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**HEALTH CARE INTEGRATION  
IN THE RUSSIAN FEDERATION:  
CONCEPTUAL FRAMEWORK,  
EVALUATION, AND NEW  
INSTRUMENTS**

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## **HEALTH CARE INTEGRATION IN THE RUSSIAN FEDERATION: CONCEPTUAL FRAMEWORK, EVALUATION, AND NEW INSTRUMENTS<sup>3</sup>**

Fragmentation in organization and discontinuities in the provision of medical care are problems in all healthcare systems, whether it is the mixed public-private system in the USA, national health services in the UK, or insurance-based ones in Western Europe and Russia. In all of these countries, a major challenge is to improve integration in order to improve efficiency and health outcomes. This article assesses issues related to fragmentation and integration in conceptual terms and argues that key attributes of integration are teamwork, coordination, and continuity of care. It then presents a summary of integration problems in Russia and presents the results of a large survey of physicians concerning the attributes of integration. It is argued that the characteristics of the national service delivery model do not ensure integration. The Semashko model of service delivery, although designed as an integrated model, has been distorted under pressure of the process of specialization of care. It is also argued that larger organizational forms of service provision, like polyclinics and integrated hospital-polyclinics, do not have higher scores of integration indicators than smaller ones. Proposals to improve integration in Russia are presented with the focus on the regular evaluation of integration and fragmentation, regulation of integration activities, enhancing the role of PHC providers, and economic incentives.

**Keywords:** health policy, medical service integration, coordination of care, continuity of care, primary health care.

**JEL Classification:** Z19

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## Introduction

The issue of integrating health service delivery is relatively new. Many health systems for decades have faced the problem of fragmentation, which is a lack of interaction between various providers. But attention to it has increased mostly over the last 15-20 years. The need for integration is usually linked to the aging of populations and subsequent increases in the incidence of chronic and comorbidity diseases, which requires more coordination between providers (Calnan et al, 2006). From a patient's point of view, the integration of care becomes a critical element of the quality of care evaluation. For example, a survey in Germany demonstrated that the issue of more coordinated interaction of outpatient clinics and hospitals, as well as between physicians of various specialties, is regarded as the second priority of chronic patients (Klusen, 2011). A study in the UK showed that most respondents face difficulty in making progress through the system. It is suggested that the concept of progress may be an appropriate indicator for monitoring health service performance (Preston et al., 1999).

A substantial body of literature is focused on the causes of fragmentation and mechanisms to overcome it. For example, Enthoven (2009) relates the issue of fragmentation in the US health system to the dominance of individual physician practices, the fee-for-services method of payment, the professional culture and values of physicians – their orientation on individual rather than team work – and on the provision of detailed services rather than the final health gain achieved through coordination of providers at various levels. Halvorson (2009) points to the lack of responsibility and incentives for closer communication of various providers.

Much less attention is paid to the issue of evaluating fragmentation and integration. There are some attempts to evaluate the extent of the problem through health manager surveys. For example, a study of 29 OECD countries showed that the programs of chronic disease management (an approach for the integration of services for a specific diagnosis) are implemented in only 10 countries; a regular exchange of data in electronic form between physicians and hospitals is available in only 4 countries; and 17 countries face a problem of low interaction between hospitals and long-term care organizations (Paris et al, 2010).

These examples demonstrate that fragmentation exists in the mixed public-private health system in the USA, the national health services in the UK, or in the insurance-based one in Western Europe. Improving integration is a global challenge.

The selected attributes of fragmentation/integration in the literature vary substantially and are not based on conceptual approaches to evaluation. Also, a much more detailed evaluation of the interaction between providers is required.

The recently implemented policies for integration have prompted a number of questions. What are the major characteristics of integration that may serve as the model for its evaluation?

What is the actual evidence of the fragmentation/integration problem in the context of specific countries? What are the policy implications of integration evaluation?

This paper attempts to answer these questions by exploring the issues of fragmentation/integration in the Russian Federation. First, the characteristics of service delivery integration are discussed and the conceptual model of integration evaluation is suggested. Second, empirical evidence based on the conceptual model is provided. Third, the empirical results are discussed to suggest possible ways to strengthen integration.

## **1. Conceptual framework for integration evaluation**

In order to evaluate integration, it is necessary to determine its major attributes and then a set of specific indicators that can be empirically tested. The attributes discussed in the literature relate to different healthcare systems and thus differ substantially. For the US healthcare system Enthoven (2009) suggests: a) new cultures, values, and leadership (team work and commitment to joint objectives); b) patient-centered and population health focus; c) coordination and information sharing; d) financial incentives (capitated payments to provider organizations, shared revenue streams); e) evidence-based medicine (all providers employ the same practice guidelines); f) comprehensive records with a focus on electronic health records to track a patient's path through the system and status of health problems; and, g) "right-size" capacity, which is to optimize the number and structure of physician specialties and primary care physicians.

Berwick et al (2008) suggest the following as attributes of integration: a) recognition of the population as the unit of concern (that is, commitment to enrolled groups of the population); b) externally supplied policy constraints (such as a total budget limit or the requirement that all subgroups be treated equitably); and, c) existence of an "integrator" able to focus and coordinate services to help the population on all dimensions at once. Halvorson (2009) places the emphasis on shared information as an instrument for the coordination of providers. Cortese and Smoldt (2007) add to this more coordinated hospital-physician relationships within various forms of integrated delivery systems (physician or hospital-led), as well as new business environments and payment policies.

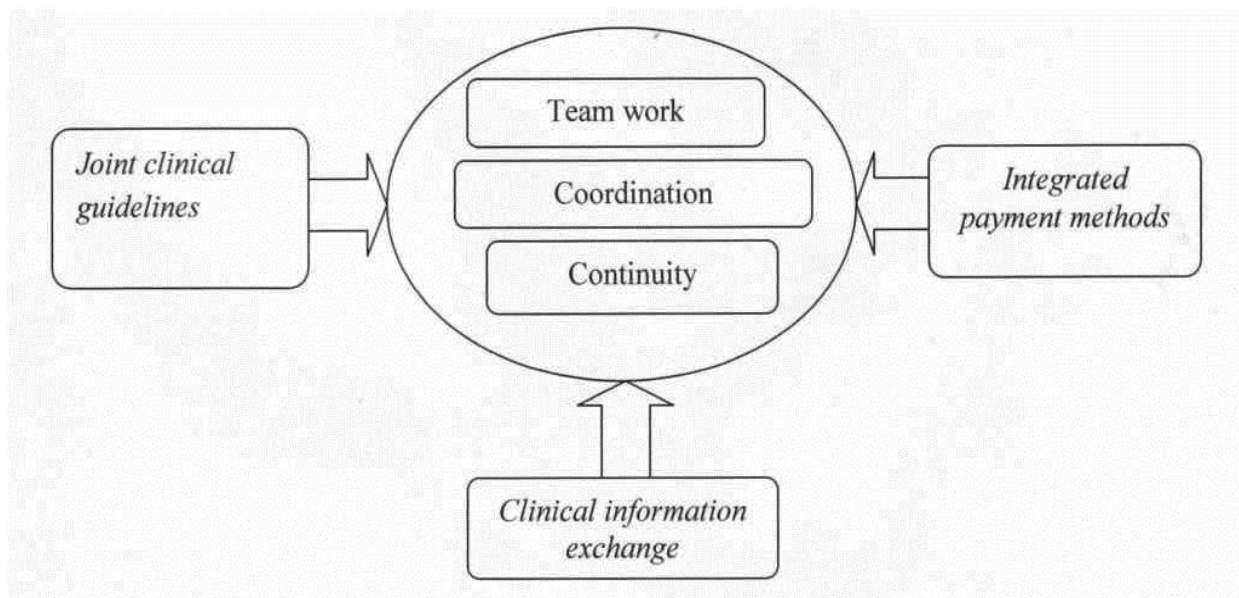
In the literature on the European health systems, similar integration attributes are suggested mostly in the context of chronic disease management. The most comprehensive description is a "chronic care model" that covers many dimensions, including forming multidisciplinary teams, implementing joint evidence-based guidelines, and shared clinical information (Nolte and McKee, 2008). Leutz (1999) proposes an "integration framework" that describes three levels of integration responding to the varied needs of patients with chronic

conditions. The new integration attribute in this framework is management of transitions across settings.

