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SPECIAL REPORT

Too many and too few: The paradoxical case of physicians in the Russian Federation

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Summary

There is a paradox characterising the Russian health workforce. By international standards, Russia has a very high number of physicians per capita but at the same time is confronted by chronic real shortages of qualified physicians. This paper explores the reasons for this paradox by examining the structural characteristics of health workforce development in the context of the Soviet legacy and the comparative performance of other European countries. The paper uses data on comparative health workforce dynamics to argue that Russia is a European laggard, before then evaluating recent and current policies within that context. The health workforce challenges facing all low- and middle-income countries are acute, and this paper confirms this IS the case for Russia—Europe's largest country. The paper argues that the physician shortage is driven by the model of health workforce development inherited from the Soviet period, with its emphasis on quantitative rather than structural indicators. We find that, in contrast to most European Union countries, Russia's stalled reform process leaves it facing a chronic shortage of appropriately trained physicians. We document the costs of failed and slow reforms during the last 2 decades, while cautiously welcoming some recent policy initiatives.

KEYWORDS

health policy, health reform, health workforce, physicians, Russia

1 | INTRODUCTION

Across the world, health systems and their associated health workforces are facing a set of distinctive and rapidly evolving challenges. The demands on health services are undergoing change, as the demographic, cultural, political, and socio-economic profiles of their populations evolve and give rise to new user expectations and needs. At the same time, in recent years, the challenge of incorporating new and emerging technologies while delivering efficiency and equity in the austere surroundings of the postfinancial crisis world has taken a grip on health sector management. The ability of health systems to respond appropriately to these myriad challenges is heavily dependent on the

availability of a health workforce, in possession of the relevant skills, deployed in sufficient numbers, operating in the right geographic locations, and with appropriate scope for professional development and productivity enhancement. These workforce challenges are particularly acute in low- and middle-income countries and nowhere more so than in Russia.

Writing in the context of communicable disease, Atun and Menabde identified the health workforce as being a resource in receipt of payment, but not as one of 4 core levers having influence over the health system.[1] This reflected earlier approaches that identified the significant role of the health workforce but equally did not perceive it as one of the main drivers of the health system.[2,3] Recent literature[4-6] situates the health workforce more squarely at the heart of health service delivery, because "all health systems work through health professionals to achieve their goals."[5] This latter strand of work reflects the spirit of the World Health Organisation's (WHO's) approach, conceptualising the health system in terms of 6 fundamental building blocks, one of which is the health workforce.[7]

In this context, empirical research has sought to understand the substantial growth in the number of physicians per capita that most of the European Union (EU) experienced during the 2000s.[8-11] These increases took place within a new orthodoxy for health workforce planning predicated not only on increasing the numbers of physicians but also on ensuring improvement in the structural dimensions of workforce supply through a range of health policy interventions, such as the regulation of professional training and career development, geographic and regional reallocation, and the reconfiguration of roles and functions.[12] Fittingly, a 2012 to 2013 survey of health policy leaders in 29 Organisation for Economic Cooperation and Development (OECD) countries concluded that their major health workforce preoccupation is the structure and quality of physician supply rather than the quantity.[8]

Despite considerable efforts at reform, Russia has remained a laggard in terms of health workforce policy. Following the break-up of the Soviet Union in 1991, the Russian health system underwent a significant transition: a shift from budgetary health funding to comprehensive mandatory health insurance, the decentralisation of governance, the emergence of a nascent private sector, and the use of contracting models and new provider payment methods.[13] The reforms to financing were not accompanied by a comparable transition in health care delivery, with the legacy of the Soviet "Semashko" health care model persisting through the period of economic transition. Specifically, although it is now officially recognised as an important element of the health system, primary health care has remained a low priority form of delivery in Russia. Indeed, the prioritisation of hospital-based care, with the excess bed capacity that this gave rise to, took precedence through much of the reform period. Accordingly, the health workforce received low and demotivating salaries, distributed through the, predominately state owned, polyclinics and hospitals.[14]

