, and have completed her or his professional training in a medical specialty, be certified in healthcare organisation or healthcare management, and have occupied a senior position for at least five years.

The chief physician has considerable autonomy in deciding how the hospital is organised and managed, including internal governance structures, and employment. Although he or she is subject ultimately to the regional Minister and within a detailed legal framework, there is little regular interaction between them. There is no requirement to go through a specified set of procedures to employ or dismiss a member of staff. This gives the chief physicians great power of patronage in their hospitals.

The next tier of management comprises a variable number of deputies to the chief physician (the senior management team). The relationship of this tier to the chief physician is strictly hierarchical. The deputies can give advice but there is no tradition of shared decision-making or corporate management. In virtually all cases, they are clinicians. The deputy responsible for medical care is typically a physician who commands the respect of their colleagues. The individual responsible for finances is often someone with a medical qualification but some additional training in accounting. Professional managers and those with specialised expertise in, for example, human resources or information technology are effectively absent at this level. Their roles are assumed by the physicians responsible for different services and departments. This gives them little opportunity to acquire the specialised knowledge required in these areas, while also creating considerable duplication. Junior physicians have no input into managerial decisions but are required to report upwards on their activities.

Table 3 provides an overview of the average number of staff in senior and middle management in different types of hospitals. Their numbers vary, with some having ten or more deputies at this level. In recent years, the number of deputies has tended to increase, sometimes reflecting an increase in the scope of activities of the hospital, but also because creating deputies provides an opportunity for the chief physician to bestow patronage.

The most senior nurse in the hospital is typically subordinate to the chief physician. This nurse may be in the first tier, with the deputy chief physicians, but is sometimes

at the next tier down. Other professional groups with mid-level qualifications, such as psychologists, technicians, laboratory scientists, or midwives for example, have relatively low status. In contrast to many other countries, these health workers lack full recognition as professionals and have no self-governing powers. Only two of the 15 hospitals in the sample had an individual in the second management tier who oversaw the management of facilities and nonclinical services and who was not qualified in medicine or nursing. Only four of 15 hospitals had any plans for organisational reform that would have addressed these issues.

The hierarchical arrangements continue at lower levels. Hospital staff work mostly in a series of silos, related to the setting of care, be it inpatient, outpatient, or a specialty. Some hospitals do, however, have hospital-wide structures relevant to quality of care, including committees on blood safety, hospital formularies (established in 7 out of 15 hospitals), and patient complaints (established in 12 out of 15). These committees are usually chaired by a deputy chief physician. Otherwise, any horizontal communication is informal.

The hierarchical structures are based on a system of command and control, with instructions issued from above and penalties for failure to comply. In most of the hospitals, we identified a blame culture, whereby those lower in the hierarchy were punished for any failings as individuals. In only three of the hospitals did we find any system to identify structural reasons for failings, such as system or root cause analyses.

Financial accountability mechanisms

Hospitals are primarily (80%-97%) funded by the territorial mandatory health insurance funds, which covers the entire population except for the military, police, and some similar groups. The traditional historical budgets based on bed numbers have given way to activity-based formulae, although the basis of payment is an episode of completed treatment, defined using Diagnosis Related Groups or clinical profile groups. Physicians, like other health workers, are paid salaries. A financial activity plan is developed for the whole hospital and communicated to the units (or departments), linked to targets that form the basis of a control system. There is little evidence of financial systems that would facilitate budgetary discretion at lower levels.

Some signs of change can, however, be seen. Pay-for-performance schemes have been established in all hospitals since 2008, based mainly on group outcomes. Indicators vary among hospitals but mostly involve administrative and technical measurements, for instance, 'performance according to job descriptions', 'absence of complaints and/or sanctions by state regulatory bodies and insurance companies', or 'absence of patient complaints'. Eight of the 15 hospitals use additional indicators related to medical outcomes, for instance 'hospital re-admission within 90 days' and 'complication rates and non-compliance with medical standards'. However, decision-making is embedded in the hierarchical governance structure so, ultimately, final decisions are based on the discretion of the top level of hospital management.

Quality and safety mechanisms

Russian legislation requires establishment of an internal system of quality and safety control of medical activities, as a condition of licensing.³¹ This serves as an important control mechanism in all hospitals, yet the actual procedures may vary as implementation is under the authority of the individual chief physician. However, individual leadership practices are only one reason for this variety. Most importantly, our findings reveal structural differences in the three types of hospitals: the rayon hospitals all lacked any internal system for quality assurance and patient safety, while both the city and the oblast hospitals had taken at least some action. These systems seem to be most advanced in the oblast and city hospitals in Tatarstan.