Thus, the suggested attributes cover a wide range of activities in the areas of service delivery organization, provider payment approaches, and sharing patient information. But these activities conceptually are not systematic enough for the purpose of evaluating fragmentation/integration. The essence of the integration process strongly overlaps with its instruments. For example, integrated payment methods serve as an instrument to encourage integration, but can hardly characterize the process itself. Also, the above mentioned attributes are usually not measurable and require a set of specific indicators.

We suggest an analytical model to evaluate integration that includes attributes, instruments, and indicators of this process. The attributes are: 1) teamwork among various providers; 2) coordination of their interaction; and, 3) continuity of care at various stages of service delivery. They most comprehensively reflect integration: multispecialty groups of providers are established, which work on the basis of joint clinical guidelines, their members interact with each other to achieve clinical and economic outcome, and every stage of a patient's "route" in the health system is highly connected with the previous and subsequent ones.

Teamwork, coordination, and continuity are determined by three major groups of instruments (figure 1):



**Fig. 1. Conceptual model of service delivery integration**

*Clinical information exchange* ensures sustainable links between various providers, integrates various stages of service delivery, allows one to avoid any duplication of tests, and gives new leverage for the interaction of providers and patients.

*Integrated payment methods* are designed to create incentives for physicians and hospitals to work together and ensure continuity of care.

*Joint clinical guidelines* determine the clinical rules for the joint work of providers on different stages of service delivery, and specify integrated patient pathways from one provider to another.

The selection of specific indicators to be measured requires a better understanding of each of the three attributes of integration.

*Teamwork.* Two types of teamwork are usually specified in the literature. First is the joint work of health providers with other services affecting health, including community care, education, social support, etc. (Leutz, 1999). Second is integrated efforts in the health system itself related to preventive care, health promotion, diagnostics, curative, and rehabilitative services (Groene and Garcia-Barbero, 2001). In this paper we focus on the second type of teamwork.

*Coordination.* As a gatekeeper, the GP or other first-contact outpatient doctor plays a special role in coordinating care. Such a physician acts as a patient's guide through the health system and ensures continuity of treatment by referring patients to other providers, keeping the patient's medical record, and providing curative and rehabilitative care after admissions.

In modern health systems coordination is not limited to the GP's activity. More complex arrangements with the coordinating role played by other providers are possible. In the US's integrated healthcare systems, such as accountable care organizations, hospitals often act as integrators, thereby taking on a substantial part of the coordination function (Rice, 2011). Similarly, in Germany integrated networks for specific chronic disease management are often initiated and coordinated by hospitals (Klusen, 2011; Techniker Krankenkasse, 2011). More complex forms of "local coordination" may arise within a relatively short-term episode of care when a specialist in charge of the case acts as a coordinator for further patient movement in the healthcare system. However, these examples do not disprove, but rather complicate the systematic role of the GP as a coordinator. In most cases, patients return to their general practitioners after specialty care. They need the dynamic supervision of health and follow-up treatment that is organized and coordinated by a GP. The special role of general practitioners in ensuring continuity of care makes their coordinating role particularly important. Coordination powers may recede, but then be restored and even strengthened – for particularly lengthy and complicated care "after the gate".

*Continuity of care.* According to Haggerty et al (2003), "Continuity is the degree to which a series of discrete health care events is experienced as coherent and connected, and is consistent with the patient's medical needs and personal context." Continuity means that

interventions are not limited to one episode of care but cover a patient's health needs longitudinally. Another meaning of continuity is that it can be assessed by a patient, depending on the progress in health system from one stage of service delivery to another. Actually, continuity is the major focus of integration: "Coordination and teamwork is what providers do for the benefit of continuity" (Boerma, 2006). GPs play the major role in ensuring the continuity of care due to their continued relationship with a patient.

## **2. Empirical evidence of healthcare system fragmentation/integration in the Russian Federation**

### ***2.1. Integration in the Soviet and Russian healthcare systems***

The Russian healthcare system has traditionally been built with a view to ensure close interaction between providers. The key element of the Semashko model<sup>4</sup> is teamwork. Outpatient care is provided by mostly state-owned multispecialty polyclinics with district physicians and specialists on their staff. They mostly serve the local population, while residents can enroll with any polyclinic and any district physician in its staff. The latter acts as the first contact provider and gatekeeper (refers patients to specialists and hospitals) and traditionally has been seen as responsible for the dynamic supervision of enrolled patients. A shift to the general practitioner model, common for most of Eastern Europe, has not happened in Russia. The number of general practitioners was only 0.7 per 10,000 residents in 2010 (Rosstat, 2011), compared to an average of 8.2 for the EU (WHO, 2012). District physicians remain the major providers of PHC, although their role, as will be seen further, is limited.

The hospital sector has also inherited the design of the Semashko model. It is built as a multilevel system of inpatient care provision (there are rural, central rayon<sup>5</sup>, city, regional, and federal hospitals, plus numerous specialty care facilities), with a referral system from one level to another. Hospitals vary substantially in their size and internal structure. There are hospitals that have polyclinics as a structural unit ("integrated hospitals"). But even in this case outpatient and inpatient care are provided mostly by different doctors. The prevailing model is a separation of inpatient care from outpatient care: most polyclinics are freestanding. A distinction between acute and long-term hospitals does not exist in Russia. Nursing homes and similar post-acute institutions (even units) are very rare, but there is a substantial sector of sanatoria.

Western scholars of the traditional Soviet healthcare system have identified its many problems (a lack of incentives, distorted structure of care skewed to inpatient care, dominance of administration over management, etc.). However, most of them admitted the strong attempts to promote integration, mostly through administrative instruments (Ryan, 1978; Davis, 1988; Davis

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<sup>4</sup> The Semashko model was the primary structure of the healthcare system in the USSR, named after its founder, Nikolai Semashko.

<sup>5</sup> A "rayon" is an administrative center of several rural areas.

2010). Fragmentation has occurred mostly due to three major negative developments that started in the Soviet period and activated in the transition period. First, the excessive specialization of outpatient care in the 1970-80s has brought to life a new mode of service delivery featuring a central role of specialists in narrow areas of outpatient service delivery and a limited role of district physicians as integrators. Second, the uniform healthcare system has been split into four sub-systems – federal, regional, community, and private – with poor coordination between them (e.g. referrals from rural districts to capital cities). Third, the transition to mandatory health insurance (started in 1994), while although promoting many positive developments, brought a shift from integrated methods of payment (such as the global budget or capitation method) to fee-for-service methods of payment, which has motivated providers to split service delivery to very detailed services, with much less attention to coordination and continuity of care (Sheiman, 1998).

## **2.2. Method and data**

A sociological survey of physicians was used as a method for integration evaluation. The survey was developed through a series of discussions with the involvement of service delivery experts and sociologists. First, the list of indicators and questions for each attribute of integration was developed (15-20 for each). Second, the major groups of medical facilities and respondents were determined. Third, a sample for the survey was developed. Then the data was collected and processed by the Russian Center for Public Opinion Research in August 2012 under a contract with the National Research University Higher School of Economics (further “HSE”) (HSE, 2012).

The selected indicators for team work were transformed to the questions reflecting: a) the joint development of patient management plans by a general practitioner and specialists; b) the joint development of patient management plans by physicians and hospital doctors, including discussions of the appropriateness of a patient’s hospital admission and determining the necessary tests and consultations prior to admission; c) the joint work of physicians from curative and diagnostic units; d) setting up multispecialty teams for implementing chronic disease management programs; and, e) the degree of a patient’s readiness for admission.

