St. Petersburg University
Graduate School of Management

Master in Management Program

THE PROCUREMENT STAGE OF THE PUBLIC-PRIVATE PARTNERSHIP PROJECTS IN HEALTCARE AS THE SOURCE OF PROJECT'S CRITICAL SUCCESS FACTORS

Master's Thesis by the 2nd year student
Concentration — Management
Liudmila Storozheva

Research advisor:
Assoc. Prof. Andrei Ivanov

St. Petersburg
2016

ЗАЯВЛЕНИЕ О САМОСТОЯТЕЛЬНОМ ХАРАКТЕРЕ ВЫПОЛНЕНИЯ ВЫПУСКНОЙ КВАЛИФИКАЦИОННОЙ РАБОТЫ

Я, Людмила Васильевна Сторожева, студент второго курса магистратуры направления «Менеджмент», заявляю, что в моей магистерской диссертации на тему «Стадия определения частного партнера как источник критических факторов успеха в проектах государственно-частного партнерства в здравоохранении», представленной в службу обеспечения программ магистратуры для последующей передачи в государственную аттестационную комиссию для публичной защиты, не содержится элементов плагиата.

Все прямые заимствования из печатных и электронных источников, а также из защищенных ранее выпускных квалификационных работ, кандидатских и докторских диссертаций имеют соответствующие ссылки.

Мне известно содержание п. 9.7.1 Правил обучения по основным образовательным программам высшего и среднего профессионального образования в СПбГУ о том, что «ВКР выполняется индивидуально каждым студентом под руководством назначенного ему научного руководителя», и п. 51 Устава федерального государственного бюджетного образовательного учреждения высшего образования «Санкт-Петербургский государственный университет» о том, что «студент подлежит отчислению из Санкт-Петербургского университета за представление курсовой или выпускной квалификационной работы, выполненной другим лицом (лицами)».

_____ (Подпись студента)

26.05.2015 _____ (Дата)

STATEMENT ABOUT THE INDEPENDENT CHARACTER OF THE MASTER THESIS

I, Liudmila Storozheva, (second) year master student, program «Management», state that my master thesis on the topic «The procurement stage of the public-private partnership project in healthcare as the source of project's critical success factors », which is presented to the Master Office to be submitted to the Official Defense Committee for the public defense, does not contain any elements of plagiarism.

All direct borrowings from printed and electronic sources, as well as from master theses, PhD and doctorate theses which were defended earlier, have appropriate references.

I am aware that according to paragraph 9.7.1. of Guidelines for instruction in major curriculum programs of higher and secondary professional education at St. Petersburg University «A master thesis must be completed by each of the degree candidates individually under the supervision of his or her advisor», and according to paragraph 51 of Charter of the Federal State Institution of Higher Education Saint-Petersburg State University «a student can be expelled from St. Petersburg University for submitting of the course or graduation qualification work developed by other person (persons)».

_____(Student’s signature)

26.05.2015 _____ (Date)

АННОТАЦИЯ

Автор	Людмила Васильевна Сторожева
Название магистерской диссертации	Стадия определения частного партнера как источник критических факторов успеха в проектах государственно-частного партнерства в здравоохранении
Факультет	Высшая Школа Менеджмента
Направление подготовки	Менеджмент
Год	2016
Научный руководитель	Андрей Евгеньевич Иванов
Описание цели, задач и основных результатов	Парадигма ГЧП все еще формируется в России и критический анализ накопленного российского опыта и исследование международного опыта может помочь избежать некоторых проблем и способствовать процессу развития ГЧП. Основной целью работы является повышение эффективности ГЧП в здравоохранении путем идентификации и управления критическими факторами успеха (КФУ) на стадии определения частного партнера. Для достижения этой цели были поставлены следующие задачи: • Выявить критические факторы успеха проекта ГЧП на стадии определения частного партнера; • Провести кросс-кейс анализ успешных и проблемных российских и зарубежных проектов, чтобы выявить различия между КФУ стадии определения частного партнера; • Разработать этап определения частного партнера ГЧП таким образом, чтобы минимизировать риски на следующих этапах реализации проекта ГЧП; • Предложить меры по совершенствованию политики России Федерации в области ГЧП. Анализ работ по КФУ проектов ГЧП выявил 4 основных фактора на этапе определения частного партнера

	прозрачный и эффективный процесс определения частного партнера, конкурентный процесс определения частного партнера, организованный и заинтересованный публичный партнер и тщательная и реалистичная оценка затрат и выгод. Кросс-кейс анализ по каждому из факторов идентифицировал сильные и слабые стороны в организации этапа определения частного партнера по каждой стране и кейсу. В то же время, кросс-кейс анализ выявил еще один КФУ: установка качественного правила подсчета очков. На основе проведенного анализа, было предложено несколько рекомендаций по разработке и реализации проектов в отношении стадии определения частного партнера. Некоторые из рекомендаций имеют отношение к проектам ГЧП независимо от их отраслевой специфики.
Ключевые слова	Государственно-частное партнерство (ГЧП), критические факторы успеха (КФУ), стадия определения частного партнера, здравоохранение, Россия

ABSTRACT

Master Student's Name	Liudmila Storozheva
Master Thesis Title	The procurement Stage of the Public-Private Partnership Projects in Healthcare as the Source of Project's Critical Success Factors
Faculty	Graduate School of Management
Main field of study	Management
Year	2016
Academic Advisor's Name	Andrei Ivanov
Description of the goal, tasks and main results	Paradigm of PPP is still forming in Russia and critical analysis of accumulated Russian experience and research of the international experience can help to avoid some traps and to foster the development process. The main goal of the thesis is to increase effectiveness and efficiency of PPPs in healthcare by identification and governance of the critical success factors (CSFs) at the procurement stage. In order to achieve this goal the following objectives had been set: • To identify critical success factors of PPP project at the procurement stage; • To conduct cross-case analysis of successful and problematic projects from Russia and overseas to identify differences among CSFs at the procurement stage; • To design the procurement stage of the PPP project such a way to minimize the risks at the following stages of PPP project realization; • To make suggestions on improvement of Russian Federation public-private partnership policy. Analysis of papers on CSFs of PPP projects revealed 4 main factors at the procurement stage: transparent and efficient procurement process, competitive procurement, well-organized and committed public agency and thorough and realistic assessment of costs and benefits. Cross-case analysis on each of the factors identified strong and weak points in organization of the procurement stage in each country and case. On the other

	hand, Cross-case analysis revealed one more CSF: the establishment of qualitative Scoring rule. On the basis of the analysis, several recommendations on the PPP projects' design and implementation, relevant to the procurement stage, have been suggested. Some of recommendations are relevant for PPP projects independently of their industry specific.
Keywords	Public-private partnerships (PPP), critical success factors (CSFs), healthcare, procurement, Russia

Оглавление

Introduction

The initial reason for the emergence of public-private partnership (PPP) projects was reduction of the public sector financial burden through bringing in private investment for public services and facilities (Grimsey, Lewis, 2005). Nowadays cost reduction and allocation of risks and responsibilities are the main reasons for the implementation of PPP project as well as introducing expertise of the private sector to public services/assets provision.

Lifecycle of PPP project consists of several stages: project identification, preparation, procurement, implementation and ownership. The procurement stage as one of the key phases of the project implementation was selected for the further analysis. The choice of the private partner can influence results of the project implementation and it is particularly interesting which factors (later on we call them critical success factors or CSF) should be met at the procurement stage in order to mitigate risks arising during determination of the private partner and project implementation. Thereby, the topic of this thesis is the procurement stage of the public-private partnership project as a source of project's critical success factors. This research field is attractive for scholars from various parts of the world, and they are interested in the identification of the critical success factors at various stages of the project (Qiao et al, 2001; Li et al, 2005; Chan et al, 2010, Cheung et al, 2012; Chou et al, 2015).

PPPs in healthcare gain higher recognition and are more preferable than traditional public procurement options due to several reasons. The first one is attraction of private funding, then combination of various services and stages of the project (designing, building and delivery of health services). Under traditional public procurement private partner only performs construction functions and transfers the object to government. Consequently, it has fewer incentives to increase quality of the infrastructure object.

Following the 2007–2008 global financial crises there has been an increasing interest in the public–private partnership (PPP) policy by governments in both developed and developing countries. They issue new laws on public procurement, concessions and other closely related subjects in order to increase efficiency and effectiveness of PPP projects. Each year at least several countries issue either new legislative documents that aim to improve the situation in PPP or guides on PPP project implementation. In Russia in 2016 the new law on PPP was enacted.

Public infrastructure development is one of the top priorities in Russian economy since it can raise living standards, level of innovations, address problems that face the country, its regions and towns. There is a great demand for infrastructure development and interest of public sector in PPP projects in social and healthcare sector. The huge need to attract more private investments and reconstruct existing healthcare facilities exists in Russia. The level of necessary

investments equals 0.8-1 trillion rubbles and government assumes that around 200-300 billion rubles can be attracted via PPPs.

Private sector is also interested in participation in infrastructure projects. And legislation on PPP is continuously developing that aims to improve attractiveness. However, PPPs in Russia are still at the initial stage of development in healthcare. Russia has only 38 PPP projects in healthcare from the total sample of 1096 projects (that is around 4%). At the same time number of PPP projects in healthcare in the world is continuously growing and other developed countries have reach experience in the PPP projects realization. Currently the share of PPP projects in healthcare is around 30-40% in Canada and UK.

Therefore the research gap identified in this paper is the following: Paradigm of PPP in Russia is still forming and international experience can help to avoid some traps and to foster the development process.

This work aims to answer the following questions:

- How to identify the CSFs of procurement stage of Russian PPP projects?
- Which risks can be mitigated by management of the critical success factors at the procurement stage?
- How to improve existing policies in PPP area to have higher rate of successfully implemented PPP projects?

The object of this research is healthcare PPP projects in Russia and other countries. The research subject is identification and management of critical success factors that contribute to the mitigation of risks and success of the PPP projects.

The main goal of the thesis is to increase effectiveness and efficiency of PPPs in healthcare by identification and governance of the critical success factors (CSFs) at the procurement stage

In order to achieve this goal the following objectives had been set:

- To identify critical success factors of PPP project at the procurement stage;
- To conduct cross-case analysis of successful and problematic projects from Russia and overseas to identify differences among CSFs at the procurement stage;
- To design the procurement stage of the PPP project such a way to minimize the risks at the following stages of PPP project realization;
- To make suggestions on improvement of Russian Federation public-private partnership policy.

In order to answer on the research questions data on infrastructural PPP projects in healthcare sector in Russia, Canada, Japan and India were collected. After that these cases were analyzed and compared in order to identify differences and similarities that can be attributed to the successful project implementation. Access to information on these projects varies from

country to country. In Canada all project information together with documentation is disclosed on the official websites on PPP projects in Canada while in Russia the access is more restricted and information is spread over websites of different Ministries depending on the region.

This paper consists of 2 chapters. The first chapter introduces the research topic, provides key definitions, introduces PPP project concept, stages of the PPP projects with a focus on the procurement stage, risks arising during this stage and next ones, critical success factors that can mitigate these risks, value chain as a method for risks identification and management of the critical success factors. In this part the list of CSFs that should be relevant for Russian environment is identified and these CSFs are further analyzed in the second chapter.

The second chapter describes environment relevant to PPP implementation in the countries of interest. Then it introduces methodology of the research and presents results of the analysis of the PPP projects in Russia, Canada, Japan and India on each of the identified CSFs.

This paper should be useful for those stakeholders who are connected to PPP projects implementation. It introduces recommendations on the basis of CSFs identified and their effect on risks mitigation. It also helps to identify the directions for improvement of Russian PPP regulations and policies.

1. PUBLIC-PRIVATE PARTNERSHIP PROJECTS: STAGES, RISKS, AND CRITICAL SUCCESS FACTORS

1.1 Concept of Public Private Partnerships

Public Private Partnerships (PPPs) as cooperation form between the public and the private sector initially appeared due to increased need in attraction of private investments in infrastructure projects to decrease public sector financial burden (Grimsey, Lewis, 2005) and achieve higher efficiency of the public sector. Nowadays the most significant factor for PPP formation is value for money creation (OECD, 2007, p.9).

Scholars use different definitions of PPP. According to European Commission PPP is "partnership between the public sector and the private sector for the purpose of delivering a project or a service traditionally provided by the public sector. PPPs recognize that both parties have certain advantages relative to the other in the performance of specific tasks" (European Commission, 2003, p.16).

Hurst and Reeves define PPP as "agreement between the public sector and the private sector company to provide an asset or public service, which would traditionally be provided by the public sector, but as part of a PPP project by the private sector or jointly" (Hurst, Reeves, 2004, p.380).

Van Ham and Koppenjan state that it is “co-operation of some sort of durability between public and private actors in which they jointly develop products and services and share risks, costs, and resources which are connected with these products" (Van Ham, Koppenjan, 2001, p.598).

According to the European Investment Bank (EIB, 2004, p.2), PPPs are “...relationships formed between the private sector and public bodies often with the aim of introducing private sector resources and/or expertise in order to help provide and deliver public sector assets and services.”

The OECD defines a public-private partnership as an agreement between the government and one or more private partners (which may include the operators and the financers) according to which the private partners deliver the service in such a manner that the service delivery objectives of the government are aligned with the profit objectives of the private partners and where the effectiveness of the alignment depends on a sufficient transfer of risk to the private partners.

All the definitions above share common features. They state that PPP is form of collaboration between the state and the private sector to provide and deliver services and assets that are traditionally performed by public sector that delivers mutual benefits for both parties. PPPs were not a common form of infrastructural projects implementation. However,

governments recognized the benefits of PPPs and this form of collaboration between public and private sector started to appear in different countries and fields.

1.2 Start of PPP development

Private firms are involved in public service delivery for a long time. But in 1990s the new mode of service delivery – PPP – redefined the roles of public and private sectors. This form has been widely used since 1990 in developed countries, both within and outside the OECD area, especially to solve various issues in infrastructure development projects.

The UK was the first country in the world to develop the concept of PPPs for public services projects (Healthcare UK: PPP, 2013, p.3) and one of the most successful countries in implementing infrastructural PPP projects (Chou et al, 2015, p.1138). According to the studies conducted on UK (Ke et al., 2009; Bing et al, 2005) the success rate of PPPs in this country is high. One of the main reasons of this success is efficient communication between the involved parties regarding risk allocation. This issue will be discussed further in the section 1.5 of the current paper.

Australia is another trendsetter in PPPs, it also has a lot of successfully implemented projects and various studies analyze Australian experience. However this concept is developing relatively fast and according to OECD by 2004 the list of countries implementing PPP projects also included such countries as France, Germany, Japan, Korea, Ireland, Italy, Spain, Portugal, Argentina, Brazil, Turkey, South Africa and several others. (OECD, 2008, p.8)

From this information it can be concluded that PPPs certainly have some advantages over traditional form of the public procurement otherwise it would not be implemented in different countries around the globe covering more and more developing countries in the last years. More information on the main reasons (including more efficient risk allocation, costs, additional value creation) for the choice of this form of collaboration is discussed in the next section.

1.3 Reasons for the choice PPP project

Various papers on the topic of PPPs and reports on their realization identify similar benefits of PPPs formation. As it was already mentioned PPP allows usage of private investments, so it is an alternative source of investments in public services that is beneficial for the government. This reason was especially important in the early 1990s and become significant again during the financial crisis of 2008 when governments had interest in development and creation of infrastructure but could not continue it because of the fiscal constraints and lack of financial resources. Thus, PPPs enable projects that are desirable by the society and government but cannot be implemented by the public or private sector alone due to high risks, need for the

government support, low profitability (Vinogradov et al, 2004, p.538).

The most common premises made for PPPs include better efficiency in infrastructure provision (Hodge, 2004, p.156) that is achieved by adopting private sector technology and innovation (Healthcare UK:PPP, 2013, p.2). According to the European Investment Bank (EIB, 2004, p.4) and Grimsey and Lewis (2005, p.346), improvement of service delivery is the main reason since it creates better value than in the case of traditional public procurement.

Moreover, PPP allows to strengthen monitoring and accountability (Hodge, 2004, p.156). Other benefits of PPP are outsourcing risk to private entities (The World Bank, 2011; Chou, 2015), appropriate allocation of risk throughout the whole life of the project and as a result long term value-for-money creation; delivery of projects on time and budget through incentivisation of private sector partners. (Healthcare UK:PPP, 2013, p.2). PPP allows a government to benefit from the participation of the private sector in managing and financing public service expansion by outsourcing risk to private entities. Consequently, the government can focus on policymaking, planning, and regulation (The World Bank, 2011; Chou, 2015)

Among other reasons are development of local private sector capabilities through joint ventures with large international firms and creation of sub-contracting opportunities for local firms in technical works and services like electrical works, facilities management, maintenance and cleaning services etc. PPP projects are also advantageous for state owned enterprises since they get knowledge and skills of the private partner participating in implementation of PPP projects and can use this in the future to improve performance, participate in tender (The World Bank, 2015).