Some structural similarities can be identified among the hospitals that have introduced quality assurance mechanisms. Set within the hierarchical system of management, their operation is based on upward accountability, from a departmental medical committee, which undertakes the main investigation of medical errors and monitors outcomes of treatment, to a deputy chief physician and, ultimately, the chief physician. However, we found no evidence of systematic mechanisms to enable the flow of information, for example on lessons learned, in the opposite direction.

A further problem relates to the concept of 'medical error', which is not conceptualised as a potential trigger for changes to practice or policy or a learning opportunity but rather as a potentially criminal act, with sections of the Russian Criminal Code referring to causing death by negligence (Article 109), causing severe or moderate severity of injury through negligence (Article 118), and refusal to help the patient (Article 124).³²

We found little evidence of the various approaches developed within the framework of new public management that have been introduced elsewhere in recent years to improve quality of care and safety of patients,³³ such as those involving systematic approaches to monitoring problems to identify issues of concern or to exchange information beyond the individual hospital. Modern performance management procedures were generally lacking. The illustrative examples below reveal considerable variation:

- Although a quality management system has been designed, described in State Standard ISO 9001-2015 (Quality management systems. Requirements), it had only been implemented successfully in two of the 15 hospitals.
- Most of the hospitals studied had no comprehensive system to audit medical performance. Only four conducted audits on a regular basis (once or twice a year), and only two of these systems were ISO accredited.
- Only one third of the hospitals reported undertaking questionnaire-based patient surveys to inform the quality of medical care. Those that did had examined patient satisfaction with the quality of treatment and nutrition, compliance of medical staff with ethical standards, evidence of corruption in the hospital, and out-of-pocket payment, especially for drugs.
- All hospitals prepared reports on the quality of medical care either annually or quarterly but we were unable to identify consistent definitions of quality indicators beyond the dominant focus on crude mortality rates.
- Clinical guidelines developed on the federal level for the national health system were used systematically in only four of our 15 hospitals, none of which were the rayon hospitals. These hospitals had established clear lines of responsibility; the deputy physician-in-chief (for organisational and methodological procedures) was accountable for updating databases on clinical guidelines and ensuring that they were communicated to staff. While other hospitals had guidelines, most used them in a purely formulaic, bureaucratic manner to show that they were complying with state supervision by the Federal Service for Supervision of Healthcare and inspections by health insurance companies.

Ensuring professional medical standards

In 2013, a reform of postgraduate medical education began. It is currently transitioning to a system involving traditional educational courses attended once in five years to one of continuing medical education (CME). The transition period will end in 2021 but several approaches now exist in parallel and many aspects of postgraduate education are yet to be defined in official documents. While the physician is expected to engage in CME on a continuing basis, this will feed into a new re-accreditation procedure, which will also take place every five years. Current proposals envisage a requirement that each doctor must earn a minimum of 50 educational credits for participation in training events and electronic training modules in each calendar year; the certificates will eventually be registered in their personal online account. However, almost all of the key informants reported technical difficulties when registering a personal account on the website of the Coordinating Council for the Development of Continuing Medical and Pharmaceutical Education, although this may reflect a lack of familiarity with computers among older physicians. Only four of the hospitals provided support; they had created a centralised system for registering activity within their human resources departments.

Other forms of ensuring professional standards include more traditional models like clinical conferences, which were widely used. Mentoring programmes were also available in about 80 per cent of the hospitals, yet only one third used these opportunities systematically.

The small rayon hospitals, with fewest resources, and staff shortages faced the most serious challenges in offering appropriate training and professional development. Their doctors had only limited opportunities for professional development (mainly distance learning, which takes the form of live webinars and online modules). Another problem is the lack of incentives for hospitals to support professional development, as none of the performance-based indicators include the acquisition of competences by staff and participation in professional development.