The major indicators for coordination are: a) the frequency of direct patient visits to specialists, by-passing general practitioner (the higher this frequency, the lower the capacity of coordination is); b) the level of a GP’s awareness of the current health status of chronic patients enrolled with them (a high volume of information available indicates a high probability of dynamic supervision of patients and a high capacity of GPs to manage patient movement through the healthcare system); c) the level of a GP’s awareness of the utilization of health care by



patients enrolled with them; d) the frequency of proactive forms of interaction between GPs and patients (home visits, telephone calls, reminders, etc.) to facilitate the coordination and continuity of care; and, e) the frequency of selective referrals to specialists and hospitals based on their performance data (this is an indication of a GP's willingness and capacity to evaluate the performance of other providers and provide a patient-centered coordination of care).

The major indicators for continuity of care are: a) the frequency of consulting outpatient physicians by hospital doctors on managing a patient after hospital admission; b) the frequency of timely transfers of patients from acute hospitals to long-term, rehabilitative, or social care facilities; and, c) the frequency of timely feedback from various providers to a referring GP on the results of medical intervention or rehabilitative services.

The selected indicators are not exhaustive and can be supplemented. Some of them overlap, meaning that they characterize different attributes of fragmentation/integration. But taken together (58 questions in sum), they may serve as the basis for an evaluation.

Depending on the area of fragmentation/integration, the questions were addressed to physicians working in: i) outpatient care facilities or units (further – polyclinic physicians); ii) inpatient care settings (further – hospital doctors); or, iii) outpatient and inpatient care settings or units (further – all physicians). The attempt to distinguish between district physicians and specialists in polyclinics failed during the course of conducting the survey: the managers of polyclinics could not provide a representative list of the two categories of staff.

The total sample is 1,500 physicians from three Russian regions: Kaluga, Vologda, and Tomsk. The sample is representative of the Russian healthcare system in terms of the share of various types of providers: 50% of respondents work in polyclinics, 43% work in inpatient care settings, and 7% work in emergency medical centers. The regions were chosen based on the assumption that they represent regional health systems in Central Russia, the Northern Regions, and Siberia. They have average scores in the Federal Ministry of Health rating of regions, which measures the degree of achieving federal targets of performance (MOH, 2012). To determine their representativeness for the entire health system, the experts who had worked in these regions were questioned. Since the Russian healthcare system is organized according to uniform norms and requirements, there was no reason to believe that the degree of integration/fragmentation differed much from the rest of the country and across the selected regions. The results of the survey were similar for each region (with minor exceptions).

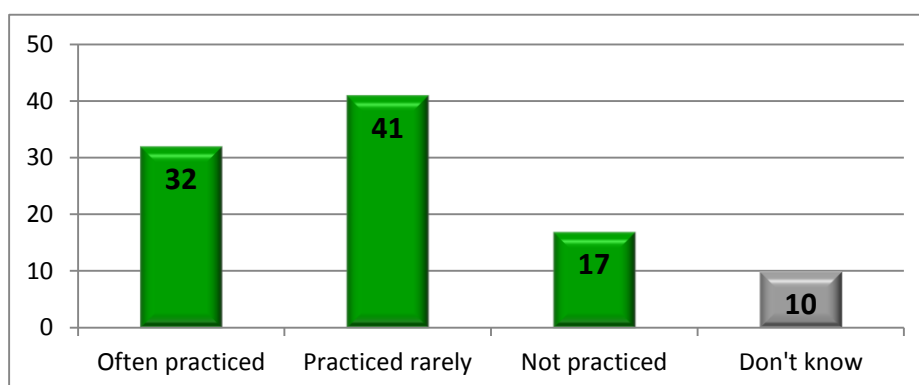
The sample also allows to determine the difference in responses for each type of facility (e.g. joint inpatient-outpatient settings vs. separate inpatient facilities and child vs. adult facilities). They are substantial but not presented in this paper<sup>6</sup>.

The major limitation of the survey is the limited capacity of physicians to comprehend the problem, mostly because of its novelty and their unwillingness to deal with a new problem. A substantial portion of respondents (sometimes higher than 25%) could not answer the questions definitely. This is the limitation of the first attempt to evaluate integration. We expect that a more active integration policy will strengthen the perception of the problem by physicians.

### 2.3. Results: teamwork

*Joint development of patient management plans by district physicians and specialists of polyclinics.* This indicator reflects the capacity of outpatient physicians to work together on particular cases. 58% of polyclinic physicians responded that this form of teamwork does not exist at all in their polyclinics or is implemented rarely. Only 32% think that it is a well-established practice (fig. 2).

**Fig 2. “Is joint development of patients management plans by district physicians and specialists practiced in your polyclinic?”, % of polyclinic physicians questioned**



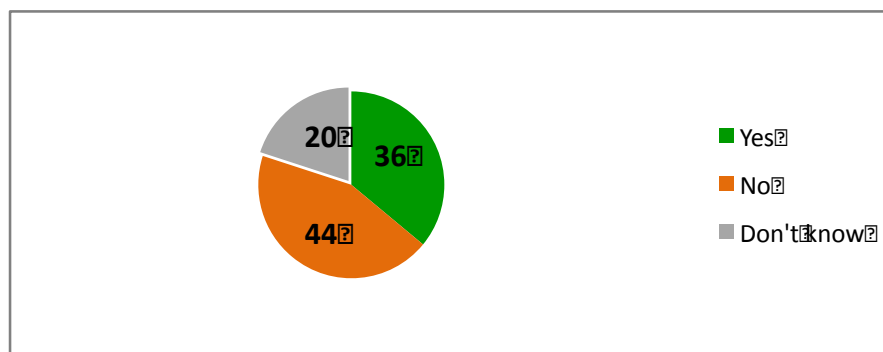
Developing lists of patient risk groups by joint efforts of district physicians and specialists (the characteristic that was heavily promoted by the Semashko model) is also a rather rare practice. The majority of polyclinic physicians respond either negatively (42%) or have trouble responding (25%), which is close to the negative answer. Only one third of physicians responded positively (HSE, 2012).

Setting up multispecialty teams for implementing chronic disease management programs (in Russia they are known as “schools of patients”, designed for specific chronic cases) is confirmed by 36% of polyclinic physicians. The majority of respondents either does not confirm

<sup>6</sup> The full report of the study outcome is much more detailed. It is available in Russian (HSE, 2012)

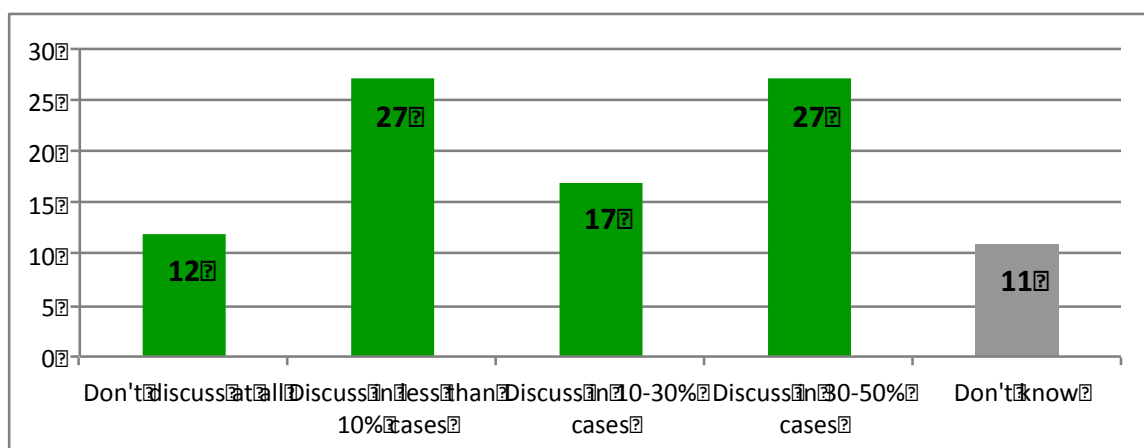
this (44%) or have problems with responding (20%) (fig.3). Contrary to expectations, teamwork with chronic cases is practiced at a limited scale.