Finally, in recent years, achieving value for money has emerged as the primary government rationale for delivering infrastructure projects through PPPs (Siemiatycki, Farooqi, 2012). In papers dedicated to the analysis of PPPs in infrastructural projects authors mention a high value for investments (Bing et al., 2005a; Hwang et al., 2013; Ke et al., 2010; Chou, 2015). According to the UK Treasury (2006, p.7), “Value for money is defined as the optimum combination of whole-of-life costs and quality (or fitness for purpose) of the good or service to meet the user’s requirement.” Importantly, value for money does not refer to the lowest cost project. Due to the higher cost of financing an asset with private capital, increased transaction costs, the base costs of PPP projects are typically higher than for a comparable public sector alternative (Siemiatycki, Farooqi, 2012; Shaoul et al., 2007) but additional value is achieved through transfer of risks to the private sector and also usage of knowledge, resources of both sectors in a more effective and efficient way (MOF, 2004; Hwang et al. 2013).

Public-private partnerships should be analyzed in the context of long-term large-scale complex projects. By assumption the private sector has advantages in delivering public good

through cost reduction, higher efficiency, innovations, otherwise government delivers these services/goods through traditional public procurement. Problems reported with PPP/PFI procurement include issues such as: high costs in tendering, complex negotiation, cost restraints on innovation, and differing or conflicting objectives among the project stakeholders (Akintoye *et al*., 2001). In order to mitigate these problems it is necessary to choose the right form of PPP.

1.4 Forms of PPP

PPPs are different from traditional procurement by the degree of private partner involvement, risk allocation and level of government control and investments. Below there is a chart showing the most common forms of PPP categorized on the factors just described. (Fig.1)

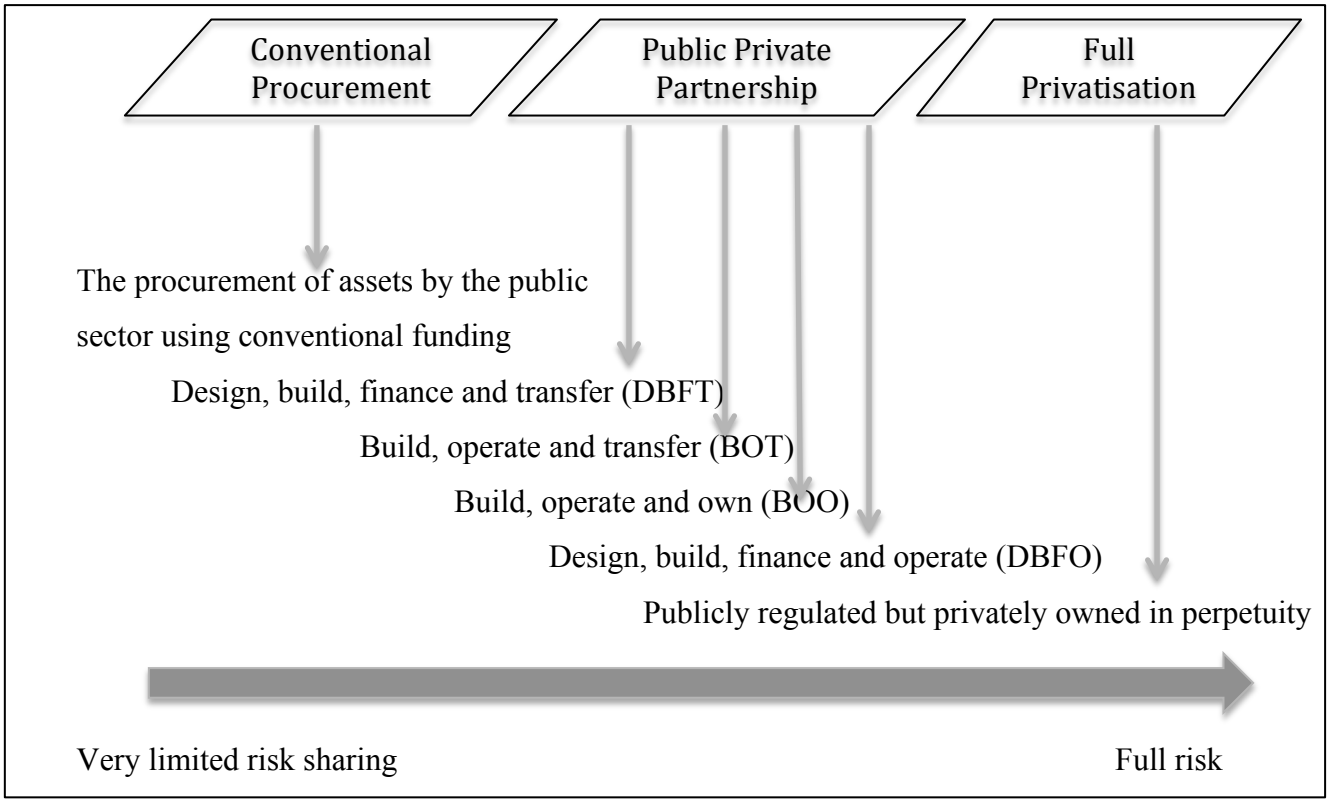


Fig. 1 Asset Procurement Options

Adapted from (IFSL, 2003, p.8) and OECD (2008, p.33)

Other forms that are sometimes referred to as PPP are leasing, joint ventures, contracting out, management contracts (Grimsey, Lewis, 2005) but they are out of the focus of this paper in part due to the controversial opinions whether they are PPP or not.

All these forms assume different level of responsibilities of the private partner. It can just build the facility, finance it construction and then transfer it to the public partner. Or it can also design it, operate and provide services for the society with further maintenance and transfer in several years or decades. The form of PPP project depends on the specific circumstances and

requirements (Engel *et al*., 2007). The partnership is different from the privatization in alignment of objectives. It is strict in partnerships because government also defines quantity and quality of the services and determines price after negotiations with private party and in privatization it is the opposite. (OECD, 2008, p.13)

In healthcare sector PPPs serve for building physical infrastructure, hospitals. In the early 2000s in the UK was a special program dedicated to the building of two hundred new hospitals and organizations that provide health services through private financing. Now there are new models of PPPs in health care that aim to improve the quality of patient care and decrease costs and gain more popularity in Europe. Many of them are developing through integration of functions in healthcare (better coordination of basic, secondary and social services for patient care). PPPs projects began to cover the health care services and social services, and maintenance of physical infrastructure (Barlow, 2015, February 10).

These models in form of franchising can be found in Germany and Finland, where private partner provides a full range of health and social services in PPP projects. For instance, the model Alzira in Spain, where the private partner is responsible for the whole system of primary and secondary care including social services (Acerete et al, 2012). It is not easy to estimate the successfulness of these PPP models, but it is certain that they lead to significant improvements.

As it was mentioned there are different forms of PPPs. Some of them assume only design and building or reconstruction of physical infrastructure while others also delegate the operation and maintenance to the private partner. The last tendency we see in Russian PPPs projects in healthcare, which will be described in the second chapter.

Thus, each project undergoes several stages and even though various countries suggest their own stages of the PPP though they all share common features.

1.5 Stages of PPP projects

There are several approaches to classification of stages of PPP projects. First, I introduce the concept used by scholars, then the one used in guidelines to PPP projects implementation and after I come up with the integrated framework.

Hodge (2004, p.161) identified 5 stages of PPP projects: design and development, construction, finance, operation, ownership. They are closely related to the forms of PPP. This classification is useful for risk identification of project implementation. However, this paper is focused on the procurement stage that has more connections to the public sector activities than those identified by Hodge. Guides on PPP and toolkits of different countries describe PPP projects' life cycle in another way. They focus more on the initial stages. According to the

classification of the guides and toolkits of different European countries and organizations, life cycle composes of 4 main phases. For example, EPEC guide identifies the following phases: project identification, detailed preparation, procurement, and project implementation. (EPEC, 2011)

The first phase is project identification and needs analysis. During this phase, potential PPP projects are identified. The basis for this is the analysis of the economic and social needs for infrastructure services and the options available for meeting them.

The second phase is PPP decision, project appraisal and clearance. The projects are considered in terms of suitability of PPP form for their realization and examined for further consequences. The highest potential will have projects with strong need, financial viability, few negative impacts and manageable risks (PPIAF, 2009). On this stage the type and structure of PPP is chosen.

The third phase - final approval and procurement. At this stage, the procurement process and design are selected. Besides that, this phase concerns the negotiations with preferred bidders and final choice of the partner with subsequent technical and financial closing. The procurement phase, as the term is used in this Guide, commences with the publication of the procurement notice and ends with financial close, the point at which project activities (beginning with detailed design and construction) can start.

The implementation stage relates to the construction and operation phases of the project and monitoring of the PPP over the life of the contract by the public partner. The integrated framework is presented on the picture below (Fig. 2)

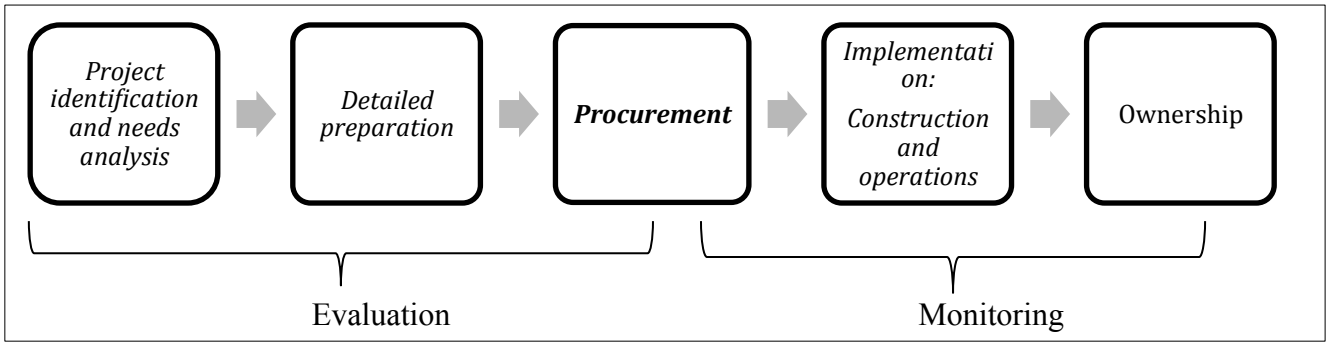


Fig. 2 Project's Life Cycle

Source: Adapted from guides and toolkits (EPEC, 2011; PPIAF, 2009; FHWA, 2012)

These stages can be also divided in two broad categories: evaluation and monitoring (from the public partner's point of view). Evaluation comprises the first three stages and monitoring – the last two. Final approval and procurement phase is a subject of both categories since it is significant for the successful implementation of PPP projects.

Procurement stage

Procurement means selection of the (highest ranked) bidder under a transparent, fair and accountable procurement system (UNCITRAL and PPIAF) and signing a contract agreement with this partner. There are many factors that must be considered when determining the best procurement approach for a given project, including long-term costs, myriad uncertainties, risks both now and in the future, and complicated funding and financing approaches. (FHWA, 2012, p.1-1)

The bidding processes differ depending on the nature and complexity of the project. There are two main types of the PPP projects: concession projects and maintenance agreements, they define the tender process since the first type requires large investments, complex or long activities delegated to the private sector when maintenance contracts are not so complex and can be signed on the basis of procurement rules for civil works.

According to guides on PPPs the process of procurement however should be transparent, open, and fair. "Transparency means: the rules are made available to all participants and will be followed as stated in the bidding documents; clear and acceptable guidelines for bidding are distributed to all participants and that those guidelines are consistently followed.

Openness means free and open competition. The first step to maximize free and open competition is through information provision, which ensures confidence in the process, encourages more contractors to compete for PPP projects, and results in overall lower prices to the benefit of the public.

Fairness means all participants are treated fairly and consistently at all times, which will further encourage capable, responsible contractors to compete for PPP projects." (PPIAF, 2009, p. M-76)

Those responsible for procurement in government need to build up a reputation for these attributes. The Toolkit indicates that if the tender process is not a success initially e.g. there is an insufficient number of bidders for a project, it should not just be re-tendered but re-evaluated and restructured as necessary. If Stage 2 is undertaken properly, the likelihood of unsuccessful bidding will be minimized, as most unsuccessful tenders are due to poor project preparation or poorly drafted concession agreements or both. However, this part is country specific information. For example in Russia even if only one bidder submitted the proposal it is still possible to enter PPP with it if it meets requirements.

The bidding process is the one where government usually err because of the poor project preparation or poor bidding processes or both. As a result, government faces failed bidding procedures, selection, award and signing of a contract with the bidder having submitted the proposal that best meets the objectives of government and/or the best deal for users (PPIAF,

2009, p. M5-91).

For successful bidding, it is important to ensure competition and transparency. It will result in choice of the partner that is able to deliver expected results at reasonable costs. If there is no transparency then government might face such issues as protest that negatively affects the project (Moszoro, Spiller, 2012). It is crucial to attract the best potential bidders. They should see benefits and feel rewarded for possible risks and protected by the existing regulations. Country environment and the commitment of government to accomplish the project play significant role in this case. Moreover, fair competition between bidders should be supported. By the means of providing information on the project and evaluation procedure itself that should not be biased. Rules of the game should be clear to the bidders so that they have understanding of the procurement process organization. (PPIAF, 2009, pp. M5-93-95)

Most PPP projects in healthcare are long-term and suppose investments from private partner as well as operation and maintenance. According to a primer on PPP concessions that focuses on Design-Build-Finance-Operate (DBFO) concessions there are several stages of PPP projects. They start with development of a first-stage procurement document: request for information or request for qualifications. The next stage – request for proposals. Draft project agreements are developed to this stage and the bidding process starts. Next public sector decides which private partner to choose and then starts negotiation process with that partner.

Request for information or request for qualifications (RFQ) is a document that public sector develops if it sees that PPP form of delivery will provide additional value. These documents contain information about the project and the public sector's goals. This phase allows weeding out concessionaires that do not have appropriate qualifications for the project implementations.

During the second stage: request for proposal (RFP) development public partner invites short-listed bidders to send their proposals. At this stage public sector already has more information on the opportunities of private partners and how much resources they need to implement the project. The draft project agreement usually contains the main information on the project realization (it can include revenue schemes, performance standards etc.). However, some parts are discussed with the selected bidder.

Interested bidders send their proposals by the date indicated, inform about the possibility to meet all technical and financial requirements if needed and pay deposits or guarantees if required. Then government selects private partner based on evaluation criteria developed before and financial criteria should be not the only ones considered in selection process (unlike in traditional public procurement). However, it is still possible to meet cases where the choice was based only on the total costs of the project. Usually they are not as successful as others are.

During selection process each criteria (experience, technical capabilities, and costs) have weights and they are rated on the basis of weighted average. Finally, after the partner is selected, negotiation process of final project agreement starts based on the draft developed during the RFP process. (FHWA, 2010)

The thoroughly organized selection process assumes the choice of the private partner, which submitted proposals with the highest value based on all evaluation criteria and requirements. However, government role is also significant since it determines how to evaluate private partner, which weights to assign and it also develops technical and other requirements that can serve as an affordability threshold.

Therefore, carefully organized procurement process, high quality of tender documentation and overall process organization should increase the success rate of projects implemented through making more accurate choice and also some risks mitigation that are described further.

1.5 Risks of PPP projects

The successfulness of the project depends on risk management. James Barlow defines risks in PPP projects as potential events that may occur during the implementation of PPPs and result in financial losses, additional costs to PPP project participants, lower revenues as well as delays in the schedule of the PPP project that results in inability to achieve the desired results because of force majeure or the PPP project participants' actions (Barlow, 2015). The risk allocation in PPPs is significant for the success of the project since it allows management of risks by the party that is best able to handle them (FHWA, 2012, 1-2).

In order to achieve appropriate risk allocation risk factors should be identified before the start of the project (Chou, 2015). However, possible outcomes should be clearly identified, evaluated, and managed from the very beginning throughout a whole project's life cycle to take appropriate decisions on risk management. Public sector party uses proactive approach to risk management to address any potential obstacles and take advantage of opportunities. In PPP projects in concession agreement all the risks, "Relief" and "compensation" events are stated and all other risks connected to the situation that were not contemplated up-front are allocated to the concessionaire (FHWA, 2012, 1-2) that is different from the public procurement when risks are owned by government.

Each risk in PPP project should be allocated to the party best suited to manage or mitigate it. Hodge states that risk transfer can account 60 percent of the total cost saving for the PPP projects. Moreover, value or money is achieved mostly through appropriate risk allocation.

And for six out of the 17 cases (35 %) he analyzed it was entirely dependent on risk allocation (Hodge, 2004, p.160). This allocation also depends on the form of PPP. The table 1 summarizes in which stages of PPP project realization the private sector is involved in risk management process.

Table 1 Risks allocated to private party depending on the PPP form

Stage / Project type	Design	Construction	Finance	Operation	Maintenance
DB	X	X	-	-	-
DBFT	X	X	X	-	-
DBFO	X	X	X	X	X

The sign "X" in this table means that this risk is allocated to the private partner and "-" means that this risk is retained by the public sector. The private and public partner can also share some risks; it depends on the exact project, project specification and agreement between parties. Thus, risks can be grouped in 3 categories that is also stated in various guides on PPP (FHWA, 2012, 5-1). These 3 categories are:

- Transferrable risks
- Retained risks
- Shared risks

Transferrable risks are risks that are fully transferred to the private sector due to the capability to manage them. Retained risks are the ones that government retains and bears costs, for example risks of delay. The third type-shared risks that are difficult to access and manage and that are dealt with by government or private party.