This health care structure has long situated Russia towards the top of the official international rankings for "physicians per capita." Indeed, even as the professional skills of medical workers atrophied and population health outcomes deteriorated, the government actively referenced such rankings as indicative of the success of the Soviet health system.[15] Fast forward to 2017 and while Russia's leadership has remained largely unchanged, an emerging crisis in the supply of physicians has now become an accepted health policy challenge. Recent reforms have seen an increase in medical worker remuneration and the introduction of a new system of professional development (see Section 4). Notwithstanding these developments, the Russian economy has been under strain and therefore, these reforms take place in the context of low budgetary sector capacity for spending on health care, with just 3.3% to 3.6% of Gross Domestic Product (GDP) being devoted to health from public sources.[14]

The changing landscape of the health workforce and the recent reform attempts in Russia give rise to several important questions. How can Russia have both too many and too few physicians? What are the reasons for the shortage of appropriately qualified physicians? How can the health workforce model learn from international best practice and what are the dangers of not doing so? These questions are relevant for the overwhelming majority of low- and middle-income countries, including those making the transition from communist structures.

The paper makes 4 main contributions. First, as far as the data allow, the dynamics of the Russian health workforce are situated in a relevant international context. Second, the paper provides an in-depth analysis of the evolution of the health workforce and the associated policies shaping it during the last decade. Third, in the context of 3 key dimensions—availability, distribution, and performance—the paper identifies the priority areas for modernisation

and reform. Fourth, though carefully interrogating the available data, the paper illuminates the caution required in using health sector aggregates for cross-national comparisons.

We find that, in contrast to most EU countries, including those of Central and Eastern Europe, Russia has delayed structural reforms in health labour development and has not embraced a shift to the general practitioner oriented system of primary health care. Russia therefore now faces a chronic shortage of physicians, even while the official data may not suggest this. These failures present important lessons for other countries, particularly those with serious public health funding constraints.

In Section 2, we outline our approach to answering these important questions and indicate the sources of our empirical evidence. In Section 3, we present our detailed results, before augmenting this, in Section 4, with a discussion of current policy initiatives. In the final section, relevant gaps in knowledge, data, and research are presented as a motivation for a future research and policy analysis agenda in this area. The paper briefly concludes with lessons for other transition and low- and middle-income countries.

2 | METHODOLOGICAL APPROACH

The new European consensus for the planning and delivery of the health workforce has only recently taken root in Russia and may only be starting to impact on the approach to policy making. Empirically, these relatively new developments render the traditional measures for health workforce analysis inappropriate if looked at in isolation. This paper therefore augments a careful qualitative analysis of the structural changes taking place in the health workforce with an extended range of time-series measures of available health workforce data, interpreted within the prism of a political economy approach to understanding the Russian country context.

We examine data on the physician-population ratio; the share of general practitioners in the total number of physicians; the proportion of physicians in the health workforce; and physicians' professional development. These indicators are chosen because the expected changes in their respective time-series crudely proxy the expected and needed reform of the health workforce that the post-Soviet context demands and that, as we will explain, has been observed in other parts of the postcommunist region.

To make sense of these indicators, the performance of the Russian health system is contextualised against relevant comparator countries from the WHO European region, for which we consider data for both the pre- and post-2004 EU countries and pay special attention to the countries undergoing transitional changes from similar communist legacies. Among these transition countries, Estonia (former Soviet Union) and Czech Republic (Central European) are those that have experienced the most substantial changes in health policy in the postcommunist area, while Belarus and Ukraine, along with Russia, remain laggards. Having established that Russia lags behind "new" and "old" Europe in most respects, in Section 4, the paper evaluates the Russian government's recent and current policy endeavours and assesses the extent to which they are likely to propel Russian health care from its current low-level equilibrium.

The empirical analysis draws on data from the WHO's "Health for all database,"[16] augmented where appropriate, with OECD data.[17] The information on Russia is limited or incomplete in these databases, and therefore, subject to the constraint of sustaining comparability, data from the Russian National Statistics Office has been used to augment the WHO and OECD data sources.[18]

3 | RESULTS

3.1 | The physician-population ratio

Cross-country measurement of the number of physicians is complicated by the variance in their definition across borders. Official Russian data includes dentists and physicians working as administrators that are not normally included in the WHO database, and so we draw on this broader category of physicians and dentists, in order that Russian and

international data can be compared. To compound this problem, the most recent revision of the WHO data reports new estimates of the number of physicians that are up to 80% lower than the previous estimates.[16] The explanation for this is that Russia has submitted estimates to the WHO of physicians with "clinical specialities," thus ignoring the large number of physicians involved in diagnostic and supplementary clinical activities, as well as those in the health facilities that serve public servants and employ around 30% of the total number of Russian physicians. For Russia, therefore, these data are no longer compatible with comparator countries. We have therefore used national data providing the number of physicians and dentists in a manner directly comparable with the previous editions of the WHO estimates.[18]