**Fig. 3. “Is joint involvement of district physicians and specialists in chronic patients management schools practiced in your polyclinic?”, % of polyclinics physicians questioned**



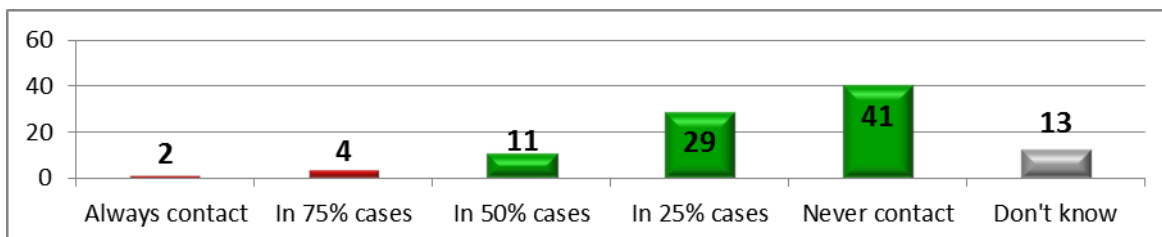
*Joint development of patient management plans by polyclinic physicians and hospitals doctors.* A few questions were addressed to all respondents regarding the frequency of discussions between physicians from outpatient and inpatient facilities of the appropriateness of a patient’s hospital admissions and the necessary tests for elective admissions. The general question was about “joint clinical activity” (fig. 4). Only 27% of all physicians report that they discuss their activities prior to elective admissions in 30-50% cases. Most physicians either do not have discussions between each other (12%) or have them rarely (44% physicians in less than 30% of cases). Thus, the contacts between outpatient and inpatient physicians on planning admissions are not frequent.

**Fig. 4. “How often, according to your estimate, do polyclinic physicians discuss their clinical activity prior to elective admissions with inpatient physicians, % of all physicians questioned**



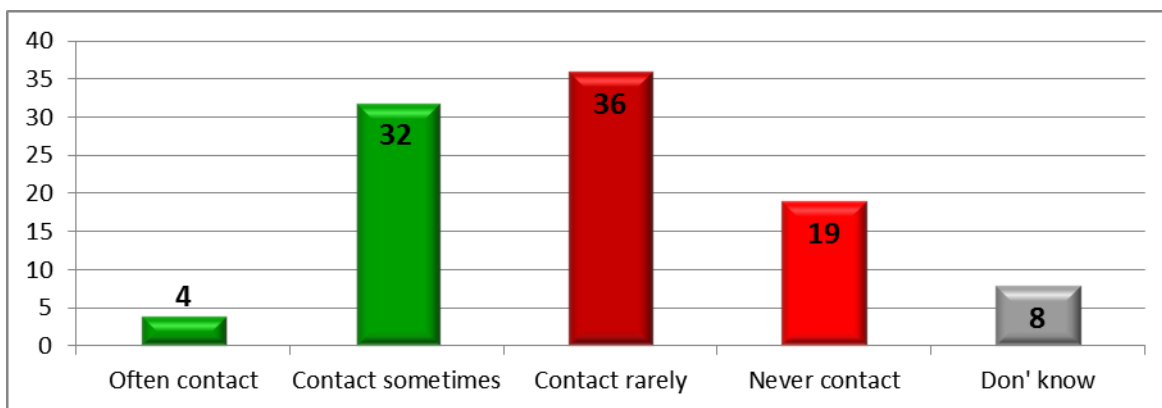
41% of hospital doctors never contact outpatient physicians when a patient is admitted and during the process of inpatient care. Another 29% contact rarely (in 25% cases). Only 6% do it “often” and “in all cases” (fig. 5). This may be attributed to the stable perception by hospital doctors of their professional superiority over policlinic physicians, although direct questions on this point have not been asked.

**Fig 5. “How often do you contact district physicians and other outpatient physicians when a patient is admitted and in the process of inpatient care?”, % of hospital doctors questioned**



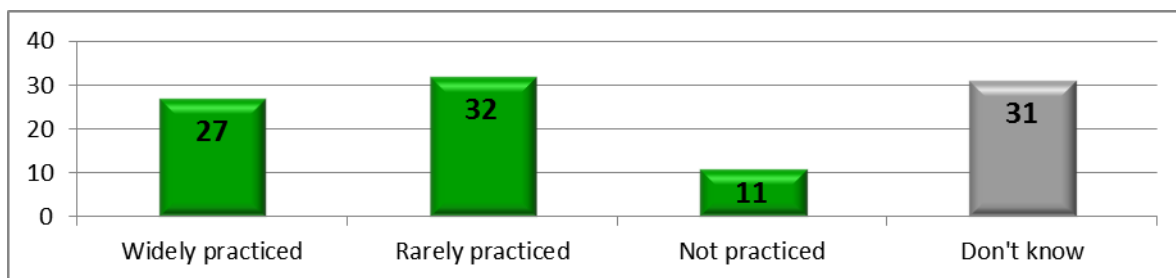
The low level of interaction of inpatient and outpatient physicians also manifests itself in the low frequency of questions of policlinic physicians about the course of inpatient care for their patients (fig 6). Only 4% of them are regularly interested, according to the estimate of hospital doctors, 32% are interested from time to time. This is an indirect indication of a low level of teamwork, as well as low readiness of policlinics for follow-up treatment after their patients are discharged.

**Fig 6. “How often do policlinic physicians contact you with questions about the course of inpatient care of their patients?”, % of hospital doctors questioned**



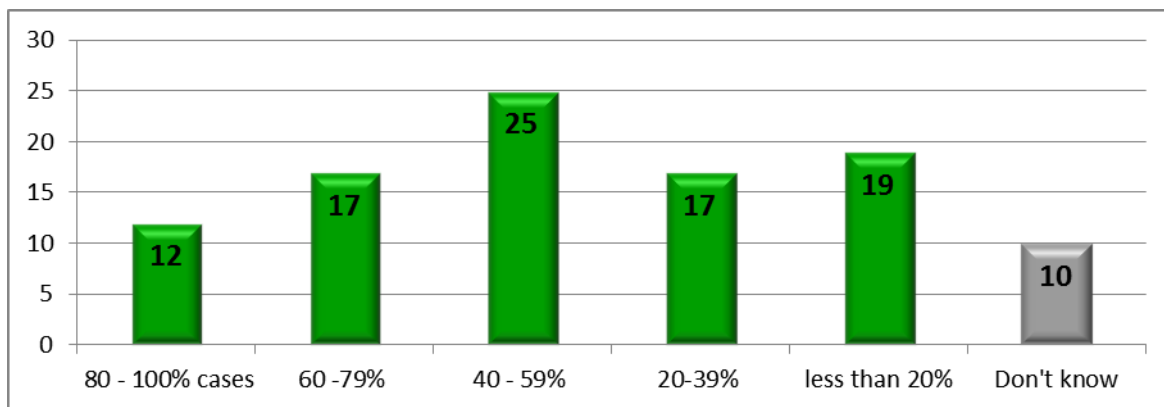
*Joint work of physicians from curative and diagnostic units.* Only 27% of all physicians report that specialists from diagnostic units regularly consult physicians in charge of a case (“curative physicians”). The rest are skeptical about this or are unable to answer this question (fig 7).

**Fig 7. “Is consulting curative physicians and specialists from diagnostic units on the questions of interpretation and the potential of diagnostic tests a practice in our organization?”, % of all physicians questioned**



*Degree of patient readiness for elective admission.* This question was addressed to hospital doctors. Only 29% of them respond that the bulk of elective admissions (60% and more) receive all necessary tests in polyclinics. The rest responded negatively about this (fig. 8). The low patient readiness for admission can partly be attributed to a lack of modern medical diagnostic equipment in outpatient settings, as well as to the low competence of outpatient physicians and a lack of incentives.