The ability of the private sector to manage the risk defines its' willingness to accept a particular risk. Other factors contributing to acceptance of risks are the existence of sufficient rewards to compensate for the risk and the clarity of the contractual dispositions transferring the risk. (FHWA, 2012, 5-8)

One more classification divides risks on legal and political and commercial (Fourie and Burger, 2001), (see Fig. 3). The first group deals with legal and regulatory framework, government policy, taxation, dispute resolution etc. The second group with market or projects risks, more specific: supply and demand risks. Supply risks are risks that affect the ability of the partner to deliver/provide services in the necessary amount. These risks are distributed among two other more general groups: supply-side operation risks and construction risks concerned These risks refer to the availability of resources, labor, costs of input, production and technical risks, financial market risks, changes in exchange rates and in cost of capital. Demand risks refer

to the changes in consumers taste, appearance of substitutes or complementary goods or on the opposite their exit of the market, changes in socio-demographic situation or economical that leads to demand changes. (OECD, 2008, p. 35)

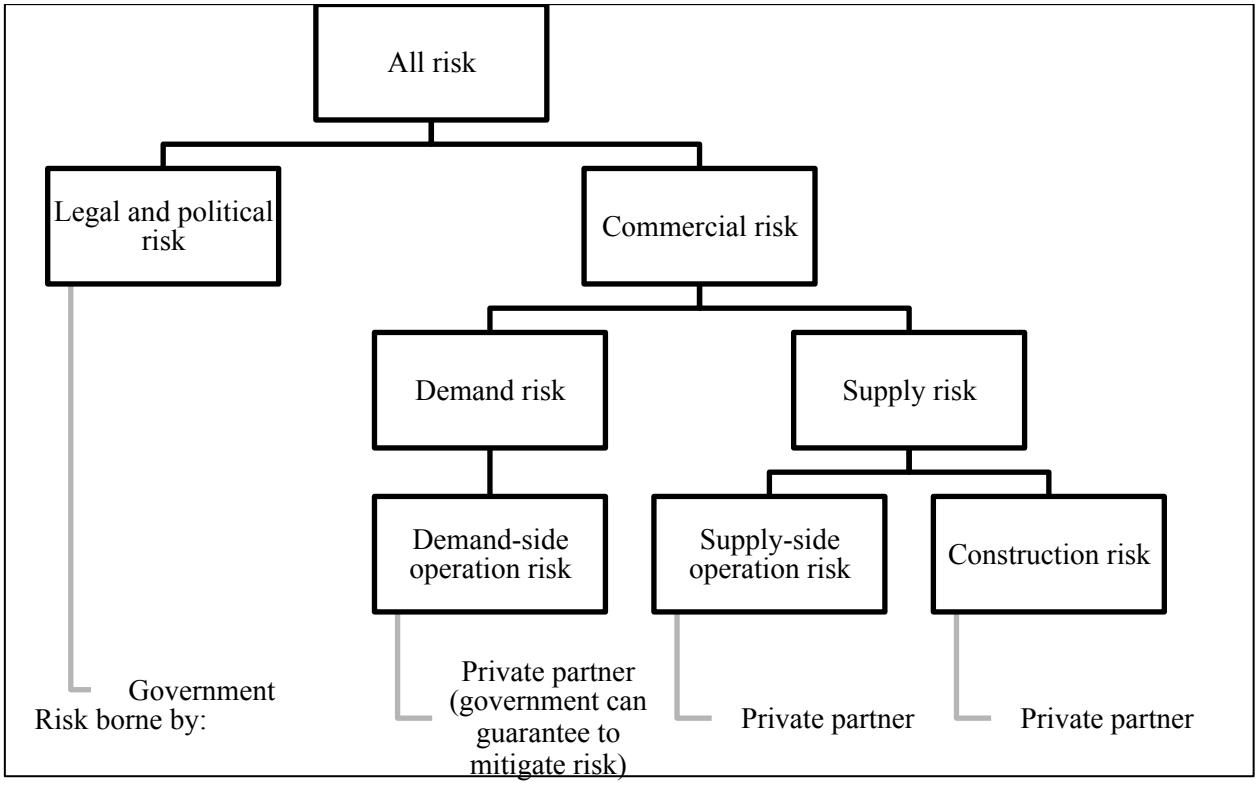


Fig. 3 Categories of risk

Source: OECD, 2008, p. 35

Talking about the OECD framework risks that are going to be addressed in this paper are mostly supply and demand risks that can be mitigated at the procurement stage. For instance different risks that can arise at the operational stage like poor performance of the private partner (not meeting necessary technical or personnel requirements), inability to provide agreed amount of services, risk of not to be included in compulsory health insurance system (that is more specific to healthcare organizations operated by private companies), etc. Factors that might mitigate these risks will be described further in this paper (Section 1.6).

There are many more different classifications of risks. UNIDO (1996) grouped risks of BOT under two categories – general/country risks and project specific risks. The first category includes commercial, political, and legal risks and the second one is composed of construction and completion risks, developmental, and operating risks. But since this paper analyses the procurement stage of the PPP it will focus only on those risks that can be mitigated at this stage.

According to UNIDO classification project risks are more relevant for the further analysis, more specifically: construction, availability, procurement and operating risks. Construction risks refer to late delivery, non-respect of specified standards, significant additional

costs, legal and environmental issues, technical deficiency, and external negative effects. Financing risk can be also related to the construction risk according to Eurostat.

Availability risk assumes the possibility to provide a contractually agreed volume of services at quality standards specified in the PPP contract. If government introduces some penalties for non conformation with established criteria at the procurement stage and do not make any payments before the projects services are provided and meet established requirements then this risk can be mitigated.

Operational risks include many various fields but only those that are discussed at the procurement stage (included in the tender documentation and vary from one PPP to another are considered further. First, there are different schemes according to which government pays to the private partner for provision of medical services under compulsory health insurance (CHI). Government can pay for the certain amount of services provided regardless of the actual demand if it is stated in the contractual agreement or payments can be adjusted to the actual demand then the demand risk bears private partner and it has more incentives to improve quality of services.

Procurement risks result in failed or flawed procurements. The main risks arise when lowest bid exceeds affordability threshold, noncompliant or low-quality bids submitted, or when fewer proposers than anticipated were submitted etc. Procurement risks are caused partially by unsuitable project structures/ risk transfer expectations. In order to mitigate it public agencies should not be constrained in their procurement practices by regulations requiring that they award contracts to the lowest price bidder rather than to the bidder presenting the best value. They also result from lack of clarity in requirements, in selection and evaluation criteria, lack of transparency, too high importance of financial criteria (FHWA, 2012)

The best value can be achieved though the clear assessment of requirements and project specification and setting quality threshold. Moreover, evaluation criteria should be more specific for PPP projects especially in healthcare since quality of the services provided is significant.

There are numerous medical risks that cannot be mitigated especially at the procurement stage. However, tender documentation, clear requirements, negotiation process can reduce the likelihood of their appearance. These specific factors that can contribute to the successful project implementation are described further.

1.6 Critical success factors of PPP projects

For effective PPP implementation, important factors and preferences regarding risk allocation should be identified before the commencement of a project. Scholars conducted several studies on factors contributing to the successful implementation of PPP projects in various countries including Australia, UK, China, Singapore and others (Bing et al., 2005b; Chan et al., 2010; Chou et al., 2012).

These factors should mitigate risk of the project failure. The initial idea on few factors that are crucial for the success of the company and that can be predetermined, was first introduced by Daniel (1961) and later elaborated by Rockart (Rockart, 1979; Bullen, Rockart, 1981). Classical definition of the critical success factors introduced by Rosckart is " [CSFs are]… those few key areas of activity in which favorable results are absolutely necessary for a manager to reach his/her goals." Paper of Bullen and Rockart (1981), provides the following definition of CSFs: "the limited number of areas in which satisfactory results will ensure successful competitive performance for the individual, department or organization. Critical success factors are the few key areas where 'things must go right' for the business to flourish and for the manager's goals to be attained." According to Boynton and Zmud (1984) the CSF methodology intends to determine those few key areas that are necessary to achieve managerial success.

CSFs methodology is widely used in various fields: strategic management, financial services, manufacturing, construction management, and scholars from various countries aim to identify which factors contribute to the successful implementation of PPP projects as well. The definitions introduced above are used or referred to in almost all papers related to CSFs of PPP projects those that do not have it do not provide definition of CSFs at all. However, this definition is not suitable for CSFs at the procurements stage of PPP project.

Some authors introduce their own definitions of CSFs, but they are closely connected to the initial ones. Tshiki (2015) defined CSFs of a project as "characteristics, conditions or variables that can have a significant impact on the success of a project when properly sustained, maintained or managed." Irvine and Hall (2015) referred to success factors as "the conditions, circumstances and events that contribute to the success of a project." These two definitions replace the word "area" on "condition" that is more suitable in PPP project. On the other hand they are too broad. Thus, the new definition should be introduced further

Some scholars also use word "key" instead of "critical" but in their papers they first provide the same definition as Bullen and Rockart (1981). So these two terms are used interchangeably in some papers on PPP but usually only term CSFs is used. When searching for articles with key words "critical success factors" and "PPP" it is possible to find 109 articles and

with “key success factors” instead of critical only 5.

Thereby, this paper focuses on critical (not key) success factors and uses the definition of CSFs as those conditions the implementation of which can secure favorable results in few key areas of activity that are absolutely necessary to reach goals of PPP project.

Concept of CSFs is widely used to analyze implementation of PPP projects to enhance the understanding on the implementation of PPP policies for infrastructure development. Some scholars use this concept to identify CSFs of the project implementation overall while others apply it to different sectors, PPP forms, stages. It is logical to assume that if each stage of the project realization is organized in efficient way it is possible to mitigate negative impact of risks. One of the crucial stages for the project realization is procurement since the future performance depends on the quality of the private partner. The overall accomplishment of the project and achievement of the financial closure depends on the choice made by government during the tender (or another procedure). The way government chooses the private investor partially depends on the regulation of the country. This will be described further for Russian environment (Section 2.4.1).

Authors of papers on CSFs of PPP projects develop different lists of CSFs of PPP/PFI projects but they all are similar. Usually these factors are distributed among several groups or stages. For example, Cheung et al (2012) classified CSF into 7 groups: equitable allocation of risks; strong private sector; judicious government control; transparent and efficient procurement process (including competitive and transparent procurement process and clear project brief and client requirements); project economic viability; adequate legal framework and stable political environment; strong government support; stable and transparent political/social situation; available financial market.

Li et al (2005) grouped them into 5 categories. The first category is effective procurement that consists of transparency in the procurement process , competitive procurement process , good governance , well-organized and committed public agency, social support , shared authority between public and private sectors, thorough and realistic assessment of the costs and benefits. Other 4 categories are project implement ability , government guarantee , favorable economic conditions , available financial market . The same classification used Akintoye, 2001. It is based in the questionnaire survey research examined the relative importance of eighteen critical success factors (CSF) for PPP/PFI in UK construction projects.

Study of Suhaiza Ismail (Ismail, 2013) shows that “good governance”, “commitment of the public and private sectors”, “favourable legal framework”, “sound economic policy” and “availability of finance market” are the top five success factors of PPP implementation in Malaysia.

Kwak et al. (2009) identifies four main aspects which would lead to successful PPP projects: the competence of the government; the selection of an appropriate concessionaire; an appropriate risk allocation between the public and private sectors; and a sound financial package.

The most common factors that determine successfulness of the PPP projects are in the table below (Table 2).

Table 2 Findings on studies of PPPs' CSFs from 1990 to 2013

CSF	Number of studies referring to this CSF (out of 27)
Appropriate risk allocation and sharing	13
Strong private consortium	12
Political support	9
Public/community support	8
Transparent procurement	8
Favorable legal framework	7
Stable macroeconomic condition	7
Competitive procurement	6
Strong commitment by both parties	6
Clarity of roles and responsibilities among parties	6
Financial capabilities of the private sector	5
Technology innovation	5
Good feasibility studies	5
Open and constant communication	5
Detailed project planning	5
Government providing guarantees	5
Trust	4
Selecting the right project	4
Long term demand for the project	4
Clear project brief and design development	4
Political stability	3
Competitive financial proposals	3
Mature and available financial market	3
Acceptable level of tariff	3
Streamline approval process	3
Compatibility skills of both parties	2
Choosing the right partner	2
Good leadership and entrepreneurship skills	2
Sound economic policy	2
Well organized and committed public agency	2
Good governance	2
Clear goals and objectives	2
Employment of professional advisors	2
Financial accountability	2
Consistent monitoring	2
Reliable service delivery	2
Environmental impact of project	2

Source: Osei-Kyei, Chan, 2015

This thesis focuses only on procurement stage so the further research is based on the same CSFs at the procurement stage as in papers of Akintoye (2001) and Li et al (2005).

1. Transparent and efficient procurement process: Transparency decreases transaction costs of the project and time needed for verification, negotiations and completing deals (Jefferies et al., 2002; Kopp, 1997; Gentry and Fernandez, 1997; Arthur Andersen and Enterprise LSE, 2000). Transparent procurement process is ranked 5th among the most important critical success factors identified in literature and was identified in 8 different publications. (Table 2) Transparency does not only apply to the tendering process but it must be observed throughout the whole life cycle (Osei-Kyei, Chan, 2015).

To achieve higher transparency it is important to clearly communicate risk allocation and to reach mutual understanding between the parties (Ke et al, 2009). Thus, parties should openly consult each other for any clarification on the projects' delivery. Transparency also means necessity to evaluate all of the potential risks throughout the whole project life (Ke et al, 2010). Osei-Kyei and Chan mention that information and reports on the projects must be made publicly available. (Osei-Kyei, Chan, 2015).

2. Competitive procurement process: It leads to the greater number of bidders, as a result there is better suggestion at fair price. However, the bidding process should not be based solely on price but also on quality, capabilities to meet requirements provide better services. The government should take a long-term view in seeking the right partner (Corbett and Smith, 2006; Gentry and Fernandez, 1997). This factor together with previous one enhance project value for money (Gentry and Fernandez,1997; Jefferies *et al.*, 2002; Jefferies, 2006; Li et al., 2005; Qiao et al., 2001; Zhang, 2005; Cheung et al, 2012).

3. Well organized and committed public agency: Boyfield (1992) Stein (1995) Jones *et al.* (1996) Finnerty (1996) Moreover it is always important for government to clear any doubts or rumors within the public domain concerning the delivery of PPP projects, as negative public perception could affect the successful implementation of projects. (Osei-Kyei, Chan, 2015)

4. Good governance: Government departments and their agency as a policy makers are fundamental for successful PPP/PFI implementation (Mustafa, 1999; Qiao *et al*., 2001; Frilet, 1997)

5. Social support: If the reputation of the private partner is disrupted then the project can fail because of the resistance of the society or the opposite, when there is no social support reputation of private party might be damaged as a result the project looses its attractiveness (Frilet, 1997).

6. Shared authority. During negotiation process at the procurement stage public and private sector should respect each other (Stonehouse *et al.*,1996; Kanter,1999)

7. Thorough and realistic assessment of the costs and benefits. When this is done public sector knows what is the price and can make better decision. (Brodie, 1995; Hambros, 1999; Qiao *et al.,* 2001) This assessment includes capital and recurrent costs, fixed and variable costs, performance and value driven benefits (Cheung et al, 2012)

8. Shared responsibility (Bing et al, 2005, p.4; Osei-Kyei, Chan, 2015) mention that both sectors must be transparent and open to the external stakeholders or users

As indicated in the table 2 factors with number 3-8 are not so commonly used in papers that aim to identify CSFs of PPP projects. However, their description is similar and factors 3, 4, 6 and 8 are grouped into one "well-organized and committed public agency", factor 5 is omitted since it is not that often used in papers except for those that are were used for table creation. Factor 7 is kept for the further research since it is especially significant at the procurement stage and it is closely connected to appropriate risk allocation and sharing that is ranked first by Osei-Kyei and Chan (2015).

These factors aim to mitigate the negative impact of the risks described before. However company external environment should also be taken into account (macro-economic environment and political and social situation in the country).

In order to better understand how these factors mitigate risks and which risks specifically it is useful to assess how value is created and one of the tools that can be applied is value chain introduced by Michael Porter. Value chain consists of primary and support activities that all together create additional value. Primary activities are inbound logistics, operations, outbound logistics, marketing and sales, and service; and support activities are procurement, human resource management, technological development and infrastructure (Porter, 1985)

When the private partner in PPP performs part of these activities public party should make an accurate choice to ensure that private partner will strive to provide the best value. According to Michael Porter and Ian Smith healthcare system in USA is failing because competition takes place at the wrong levels. It should take place around healthcare outcomes and not healthcare plans. Porter also states that system participants should create value in order to reach better results. (Porter, Teisberg, 2006)

Value chain can aid in identification of medical risks (Ivanov, 2015) and requirements to the private partner that mitigate these risks. For the purposes of the further research it is useful to analyze one of the Porter's chains from 2006 on the care delivery for different medical units. He introduced several chains for: breast cancer, chronic kidney disease. Since there are companies that are interested in the PPP projects in the field of dialysis the last one is used for the further analysis (Fig. 4). In this picture shaded parts are provided within the unit and white ones –

activities provided outside the clinic or support activities.