Figure 1 demonstrates the stylised facts described in Section 1: first, through the 2000s, the widespread European phenomena of rising physician numbers, followed by declines in some countries, including Russia; second, the high number—relative to Western Europe—of physicians inherited by the postcommunist countries; third, that Russia continues to have one of the highest levels of physicians per capita, although by 2014, the gap with the other countries had begun to narrow; and fourth, the Czech Republic and the pre-2004 EU countries had the biggest increases in physicians over this period, starting as they did from relatively low levels.

It is these data that provide us with the paradox referred to in the title of the paper and that serve to disguise the essential health workforce truth that the composition and distribution of Russia's health workforce results in a chronic shortage of physicians in specific categories and locations. An initial official estimate indicates that the total shortage stood at around 148 000 or 24% of the total number,[19] while a more recent estimate suggests that the ratio between the number of full-time equivalent jobs and the actual headcount of physicians is around 1.6 to 1.[18] A similar estimate of the ratio of full-time equivalent jobs to actual physicians was made for a number of European countries, and the average ratio for the new EU countries, in 2012, was 1.25 to 1. Meanwhile, in the reform leaders, Estonia and Czech Republic, the respective ratio is now close to parity. Correspondingly, the problem of increasing the supply of physicians without regard to the appropriateness of their skills or location is less relevant in these advanced reform countries.[16]

In Russia, the vacant positions are often unfilled or are filled through existing physicians working overtime in an additional job. According to the national survey of physicians, over 20% occupy more than one position.[20] The additional positions are typically in the same medical facility and, in some cases, are deliberately created to give physicians a chance to augment their primary job earnings.

This apparently paradoxical combination of an exceptionally high physician-population ratio alongside a chronic absolute shortage of physicians (as well as the phenomena of holding more than one job) can be explained by several

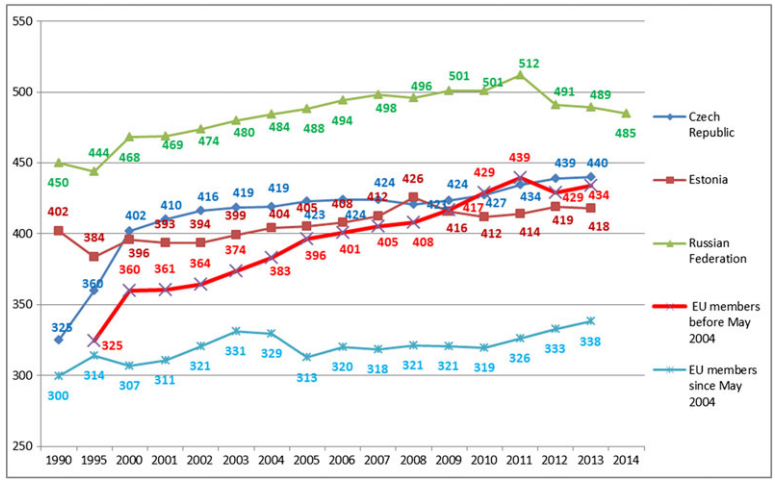

FIGURE 1 Physicians and dentists per 100 000 of population, 1990 to 2014 (or nearest year). Sources: WHO[16]; Rosstat[18]

Russian specific factors. To a certain degree, it is a combination of the vast landscape, with highly dispersed small towns and rural villages giving rise to low population densities with differing demographic profiles and health workforce needs. Russia's size does indeed magnify the complexity of planning.

A more fundamental explanation relates to the legacy of the Soviet period. The enduring perception of the physician as a relatively inexpensive resource has stubbornly remained throughout the transition period and goes someway to explaining the multiple job-holding phenomena. In 2012, the average salary of the physician was only 26% higher than the overall economy average,[18] while in the pre-2004 EU countries, the relative salary ranges from 1.7 to 3.4 times higher for self-employed physicians and 1.7 to 5.0 times higher for specialists.[21] Most of the "new" EU countries have also substantially increased this ratio over the last 2 decades. For example, in Estonia, salaried specialists now earn 2.1 times the average, while the equivalent figures for Slovenia and Czech Republic range[17] from 1.6 to 2.6.