**Fig 8. “What percentage of elective inpatient cases that you manage have received all necessary diagnostic tests in outpatient settings prior to admission?”, % of hospital doctors questioned**

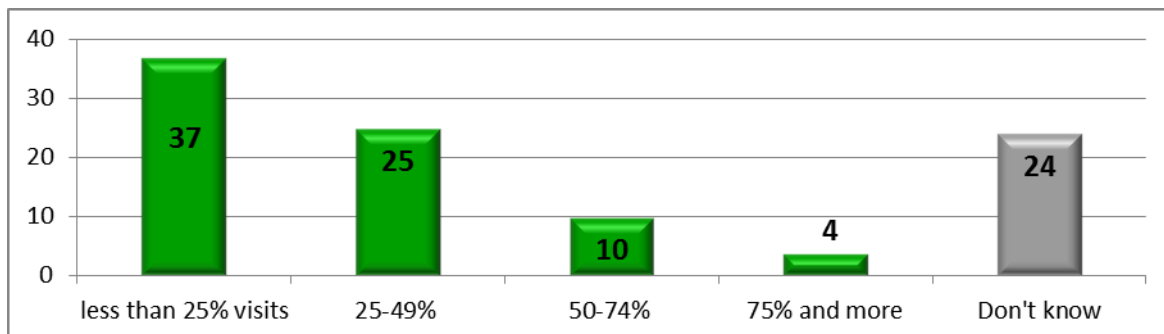


#### **2.4. Results: coordination**

*The frequency of direct patient visits to specialists, by-passing their district physician.* This question was asked to polyclinic physicians (both district physicians and specialists). From the point of view of 37% of respondents, the share of direct visits to specialists in the overall number of these visits is less than 25%. But a similar number of physicians (29%) estimate this share to be higher than 25% (fig. 10). Around one fourth of respondents cannot answer this question. On average, around one third of patients visit specialists directly. This result suggests

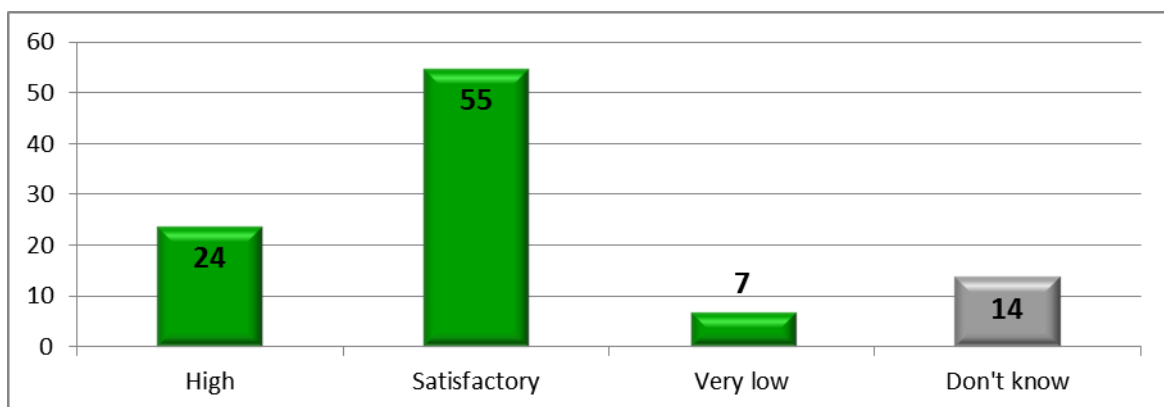
that the capacity of district physicians to coordinate a patient’s movement through the healthcare system is limited.

**Fig. 9. “What is your estimate of the share of direct visits to specialists, by-passing district physicians in the overall number of visits to specialists?”, % of polyclinic physicians questioned**



*The level of awareness of polyclinic physicians of the current health status of chronic patients enrolled with them.* This indicator is either high or satisfactory from the prospective of 24% and 55% of polyclinic physicians, respectively (fig.10). Thus, most polyclinic physicians evaluate their awareness of a patient’s health status as relatively high.

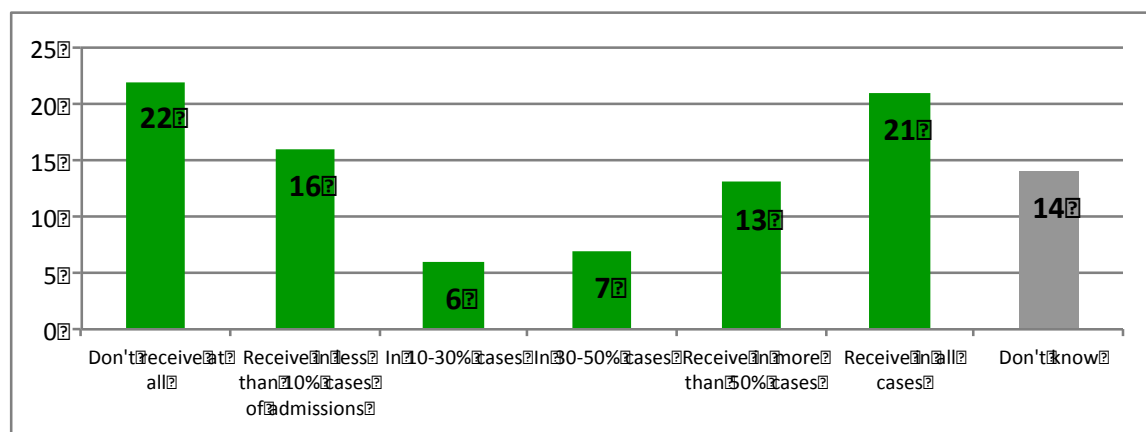
**Fig. 10. “How do you estimate the district physician’s awareness of the current health status of chronic patients enrolled with him or her?”, % of polyclinic physicians questioned**



*The level of awareness of polyclinic physicians of the current utilization of health care by their patients.* Knowing fairly much about a chronic patient’s health status, polyclinic physicians are surprisingly poorly informed about the hospital admissions of their patients. Only 21% of these physicians estimate that their polyclinic receives information on all admissions of their patients enrolled, another 13% think that this information is available for more than 50% of admission cases. But more than half of polyclinic physicians have very limited information (fig.11).

As for district physicians within policlinics, only 15% of them receive information on all admissions of enrolled patients. The rest receives this information occasionally (HSE, 2012). With information like this, the coordinating function of district physicians and their capacity to ensure continuity of care are very limited.

**Fig.11. “How often does your policlinic receive information about the hospital admissions of patients enrolled with your policlinic?”, % of policlinics physicians questioned**



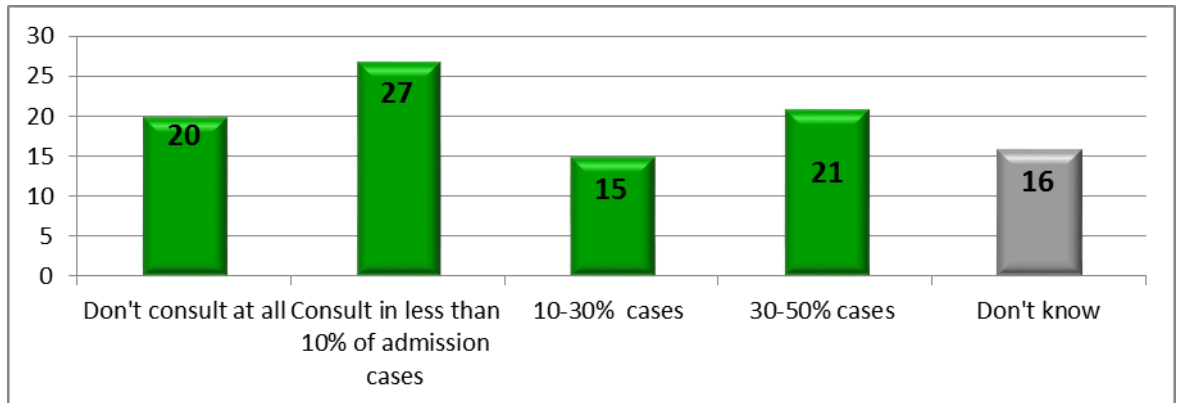
A similar pattern of interaction can be found between policlinics and organizations (units) of emergency care. Only 25% of policlinic physicians think that information on all ambulance calls always reaches district physicians and 48% think that this happens “from time to time”. In the child-care segment the frequency of this information is higher, and district pediatricians are supposed to make a home visit the day after a call. A traditional concern of the Semashko model for child healthcare still partly remains (HSE, 2012).

The interaction between public state-owned policlinics and private clinics was also explored. Only 10% of policlinic physicians report that they regularly receive data on their patients from private physicians. The majority either does not receive it at all (36%), or receive it very rarely (24%). Also, in the absolute majority of cases, patients see private physicians without referrals from their district physicians (HSE, 2012). Thus, the role of the latter in organizing the interaction of public and private providers is limited.