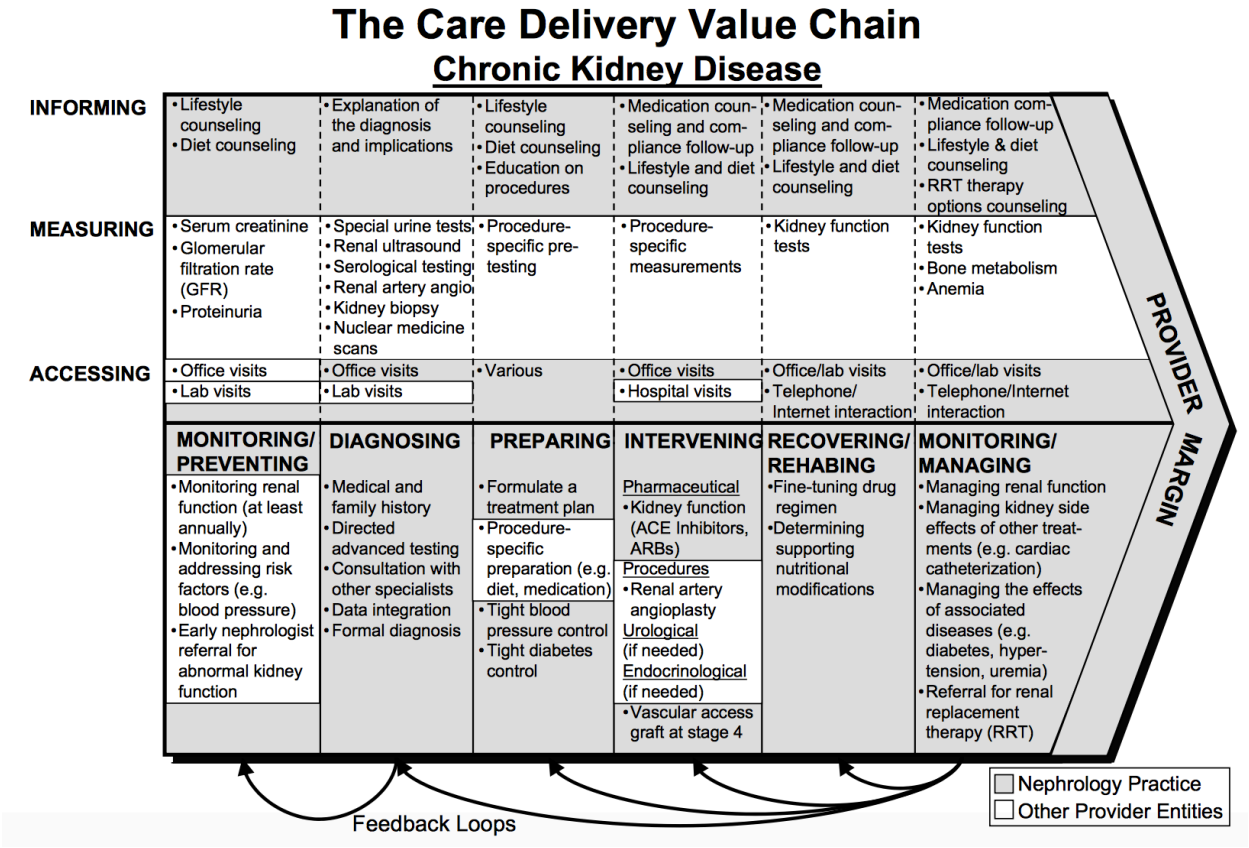


Fig. 4 The care delivery value chain for breast cancer
Source: (Porter and Teisberg, 2006, Appendix B, 403).

Primary activities that private partner performs are diagnosing, preparing, intervening, recovering/rehabing, monitoring/managing. There are various medical risks that can be identified through analysis of the links between different VAC elements. One of the medical risks is human error. Medical personnel are involved in different services provision and analysis of each step helps to identify sources and limit their appearance. These mistakes can arise at the stage of diagnosing when not all relevant factors will be considered when the doctor chooses treatment plan or later the lack of control for blood pressure that is required might also lead to negative consequences.

Medical equipment also has important role in patient's treatment. Company providing medical services must ensure high quality of equipment that meets necessary standards and can perform all functions that it is required.

Demand risk is also closely connected to the first two factors if patients know that the center does not meet certain requirements or provide not all services that they need consumers can switch to another center if it exists and get all the services they need at that place.

The procurements process affects preparation of tender documentation, prescribed requirements to the private partner. And high quality of tender documentation should mitigate medical risks identified through analysis of the value chain. These risks identification will also

affect the choice of the private partner since government will consider different aspects that can lead to the higher probability of project implementation including experience in operations.

In spite of the huge interest by governments worldwide in PPPs, their implementation is still experiencing lots of impediments which need critical attention. Among such obstacles encountered with PPP implementation are high transactional costs, lengthy procurement process, lack of appropriate skills, unattractive financial market, incomplete risk transfer, and high user charges (Grimsey, Lewis, 2005; Li et al., 2005; Tingting, Wilkinson, 2011).

The review of the literature on the topic of PPP shows that PPP allows achieving greater value for money, cost efficiency, minimizing risks through the appropriate risk allocation and delivering of the public services that are needed to the society. Each project undergoes several stages and depending on the form of PPP risks are allocated either to government or private party or they can be shared as well. Procurement stage is very important since it determines the future operations and returns. In order to successfully accomplish the project government can ensure presence of critical success factors. If they are met then public sector might expect higher probability of successful project implementation if not the project requires additional consideration.

The regulatory environment has significant role in the project implementation. In general in developed countries there are no specific laws on PPP, only recommendations while developing countries adapt specific policies regulating PPP because there assumptions that are implicit in developed countries are not always met in developing.

The main goal of this thesis is to increase effectiveness of public-private partnerships by identification and governance of the critical success factors at the procurement stage. In order to achieve this goal the empirical research on PPP projects will be conducted.

2. COMPARISON OF COUNTRIES' EXPERIENCE IN ORGANISATION OF THE PROCUREMENT STAGE OF PPP PROJECT

2.1 Countries' environment: implications for PPPs

Analysis of PPPs in countries with different levels of socio-economic development has shown that PPPs are successfully implemented in transport (roads, railways, airports, ports, pipeline transport), social infrastructure (health, education, entertainment, tourism), utilities (water, electricity, clean water, gas, etc.), and other areas (prisons, defense and military sphere of objects) (The World Bank, 2016).

In the developed counties the most important areas for PPP projects implementation are transportation sector (USA) and social infrastructure (Canada, France, Germany, Italy, UK). According to the study of Bogolib (2013) on the sample of over 600 PPP projects in various countries the main industries and sectors for PPP in developed countries are road construction in the US (32 out of 36 projects), in the UK - Health (123 out of 352 projects) and education (113 out of 352 projects), Germany - education (24 out of 56 projects), in Italy, Canada and France - health.

The graph below (Fig.5) introduces some statistics on PPP projects in Canada and Russia. It was built on the basis of the information provided by the Canadian Council for PPPs and unified information system on PPPs in RF. The red bar shows the share of PPP projects in social infrastructure (including healthcare) and the blue one – share of projects in healthcare. On the basis of these estimates, information on PPP in different countries as well as results of paper of Bogolib (2013) it can be concluded that developed countries implement the greatest part of projects in social infrastructure while in developing countries and Russia share if this sector is much smaller and equals to 10%. When we talk about healthcare Canada has more projects than UK in terms of share but UK outnumbers Canada by 30 units. In Russia the share of healthcare projects is only 4% but this sector is continuously developing and Russian government is highly interested in the increase of number of projects in a form of PPP.

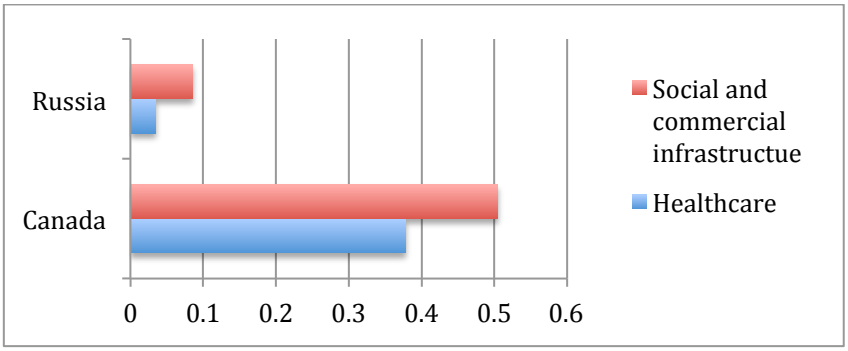


Fig. 5 Share of healthcare and social PPP projects (from total number)

2.1.1 Russia

Public infrastructure development is one of the top priorities in Russian economy since it can raise living standards, level of innovations, address problems of the country, its regions and cities. Currently long-term target programs for development of public infrastructure are a part of Russian economy development. Due to budget surplus until the financial crisis most project were financed by public funds from federal and local government budgets. However, after 2009 came the understanding that infrastructure projects cannot be fully financed by public sector and it can be more efficient to attract private investors to continue economic development at the same pace.

Concept of socio-economic development of Russian Federation by 2020 contains information on PPP development in Russia and states the benefits of such cooperation between government and private sector. PPP mechanisms at the national level will speed up the development of the healthcare services and contribute to the formation of an effective competitive environment, optimization of the financial resource management, increase the number and quality of services provided. In addition, development of PPP in healthcare should also improve investment climate and increase return on investments in healthcare (PPP in health care in the spotlight of...). According to deputy minister of healthcare Sergey Kraevoy government is interested in professionalism and experience of private partner in managing, operating and financing of different infrastructural objects.

According to expert estimates, value of fixed assets in health care in Russia equals to 2-2.2 trillion rubles. They are worn by 40-45%. Consequently, about 0.8-1 trillion rubles investments in fixed assets is needed. It is possible to attract about 250-270 billion rubles to modernization of infrastructure through private investments using PPPs since 15-20% of the institutions provide services in areas that are potentially interesting for private investors (on the basis of the interview with Sergey Kraevoy). In some regions, private investments are dedicated to the construction and operation of new infrastructure. The potential of this segment is about 50-70 billion rubles and this segment covers mostly oncological clinics, rehabilitation centers, dialysis and perinatal centers. This segment will be analyzed in more details later in this paper. Number of PPP projects is continuously rising in Russia and more and more private companies enter the CHI program. By the end of 2014 the share of private organizations in CHI was already 21% vs 7,6% in 2010, according to Olga Golodets, the deputy prime minister for social affairs of the Russian Federation (PPP in health care in the spotlight of…).

RF has different level of economic development, culture, less attractive investment environment and also regulatory framework differs from those of other countries. Need in a specialized PPP-enabling legislation diminishes when country is characterized by highly developed institutional environment, In addition benefits of PPP are implicitly guaranteed and

private partner feels more secure (Vinogradov et al, 2014). In such environments private parties can expect risk reduction, reputational gains, access to additional resources, lower bureaucratic burden, etc. So, it is not possible to use PPP models existing in other countries exactly in the same way as they are used in other countries.

Federal Law № 115-FZ of July 21, 2005 «On concession agreements» and Federal Law № 224-FZ of July 13, 2015 «On public-private partnership and municipal-private partnership in the Russian Federation and amending certain legislative acts of the Russian Federation» assume two forms of PPPs in Russia: concession agreements and agreement on public-private partnership/ municipal-private partnership. Other forms (Contractual and corporate forms of attracting extra-budgetary funds in public infrastructure development) are not taken into consideration even though information on these projects is also presented in a database of unified information system on PPPs in RF. The most common form of PPP in healthcare is concession agreement that is used in all cases analyzed in the current paper.

Most of the PPP projects have BOT or ROT (reconstruct - operate - transfer) form in Russia and it is considered that models when private partner makes reconstruction works and then gets the right to exploit and maintain facilities can work in Russia. These models also attract more private investments. Another form that is working in Russia is 100% investments by private partner and the following return of investments by government or BF (build-finance) model. The construction of new hospital/clinic should be oriented on the spheres where there is a lack of certain services.

Another model is the construction of the hospital by the private partner and subsequent provision of services in this building by private partner. Profit that partner gets (via provision of paid services) covers the investment expenses and government pays for the services provided under compulsory health insurance.

2.1.2 Japan

The situation with social infrastructure in Japan is similar to the Russian environment. According to recent estimated, population of Japan will decrease by 35% by 2100 that will result in several problems: infrastructure becomes obsolete and government is not able to finance and maintain it in order to provide necessary services. Thus, the main reason for PPP projects in Japan is attraction of private investments (according to the interview with Yoshida Jin on the 07.04.2016).

2.1.3 India

India's health spending (about 4.1% of Gross Domestic Product [GDP]) is considered much lower compared with spending in Organization for Economic Co-operation and Development (OECD) member countries (CII, KPMG, 2009). PPPs have enabled Indian governments to ease budgetary constraints and bridge the infrastructure demand-supply gap. While India has successfully developed physical infrastructure and adequate coverage of primary health services, significant shortfalls remain. The top three challenges for the health sector are accessibility and coverage in rural and remote areas, the less profitable regions, such as North East regions, and project types, such as water and wastewater and other social sectors, have failed to attract enough private sector participation (Patil et al, 2016); ineffective management of existing infrastructure; and inadequate number and quality of health care professionals.

PPPs in India aim to overcome these shortfalls in the following ways:

Infrastructure development: Indian government expects private partner to bring innovation strategies and as a result bridge the resource gap in infrastructure for healthcare.

Better management: private companies have gained significant experience in management of healthcare units, hospitals and are able to address needs of the patients. Currently private companies provide 60-70% of primary care. Better utilization of government hospitals trough provision of training to medical personnel and higher quality services.

Financial aspects: equity and promotion of economic development. The poorest 20% of the Indian population is 2.6 times more likely than the richest population to forego medical treatment when ill, due to financial reasons. Covering payments for healthcare through insurance is still at a low penetration level compared to international standards (CII, KPMG, 2009).

2.1.4 Canada

The Canadian approach to governing, structuring and delivering PPPs has been identified internationally as a potential model to be emulated, most notably in the United States where PPPs have been slower to take off. Additionally, the British Government pointed to Canada as one of the “examples that the UK should follow” when developing its “new approach to public private partnerships” (HM Treasury 2012: 9; Siemiatycki, Matti, 2015).

Canadian government increasingly supports PPPs. These partnerships address the infrastructure backlog, are on-time and on-budget versus traditional delivery (e.g. Abbotsford Hospital vs Vancouver Convention Center), transfer significant risks to private sector, maximize value / opportunity of asset. In addition under PPP lifecycle maintenance built into project cost and there is a clear focus on long term performance (Siemiatycki, Matti, 2015)

The most PPP projects in have been delivered in Ontario, British Columbia, Alberta and Quebec provinces, in that order. The primary reason for PPPs in Canada is also achieving value for money (Garvin, Bosso, 2008). This rationale is stated in government policy guidance documents and industry reports across the country (Siemiatycki, Matti, 2015).

Canadian PPPs are characterized by several drivers of value for money. Among them are contracts creating incentives for on budget and on time delivery; experience of private partners and their ability to create innovative design of new facilities, which will also decrease costs of the project and improve the user experience; long-term certainty over the lifecycle of an asset (hospital building); and risks allocation to the party that is better in their management. Consequently Canadian government creates a protection from revenue shortfalls, large cost overruns or inability to provide services using constructed facility (Infrastructure Canada, 2012).

Therefore, countries consider PPPs as an effective instrument to solve socio-economic problems, increase the quality of services provided, increase availability of expensive medical services to patients and modernize hospitals. According to world practice PPPs can be more effective in these terms than traditional public procurement due to the rich experience of private partner and possibility to share risks.

The main reasons for PPP formation in healthcare are the same since hospitals are also infrastructural objects and public partner receives the same benefits. However, there is one point that should be emphasized: the responsibility of private partner for various activities from the creation of infrastructure to the provision and management of health and medical services. This is typical for Russian PPP projects. The same operations are expected in Japanese and Indian PPP projects in healthcare. At the same time in Canada private partner constructs or redesigns the building/hospital and sometimes maintains it afterwards while public partner is responsible for medical services. These activities are combined in many countries in order to bring together the interests of both sides and strengthen them, motivate to increase effectiveness of medical center.

2.2 Methodology

Several PPP projects in healthcare sector in different countries will be analyzed further in order to answer on research questions. Countries of special interest are Russia with the greatest number of projects and Canada, which has rich experience in healthcare projects implementation and is recognized as a country with models that can be emulated.

The total sample of healthcare projects in Russia is rather small. There are 37 projects that are implemented either in a form of PPP (9 projects) or concession agreement (26 projects). Russian projects that are going to be analyzed are 4 projects on hemodialysis and one on the reconstruction of perinatal center in the Republic of Tatarstan, which has high experience in projects implementation (Rating of Regions on PPP Development, 2015). One more successful project is from Samara, region that also has high investment attractiveness for PPP projects. Another one is from Novosibirsk, where the first concession agreement in healthcare on the reconstruction of perinatal center (maternity hospital) was signed. And the last but not least is City Hospital №40 of Resort District in St. Petersburg.