The relatively low "price" of physician labour in Russia has been a strong driver both for increasing their number and for avoiding delineating new (expanded) roles for nurses and other health workers. Every new service initiated by the government is usually developed through creating new physician jobs irrespective of the content of this job. For example, the attempt to strengthen preventive care made in 2010 brought to life so-called centres of health that were staffed predominantly by new physicians, without necessary strategic developments within the allied health professions. Indeed, there is no evidence that some obvious alternatives, such as extending the role of nurses, were discussed.

The combination of these factors has therefore given rise to the Russian health workforce paradox: There is contemporaneously both a high number of physicians and a shortage of them. The primary drivers of this phenomenon are the mismatch between the supply and demand of physicians and the inappropriate division of labour between physicians and their allied health professions.

3.2 | General Practitioners as a proportion of physicians

In contrast to the countries of the EU, much of Russian primary care is delivered through the so-called district physicians, who work as salaried employees in multispecialty polyclinics. These district physicians refer approximately one-third of their first contact patients to specialists,[21] while in most European countries, the corresponding indicator (for general practitioners) is no more than 10% to 15%.[22] During the 1970s, there was a sustained attempt to "support" district physicians by increasing the number of outpatient specialists in the polyclinics. This reduced the range of clinical activity with which they would engage before referring their patients to specialists and in turn reinforced the proliferation of very narrowly defined specialists. As a further consequence, patients have grown to increasingly mistrust the district physicians because of their limited area of clinical activity and expertise. The physicians themselves have ceded individual responsibility for the supervision of the enrolled population, and indeed, the relatively minor role played by these primary care physicians undermines the comprehensiveness and integration of care, including continuity of care and its coordination in the case of chronic and multiple morbidities.[23,24]

The sustained reliance on the district physician in Russia has surely reduced the impetus for a shift to a general practitioner based model. Indeed, the number of general practitioners in 2013 was only 0.7 per 10 000 residents compared to an average of 8.7 in the pre-2004 EU and 5.7 in the post-2004 EU.[16,18] Most of the former communist countries of the post-2004 EU started to move towards a general practitioner based system in the 1990s and now, often through the re-education of district physicians as well as directly appointed general practitioners, have their primary care units staffed by professionals with a much broader set of functions than their Russian district physician counterparts. For example, in Estonia and Czech Republic, there are now more than 7.0 GPs per 10 000 residents, a number that is converging on the pre-2004 EU country average.[16] In parts of the "new" EU, this process has been driven by privatisation. In Czech Republic, Slovakia, the Baltic countries and the countries of former Yugoslavia, polyclinics have been restructured into free-standing general practices, in which most general practitioners are self-employed and act

as private contractors of social health insurance funds.[25] This has endowed general practitioners in much of the post-communist world with very different professional profiles to those of the Russian district physicians.

Figure 2 confirms these observations. Even when incorporating both district physicians and general practitioners in to the Russian data, the proportion of this group among total physicians barely scales double figures, compared to figures of well over 20% for the pre-2004 EU countries (32% in Germany and 41% in France) and approaching 20% for the post-2004 EU countries. Combined with Figure 1, therefore, we can conclude that there are too many physicians in the broadest sense but not enough of them with the right professional profiles or opportunities equivalent to the "Western" general practitioner.

It follows from this that the incentives to become a general practitioner are also much lower in Russia than in the EU countries. The average percentage of students that choose to become GPs across 31 European countries is 17%, while in Russia, this figure is estimated to be only 3.2%.[23] In consequence, general practitioners are always in short supply. A 'back of the envelope' estimate, based on normative standards of the enrolled population (1700 per district therapist and 800 per district paediatrician) suggests that there is a shortage of around 30%. The district physicians are therefore heavily overburdened, with a surplus of patients, and are often forced to hold more than one position. In turn, patients must wait for long periods to be seen and their level of satisfaction is low. A 2014 patient satisfaction survey reported that only 14% of surveyed patients are satisfied with their district physician,[23] compared to 80–90% satisfaction rates in Europe.[22]

The government has made some attempt to attract physicians into primary care. The National Priority Project for Health, starting in 2005, gave rise to substantial salary increases for district physicians, while a "Rural physician" initiative was launched in 2012. These measures have served to divert resources in the anticipated way but have not been accompanied by active measures substituting district physicians for general practitioners and restructuring polyclinics. The result is that, almost 25 years after the end of the Soviet period, the required shift towards a general practitioner framework in primary care has barely started and the perplexing combination of both a high aggregate physician-population ratio and a chronic physician shortage looks set to continue.