Discussion

The governance structure in the hospitals of the Russian Federation is characterised by a rigid hierarchy, dominated by the medical profession. The Federal Ministry of Health defines the legal framework, including financial rules (subject to some potential modifications at oblast level), within which the hospital operates, while executive

power is highly personalised and linked to the chief physician and deputies at lower tiers of management (Figure 1). This system is essentially the same as that inherited from the Soviet period. It remained largely untouched during the transition period from a planned economy to the market, in part because, during the significant reduction in state funding of medical organisations, it preserved a degree of stability and enabled effective mobilisation of internal resources. However, in the period since the break-up of the Soviet Union, this management structure acted as a brake on measures to improve hospital efficiency, now urgently needed to address longstanding problems, including growing imbalances in the medical workforce.³⁴

More nuanced mechanisms to ensure accountability have been introduced recently as a result of new public management reforms,³⁵ including pay-for-performance schemes, based on objective measures, and mechanisms to improve quality and safety, such as mandatory continuing medical education. Superficially, these innovations look familiar to those in other industrialised countries.^{7,11,13} However, important differences exist, with many problems embedded in processes of implementation that constrain the potentially transformative effects of reform policies, thereby limiting accountability in clinical management.

Gaps in the governance structure: coordination and integration matter

In our analysis, we found that the day-to-day operation of mechanisms to assure quality and safety was decentralised to departmental committees. While there are vertical lines of accountability, we found little evidence of horizontal coordination or sharing of information. This may seem surprising given the overall hierarchical approach to hospital governance in Russia. This has implications for the operation of the system, given how approaches to quality and the tools available are changing rapidly. However, we found several important gaps in the governance structure and corresponding mechanisms. Such gaps may weaken coordination, as shown in the international literature,⁹ thus impacting negatively on the efficiency of hospitals and quality of care.^{3,18} It is important to recall the importance of coordination as one of the five key dimension of governance².

The most serious gap exists between the hierarchical, personalised *structure* of clinical management and what is needed to implement reform *policies* that introduce complex modes of governing. The new, more transparent accountability mechanisms seek to

change the strongly person-centred executive powers of the chief physician. Yet these do not sit easily with the old structure. As a consequence, implementation is at the discretion of the chief physician (or subordinate management tiers) and the transformative potential may be blocked if it is seen as a threat to the traditional hierarchy.

This tension is shaping the development and implementation of these new accountability mechanisms, both in respect of financial flows and quality and safety; it also constrains professional development, especially in smaller, resource-poor hospitals. One important problem arising from this structural conservatism is the seeming inability to develop horizontal coordination of measures relating to quality and safety, compounded by the absence of bottom-up participatory governance processes feeding into the top level. These conditions lead to limited managerial transparency and embody the risks of patronage, nepotism and corruption.³⁶

A major barrier to effective management is the absence of any mechanisms to link the allocation of resources to clinical activity, which may create a lack of transparency of governance.² For example, it was not clear how one would recruit new staff or redeploy existing ones to establish a new model of care.

A further problem is the weakness of systems to monitor outcomes and the absence of any system accountability to public decision-making bodies. This means that no conclusions can be drawn on the effectiveness of the financial indicators linked to individual pay-for-performance. This example illustrates our previous argument that the new managerial tools may look similar across countries, but their impact is different and effectiveness is diminishing when implemented in hospital structure of the Russian Federation.

This 'implementation dilemma' of new management tools and complexity of circumstances is even more obvious in relation to quality and safety mechanisms.^{3,18} The findings reveal that only a minority of hospitals has implemented these tools. Thus, there is considerable variety. Most importantly, organisational failure to respond to health policy goals is neither monitored nor subjected to sanctions. Moreover, we found no evidence of mechanisms to respond to failure of implementation or to develop stronger frameworks for implementation and monitoring.

Another important problem is lack of participation and integration, which were also identified as key dimensions of governance.² The 'series of silos' in hierarchical management structures mean that there is little coordination between the levels and tasks of management. Such arrangements are particularly challenging given the changing demands on healthcare, characterised, on the one hand, by patients with multi-morbidity, and on the other hand by growing evidence for the benefits of multidisciplinary working, skills mixes and team approaches.^{37,38} While theoretically possible for these new models of care to be adopted, proposals from those on the front line must be taken up through the hierarchy until they reach a point at which the silos join.

This is also one of the main stumbling blocks for innovation in the system; proposals need to overcome many hurdles within the system and are rarely encouraged. Added to this, procedures to evaluate patient satisfaction and ensure feedback are poorly developed or broadly neglected. Considerable efforts have been made to evaluate patient satisfaction in recent years. However only a third of the hospitals surveyed undertook any activity systematically to improve the quality of medical care. This underlines what has been reported from elsewhere in the system, namely, that patient involvement and patient rights often remain tokenistic.²⁴

Clinical management: are hospitals prepared for new demands?