These projects allow to assess experience of different regions in implementation of PPP projects in healthcare and also to compare practices within region and among various subjects of Russian Federation. Extensive examples of 2 unsuccessful projects are provided to estimate whether presence of CSFs identified could help to overcome difficulties aroused: Maternity hospital №17 in St. Petersburg, City Clinical Hospital № 63 in Moscow as well as several examples on PPP projects which received no bids from private partners (Diagnostic Center in Cheboksary, the Chuvash Republic).

These projects were chosen for the further analysis since they all were (supposed to be) implemented in the regions with highest rate of PPP development. They all had ranking not lower than 4 at least once in a period from year 2014 to March 2016.

This paper covers two projects in Canada: one successful example (Humber River Hospital) which even got award on PPP project implementation and one (Brampton Civic Hospital) that is considered as not successful. These two projects are from the same province and it is possible to estimate what has changed in 10 years after the unsuccessful implementation of the PPP project on Brampton Civic Hospital.

In order to provide additional support to the arguments stated this paper introduces several examples of PPP projects from Japan and India. Japanese unsuccessful projects were chosen after the interview with the leading specialist on PPP in Japan. During the interview Jin

Yoshida[1] provided two examples of projects in healthcare that faced significant problems at the implementation stage and risks that caused significant problems with these projects could be mitigated at the procurement stage.

The total number of projects with distribution by country that were chosen for cross-case analysis is presented in the table below (Table 3).

Table 3 Projects chosen for cross-case analysis

Country	Projects implemented successfully	Problematic projects
Russia	8	2
Canada	1	1
India	1	-
Japan	-	2

Major part of information needed on the PPP projects of Canada and Russia is available at open sources. Canada has database on all PPP projects with links to the project description and documentation on the website of The Canadian Council for Public-Private Partnerships. This information contains project agreements, request for proposals, requests for qualification projects evaluation criteria, stages, bid parameters, schedules, etc. While Russia also has project database on the website of Public-Private Partnership Development Center but it contains only with list of the project, all documentation is allocated among various websites and sources will be provided together with project description.

Cross-case analysis is the qualitative study of the PPP projects that is based on the critical success factors on the procurement stage identified in the section 1.6 of the current paper. These factors are: transparent and efficient procurement process, competitive procurement process, well-organized and committed public agency and thorough and realistic assessment of costs and benefits.

In order to assess relevance of transparency documentation on PPP projects, its availability and special procedures for the approval or preparation of documentation are analyzed. And also the game theoretical modeling will be applied to estimate efficiency of the procurement process, analyze the influence of the rules of the proposals evaluation on proponent's behavior in Russia. Several examples of criteria used for bids evaluation in Russia and Canada show how the process is organized and which results it may bring.

Information on the number of bidders and short-listed participants allows to assess the

[1] Jin Yoshida (short biography)
Director, Asian Business Development Division, Daiwa Institute of Research Ltd.
April 2014 Director, Asian Business Development Division
July 2009 Associate Director, Asian Business Development Division
April 2006 started working at Daiwa Institute of Research Ltd, Equity analyst in machinery sector
March 2006 Ph.D. in Astrophysics and Cosmology, Waseca University

competitive situation in each case. Usually this information is published online in a form of Minutes of tender committee meeting.

For the factor “well-organized and committed public agency” will be estimated information on regional development, infrastructural situation, investment attractiveness and readiness of public partner to participate in each PPP project. As for the thorough and realistic assessment of costs and benefits, this information is assessed on the basis of the documentation analysis and the assessment that was conducted before the choice of the private partner.

The next section 2.3 provides the general description of various projects.

2.3 Projects description

Projects from Russia, Canada in healthcare sector were chosen for the further analysis and first description of these projects is provided and the main information presented in the tender documentation is disclosed. After the description of the projects in key countries more insight on PPP projects in Japan and India is provided.

2.3.1 Russia

PPP projects in Russia in healthcare sector are either specialized and focus on one activity unit like hemodialysis, nephrology, cardiology, and perinatal centers or oriented on the broad range of activities and perform construction/reconstruction of hospitals, clinics and sanatoriums etc. In February 2015 more than a third of regions of RF were working on the preparation and implementation of projects using PPP mechanisms in healthcare according to the Ministry of Healthcare of RF and Ministry of Economic Development.

Year 2015 was important for the development of PPPs. The new law was enacted on 13 July 2015: The Federal Law of 13 July 2015 No224-FZ " On Public Private Partnership, Municipal Private. Partnership in the Russian Federation and Amendments to Some Regulatory Acts of the Russian Federation". Changes in this law enable private parties to get objects they build, reconstruct, modernize in private property but the investor is obliged to provide funding for their creation / renovation and use them strictly for the intended purpose. The goal of these amendments is to improve the quality of services provided to the population (Reference to question 4…). Federal Law No. 265-FZ “On Amendments to the Law ‘On Concession Agreements’” also has crucial role in development of the PPP in Russia.

Current paper covers 8 successful projects in healthcare in Russia from the total sample of 38. These 8 projects serve as a basis for comparison of particularities of project implementation in Russia with international expertise. Each project has successfully passed procurement stage and is currently at the operational or construction stage. They all are

described further and more information on the total sample is presented. The table with the most important information on each project is in Appendix A.

Projects on hemodialysis in the Republic of Tatarstan

4 out of six projects are from the Republic of Tatarstan. The Ministry of Land and Property Relations of the Republic of Tatarstan signed 7 Concession agreements in healthcare sector in the period of 2010-2014, 5 of them were signed with "Clinica sovremennoy meditsyny HD" in the field of hemodialysis and they are oriented on the provision of services to customers with kidney malfunctions via CHI. At the end of 2014 more than 125 thousand outpatient hemodialysis procedures were performed for more than 480mn rubles in the Republic of Tatartan and that is 100% of the plan for 2014 (Reference to question 4…). These 5 projects are spread over the Republic with 2 centers in Kazan and one in each of the cities: Naberezhnye Chelny, Nizhnekamsk, and Bugulma. Hemodialysis centers have high social value since they ensure the availability of hemodialysis procedures to the population.

One project from Kazan was omitted from the further analysis since there is no significant difference from other projects. PPP form of 4 projects analyzed is concession agreement and they all are signed for 7 years. Tender documentation of 3 hemodialysis centers in Naberezhnye Chelny, Nizhnekamsk, Bugulma is almost the same with the only difference in the project scale. They are created for 29, 15 and 14 dialysis machines respectively. These centers provide hemodialysis services for 226 people (35256 procedures per year) in Naberezhnye Chelny, 119 (18564 procedures per year) in Nizhnekamsk and 106 (16536 procedures per year) in Bugulma. Price on hemodialysis procedure is regulated by the order № 1024-p of Cabinet of Ministers of Republic of Tatarstan from 31.05.2014.

Documentation on the project in Kazan is also similar but it has a bit different specifications since implementation of this project has started two years earlier. Concessionaire must have 25 dialysis machines and provide services for 200 patients (31200 procedures per year).

The total volume of investments should be at least 430mn Rubles in hemodialysis centers. The concessionaire ("Klinika sovremennoy meditsiny HD") invests in these projects 100mn Rub (Naberezhnye Chelny), 60mln Rub (Nizhnekamask), 50mn Rub (Bugulma). The concessionaire is responsible for design, reconstruction and equipment of the object of the concession agreement. It also performs implementation of new technologies, automation, modernization and replacement of obsolete and worn-out equipment. Besides that private partner is responsible for center operation. It provides outpatient hemodialysis services to the population of the Republic of Tatarstan using reconstructed facilities. So according to framework that was presented in the section1.4 these are DBFOM models.

Tender documentation on all 4 hemodialysis projects has different criteria for determination of the private partner. Table below (Table 4) presents these awarding criteria.

Table 4 Awarding criteria for projects on hemodialysis in the Republic of Tatarstan

Criterion / Project name	Time needed for reconstruction (Decreasing)		Time period from agreement signing to reaching operations volume agreed (Decreasing)		Expenses taken by the concessionaire, in rubbles (Increasing)	
	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion
HD Nizhnekamsk	60	0,5	70	0,5	-	-
HD Bugulma	60	0,5	70	0,5	-	-
HD Naberezhnye Chelny	90	0,3	100	0,3	100 000 000	0,4
HD Kazan	-	-	-	-	40 000 000	1

Projects in Niznekamsk and Bugulma had two awarding criteria: time needed for reconstruction and time period from agreement signing to reaching operations volume agreed with equal weights. Project in Naberezhnye Chelny had 3 criteria and only one financial. And project in Kazan had only 1 financial criterion – expenses taken by the concessionaire. Currently to have the same contest since it is regulated be the Federal Law № 224

The PPP project on reconstruction of the hospital facilities to provide hemodialysis services in Kazan on Husaina Mavlyutova street was among those few who had higher level of competition. At the same time it had only one evaluation criteria "Expenses taken by the concessionaire" It equals to 40mn rubbles according to the tender documentation and it is increasing awarding criteria. Considering the information that has just been presented ot the effectiveness of the tender documentation it is possible to conclude that such contest can create incentives for hazardous behavior that will result in competition only on price and not on quality.

However, only one bidder was shortlisted ("Klinika sovremennoy meditsiny HD" since the second one did not meet the requirements. For instance, OOO «Mezhdunarodniy Center Ambulatornogo Dializa Kazan» faced the following problems:

- Not all documents provided were signed by authorized representative;
- Not all documents in the original application met necessary requirements on formatting, they were printed not on the official blank of organization, and guarantee letter contained false information;
- Copy of license of auditing company that conducted the analysis of the balance sheet was not attached

- Applicant had not provided information confirming presence of qualified employees and experience in financing concession agreement.

There is no information on the value of criteria for projects in first 3 cities but in Kazan private partner “Klinika sovremennoy meditsiny HD” offered to finance the project with 80mn rubbles instead of initial 40mn.

Information on concession agreements, minutes of tender committee meeting, committee decisions is available on-line on the website of Ministry of Land and Property Relations of the Republic of Tatarstan. (Tender documentation and results; Archive)

Center of Family Planning and Reproduction in Kazan

Another project is concession agreement with "AVA-Peter" on healthcare facilities ("Center of Family Planning and Reproduction") starting from 2014 for a period of 10 years, 6 months of which were allocated for the development and approval of project documentation. This project allowed RF to get modern medical institution that is dealing with problems of conservation and restoration of reproductive health. Center for Family Planning and Reproduction in Kazan was established in 1991 and Republic budget had no additional financial resources for overhaul and re-equipment of the center. At the same time, the task performed by family planning and reproductions centers, in today’s demographic situation are of great social importance. The capacity of this center was insufficient for the Center since the demand on IVF was much higher. In order to solve this issue the Ministry of Health of Republic of Tatarstan has proposed project:

This was one of the first PPP projects in a form of concession agreement that assumed renovation of the existing health care facility. Concessionaire was responsible for the reconstruction of the object and future operations The concessionaire provides infertility treatment methods of assisted reproductive technology in the amount of not less than 25 thousand specialized patients visits and 600 fertility treatment cycles of IVF. The actual amount of private investment amounted to over 40 million rubles.

This project has 3 awarding criteria: time period needed for object of the agreement reconstruction, time period to achieve operations volume agreed and expenses that are paid out by the concessionaire.(Table 5)

Table 5 Awarding criteria for projects on hemodialysis

Criterion / Project name	Time needed for reconstruction (decreasing)		Time period from agreement signing to reaching operations volume agreed (decreasing)		Expenses taken by concessionaire (increasing)	
	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion
IVF Kazan	210	0,3	270	0,3	30 000	0,4

Center of extracorporeal blood correction and clinical transfusion in Samara

In the Samara region - a concession with "Farm SKD" for the construction and operation of the Center of extracorporeal blood correction and clinical transfusion. In 2014 the concessionaire received land of 1285 sq. m. and it should invest 350 million rubles into construction of a 4844,5 square meters building. It should provide 48 machines “artificial kidney.”

This project has 3 evaluation criteria. One of them is conformation with technical and economic requirement of the object of the agreement and this criteria has a weight of 0.4 while two others 0.3. More information on evaluation criteria presents table 6.

Table 6 Awarding criteria for projects on hemodialysis

Criterion / Project name	Conformation with technical and economic requirement of the object of the agreement		Time period from agreement signing to reaching operations volume agreed (decreasing)		Share of costs of the dialysis services that is covered by the government under compulsory healthcare insurance (decreasing)	
	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion	Initial value of the criterion	Weight of the criterion
Samara	Conformity	0,4	36 months	0,3	70%	0,3

There were also several projects that faced problems during the implementation stage or have not reached it and they are described further.

City Hospital №40 of Resort District in St. Petersburg

Another PPP project is the first project in healthcare sector that is going to be implemented in St. Petersburg in a form of concession agreement on the construction and operation of the medical and rehabilitation hospital building of "City Hospital №40 of Resort District". This is the first PPP project in St Petersburg. Duration of the agreement is 10.5 years

from which 3.5 years are devoted to the design and construction works. According to preliminary estimates of 2015 capital expenditures, including VAT are 6.9 billion rubles. https://gov.spb.ru/gov/otrasl/invest/news/67188/

Private partner operation of a new treatment and rehabilitation body that It will match the innovative advances in healthcare, ensure population replacement Resort district and engineering infrastructure with high functional characteristics corresponding to modern technologies of construction and operation.

LLC "Neva medical infrastructure» and Turkish company "Renaissance Construction» sent bids for the implementation of this project and they passed the preliminary selection stage. https://gov.spb.ru/gov/admin/albin-igor-nikolaevich/news/73058/ However, Turkish company had not sent the documentation at the RFP stage because of the political conflict with Turkey that took place in the November. Agreement with Neva Medical Infrastructure that is owned by "Gazprombank-Invest Development of the North-West" (29%) and Impresa Pizzarotti & C. S.p.A. (71%) and administration of St. Petersburg signed agreement on public-private partnership at the end of the year 2015 (on 30.12.2015).

Documentation on PPP project in St. Petersburg does not provide clear criteria for bids assessment. The only information provided is that it has two criteria with 50% weight each. These are financial and technical criteria.

City Clinical Hospital № 63 in Moscow

Concession agreement with "European Medical Center" for 49 years starting from 2013 is a first social infrastructure project on the hospital construction in Moscow. This is a large-scale project that is closer to the Canadian ones in this term. It consists of 5 buildings on the territory of 20 109 m2. European Medical Center should invest in the reconstruction and operations of City Clinical Hospital № 63 not less than 4.37 billion rubles. The investor has to organize the center of position-emission tomography, endovascular surgery, perinatal center and a rehabilitation center.

Private partner is responsible for the reconstruction of the hospital, its equipment, and further exploitation on the basis of requirements determined in the concession agreement. This agreement assumes onetime payment of 1bn rubles in 30 days from the concession agreement signing and yearly payments of 604 379 rubles for land renting. Concessionaire provides 30% of medical services using CHI system.

This project had high entry barriers since private partner should have an experience in project implementation in healthcare including conduction of complex surgeries and also high costs of the project. The participation of EMC was warmly welcomed by the Moscow

government.

In the beginning of the 2016 private partner stated that it does not want to continue operations under the current terms of the concession agreement since they were not clear and resulted in misperceptions.

PPP on the reconstruction and equipment of the hospital № 63 has 2 main criteria for evaluation with equal weights: financial (50%) and functional (50%). Financial is the size of the concession fee (1 billion rubles) and operational (volume of medical services provided stated in the concession agreement on CHI and High-tech medical care tariffs starting from the sixth year of operations. Each operational criteria has weight of 6.25%, among them are (Table 7):

Table 7 Awarding criteria for project in Moscow

Criterion		Initial value of the criterion	Weight of the criterion
1. Size of the concession fee according to the concession agreement (initial onetime payment)		1 000 000 000 rubles	0,5
2. Volume of medical services provided on CHI and High-tech medical care tariffs starting from the sixth year of operations	The number of PET studies center of positron emission tomography	up to 7000	0,0625
	The number of hospitalizations of Endovascular Surgery center	up to 1 000	0,0625
	Number of visits of endovascular surgery center	up to 65 000	0,0625
	The number of hospitalizations of perinatal center	up to 1 000	0,0625
	The number of visits of perinatal center	up to 55 000	0,0625
	The number of skilled births attendants	up to 1 000	0,0625
	The number of hospitalizations of rehabilitation center	up to 500	0,0625
	The number of visits of rehabilitation center	up to 25 000	0,0625

There are several more examples of projects that were unsuccessful due to lack of bidders or underdeveloped tender documentation. Like Diagnostic Center "Republican Clinical Hospital" in Cheboksary of the Chuvash Republic. When the contest was announced no one expressed the interest in this project implementation. Later the tender documentation was amended and it was implemented.

Maternity hospital №17 on Vavilovykh street was not implemented yet. St Petersburg administration announced this project in 2013. However, later it made some amendment to the tender documentation. After crisis it had to reconsider project costs but the contest on this project has not been announced yet.