3.3 | The division of labour in the health workforce

There is a substantial body of literature that provides evidence of a high clinical performance of nurses in managing simple cases and an associated patient satisfaction level that exceeds that obtained by physicians.[26-28] The increasing incidence of chronic diseases, co-morbidity, and mental illness drives the demand for new services (eg, home care),

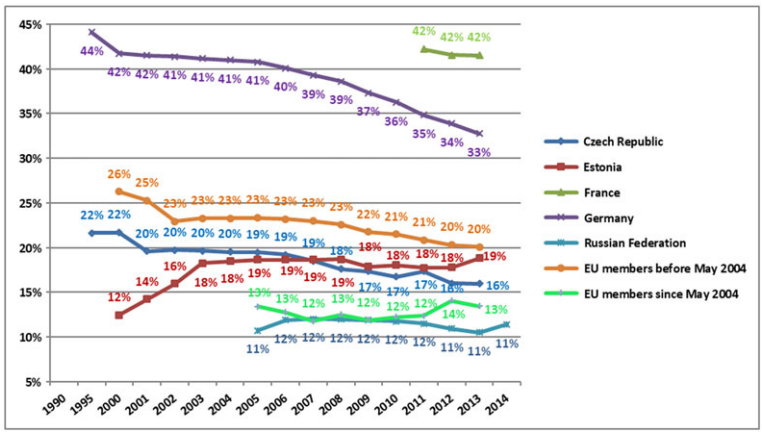

FIGURE 2 Share of GPs in the total number of physicians, 1995 to 2014 (or nearest year). Sources: WHO[16]; Rosstat.[18] Note: For Russia, these figures include GPs and DPs (district therapists plus district paediatricians)

many of which can be provided through the allied health professions, whose number include physician and nurse assistants, technicians, and administrative and support personnel.[29,30] This group of health professionals is increasing in importance globally and growing rapidly. In Germany and the United Kingdom, they now amount to around 65% of health workers.[16] Correspondingly, within the nursing sphere, there are new specialities and subspecialities emerging, new training and education requirements, and new opportunities for enhanced professional development.[31]

To a limited extent, a division of labour has also begun in Russia, but the predominant perception of nurses as assistant to the physicians has remained largely unchallenged and the failure to adequately exploit possibilities for substitution in health care production remains. While in European health systems many simple and routine general practitioner functions are delegated to nurse practitioners and physician assistants, the allied health professionals in Russia are more likely to operate in the administrative sphere with their professional training provided mostly by companies that supply medical equipment rather than through education in universities or medical schools. In contrast to the Western transformation, the professional capacity of nurses remains constrained by the absence of theoretical knowledge, poor or no training in service delivery organisation and management, and a limited set of practical skills. As expected then, the aggregate recorded share of physicians in the total health workforce is higher in Russia than in the West (Figure 3). The undeveloped nature of the physician-nurse relationship and the inefficient division of labour is further borne out by the nurse-physician ratio, which is lower for Russia either than in the pre- or post-2004 EU (Figure 4). The shortfall in this ratio stems directly from the high physician-population ratio rather than from the low nurse-population ratio, which lies between the pre- and post-2004 EU averages.

Thus, while across "new" and "old" Europe, the major thrust of health workforce development involves the delegation of services to nurses, the substitution of physicians with nurses, the reliance on nurses in the provision of new services, and the growth of new categories of medical and nonmedical personnel, in Russia, the absence of any substantive division of labour results in the everyday overburden of physicians, who are forced to absorb a lot of routine functions, including in rudimentary medical bookkeeping and documentation.