So, how well is clinical management in the Russian Federation prepared to respond to new demands for control and managing more integrated service delivery for chronically ill patients, especially those suffering from multi-morbidity? Our research reveals that hospitals are poorly prepared. Clinical management is especially weak in respect of actor-centred and participatory governance, thus neglecting the contribution that frontline health professionals, supported by shared leadership, can make to innovation.^{4,5,21,22}

The most urgent task is to overcome the structural conservatism of hospital governance and develop models of coordination that balance accountability upwards with delegation of decision-making downwards. This also includes 'new forms of interaction' and the creation of 'networks of actors', as explained in the international literature.¹¹ These changes could improve implementation of clinical management and strengthen the transformative capacity of the health professions.

Our results illustrate that the five major principles of ‘good governance’ described previously with reference to a framework developed by a team of the European Observatory on Health Systems and Policies² may help to identify policy weaknesses and also serve as pointer to the major policy levers:

- improve participation and integration of professionals and patients,
- improve transparency of control mechanisms,
- establish more complex mechanisms of accountability and professional development,
- strengthen mechanisms to detect malpractice and improve integrity,
- build capacity of a wider range of professionals and involving patients to support coordination and integration in clinical management.

However, these measures may require a reassessment of the roles being undertaken. This analysis raises particular questions about the roles of many of the deputy chief physicians, especially where they have responsibilities for administrative areas. There seems no good reason why these roles should be occupied by physicians and, indeed, would likely be performed better by individuals with high levels of training on the issues concerned, such as human resources or facilities management.

Clinical management through the comparative looking glass: is there international convergence?

This assessment of clinical management in the Russian Federation makes it possible to review the findings in an international comparative perspective. This is useful because the study confronts the debate about convergence or divergence of health systems and ‘hybridisation’ of clinical management with the empirical realities of transformation countries.

A comparative perspective reveals different things. In relation to policy recommendations, comparison works like a magnifying glass. It makes the ‘blind spots’ of hospital governance in the Russian Federation visible, and therefore enables a gap analysis and identification of major policy levers for change, namely closing the gaps in both horizontal and vertical coordination structures and mechanisms. In relation to an international scholarly debate, our findings confirm robustness of the assessment framework used in a non-EU context as well as the importance of

'coordination' as both an important dimension of governance² and a generic category to better understand how to make change happen in clinical management.⁹

Previous research in EU countries identified three models of clinical management. These are: a) 'integrated' control with high levels of coordination and coherent patterns for cost and quality controls; b) 'partly integrated' control with diversity of coordination on hospital and department level and between cost and quality controls; and c) 'fragmented' control with limited coordination and gaps between quality control more strongly dominated by medicine, and cost control by management. However, the Russian model that we observed does not fit easily with any of these. Instead we have coined the term 'leaky' coordination. This is because the management structures are, at least formally, structured on a strict hierarchical model, with instructions descending from the top. This lacks mechanisms of coordination that balance accountability upwards with delegation of decision-making downwards. In practice, however, there are informal channels through which information leaks out of a series of silos. Yet these informal channels are inevitably less effective than if there were formal horizontal and bottom-up channels. .

New tools for managing service delivery for patients, such as quality and safety controls, are based on more complex and decentralised modes of governing. Yet they were introduced top-down within a hierarchical system of hospital governance without the necessary structural reforms in leadership.⁵ Thus, new modes of control created gaps in a hitherto strongly hierarchical and centralised governance structure of hospitals.

Finally, our study identified some convergence in relation to the policy tools, while implementation is strongly shaped by the institutional contexts of the healthcare system, and therefore produces distinct outcomes. The findings highlight the benefits of including the Russian Federation in comparative research and call for greater attention to the situation in transformation countries.

Limitations of the study

This study is explorative and based on purposive sampling of the hospital cases and on key informants. The selected cases include variety of hospital types and regions and there are no signs of a systematic bias in our selection, yet representative data are not available. Furthermore, this research aimed to identify gaps in governance

structures, which may reveal policy problems and, in turn, potential levers for change. However, the study cannot present solutions for these problems and does not identify 'best practices'. This would, firstly, need comprehensive micro-level data and in-depth analysis of processes and actions, and secondly, a very much larger number of case studies in order to understand the beliefs and motivations of various groups of actors in different types of hospitals, with sufficient data to compare developments between hospitals and the 85 regions of the Russian Federation. Although in-depth research is certainly desirable, it is especially challenging in a country as large and diverse as the Russian Federation.