2.3.2 Canada

Currently there are 238 projects in Canada (Canadian PPP Project Database). The greatest part belongs to healthcare sector (Pic. 4). It accounts for almost one third of all PPP projects. Canada is an interesting subject for analysis due to the great experience in PPP projects realization that started in early 1990s. Most Canadian projects in terms of documentation, risks allocation and PPP form are similar. Thus, only one successful project was selected for in depth analysis and also one project, which is not considered as successful from the same province, Ontario.

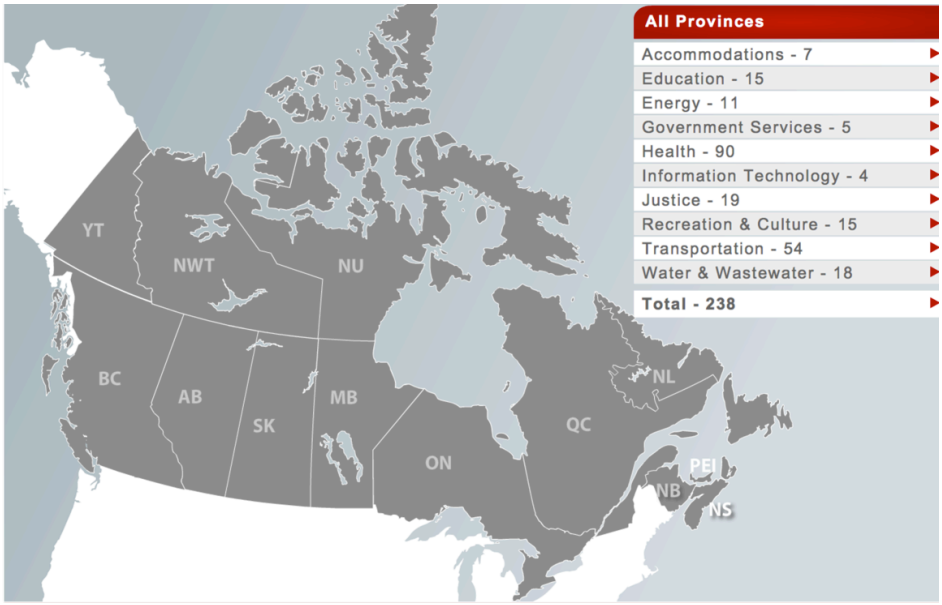


Fig.6 PPP projects in Canada

Source: Canadian PPP Project Database

Humber River Regional Hospital

The project Humber River Regional Hospital in Ontario province of Canada assumes construction and maintenance of the hospital by the private partner in Toronto. The term of the agreement is 30 years and this project is implemented under DBFM model. Private partner – Plenary Health Care Partnerships – designs and builds the hospital; it finances the construction and capital costs; obtains a third-party independent certification that the hospital is built; provides facility management, lifecycle maintenance and ensures that building corresponds to the requirements of the project agreement.

Committee of representatives from Infrastructure Ontario and Humber River Regional Hospital are overseening this project. Private partner will recieve monthly payments from the Province for construction of the facility, building maintenance, lifecycle repair and renewal and project financing over 30-year period thata has started after the building was constructed. The average paument equals $53.9 million.

This is a large-scale project that includes constructing of a new facility, offering a comprehensive range of services to support inpatient and outpatient programs for over 850,000 residents. Price of Contract is $1.75 billion and estimated Value for Money is $469.1 million. The construction ended in June 2015 and currently this hospital is successfully operating. http://www.infrastructureontario.ca/Templates/Projects.aspx?id=2147484327&langtype=1033

Brampton Civic Hospital

Brampton Civic Hospital was built under a PPP mechanism in 2003. The private partner of this project is one of Ontario's largest hospital corporations, the William Osler Health Centre (WOHC). Contract with WOHC lasts for over a 25-year period and this Centre was supposed to conduct monthly payments over this period starting from the construction. Private party was responsible for designing, building and financing of the new 608-bed hospital. It also provided certain non-clinical services and planned to operate the facility. In return the WOHC agreed to a monthly payment over 25-year period, beginning on the completion date of the hospital. http://www.unece.org/fileadmin/DAM/ceci/images/ICoE/PPPHealthcareSector_DiscPaper.pdf

This project has several problems. First, WOHC had not enough resources to operate several hospitals. As a result patients, financial and human resources were moved from Peel memorial Hospital to the Brampton Civic campus and the first hospital was closed. As a result community got less beds from this project realization than initially anticipated and amount of new beds was not sufficient to provide services to those who needed them.

Another problem is costs associated with this project. They were much higher than under traditional form of procurement. According to the Auditor General, the value for money analysis included not all relevant factors. Consequently, cost of the project could be much lower. Right after hospital opening two patients died and their relatives told that long waiting time, not enough experienced staff were the main reasons for this.

Ontario could have saved hundreds of millions of dollars if the Brampton Civic Hospital had been built and operated publicly rather than under a public–private partnership (P3), Ontario Auditor General Jim McCarter says (Gilbert, 2009). The "value for money" assessment was overestimated by $634 million, while the cost of construction using the P3 model nearly doubled. The value of "risk transfer," the estimate of what it will cost the consortium to deliver the project on time, was also overestimated by a wide margin, according to McCarter.

The competitive level for reconstruction of this project was low and it is reported as drawback of this PPP project.

Brampton Civic Hospital was the first project in Ontario and at that time this province have not had any special agencies reviewing PPP projects' implementation. So lack of in-house resource expertise at the hospital could be another reason of not a highly successful implementation of this project. Later Infrastructure Ontario has been created in order to provide oversight and expertise to PPP projects. This Crown agency has mandate to oversee all alternative financing and procurement (AFP) projects in the province

Contract agreement with current best practice in the province of Ontario revealed several areas of difference including more complexity in the contracting mechanisms, a lack of robust dispute resolution mechanisms and more apparent protection for the private sector partner (Barrows et al, 2012).

2.3.3 Japan

The map below (Pic.5) shows the number of PFI projects implemented by prefectures and cities. The number of PPP projects implemented by regional authorities is indicates in the parentheses. This number is over 15 only around big cities such as Tokyo or Osaka.

Number of projects implemented by the regional authorities more than 15 only in the areas of big cities such as Tokyo or Osaka.

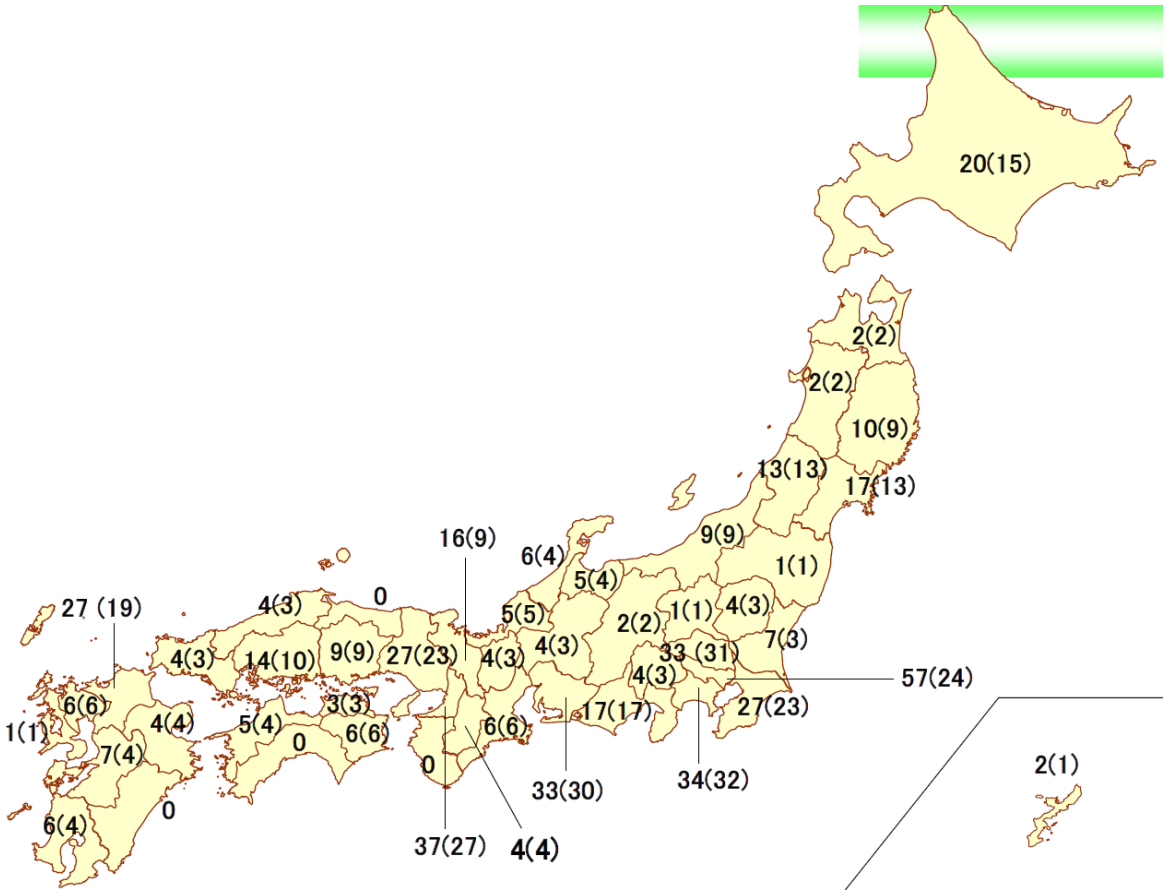


Fig. 7 PPP Projects in Japan

Source: Jin Yoshida (2016)

City Clinics in Omishatiman city

One of the unsuccessful Japanese cases is the City Clinics in Omishatiman city. This clinic was constructed under BTO model according to [daiwa soken] or DBFOM using the classification presented in section 1.4. The private partner was responsible for design, construction, operation and management of the new hospital. While public sector hold the risk of low demand. After the hospital was constructed the demand did not reach the predicted level and government bore significant losses due to fixed payments to private partner.

The problem of this case was in inappropriate risks assessments, wrong approach to risks allocation and also tariff system. Government did not want to bear the demand risk alone when this situation took place and it served as a motivator to stop the contract agreement.

Already after 2.5 years from the start of operations the public partner bought out the hospital for 11.8 billion Yen in order to reduce payments of the bank interest (from 8.1 billion yen to 3.8 billion yen for the regional bond loan) and payments for operations to private partner in the amount of 3.3 billion yen and also to halve deductions on equipment repair and renovation (Jin Yoshida , 2016)

Hospital in Koti

The second case is PPP on the construction and management of the main hospital building in Koti after the merger of Prefectural Central Hospital and city hospital. The form of this partnership is BTO (or DBFOM) and private company is responsible not only for construction and maintenance but also for the related services (logistics associated with the purchase of medicines, medical record keeping, laundry and cleaning services). The contract term was 30 years (2002-2032) but after 4 years of operations, in 2009 a serious problem arose that led to the termination of the contract agreement. Complex did not have enough working capital. The main reasons for that were lack of knowledge in know-how in hospital management, not careful prediction of expenses on the medical equipment, drugs and diagnostic materials. As a result costs have not decreased as it was planned. Lack of experience and professionalism of the private entrepreneur led to unprofitability of the emergency medical care unit. (Jin Yoshida , 2016)

2.3.4 India

As an example of PPP project in healthcare in India serves Nephrology Centre Haldwani. The contract on this project was signed for 5 years in March 2011 and in October center commenced to deliver dialysis services. It is implemented under BOT model as stated at the official website of the project (Built, operate and Maintain). Consequently private partner is responsible for construction of Nephrology Centre at a space of 480sq meters. Procurement and

running of 13 dialysis machines, with one separate machine each for patients infected with human immunodeficiency virus (HIV), hepatitis-B and hepatitis-C, personnel recruitment, IT services.

It is a concession agreement where government provides space to the public partner, support per bid outcome and existing furniture and fixture. Among the benefits project states maximization of services availability, reduction of O&M Cost, transfer of operational risks to PPP partner, extended hours of operation compared to government setup. free service to below poverty line (BPL) patients.

According to this concession agreement private partner charges patients for consumable at least 15% less than the maximum retail price (MRP), serves the BPL and human immunodeficiency virus HIV infected patients free of cost, maintains records of paying and non paying patients (BPL&HIV infected patients). It is also responsible for procurement of high quality consumables and prevention of "zero stock out" situation.

Unlike in a case of Japan (Koti) private partner is responsible for demand risk of this project, technological. service level commitments, performance risk of old equipment.

What is interesting about this case is disclosure if information on performance including number of BPL (below poverty line) and APL (above poverty line) patients served. From the graphs and tables related to the Centre performance it is clearly seen that the number of patients receiving services is continuously growing. The Appendix 2 presents all information on overseas projects.

2.4 Cross-case analysis

The procurement stage of the project lifecycle determines the project implementation. The efficient organization of this stage provides benefits to both partners and decreases projects' costs and risks. Cross-case analysis is performed on 4 CSFs at the procurement stage that were identified earlier in this paper and assesses whether each of the factors could or did contributed to the more successful project implementation.

2.4.1 Transparent and efficient procurement process

In most PPP initiatives, the public sector partner identifies the management and financial consultants to advice on the projects. The appointed advisors should develop the contractual clauses after discussion and in mutual agreement of both the public and private sector interests. This would enable a better business projection and incentivize the bottom-line objectives of the project.

Consulting companies and auditing companies perform various consulting services

supporting PPP projects implementation in many European countries as well as in Northern America and Australia where PPP mechanisms are well established. However on the Russian market these companies are usually not attracted to support the project realization. There are several reasons for this fact. First, it is reasonable to use services of such companies in a case if the project involves high investments (hundreds million dollars) and projects with high level of investments are not so common for Russian Federation, especially in healthcare sector.

In Russia, E&Y's projects include development of PPP mechanisms for construction of airports, toll roads and other infrastructure. This company also was leading advisor on funds raising for various infrastructure and industrial projects.

If we consider PPP projects in healthcare then KPMG, E&Y and PWC do not state that they have experience in their implementation [E&Y] Among the reasons are unattractiveness of this field and lower level of development that assumes not so high level of investments. The only project that E&Y mentions in one of their reports is financial and legal advisory services on creation of a multi-medical center (development of the project concept for the foreign company) [Ernst and Young, 2013].

However E&Y participated in many high scale projects in Russia: Western High Speed Diameter in St. Petersburg with capital investments of $4.9bn; M11 Moscow-St Petersburg Highway on 15-58 km with capital investments of $2.1bn. In reconstruction of Pulkovo airport project E&Y participated in several phases of procurement stage from the tender documentation preparation to the choice of the private partner and final modifications of the project agreement. This company was also involved in projects with lower investments of $130mn - airport Kurumoch in Samara (PPP in Russia, 2013).

If we take procurement stage of the project then the main support that consulting companies provide is preparation and conduction of contests. In Canada legal consulting companies are used in most cases and their reports, analyses are openly published together with other projects documentation.

In Canada there is a special council on PPP that provides all information relevant to the PPP projects implementation. Also it has a project database with a list of all projects in various provinces, their short description including project scope, form of PPP, current status, and necessary investments. Website of this council provides links to the regional websites that provide information on all PPP projects in that province. Users can find almost everything they need on that websites.

The similar database is created on Indian PPP projects. Users entering website can get the basic information on the project scope including the project schedule, investments and scope of the project. However, if user needs more information then he/she needs to search at local

websites dedicated to the PPP projects. For example, for Uttarakhand region on Uttarakhand PPP Cell available at the official website (Nephrology Centre Haldwani….)

While in Russia the same information is dispersed and often non-available. For example Republic of Tatarstan provides tender documentation on the PPP projects on website of Ministry of Property and Land Relations, in Samara it is possible to find some documents on the website of the Ministry of Economic Development. In St. Petersburg this information is partially published on the website of city administration. Access to documents is quite often limited and the only documentation user can find is tender documentation, sample of concession agreement, information on the contest and sample of the request on participation in the contest.

Information on Canadian projects is more detailed, contains more information on evaluation criteria, risks allocation, clearly defines project scope and requirements etc. Request for Proposals of Humber River Hospital contains detailed description of the project, project objectives, schedule, public partners, which are participating in project preparation/implementation. It thoroughly describes project stages and approval process. There is a definite project scope with minimum requirements, including bed capacity, parking, utilities and site-related infrastructure, property rights and access, degree of flexibility, clinical services that has to be provided, facilities management services, equipment, IT services and additional opportunities.

It contains information on human resources and various financial issues (like value for money and affordability, tax issues, payment mechanisms). There is also draft of the project agreement that includes risk allocation part and output specifications. It also describes site characteristics, data room, insurance and workers compensation, proposal deliverables at each stage: initial and final proposal stages, inquiries and communication process, changes to proponents and proponent team members, procedures for amendments to proposals, closing time. The same document contains information on review and evaluation of initial proposals including preliminary review, interviews and meetings, right to verify, scoring, ranking, final proponent identification, clarifications, procedures on non-conforming and qualified proposals. Then go description of final proposal stage and contract finalization stage. RFP also describes right of public partner to amend, cancel RFP, and reject proposals. It also includes different bed occupancy scenarios that determine the future operations.