3.4 | Professional development of physicians

The cornerstone of the Soviet Semashko model was to guarantee access to "care for all." Increasing the volume of inputs (the so-called extensive growth model) was the adopted mode for achieving the constitutional principle of free

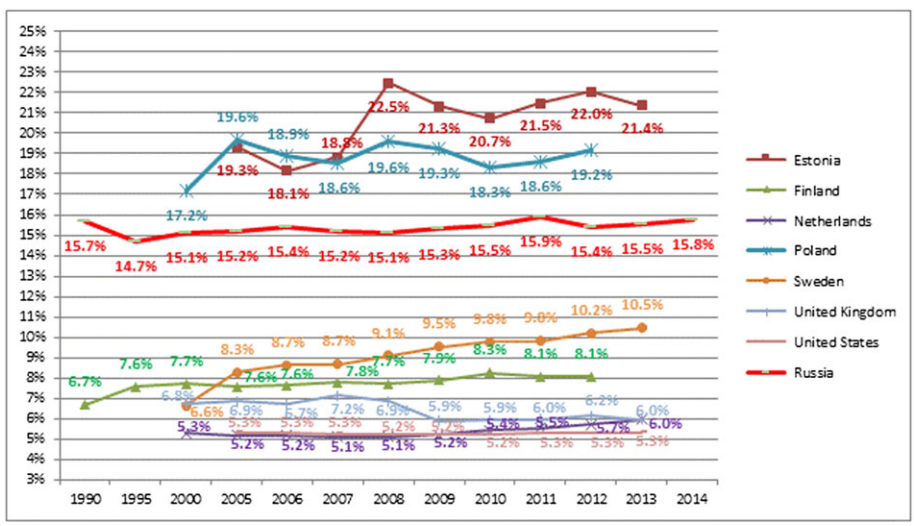

FIGURE 3. Share of physicians in the total health workforce in the Russian Federation and selected countries, 1990 to 2014 (or nearest year). Sources: Database OECD[17]; Rosstat[18]

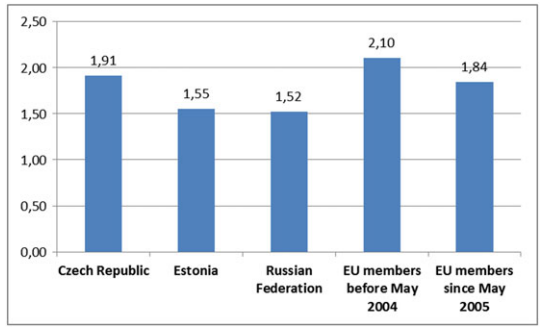

FIGURE 4 Nurse-physician ratio in selected countries, 2014 (or nearest year). Sources: WHO[16]; Rosstat[18]

care. To attain the desired growth in these inputs (physicians and nurses) required maintaining relatively loose competency requirements, particularly in the case of physicians. This created a vicious circle in which the need for more physicians stimulated a need to lower their professional requirements. In turn, this yielded poor quality primary health care that, perversely, increased the utilisation of health care due to the associated need for additional physician visits, emergency care, and re-admissions. And so the shortage of physicians persists despite the increase in the supply of physicians.

This cycle can only be broken through a conscious switch to promoting the "intensive" growth of physician supply, that is, by improving the productivity of existing physician numbers. Here, the comparison with the old-EU countries is illuminating. In the latter group of countries, the training of specialists takes 12 to 14 years, and thereafter, they improve their skills continuously. In Russia, training takes 7 to 8 years, including medical school (6 years), a 1-year internship or a 2-year residency. The route to a subspecialisation in Russia is also shorter and easier than in most Western countries. The international survey of medical specialisation indicates that in most Western countries, the major condition for entry to a narrow specialty is to attain a threshold level of experience (and hold certification) in the general specialty.[32] This condition is not met in Russia, where practically all interns and residents become certified, even though most of them have very limited clinical practice.

Beyond qualification, the concept of continuous professional development is a relatively new one in Russia. The general requirement for physicians is to upgrade their qualification every 5 years through a course that lasts from 2 to 3 weeks to 3 to 4 months. Until recently, this training has been provided by special postgraduate training institutions, and physicians were not able to select medical facilities in which to upgrade their skills.