### **2.5. Results: continuity of care**

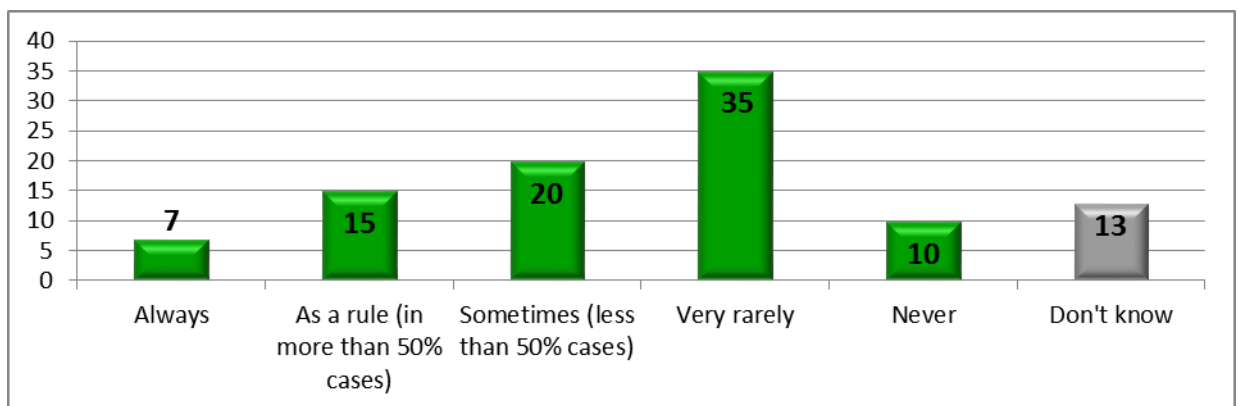
*The frequency of consulting policlinic physicians by hospital doctors on managing patients after hospital admission.* The survey indicates that every fifth policlinic physician does not have any consultations and every fourth has it in less than 10% of cases. Only 21% of them have relatively active contact with inpatient physicians (in about 30-50% of cases) (fig. 12). Thus, the follow-up in policlinics after hospital admissions is practically unsupported by hospital doctors.

**Fig. 12. “How often, according to your estimate, do inpatient physicians consult outpatient physicians on managing cases after a hospital discharge?”, % of polyclinic physicians questioned**



*The frequency of timely transfers of patients from acute hospitals to long term, rehabilitative, or social care facilities. The lack of such facilities limits the possibility of rational organization of care after acute admission. Only 7% of inpatient physicians respond that their patients can be transferred to long-term and rehabilitative inpatient units, 35% report that such transfers rarely happen, 10% are totally unknown, and 20% say that this happens in less than 50% of cases (fig. 13). Thus, most of patients have to stay in the acute care unit with a resulting increase in the length of stay in hospitals.*

**Fig. 13. “How often are patients of your hospital transferred to long-term or rehabilitative inpatient units for the continuation of inpatient care (when it is necessary for a patient)?”, % of hospital doctors questioned**

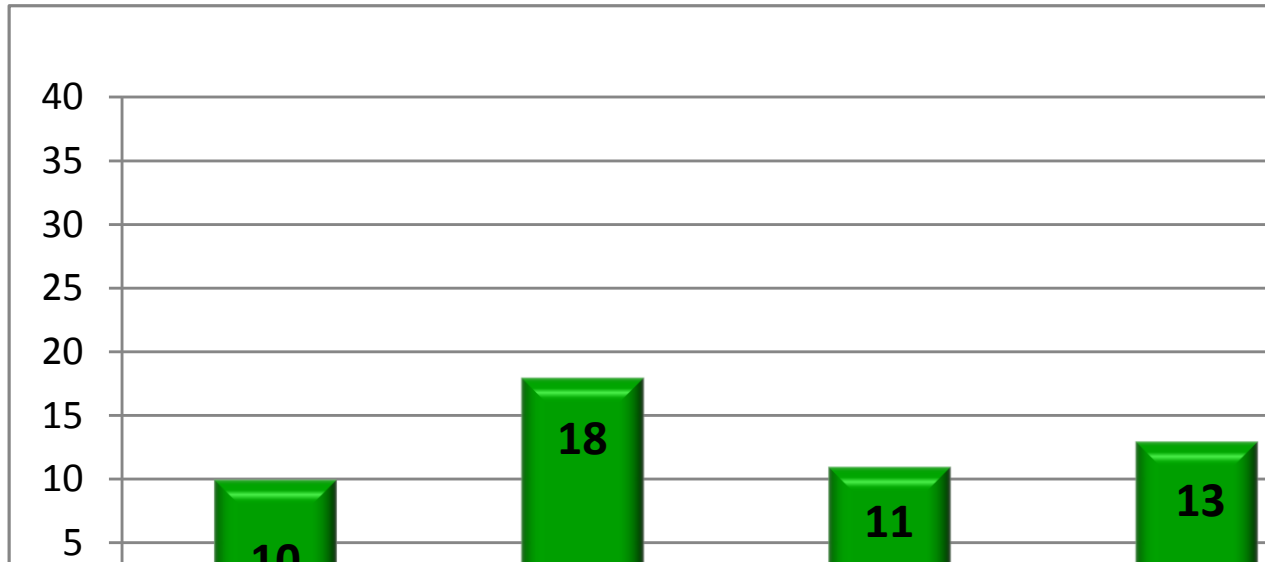


*The frequency of timely feedback from rehabilitative services providers to a referring GP on the results of treatment. Only 10% of outpatient physicians report that they always receive information about results of rehabilitative care, another 18% say that this happens in only less than half of all cases, and 25% do not receive it at all or very rarely. A high share of those who*



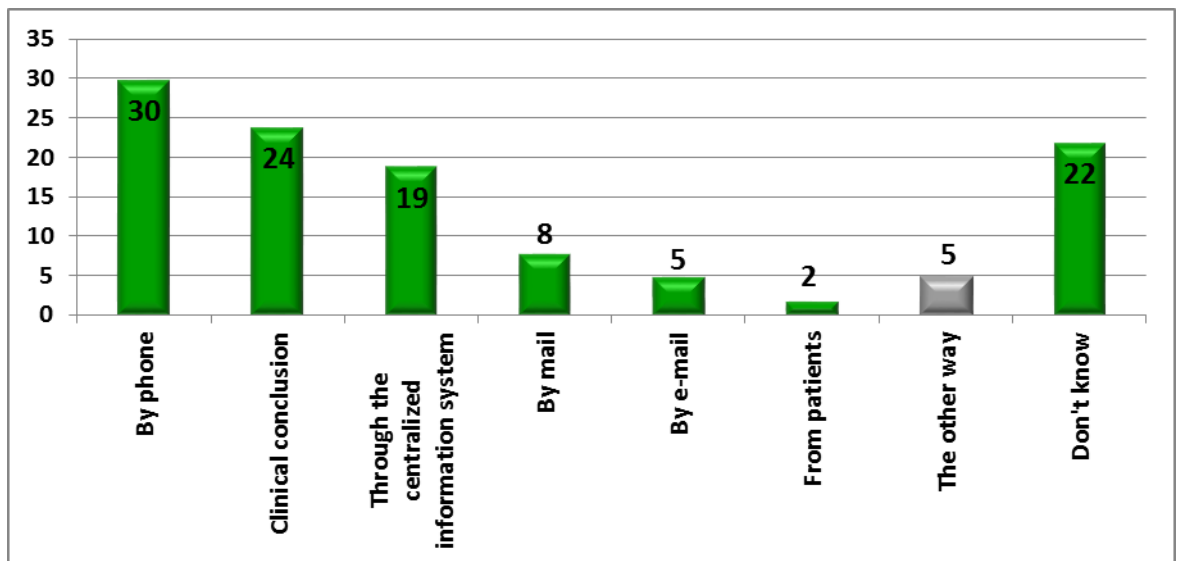
have problems with the answer (37%) is yet more evidence that the continuity level is low (fig. 14).