Russian documentation has fewer details and private partners might have some concerns about the effects of possible negative actions. Tender documentation usually contains 4 volumes on: General documentation for the open competition for the right to enter into concession agreements; Pre-selection of participants for the competition for the concession agreement; competition for the concession agreement; technical task.

At the same time this extensive information on Canadian projects can create an arrangement that is complex and difficult to manage by the public sector. It was a problem of Brampton Hospital in Canada. So clearly defining accountability structures in the formal contract agreement is important to the successful execution of PPP projects. (Barrows, 2012)

If we come back to the Indian project then it is the only one that openly publishes information on the amount of patients that received dialysis services (both BPL and APL patients) during the whole period of operations. While Russian companies only state that they fulfill requirements stated in the concession agreement.

Transparency increases competitiveness, attracts more bidders to the project implementation, decreases transaction costs that are high in public sector. But the transparency level is much lower in Russia; there is no integrated system that consequently limits sharing experience with other regions.

The efficiency of the contest depends a lot on its the organization. If the organization corresponds to projects needs, environment then the probability of the project implementation should increase. Laws on the concession agreements and PPPs determine procurement procedures. There is no Law on PPP in the UK, where it is replaced by recommendations of the Ministry of Finance on how to apply public procurement legislation. In the U.S. public procurement is regulated at the federal level but there is no federal law as well. The European Commission clarifies how to apply the laws on public procurement and to PPPs (CEC, 2008). Considering Russia and Canada, both countries have a law or special policies on PPPs but they might regulate the implementation of PPP projects in a different way. Consequently cross-country analysis of the legal and regulatory framework should be conducted to estimate procurement stage regulation and critical success factors.

In Russia the common situation with PPP projects implementation is lack of competition. Officially if there are less than two proposals the contest is declared as not taken place. As a result grantor can sign concession agreement with the only bidder if its proposal meets requirements of the tender documentation. In cases covered by the current analysis only for two contests amount of bidders equaled two. At the same time only in one contest on construction of the new building of the city clinics № 40 in Resort District two bidders were shortlisted but only ine presented the final proposal. The second bidder decided not to participate in the following procedures since it was a Turkish company that was not able to participate due to political reasons after events of November 2015. For 7 cases only one bid was received but there are some more contest that were declared as failed because of lack of applications in general. This information is also presented in the Appendix 1.

According to the information in law criteria for the choice of private partner might have

absolutely different estimates, therefore, it is interesting to compare criteria (number and characteristics of the criteria and weights) used in Canadian projects and Russian. But first it is necessary to investigate how the tender is organized in Russia.

Evaluation of proposals in Russia

The tender is held in accordance with the decision on the project implementation and includes the following steps:

1) informing on the tender in the Internet on official Russian website or in case of a closed contest sending invitations to participate in a closed tender;

2) submission of requests for qualification

3) opening of envelopes with requests for qualification

4) preliminary selection of participants;

5) request of proposals submission;

6) opening of envelopes with requests for proposals

7) evaluation of bids and determination of the winner;

8) signing of the protocol on the results of the competition, posting messages on the results of the competition on the official website of the Russian Federation and informing tender participants on the results.

Tender committee performs review and evaluation of bids, determines whether bids comply with the requirements of the tender documentation, assesses them and makes the decision on whether it is possible to proceed with the current proposal.

The public partner applies the Highest bid – Lowest bid scoring rule while estimating bids of the private partners and then transfers the qualitative data and quantitative data into scores. After that the private partner is determined using rules described in the Federal law from 21 July 2005 # 115-FZ "On Concession Agreements" (art. 32-5) with last amendments from 30.12.2015. This rule was also transferred into the Federal Law of 13 July 2015 # 224-FZ "On public-private partnership, municipal-private partnership in the Russian Federation and the Amendments to Certain Legislative Acts of the Russian Federation" (art. 28-5).

As the competition criteria can be set:

1) The terms of creation and (or) reconstruction of the object of the concession agreement;

2) the period from the date of signing of the concession agreement to the day when created and (or) reconstructed object of the concession agreement will comply with the established concession agreement of technical and economic indicators;

3) technical and economic performance factors of the object of the concession agreement;

4) volume of works, services that should be provided according to the concession agreement;

5) the period from the date of signing of the concession agreement to the start day of operations, activities according to the concession agreement will be carried out to the extent provided for by concession agreement;

6) the size of the concession fee;

7) The maximum prices (tariffs) for goods produced, work performed, services provided, allowances such prices (tariffs) in the implementation of the activities provided for by concession agreement and (or) long-term regulation parameters of the concessionaire activity;

8) obligations of concessionaire in case of not meeting planned income from operations at the object of the concession agreement, additional costs in the creation and (or) reconstruction of the object of the concession agreement.

In case if concessionaire is responsible for preparation of project documentation the awarding criteria might be introduced with a weight of not higher than 0.2. Another criterion is the concession fee if it is discussed in the concession agreement.

Each criterion described above has 3 parameters that serve as a basis for evaluation:

- The initial value
- Increase or decrease of the initial value
- Weight of each criterion reflecting its importance

Weight of the criterion should be in range from 0 to 1 and their sum must be equal to one. Maximal weight of evaluation criteria in Russia:

- Technical criteria (0 - 0.5)
- Financial and economical criteria (0 - 0.8)
- Juridical criteria (0-0.5)

In order to understand how the private partner can behave depending on the weight and number of criteria used for determination of the private partner lets consider the following situation. If there are m+1 awarding criteria (m of them for the quality assessment and price) then scoring rule attributes to each supplier's bid $a=(q_1, q_2, \ldots, q_m, p)$ the score:

$$U(a) = \sum_{i=1}^{m} w_{q_i} Q_i + w_p P, \qquad (1)$$

where:

w_{qi} and w_p are the weights of awarding criteria defined by the public partner, and $\sum_{i=1}^{m} w_{q_i} + w_p = 1;$ as determined in the law.

Q_i and P are the scores that bid of the private partner gets after application of the certain rule for transfer of quantitative data in the proposal to the scores on the basis of qualitative criteria and price (Dini et al., 2006). In RF this is a Highest bid – Lowest bid scoring rule.

According to the Federal law from of 21 July 2005 # 115-FZ "On Concession Agreements" (art. 32-5) the proposals in Russia are estimated in the following way:

- When the awarding criterion is increasing value of such criterion is calculated by multiplying the coefficient of such a criterion on the ratio of difference between the value in the proposal and the initial value of such criterion to the difference between the highest value among all proposals and the initial value of this criterion.
- When the awarding criterion is decreasing the bidder gets more points if the initial value of the criterion is reduced. Value of such criterion is calculated by multiplying the coefficient of such a criterion on the ratio of the difference between the initial value of such criterion and value in the proposal to the difference between the initial value of this criterion to the lowest value among all proposals.
- After the value of estimates for each awarding criteria are summed up for each proposal and the best proposals is defined.

Therefore, each contest has certain awarding criteria that are defined by the public partner and the winner of the contest is determined by comparison of the values on awarding criteria for each bidder. If there are just two awarding criteria: Quality and Price and private partners submitted N number of bids (q_1, p_1), …(q_N, p_N). Then in order to evaluate bids public partner needs to estimates the following four values to evaluate each bidder.

$$q_{\min} = \min_{1 \le i \le N} q_i, \quad q_{\max} = \max_{1 \le i \le N} q_i, \quad p_{\min} = \min_{1 \le i \le N} p_i, \quad p_{\max} = \max_{1 \le i \le N} p_i.$$

Thus, the rule for bids evaluation that has been just described for increasing and decreasing criteria takes the following expression:

$$Q_i = \frac{q_i - q_{\min}}{q_{\max} - q_{\min}}, \; P_i = \frac{p_{\max} - p_i}{p_{\max} - p_{\min}}. \tag{2}$$

The Highest bid – Lowest bid scoring rule gives maximum score to the best bid and minimum one – to the worst bid, and scores all other bids proportionally their distance from the worst bid (Dini at al., 2006, p. 309).

The next two graphs present the scheme for bids evaluation (Fig.8 and Fig.9).

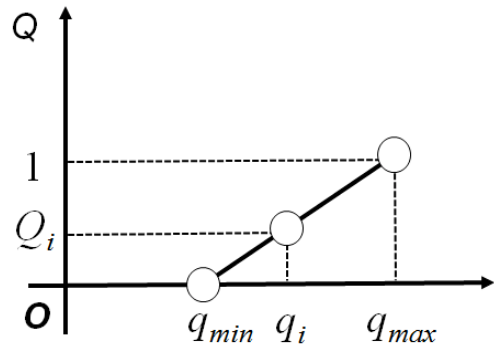


Fig. 8 Rule for the increasing criterion

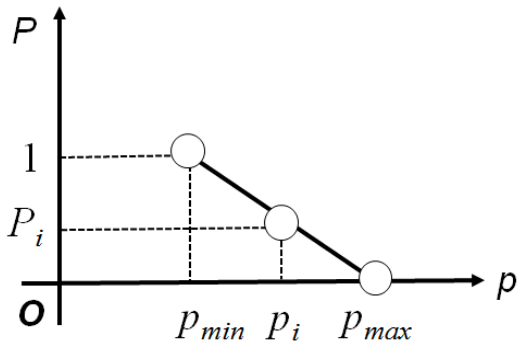


Fig. 9 Rule for the decreasing criterion

The second formula allows estimating the quantitative evaluation for each bid and then inserting values of Qi and Pi that were received into formula 1 public partner makes the final decision on which partner to choose.

If public partner has only two awarding criteria then it might create incentives for the private partner to improve their proposals on one criterion while keeping value of another one high in case of decreasing criterion or on the opposite low in case of increasing criterion. It is especially important in the case of different weights for criterion. For instance if price has higher weight than quality the result of this procedure and its effectiveness will depend a lot on the information available for other participants. Assuming that one of the bidders has information on value of price criterion suggested by its' competitor or receives it from the public partner, Then private partner can offer lower price and also decrease quality. Consequently, it will have the highest grade for price and the lowest for quality. As a result the private partner with the lowest price wins because the weight of price is much higher. As an example, w_q =0.4 and w_p =0.6. Partner with lowest price has U(a) = 0.4*0 + 0.6*1 and the second one with higher quality and price has U(a)=0.4*1 + 0.6*0 = 0.4 and evidently the first one wins.

A casen when there are more than two awarding criteria can be dangerous as well. If at least one of the criteria has weight of more than 0.5 then the same situation as has been just described can take place.

At the same time if weights of two criteria are equal then private partners will be more interested in being first who sends the application. Since this will be determining criteria for winner in case of same scores for qualitative and financial criteria.

In Russia different awarding criteria were used on projects depending on the region or year when the decision on PPP project implementation was made. For example, 2 projects on hemodialysis in Tatarstan (in Nizhnekamsk, and Bugulma) had only two awarding criteria and none of them was financial (as Table 4 presents). Project on hemodialysis in Kazan had only one awarding criteria and it was financial – share of expenses (in value terms) taken by the

concessionaire. Center of Family Planning and Reproduction in Kazan as well as HD center in Naberezhnye Chelny had 3 awarding criteria with financial criterion of weight 0.4 and 2 qualitative (time criteria) of 0.3. Project in Samara had one criteria that was named as conformity with requirements and it was neither increasing nor decreasing of weight 0.4, time criterion and financial of 0.3. Project in Novosibirsk on maternity hospital had also just one criteria – concession fee. The integrated information on awarding criteria is presented in Appendix 3.

In Moscow PPP on the reconstruction and equipment of the hospital № 63 has 2 main criteria for evaluation with equal weights: financial (50%) and functional (50%). Financial is the size of the concession fee (1 billion rubles) and operational (volume of medical services provided stated in the concession agreement on CHI and High-tech medical care tariffs starting from the sixth year of operations. Each operational criteria has weight of 6.25% (Table 7). Documentation on PPP project in St. Petersburg does not provide clear criteria for bids assessment. The only information provided is that it has two criteria with 50% weight each. These are financial and technical criteria.

Situation in Canada is a bit different. There are always several criteria (more than 2) and also the competitive level is much higher.

Therefore, current legislation in RF restricts the usage of the scoring rules to highest bid – lowest bid scoring rule and. Since Russia has relatively high level of corruption, lack of experience in the area of public procurement regulation, which leads to the use of inadequate tools in case of low competition. If there are just two evaluation criteria and one has higher weight then in case of low competition (2 bidders) private partners will have incentives to make better offer only on the factor with highest weight because then it wins the contest regardless of the quality. At the same time number on awarding criteria in Canada is higher and can be a signal of positive experience since Canada has more projects that are at the implementation stage.

Considering Porter's value chain and valuation procedures described it is possible to conclude that if the requirements contained in tender documentation as well as awarding criteria should mitigate risks that are partially arising from the inefficient procurement stage like risks of not inclusion in CHI program, changing CHI tariffs, increasing prices on equipment maintenance, increase of actual expenses over specified, not meeting technical requirements, non-ability to provide medical services or their non-availability, provision low quality services, patients' health harming, having not enough qualified personnel etc.

Consequently, from the analysis conducted one more factor can be distinguished – usage of appropriate awarding criteria. This factor aims to mitigate risks of the project through inclusion of criteria that will be both financial and technical/qualitative where none of the criteria

is more than 0.5. If such requirement is met then the risk of misconduct is mitigated.

2.4.2 Competitive procurement

Competitive procurement process can create incentives for private partners to provide better proposals and investigate their opportunities more accurately.

PPP projects in Tatarstan on Hemodialysis had just one bidder on all 5 projects (Clinic of modern medicine HD). The same situation took place with project in Samara that had just one bidder "Farm SKD" and in Moscow where the only bidder was European medical center. So in all these 7 projects only public partner received only one bid and the contest was declared as failed to take place. However, there are several exceptions – St. Petersburg (construction of the City Hospital №40 of Resort District) with two bidders. However, only one reached the stage of requests for proposals because the second one was a Turkish company and after the situation in the end of 2015 negotiations were stopped.

Brampton Civic Hospital has just a few competitors and it was perceived as a source of the problems aroused during the project implementation stage. Had there been more bidders then probably not WOHC would be chosen as a partner but another company that had more financial, operating, human resources to provide healthcare services in all hospitals. For Humber River Hospital number of shortlisted bidders equals 3 and this is a common situation for Canada.

Competition is relatively low in Japan. Usually just one bidder reaches the request of proposal stage. As a result of such low competition might also affect the quality of estimation of benefits if this project. For example in a case of city clinic in Ōmihachiman the partner that met eligibility criteria was chosen for the implementation of this project and there were no competition for this project implementation. Had there been more bidders the result could be different since government would accumulate information from proposals of various bidders.

On Indian projects competition is relatively low as well. However, in the case of Nephrology Centre Haldwani number of bidders who reached request of proposals stage equals 3 and this project is considered to be successful.

Therefore, the more competitive procurement process might improve quality of proposals, mitigate risks of corruptive or hazardous behavior. It also allows public partner to make more accurate choice. At the same time market in Russia is not so well developed and it is not easy to increase number of bidders. For this investors need more information (more transparent process) and also to have public partner that will improve the current situation on PPPs in healthcare and other sectors.

2.4.3 Well organized and committed public agency

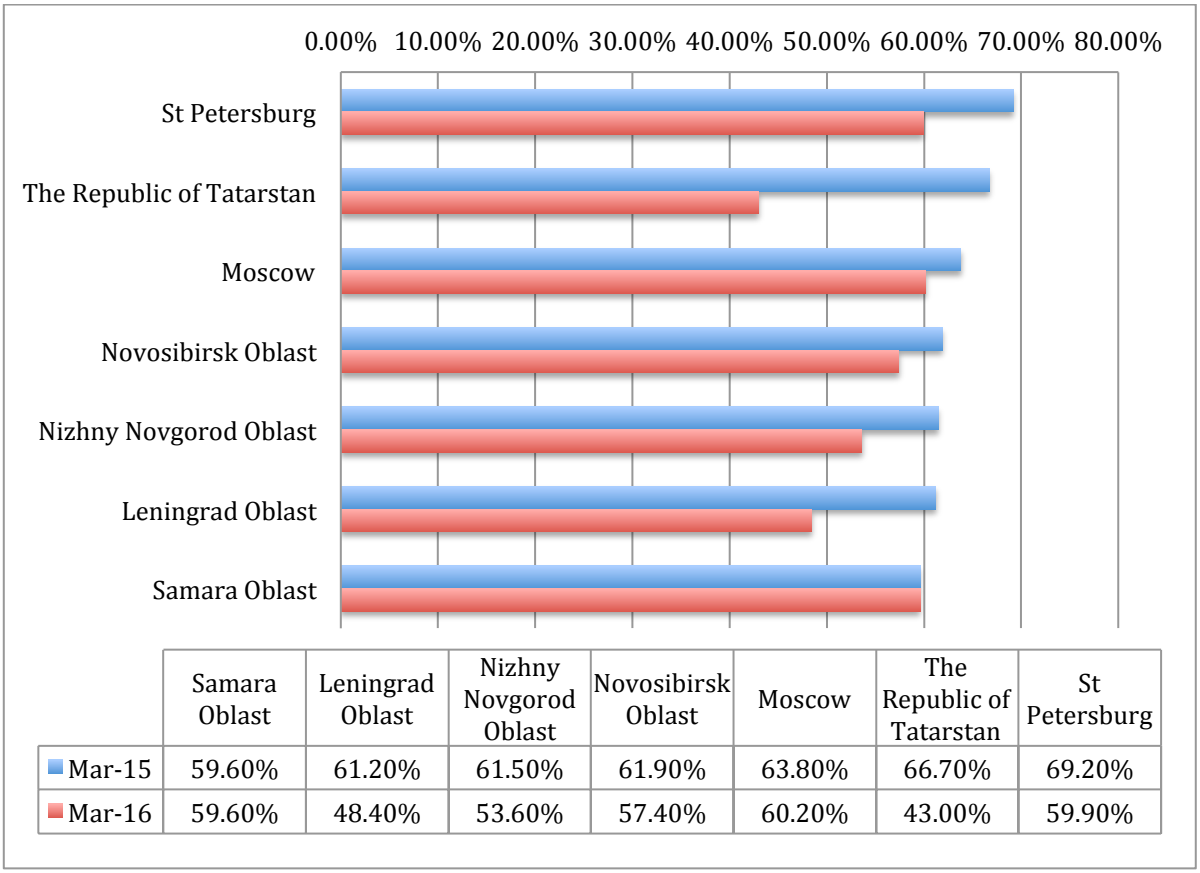
PPP form for creation and reconstruction of healthcare organizations becomes more common in various regions of Russian Federation. Currently 70 subjects of RF introduced regional laws on the participation of regional authorities in the PPP. Programs or documents approved by Russian Federation authorities on the development of public-private partnerships in the healthcare sector contain measures for development of PPP in 68 subjects of the Russian Federation. In addition, majority of programs on healthcare development include either sub-programs on "Development of public-private partnership" (in 42 subjects) or separate sections devoted to PPP (22 subjects). Number of regions of the Russian Federation approved concepts on the development of the PPP in healthcare (Irkutsk, Kaluga, Orel, Tomsk, and Yaroslavl Oblasts and Khabarovsk Krai) (Reference to question 4…).