The drawbacks of inadequate medical education and postgraduate training along with a limited tradition of continuing professional development and low remuneration are demotivating for current, as well as future, physicians. A survey by the Federal Ministry of Health in 2013 indicates that only 14% of physicians are satisfied with their work, 22% plan to go abroad for additional training, and 11% of medical school graduates have no intention of entering the medical profession and will instead seek to work for pharmaceutical companies.[33] Correspondingly, efforts to increase the supply through intensive means are therefore constrained, and the vicious circle of extensive growth, described above, is reproduced.

4 | ASSESSING THE CURRENT POLICY

The previous section explained how the Russian health labour force has become trapped in a low-level equilibrium giving rise to a shortage of physician labour. In recent years, the government has however made considerable efforts towards reform, including through a Presidential Decree defining new targets for medical workers' salary[34] and the respective Government Decrees on remuneration policy and health workforce development.[19,35]

The major contribution of these initiatives is to end the enduring and pervasive perception of physicians and nurses as inexpensive resources. By promoting higher salaries, the reformers seek to redefine the health workforce in terms of quality rather than quantity. In state-owned facilities, the average physician salary is set to increase from 126% to 200% of the average regional salary. Similarly, for nurses, the proportion will increase from 75% to 100%.[34] These policies are already taking effect, with the average salary of physicians (nurses) in 2015 representing 141% (80%) of the average regional salary.[18] Further, the automatic indexing of the salary is to give way to performance-related remuneration, through which each employee is contracted for a set of clearly specified functions, linked to 2 components of the salary: a regular payment (the "basic") and a variable component (the "bonus").

The second policy domain relates to the promotion of structural shifts in workforce supply. There are plans to decrease the physician-population ratio and complementary plans to increase the number of nurses by 50% between 2013 and 2018, to achieve a nurse-physician ratio closer to the European average. These efforts represent the first serious attempts to reverse the long-term trend of relying on "extensive" growth.

Significant activities are also being implemented in the spheres of education and professional development, including new educational standards in medical universities that will focus on developing practical skills, re-equipping university clinics, shadowing the educational programmes of the leading international medical schools, and strengthening the qualification and remuneration of trainers; increasing the residency term from 2 to 5 years; replacing "periodic" re-education with a programme of continuous professional development; allowing physicians to upgrade their skills within medical facilities; the strengthening of medical associations; and the development of a new system of accreditation and approval.[34]

The long-running economic crisis poses serious challenges to the reform agenda, yet encouragingly, the ambitious "European" targets have not been questioned. The government seeks additional resources at the level of medical facilities themselves, through merging hospitals and polyclinics, closing the most inefficient facilities, decreasing the number of hospital beds, making the length of hospital stay shorter, and shedding excessive personnel. To this end, and in these austere fiscal times, the health workforce policies have encouraged service delivery restructuring and have begun to address the vicious circle in which surplus and shortage go hand-in-hand.

While undoubtedly ambitious, the reform agenda fails to address several fundamental weaknesses outlined in Section 3. Most strikingly, the model of district physicians, with limited clinical and organisational functions, as the major provider of primary health care is not under reform or review. Secondly, there are no special provisions to overcome the structural inequalities (eg, the low share of physicians in primary health care) in physician supply. Thirdly, it is still not clear how Russia will address the simultaneous problem of excessive physicians in hospitals alongside their shortage in primary care facilities or, moreover, the regional inequalities and the urban-rural inequalities that prevail and that may be extended by the consolidation of facilities.[23] Related to these shortfalls, the reforms do not seek to mirror international best practice in expanding the number and activities of the allied health professionals—indeed, the opposite is true, with these categories of worker often seen as prime areas to cut. Fifth, none of the current policies address the problem of multiple job holding in the health sector.

Finally, the employment and legal status of physicians as the employees of public medical facilities with limited individual responsibility is not questioned, even conceptually. We are far from thinking that privatisation of state owned entities is a panacea but, although the global evidence is mixed, there is some evidence (including from other East European countries) that it can be useful in general practice as a means of managing incentives and fast-tracking reform. Indeed, the prospect of managerial independence for general practitioners could be particularly important in Russia, where entry into this area is particularly unattractive to medical students and the usual labour market tools (provision of subsidies to students, internships, and bonuses for working in rural areas) have proven to be ineffective.