Conclusions

The model of hospital management in the Russian Federation faces three major problems. First, they exhibit a *leaky system of coordination* with lack of structures for horizontal exchange of information within the hospitals (meso-level). As a consequence, the transformative ability of new management tools may be 'neutralised' as ideas flow down (and more rarely up) through a hierarchical system of hospital governance where control lies in the hands of one person, the chief physician.

Second, there is an *implementation gap* in the system of hospital governance. New legal requirements and control mechanisms create new or reinforce existing structural inequalities between the three types of hospitals to the disadvantage of the rayon hospitals. The control mechanisms are poorest precisely in those hospitals which are less well-resourced. Thus, the introduction of new ways of managing hospitals are likely to be taken up preferentially by those with the greatest resources, thereby reinforcing existing inequalities in service provision.

Third, there is little evidence of a *learning culture*, whereby problems can be identified, solutions discussed and identified, lessons learned, and new ways of doing things disseminated. As a consequence, there is a risk that the same mistakes could be made repeatedly.

Box 1 Glossary

Oblast – The 85 main territorial divisions of the Russian Federation, each with their own executive authority (usually a governor or a head), legislative body (regional parliaments) and judiciary. Consistent with common practice, in this paper the term is used to cover all these 85 territories, most of which are termed “oblast” but also include republics, krays, and federal cities, each with minor differences in governance arrangements.

Rayon – the territorial unit below the level of the oblast.

Therapeutist – specialist in internal diseases working in primary care. These are not equivalent to a general practitioner as they have little expertise outside internal medicine. General practitioners do exist in the Russian Federation but are concentrated in a few regions and mainly in rural areas.

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Conflict of interest statement

Declarations of interest: none

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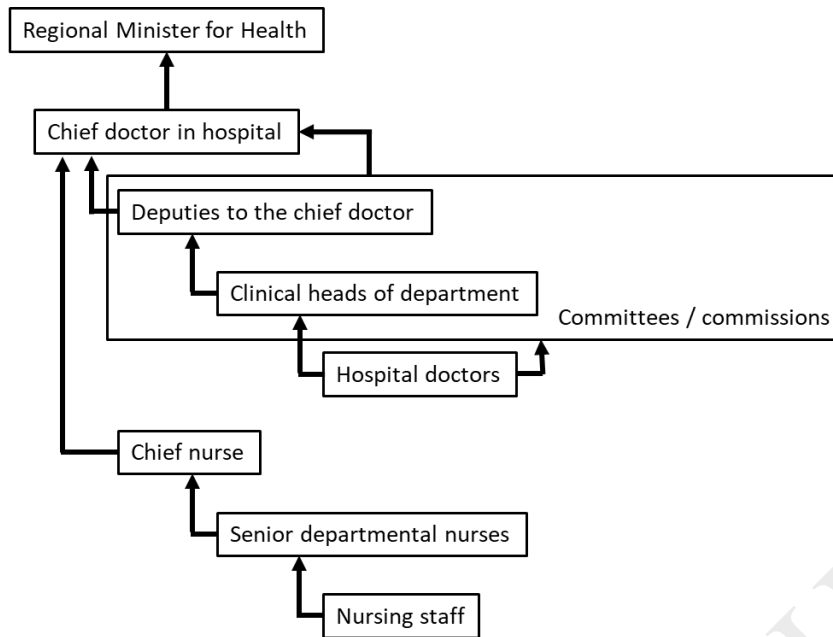
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References