**Fig. 14. “How often do you receive information about the results of rehabilitative care of your patients?”, % of all physicians**



Feedback is also characterized by the way information is transferred to a referring physician. In most cases it is done by phone or in written form. Modern IT is used rarely. This does not allow for arranging a patient’s smooth movement through the healthcare system.

**Fig 15. “What is the way you receive information from hospital doctors on care provided to patients enrolled with you?”, % of polyclinic physicians questioned**



**2.6. Results: integrated vs. free-standing settings**

It is assumed that the interaction of physicians in integrated settings is higher than in freestanding polyclinics due to additional management instruments and more favorable logistics arrangements. To check this hypothesis, the indicators of integration are compared for integrated hospitals and territorial polyclinics.

*Teamwork.* In integrated hospitals, 57% of polyclinic physicians report that they develop patient management plans jointly with specialists only “rarely” or “do not do it at all”, while in territorial polyclinics this number is 59%. The frequency of setting up multispecialty teams for chronic disease management programs is a little higher in integrated hospitals – schools of patients for specific chronic cases are confirmed by 40% of their physicians vs. 32% of physicians of integrated hospitals.

*Coordination.* Contrary to expectations, polyclinic physicians working in integrated hospitals report an even lower frequency of awareness of health status of chronic patients and their utilization of inpatient care than their counterparts in territorial polyclinics. For example, only 30% of physicians of integrated hospitals report that they regularly receive information on hospital admissions of their chronic patients, while in territorial polyclinics as many as 43%.

*Continuity of care.* The frequency of consulting polyclinic physicians by hospital doctors for managing patients after hospital discharge does not differ much in integrated hospitals and territorial polyclinics – 22% and 20% of physicians report regular consulting, respectively.

Other indicators of teamwork, coordination, and continuity of care do not differ. Some of them are even higher for the group of territorial polyclinics (HSE, 2012). Thus, there is no evidence of any advantage for bigger and formally integrated settings. The administrative mergers of inpatient and outpatient care do not demonstrate higher scores of integration indicators relative to freestanding outpatient care settings.

### **2.7. Factors hindering integration and activities to strengthen it**

Regarding factors that hinder integration, 38% of respondents report that the main one is an absence or lack of IT, while 25% think that integration is limited by an absence of regulatory patterns for managing patients through the various stages of the healthcare system, and 22% point to a weak coordination function for district physicians (HSE, 2012).

A special question was asked about barriers to the coordination function of district physicians, and 32% of respondents report an overburden of these physicians with secondary functions, 26% report low economic motivation, and 25% note the absence of feedback from other providers. Nearly half of respondents could not answer this question, which can be interpreted as an inadequate understanding of the problem.

According to the survey, the leading activities cover additional economic motivation for integration (55% of respondents selected this activity among two major ones), establishing a universal database of patients (45%). The third leading activity is the development of recommendations on the use of the database for managing cases (28%), while the fourth main activity is strengthening coordination among district physicians (27%). This pattern of activities sounds logical: coordination is hard to implement without the first three activities (HSE, 2012).

Thus, the results of the survey indicate that the level of integration in the Russian healthcare system is low. There are serious problems with implementing teamwork, coordination, and continuity. Many factors cause serious fragmentation in service delivery.

### **3. Health policy implications**

The results of the survey give ground for three major generalizations about the integration and fragmentation processes.

First, the prevailing health organization and finance model in the country cannot ensure integration per se. The Semashko model for the Russian Federation is usually seen as highly integrated due to three major organizational characteristics – dominance of polyclinics as the way to teamwork, the central role of district physicians and their coordinating role, and a multilevel system of service provision based on referrals from one level to another. However, in modern Russia, as seen from the survey results, the level of integration is low in terms of teamwork, coordination, and continuity of care. The essence of the integration processes is not in the design of the healthcare system, but in the specific integration activities that should be planned and regulated. Without these activities, any health system may become fragmented under the pressure of specialization services, decentralization of governance, and the FFS method of payment.

Second, big organizational forms of outpatient care delivery can hardly serve as a panacea for strengthening integration. The case of the Russian Federation does not provide evidence to the well-known claim that polyclinics ensure the cooperative work of providers. If cooperative work is understood as the joint management of patients by GPs and specialists, outpatient and inpatient physicians, and providers of curative and diagnostic services, then the evidence collected in the survey is to the contrary: polyclinics host physicians who do not work cooperatively. Quite a lot is needed to realize the polyclinic's potential to integrate care. The shifts from polyclinic to free-standing physician practices and the way back from solo practices to multispecialty settings (currently underway in some countries in transition and in Germany)

can hardly be interpreted as the way to fragmentation or integration. The vector of this transformation has little to do with the actual processes of integration.

Third, the case of the Russian Federation indicates that big integrated networks of inpatient and outpatient settings do not have higher scores of teamwork, coordination, and continuity of care than less integrated. We may suggest that the simple decisions like merging outpatient and inpatient settings and making them bigger may or may not lead to integration. Additional administrative leverage and easier logistics arrangements may facilitate interaction of providers, but they are not enough to make this process really happen. The integration activities go beyond organizational mergers and may be implemented in a “virtual” integration (both contractual and non-contractual), but this suggestion has not been explored in this paper.

The results of the survey provide insights to the major directions to strengthen integration. The first thing to be done is to start evaluating fragmentation and integration in the healthcare system. Regular and uniformly structured physician surveys can reveal the tendencies in this area and allow for cross-regional comparisons. The suggested framework may serve as the first step for estimation.

To activate integration, certain rules and regulations are required. They may be developed by various actors of the healthcare system. In the US, where private provision and finance dominate, big providers and insurance companies often act in the role of integrators. They establish integrated systems of providers, such as Kaiser Permanente, that operate on the basis of common forms of service delivery, clinical protocols and pathways, information exchange patterns, and bundled payment schemes (Strandberg-Larsen et al, 2006; McCarhy and Muller, 2009; Rice, 2012).

In Europe, similar arrangements exist, but they are based on government regulation. For example, in Germany the Federal government has initiated integration processes. The Federal Social Code (SGB V), which came into force in 2004, promoted greater interconnection with different specialists and sectors (general practitioners, consultants, hospitals), and established the framework for “opening the borders between health sectors”, including integrated programs for specific chronic diseases, outpatient care units in hospitals, close links between medical and social services, and a multidisciplinary approach to managing complex cases. Also, financial arrangements have been established for the involvement of sickness funds in the implementation of integrated systems (such as risk-adjusted capitation for funding chronic disease management programs) (Klusen, 2011). In the Netherlands, these programs are initiated mostly by local governments and focused on close multi-disciplinary specific disease management programs (Struijs and Baan, 2011).

In Russia, the government also plays the role of integrator. Both the Federal Ministry of Health and regional health authorities attempt to ensure close interaction between providers. But the “peak” of this work relates to the 1960s and 1970s when quite a lot of regulation was issued on coordinating the role of district physicians and continuity of care. Most of this regulation has not been updated and therefore is unknown to the new generations of physicians. Recently, high expectations have been placed with federal so-called “patterns of health care provisions”, which are developed for specific diagnosis and are supposed to determine clear rules for the movement of patients in the multi-level system of service delivery<sup>7</sup>. But our analysis indicates that these patterns establish mostly technical and staff requirements for providers and are not focused on integration. In only 3% of these documents are there recommendations on physician pathways in the healthcare system and in only 37% of these are requirements provided on information exchange between providers of various levels. The specific regulation of teamwork on managing chronic cases is also unavailable (HSE, 2011). It is not surprising that a lack of regulation was reported in the survey as one of the most important reasons for the fragmentation of care.

Based on the revealed areas of fragmentation, we suggest the following major directions and mechanisms of integration in the context of the Russian Federation.

*Development of information technologies focused on integration.* Substantial efforts have been undertaken recently in introducing modern IT in medical facilities. In the framework of the National Priority Program “Health” and regional programs of modernizing the healthcare system (MOH, 2006), federal and regional governments have invested much in developing comprehensive information systems, including medical electronic cards, which can be a strong instrument of strengthening the links between providers. However, the survey indicates that the impact of IT on the interaction of providers is weak. Outpatient physicians do not know much about medical care utilization on other stages of service delivery, and this data is mostly unavailable for district physicians responsible for enrolled patients.