5 | DISCUSSION

This paper has situated the problems facing Russian health workforce policy within the context of the transition from the communist "Semashko" model, characterised as delivering increased health care demands through quantitative

growth in human resources (the "extensive" model), to a European model based first and foremost on harnessing the existing inputs and seeking to increase supply through improving the structure of the workforce, encouraging professional development, and providing incentives for providers to increase the efficiency of their performance (the "intensive" model).

This typology is, of course, a crude simplification, but by looking at the comparative performance of the Russian health workforce in four dimensions (the physician-population ratio; the share of GPs among primary care physicians; physicians as a proportion of the health workforce; and professional development strategies and policies), by situating these dimensions within the historical and institutional legacy of the communist system, and by comparing progress in these areas to pre- and post-2004 EU countries (the European norms to which Russia aspires), the paper sheds light on the key challenges and obstacles that Russian health labour force policy faces as well as the performance gap that has developed with the other, former-communist, countries of Eastern Europe.

Overall, in the "new" EU East European countries (ie, those also evolving from communist structures), there are positive signs of a transition having been made from the extensive to the intensive model of development. The remuneration of physicians has increased relative to the economy average, the growth in the physician-population ratio has slowed down, the ratio of nurses to physicians has increased, and the human resources available to primary health care have been strengthened by a shift to the general practitioner model, often encompassing the opportunity for self-employment.

Among these countries, Russia is shown to represent a special case. The legacy of the extensive model of development has lingered on and has given rise to several specific negative outcomes. First, the low proportion of GPs in primary health care has not been reversed, and the tradition of district physicians, with limited clinical and organisational functions, lives on. This acts as the major driver generating demand for outpatient specialists and requires a seemingly perpetual increase in their number. To meet this demand is not easy; therefore, the shortage of physicians comes to define the prevailing and inefficient "brand" of the Russian health system. The separation of specialists as providers of "only outpatient" or "only inpatient" care preserves the qualifications gap and ensures a higher demand for hospital admissions. At the same time, the qualification gap jeopardises the continuity of care after hospital discharge, increasing the chances of readmission and incentivising hospital physicians to retain patients for longer. This too is part of the vicious circle that ensures that the inefficient hospital-oriented system reproduces itself in the form of a dominant inpatient health sector.

Third, Russia's mode of health care delivery highlights an inverse relationship between the structure of service delivery and the structure of health labour. The dominance of inpatient care over primary health care maintains the necessary distortions in the structure of the health workforce, but at the same time, the distorted structure of the labour force significantly complicates the task of restructuring service delivery. During the last decade, Russian policy makers have been addressing this by downsizing hospital bed capacity and reducing the utilisation of inpatient care: The number of bed-days per capita decreased[18] from 3.41 in 2000 to 2.61 in 2013. This remains considerably higher than the average for both the pre-2004 (1.40) and post-2004 (1.48) EU countries[16] and reflects the stubborn tendency towards hospitalisation for long-term care, rather than predominantly acute care, as in Western Europe. Even so, any further decrease in inpatient care utilisation will most likely create significant tensions in the health system, highlighting the shortage and limited capacities of primary health care (and long-term health care) providers.

Finally, for the individual actors within the health workforce, the absence of continuous professional development, independent accreditation and adherence to international best practice, together with the low level of remuneration limits the motivation both at entry level and in terms of subsequent professional training. This exacerbates the need for a higher quantity of physicians, in the absence of improved quality. Moreover, although in the biggest Russian cities, hospitals are now often equipped to Western standards, the effective use of new technology is constrained by a shortage of qualified physicians and allied health professionals. Meanwhile, outside of large Russian cities, access to health care is increasingly threatened by the consolidation of outlets, giving rise to increasing travel times and distances.

While this paper has documented some progress in workforce reforms as well as the promise of more to come, it also outlined the key issues that the reforms have so far ignored including the predominance of district physicians, the shortage of general practitioners in primary care facilities, the division of labour and the dispersion of roles to the allied health professionals, and the structural inequalities in the supply of physicians. As things stand therefore, and without further efforts at more comprehensive reforms, one can expect the reproduction of physician shortages to continue, the proliferation of surplus under-qualified district physicians to be sustained, constraints on technological development to be maintained, and the burden on the economy and on the health of the population to increase.

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