1. Greer S, Wismar M, Kosinska M. Towards intersectoral governance: lessons learned from health system governance. *Public Health Panorama* 2015;1(2):111–204.
2. Greer SL, Wismar M, Figueras J, McKee C. Governance: a framework. In: Greer SL, Wismar M, J. F, eds. *Strengthening health system governance: better policies, stronger performance*. Maidenhead: Open University Press; 2016: p. 27–56.
3. Jeurissen P, Duran A, Saltman RB. Uncomfortable realities: the challenge of creating real change in Europe's consolidating hospital sector. *BMC Health Serv Res* 2016;16(2):168.
4. Bureau V, Bro F. The making of local hospital discharge arrangements: specifying the role of professional groups. *BMC Health Serv Res* 2015;15:305.
5. Denis JL, van Gestel N. Medical doctors in healthcare leadership: theoretical and practical challenges. *BMC Health Serv Res* 2016; 16(Suppl 2):158.
6. Kirkpatrick I, Hartley K, Kuhlmann E, Veronesi G. Clinical management and professionalism. *The Palgrave international handbook of healthcare policy and governance*. Basingstoke: Palgrave; 2015, p. 325–40.
7. Kirkpatrick I, Kuhlmann E, Hartley K, Dent M, Lega F. Medicine and management in European hospitals: a comparative overview. *BMC Health Serv Res* 2016; 16(Suppl 2):171.
8. Kuhlmann E, von Knorring M. Management and medicine: why we need a new approach to the relationship. *J Health Serv Res Policy* 2014; 19(3):189-91.
9. Kuhlmann E, Bureau V, Correia T, et al. "A manager in the minds of doctors": a comparison of new modes of control in European hospitals. *BMC Health Serv Res* 2013; 13:246.
10. Taylor N, Clay-Williams R, Hogden E, Braithwaite J, Groene O. High performing hospitals: a qualitative systematic review of associated factors and practical strategies for improvement. *BMC Health Serv Res* 2015; 15:244.
11. Durán A, Saltman RB. Governing public hospitals. In: Kuhlmann E, Blank RB, Bourgeault IL, Wendt C, eds. *The Palgrave international handbook of healthcare policy and governance*. Basingstoke: Palgrave; 2015, p. 443–61.
12. Healy J, McKee M. Implementing hospital reform in central and eastern Europe. *Health Policy* 2002; 61(1):1–19.
13. McKee M, Healy J, editors. *Hospitals in a changing Europe*. Maidenhead: Open University Press; 2002.
14. [details withheld for anonymity of submission]
15. Rotar AM, Botje D, Klazinga NS, et al. The involvement of medical doctors in hospital governance and implications for quality management: a quick scan in 19 and an in depth study in 7 OECD countries. *BMC Health Serv Res* 2016; 16(Suppl 2):160.
16. Horton R. Clinical leadership improves health outcomes. *Lancet* 2013; 382:925.
17. Ploch T, Arah OA, Botje D, et al. Measuring clinical management by physicians and nurses in European hospitals: development and validation of two scales. *Int J Qual Health Care* 2014; 26(Suppl 1):56–65.
18. Botje D, Klazinga NS, Wagner C. To what degree is the governance of Dutch hospitals orientated towards quality in care? Does this really affect performance? *Health Policy* 2013; 113(1-2):134–41.
19. Von Knorring M, de Rijk A, Alexanderson K. Managers' perceptions of the manager role in relation to physicians: a qualitative interview study of the top managers in Swedish healthcare. *BMC Health Serv Res* 2010; 10:271.
20. Kuhlmann E, Rangnitt Y, von Knorring M. Medicine and management: looking inside the box of changing hospital governance. *BMC Health Serv Res* 2016; 16(Suppl 2):159.
21. Bureau V, Carstensen K, Lou S, Kuhlmann E. Professional groups driving change toward patient-centred care: interprofessional working in stroke rehabilitation in Denmark. *BMC Health Serv Res* 2017; 17(1):662.