This can partly be attributed to the fact that the large-scale development of information systems started only 4-5 years ago, and therefore has not touched all providers, especially in rural areas. But the degree of revealed fragmentation problems suggests that a lack of IT is not the only problem. A patient database seems to be a necessary, but not adequate condition for integration. Normative requirements are needed on how to use this data for strengthening contacts between providers, as well as for ensuring continuity of care. Information on the current health status and utilization of medical services must reach PHC providers together with clear rules and algorithms of activities on how to respond to the data. The new data should be a signal for specific activities, such as closer contacts between polyclinic and hospital physicians to deal

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<sup>7</sup> See MOH (2010) for an example of these patterns.

with patients discharged from hospitals, interactions between hospitals and rehabilitative units, and undertaking proactive contacts with patients.

*Strengthening the coordination function of PHC providers.* In most post-Soviet countries this task has been fulfilled through a shift to a GP model that presumes the sole responsibility for a dynamic supervision of patients enrolled. In Russia the district physician model has turned out untouched. Moreover, the responsibilities and actual capacity of this doctor for coordinating care have narrowed substantially over the past decades. The coordination function is not even mentioned in the MOH regulation on the district physician's scope of work (MOH, 2010B).

Patients increasingly mistrust district physicians, mostly due to the fact that they operate in a very narrow clinical area and are not allowed to take on specialty cases. Their professional competence is also questioned. According to a 2009 national survey conducted by Roszdravnadzor, an agency reporting to the Ministry of Health, 63.4% of respondents were unhappy with their district physician, while only 14% were satisfied with their services (Seregina et al, 2009). The mistrust has undermined the referral system: patients tend to see specialists directly. Additionally, what is most important, these physicians have lost their sole responsibility for the dynamic supervision of enrolled patients, which has been replaced by the collective responsibility of the polyclinic. Taken together, these factors have limited the coordination role of district physicians.

To strengthen this role, substantial inputs are required in the massive development of the GP model, as well as in programs of upgrading the competence of district physicians with more emphasis on their coordinating activities. We suggest a minimum set of regulatory requirements in this area: a) universal enrollment of the population to a selected polyclinic and PHC provider; b) restoring the gatekeeping function to GPs; c) capitation payment; d) full information on the health status and medical care utilization of patients, mostly through easy access to the database; and, e) expanding capacity for a direct information exchange with other providers. A more ambitious requirement is the involvement of polyclinics in planning inpatient care volumes. The experience of the Samara oblast in the 1990s suggests that this involvement may be a strong factor of strengthening the coordination role and ensuring the continuity of care. Polyclinics started to communicate closer with hospital doctors in planning and coordinating outpatient and inpatient care. But this experience has not been evaluated by the federal MoH and, therefore, has not been rolled out (Shishkin et al, 2008).

*Economic motivation of integration.* In many countries, including Russia, special efforts have been undertaken to find integrated provider payment methods. For the US healthcare system, Mechanic and Altman (2009) explore four payment methods to encourage a more integrated delivery of care: recalibrating FFS, instituting pay-for-performance, creating episode-

based payments, and adopting global payments. They argue that integrated payment for episodes of care (bundled prospective payment for both outpatient and inpatient care, including repeated admissions) is the most immediately viable approach. In the most successful projects (e.g. Geisinger health system, Prometheus payment model) there is some evidence of a decrease in LOS, frequency of post-admissions, and incidence of negative clinical effects in cardio surgery, as well as a decrease in potentially avoidable expenses (Blantes et al, 2009; Mechanic and Altman, 2009). In Europe similar efforts are focused on bundled payment methods in the framework of chronic disease management programs. The group of providers is capitated for episode-based clinical activity related to a group of patients with specific chronic disease. The method is designed to motivate providers to avoid aggravations of chronic cases and ensure health gain. For example, in the Netherlands there is some evidence of a positive impact of this method in clinical terms, although the impact on cost remains unclear (Struijs and Baan, 2011).

In the Russian Federation, these methods are also being discussed for implementation. But the actual experience with encouraging integration is based on a method known as “policlinic as fund-holder”, or the fundholding method. A policlinic is funded on the entire volume of care provided for the catchment area population and pays for referrals to hospitals and other providers. Fundholding creates incentives for policlinics to plan all stages of service delivery, cooperate and communicate with hospitals, refer patients to the best providers, and expand activities to avoid aggravations of chronic cases (and therefore reduce hospital admissions and emergency care calls).

Practical implementation of this method in 10 of 83 regions of Russia over the past 3-4 years has had mixed results. On the one hand, policlinics as fund-holders tend to provide more care to chronic cases, including setting up their own emergency units for home visits, providing more preventive services. There is some evidence that policlinics became more quality-oriented and responsible for the health status of their patients because they are supposed to pay for specialty care delivered by other providers, with a resulting decrease in admissions and emergency calls. For example, in the Perm krai the number of home visits per capita by policlinic personnel has doubled over the first nine months of the new method implementation, while the number of emergency calls by chronic patients has decreased by three times. There is a clear tendency of a decrease in hospital admissions (Sheiman, 2011). On the other hand, fundholding has thus far failed to encourage teamwork, coordination, and continuity of care. Policlinics do not control patient flows due to a weakening of the referral system and the low trust patients have in district physicians. The interaction between outpatient and inpatient care providers remains low. Information exchange is at an initial stage. The potential strengths of this payment method are mitigated by inherent drawbacks of the organization of service delivery,

particularly the low role of district physicians and poorly regulated interactions between providers of all levels. There is ground to believe that this method can contribute to integration only together with more substantial activities to restructure service delivery and encourage new culture for joint work.

The relevance of the Russian experience for other healthcare systems is that any service delivery system – even originally designed as integrated – may be distorted without focus on avoiding fragmentation. The evaluation of fragmentation and of substantial instruments for integration is an important area of healthcare policy.

#### **4. Conclusions**

Conceptual analysis suggests that teamwork, coordination, and continuity of care may be regarded as the most comprehensive attributes of medical service delivery integration. They are affected by major instruments of integration, such as joint clinical guidelines, information exchange, and integrated methods of payment. The suggested model of integration also includes a set of specific indicators, and structures them for the evaluation of the degree of fragmentation and integration. They can supplement traditional indicators of healthcare system performance and may be tested through regular surveys of physicians.

The results of the survey indicate a low level of integration in the Russian Federation. District physicians and specialists in polyclinics are not much involved in the joint development of patient management plans, including multispecialty chronic disease management programs. Outpatient physicians do not have much contact with hospital doctors before, during, and after admission. The joint work of curative and diagnostic services providers is in its initial stage. The readiness of patients for admission is very low as the result of poor teamwork. Indicators of the coordinating role of district physicians show that their control over specialty care is weak. The willingness and capacity to manage patients through the healthcare system is inadequate. Continuity of care indicators show a low involvement of hospital doctors in consulting polyclinic physicians on managing patients after discharge, a low frequency of easy transfers of patients from the acute care stage to long-term and rehabilitative stages, and inadequate feedback from various providers to a referring physician.

Empirical data on the Russian Federation's healthcare system suggests that the national service delivery model does not ensure integration. The Semashko model, although designed as an integrated system, has been distorted under the pressure of the specialization of medicine and other factors of fragmentation.

Large organizational forms of service provision, like polyclinics and integrated hospital-polyclinics, do not have higher scores of integration indicators than smaller ones. Special activities are needed to strengthen integration with focus on the regular evaluation of integration



and fragmentation, regulation of integration activities, enhancing the role of PHC providers, and economic incentives.

Bearing in mind the relevance of the fragmentation problem, it is necessary to monitor and evaluate this process on a regular basis. It is critical to revitalize and strengthen the regulation of integration, ensure the efficient use of new IT for information exchange, increase the role of PHC providers in coordinating the activity of other providers, and expand the use of payment methods that put the revenue of providers in line with the level of interaction among themselves.

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