22. Larsen KN, Kristensen SR, Sogaard R. Autonomy to health care professionals as a vehicle for value-based health care? Results of a quasi-experiment in hospital governance. *Soc Sci Med* 2018; 196:37–46.
23. Popovich L, Potapchik E, Shishkin S, Richardson E, Vacroux A, Mathivet B. Russian Federation. *Health* 2011; 13(7):1–190.
24. Rechel B, Richardson E, McKee M. Trends in health systems in the former Soviet countries. Copenhagen: European Observatory on Health Systems and Policies; 2014.
25. Rechel B. Health policy reform in the countries of the former Soviet Union. *The Palgrave international handbook of healthcare policy and governance*. Basingstoke: Palgrave; 2015, p. 238–53.
26. GBD 2015 Healthcare Access and Quality Collaborators. Healthcare Access and Quality Index based on mortality from causes amenable to personal health care in 195 countries and territories, 1990-2015: a novel analysis from the Global Burden of Disease Study 2015. *Lancet* 2017; 390(10091):231–66.
27. Kontsevaya A, Sabgaida T, Ivanova A, Leon DA, McKee M. How has the management of acute coronary syndrome changed in the Russian Federation during the last 10 years? *Health Policy* 2017; 121(12):1274–9.
28. Glonti K. Specialised and in-patient services. In: Rechel B, Richardson E, McKee M, editors. Trends in health systems in the former Soviet Countries. Copenhagen: European Observatory for Health Systems and Policies; 2014, p. 129–44.
29. Glenton C, Lewin S, Norris S, Norris S. Using evidence from qualitative research to develop WHO guidelines. *Handbook for Guideline Development*, 2nd edition. Geneva: World Health Organization; 2016.
30. Wrede S. How country matters: studying health policy in a comparative perspective. *The SAGE handbook of qualitative methods in health research*. Thousand Oaks, CA: Sage; 2010, p. 88–105.
31. Russian Federation. Article 90. [Basic law on the health care of citizens of Russian Federation]. 21.11.2011 #323-FZ. Moscow; 2011.
32. Russian Federation. Federal Law No. 64-FZ of June 13, 1996 on the Enforcement of the Criminal Code of the Russian Federation. Adopted by the State Duma on May 24, 1996. Adopted by the Federation Council on June 5, 1996. Moscow; 1996.
33. Preker AS, McKee M, Mitchell A, Wilbulpolprasert S. Strategic management of clinical services. In: Jamison DT, Alleyne G, Breman J, et al., editors. *Disease control priorities in developing countries*, 2nd edition. Oxford: Oxford University Press; 2006, p. 1339–52.
34. Gerry CJ, Sheiman I. Too many and too few: The paradoxical case of physicians in the Russian Federation. *Int J Health Plann Manage* 2017; 33(1):e391–e402.
35. Romanov P. Quality evaluation in social services: Challenges for new public management in Russia. In: Peters G, editor. *Mixes, matches, and mistakes: New Public Management in Russia and the Former Soviet Republics*. Budapest: Open Society Institute, OSI/LGI; 2008, p. 9–53.
36. Karanikolos M, Kuhlbrandt C, Richardson E. Health workforce. In: Rechel B, Richardson E, McKee M, editors. Trends in health systems in the former Soviet countries. Copenhagen: European Observatory for Health Systems and Policies; 2014, p. 77–90.
37. Maeda A, Socha-Dietrich K. Feasibility study on health workforce skills assessment: supporting health workers achieve person-centred care. Paris: OECD; 2018; <http://www.oecd.org/els/health-systems/Feasibility-Study-On-Health-Workforce-Skills-Assessment-Feb2018.pdf>.
38. OECD, editor. *Health workforce policies in OECD Countries: right jobs, right kills, right places*. Paris: OECD; 2016.

Figure 1 Governance structure of hospitals in the Russian Federation



Source: authors' own compilation

Table 1: Numbers of subjects interviewed in each setting

	Regional level		City level		Rayon level		Total
	Senior	Middle	Senior	Middle	Senior	Middle	
Nizhny Novgorod	4	20	2	13	2	10	51
Pskov	3	21	2	15	1	12	54
Tatarstan	6	24	3	18	2	14	67
Tyumen	5	20	2	14	1	12	54
Vladimir	4	20	2	16	2	12	56
Total	22	105	11	76	8	60	282

Source: own data

Table 2: Selected features of the territories included in this study and for the Russian Federation as a whole

Territory	Population (thousand) 2016	Gross Regional Product (GRP) per capita 2016 (Roubles)	Rank on GRP per capita among all oblasts	Life expectancy at birth (2016)
Nizhny Novgorod region	3,254	312	14	70.8
Pskov region	642	188	73	69.2
Tatarstan	3,877	432	6	73.6
Tyumen region	3,638	1,432	19	72.3
Vladimir region	1,393	235	43	70.3
Russian Federation (total)	146,804	402		71.9

Source: Rosstat. Regions of Russia. Socio-economic indicators 2017. Statistical Collection. Moscow, 2017.

Table 3 Average number of managers in senior and middle management in different types of hospitals

Hospitals	Senior management	Middle management	Average number of beds
Regional level	13.4 (10-18)	61.2 (36-88)	1267
City level	12.4 (8-18)	42.6 (12-103)	616
Rayon level	6.0 (3-11)	19.4 (9-46)	232

Source: own data