Projects from the regions with the highest PPP development level are chosen in order to analyze best practices (Fig. 10). Rating of regions is calculated on the basis of three factors: Level of the institutional development in the PPP field, experience in the PPP projects implementation, investment attractiveness of the region for infrastructure investors. Each factor has weights: the first one has a weight of 0.4 while to others have 0.3 weights each.

The first factor has the highest share due to formation and development stage of the institutional environment as the most important component for PPP investments attraction. It consists of several sub factors: the presence of the regulatory framework, responsible authorities, power or structural units (including commissions, councils, working groups) on PPP development plans.

Experience in the region for the implementation of PPP projects. This factor assumes that the higher the number of projects implemented subject of the Russian federation has the more managerial competencies it will have and consequently it will positively affect the success of the PPP projects implemented. The following indicators are taken into account when assessing the factors: current status of the project (implementation stage), investments volume, project implementation period, projects variety (different sectors).

Investment attractiveness of the region for infrastructure investors that estimates the potential for attracting private investment in PPP projects. The subjects of the Russian Federation with the highest rate of development got 60% -75% out of possible 100. The leaders of the rating are St. Petersburg and the Republic of Tatarstan, which have the highest investment attractiveness, extensive experience in the implementation of regional PPP projects and developed institutional environment. Among other leaders are Novosibirsk region, Sverdlovsk and Nizhny Novgorod regions. They have high level of development of the regulatory framework and investment attractiveness.



	Samara Oblast	Leningrad Oblast	Nizhny Novgorod Oblast	Novosibirsk Oblast	Moscow	The Republic of Tatarstan	St Petersburg
Mar-15	59.60%	61.20%	61.50%	61.90%	63.80%	66.70%	69.20%
Mar-16	59.60%	48.40%	53.60%	57.40%	60.20%	43.00%	59.90%

Fig. 10 Rating of regions in terms of PPP development

Source: Rating of regions

Different subjects of Russian Federation have regional programs on healthcare development that include information on the necessity to develop PPP mechanisms in the region. However there is no clear understanding of what is PPP project and which benefits it provides. Most regions consider it as a method to attract additional investments and provide services to clients or to transfer supporting activities to the private partner.

However, some regions create units that specialize on PPP projects implementation. For example, Samara region created a specialized unit responsible for preparation, coordination and support of PPP projects. This unit is a part of the structure of the Ministry of Economic Development, Investments and Trade of Samara Region and it has qualified and trained employees. Currently this region has one project with FARM SKD that is at the implementation stage and analyzed in this paper but it also has 5 other projects that are or will be implemented.

Currently most of the projects in Canada as well as in Russia are implemented in several regions (Table 8).

Table 8. Concentration of PPP projects in healthcare

Country	Regional concentration	No of regions
Canada	92%	3/12
Russia	34%	4/83

During implementation of Brampton Civic Hospital project Ontario have not had any special agencies consulting and overseeing projects implementation. So the agency that could accumulate and share experience and expertise was missing. Case studies on Brampton Hospital report that lack of such experience was one of the reasons of high projects' costs.

Later Infrastructure Ontario has been created in order to provide oversight and expertise to PPP projects. This Crown agency has mandate to oversee all alternative financing and procurement (AFP) projects in the province

In Japan concentration of PPP projects implementation is also relatively high, the greatest amount of PPP project is near big cities and the smaller area is the lower is its' capacity for project implementation.

The same tendency exists in India. The main part of PPP projects is implemented in the regions with relatively high development level. So the poor regions still cannot attract private partners to project realization. For example Uttarakhand PPP Cell where the Nephrology Centre Haldwani was constructed is situated in relatively well-developed region with more attractive investment climate.

To conclude, Canada has special agency that supports implementation throughout the project lifecycle. It also has rich database that provides general information on the project and links to the website of the province were users can find all relevant information on the project including project agreements, VFM analysis, schedules, news releases etc. Russia currently has a website that lists all the projects but it is not comfortable to use it, compared to the Canadian or Indian one, and also it has very limited information. Among positive moments in Russia is implementation of regional laws to support projects realization and also creation of agencies in some regions that support implementation of projects.

2.4.4 Thorough and realistic assessment of costs and benefits

Accurate assessment of costs and benefits can significantly influence the future implementation of the project. Private partner would be more oriented on providing realistic proposal in case if the public partner understands opportunities of the private sector and process and results of the project implementation.

Information on Canadian projects is more detailed, contains more information on evaluation criteria, risks allocation, clearly defines project scope and requirements etc. Russian documentation has fewer details and private partners might have some concerns about the effects of possible negative actions.

The important part of each report on Canadian project is the value for money analysis that refers to the process of developing and comparing the total project costs on two different delivery models expressed in dollar values measured at the same point in time. Value for money is determined by directly comparing the cost estimates for the following two delivery models: Traditional project delivery or public procurement model and Alternative Financing and Procurement (AFP) The traditional delivery costs and AFP costs are present-valued to the date of financial close to compare the two methods of delivering a design, build, finance and maintain project at the same point in time.

The base costs between AFP and the traditional delivery model mainly differ as follows. Under the AFP model, the private party charges an additional premium as compensation for the risks that the public sector transfers to them under the AFP project documents. In the case of traditional delivery, the private party risk premium is not included in the base costs as the public sector retains these risks. Financing rate that the private sector is charged under AFP is higher than the financing rate of the public sector and is not included in the traditional delivery base costs.

The cost difference between these two models is referred to as the value for money. If the total cost to deliver a project under the AFP approach is less than the total cost to deliver a project under the traditional delivery approach, there is said to be positive value for money. The value for money assessment is completed to determine which project delivery method provides the greatest level of cost savings to the public sector.

The VFM assessment of the Humber River Regional Hospital project indicates estimated cost savings of 19.1 per cent or $469 million, by using the AFP approach in comparison to traditional delivery. From the graph below (Fig.11) you can see that the main value is achieved through transfer of risks to the private sector.

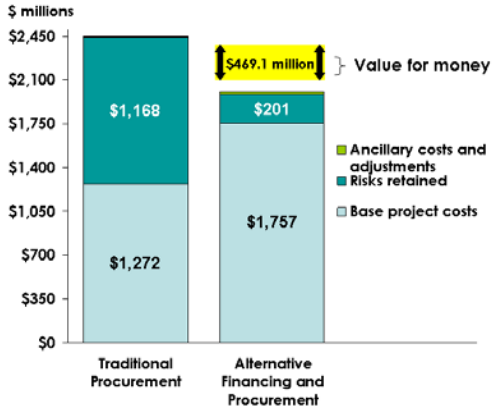


Fig.11 Example of the result of VFM analysis in Canadian PPP Projects

PricewaterhouseCoopers completed the value for money assessment of the Humber River Regional Hospital project. Their assessment demonstrates projected cost savings of 19.1 per cent

by delivering the project using the AFP model, versus what it would have cost to deliver the project using a traditional delivery model.

However, Value for money analysis should be not just on paper. It should include all relevant factors. For example, value-for-money analysis for Brampton hospital included not all of them. As a result, project costs were much higher than under traditional form of the procurement. According to the Ontario's Auditor General, Brampton Civic Hospital cost the public $200 million more than if it had been publicly financed and built directly by the province. https://www.policyalternatives.ca/publications/monitor/problem-public-private-partnerships#sthash.mFQfey6m.dpuf

All Canadian reports are extensive and provide information on risks allocation and impact of other negative events. Japanese cases are good examples of the situation when inaccurate assessment of costs and benefits led to the termination of contract agreement. If it was thoroughly investigated before then project documentation would be different and government would have different expectations regarding services of the private partner. In the first case, construction and maintenance of the medical complex the demand predictions were inaccurate and consequently benefits from attraction of the private partner to implement this project were overestimated. As a result the contract was terminated.

In the second case, construction of the city clinic in Ōmihachiman, public sector was not careful enough in estimation of the private partner opportunities and experience. In Russia information on risks and benefits is present in the reports however compared to Canadian project volume is rather small and there is some room for improvements.

Considering Russian cases, VFM analysis is not disclosed on them but it should be also conducted, especially in case if the project involves high investments.

Analysis of successful and problematic cases reveals that in case when it is conducted and includes all relevant factors it might provide positive results for the implementation of PPP project.

2.5 Results: Procurement stage as a source of critical success factors

The results of the analysis conducted are divided by CSFs in order to assess the relevance of each of the critical success factors for the project implementation in Russia and other countries.

Transparency in the procurement process. One of the characteristics of transparency is availability of tender documentation and other documents related to the PPP project. We can see the following tendency. There is almost no information on PPP projects in Russia. This information is allocated among absolutely different sources. Access to most documentation of more than 50% of the projects is limited and in all cases just a main part of the project documentation is published. If we take Canada or India then we see that they have all information in one place with all the news releases, project documentation, schedules, requests and evaluations, results of the project implementation. So level of transparency in Russia is lower. Besides in Canada almost all projects involve assessment by fairness advisor, consulting companies while in Russia their services are used rarely and the lower scale of the projects in general partially determines this situation.

Competitive procurement process. This characteristic is also not typical for Russian PPP projects. However there are not so many private investors who are able to construct and operate healthcare units dedicated to provision of services of specific function. Like with example of Hemodialysis center. The company “Klinika sovremennoy meditsyny HD” was the only private company operating on that market. So it can be more important to have clear project documentation to limit hazardous behavior of the private partner. Canadian project have high number of bidders (around 3 bidders on average reaching request of proposal and submitting their application form)

Moreover, highest bid-lowest bid scoring rule should not be applied in case of low competition because it creates incentives to improve offer only on one criterion because then private partner will win the contest even if the price is extremely high or quality is low. In addition, more than two awarding criteria should be used to avoid hazardous behavior. Analysis of this rule revealed that if at least one criterion has weight of more than 0.5 then private partner would have no incentives to improve its offer on other criteria. Consequently it is necessary to have more than two awarding criteria in tender documentation. In addition if there are only two bidders then in case of similar scores on all criteria but one, the bidder that suggests gets just a little bit lower scores on several criteria gets 0 scores on them and looses in the contest. Therefore this rule also should not be applied in case of low competition.

Well-organized and committed public agency. PPP partnerships in healthcare in Russia is

relatively new concept, they started to appear in the late 2000s. However, more and more regions of Russia introduce recommendations or policies on the PPPs in order to increase attractiveness of such a form for private investor. Most investors are unwilling to enter PPPs because of the high risks and these risks can be partially mitigated by the legislation and recommendations. In addition creation of specialized units or center integrating information on all projects, accumulating experience and sharing best practices like it is done in Canada might improve the attractiveness of projects and rate of projects successfully implemented.

Thorough and realistic assessment of the costs and benefits. This factor is crucial for the successful accomplishment of the project. This paper introduced several cases where private partner could not meet the predetermined plan on procedures or number of patients because the demand was lower than expected. But since the profit of private partner depended only on government payments it did not have enough motivation to improve the quality of services provided or to change the current conditions in order to increase number of patients. The outcome of such a situation was a buy out of the infrastructural object and transferring all operating activities to a public partner. If costs, risks and benefits are assessed in advance and included in project agreements then it is possible to avoid such situations.

All this critical success factors at the procurement stage (transparent procurement, competitive procurement, thorough and realistic assessment of the costs and benefits, well organized and committed public agency) can contribute to risks mitigation of the healthcare project. They affect it through higher quality of tender documentation, higher involvement and interest of the public partner and usage of previous experience, increasing awareness of private partners and greater number of bids, reduction of hazard behavior, creating more attractive investment environment and as a result attracting more bidders and possibility to make more accurate selection of the partner. Thereby they also reduce some medical and operational risks.

2.6 Recommendations

Results of the ross-case analysis reveal that there is almost no competition on PPPs in healthcare in Russia. According to the information gathered on websites of the projects it is possible to conclude that Canadian projects have overall much higher transparency because almost everyone can get the information on project documentation. Transparency in Russia is lower overall. It is still possible to find information on project documentation but only in few cases. Besides, there is no single database with project description as it is in Canada. So the integrated solution can be introduced in Russia in order to increase transparency and this will also affect the level of public agency commitment and trust of private partners.

Moreover, Canadian project have higher competition. In all the cases there were at least 3 candidates who prepared research f or proposal. As for research for qualification – the minimum number is 4 bidders willing to participate in the project realization. Considering competition in Russia, it is very low for healthcare projects. In most cases there were one or two potential bidders. In addition there are several projects that failed only because no one applied for request for qualification. Since we have low competition it is necessary to conduct thorough and realistic assessment of costs and benefits and use another evaluation procedure in order to avoid hazardous behavior. For instance, more than 2 evaluation criteria should be used for bidders evaluation and weights of these awarding criteria should not exceed 50%. It also worth to transfer opportunity to define bids evaluation procedure to the public partner (with approval of public agency).

Contracts should allow for flexibility of the private partner and at the same time it is better to make them more complete since in most cases there is just one partner and flexibility and completeness assume possibility to get better quality of services provided by private partner. For example in Canada public agent include many different factors that might affect the successful realization of the project. However in Russia it is regulated mostly by requirements in technical assignment. So agreements should provide some degree of flexibility but clearly state risks allocation and actions in case of some negative events (low demand, contract termination etc)

Value for money analysis can be beneficial for government especially if independent party participates in its conduction. Independency assumes also higher transparency. Therefore, usage of services of fairness advisors especially for projects with high investments (>$100 thousand) can be beneficial.

Conclusion

Number of PPP project in healthcare in Russia is continuously growing but rate of unsuccessful projects/ projects that had some problems during their implementation remains high compared to other developed countries. In order to make recommendation on improvement of Russian policies and regulations and on the process of PPP project implementation cross-case analysis was conducted with several cases from Russia, Canada, Japan and India.

The main reasons for attraction of private partners in projects implementation in healthcare are the same as in other sectors: attraction of private investments, allocation of risks, introduction of private expertise and cost efficiency, that is also supported by project/concession agreements in cases analyzed.

Some of the cases analyzed were not implemented or failed because of the inefficient organization of the procurement stage. This stage can affect results of the whole project implementation since each CSF at this stage identified through analysis of papers on CSFs of PPPs project tends to mitigate risks. Among the major CSFs are transparent and efficient procurement process, competitive procurement, well-organized and committed public agency and thorough and realistic assessment of costs and benefits. And also case analysis and game-theoretical modeling revealed one more factor relevant for RF - usage of awarding criteria and procedure of bids evaluation appropriate for the environment. In Russian reality each of these factors can contribute significantly to the successful project implementation but then international practices should be transferred where it is possible.

Overall, this paper aims to increase efficiency and effectiveness of PPP projects implementation through management of CSFs identified and realization of recommendations stated in this paper should help in achieving this goal.

Limitations and further research

This research was conducted on a sample of PPP projects in healthcare and analysis of the best practices in Canada. However, there are more projects in Russia that could be analyzed in-depth and probably they could give more results. But the chosen sample was relevant for the scope of this paper. Second, new law on PPP was introduced in 2016 and some more regionals after 2014. Consequently the outcome of introducing them could be more visible in the recent future, for instance the rate of successful projects might increase. Currently part of projects have not reached the financial closing stage and they are out of the scope of this project. There is also no commercially closed projects but as soon as for the procurement stage financial closure is more important it worth to analyze these projects and use experience of other countries.

Significant contribution to this research could be from expert estimates of the CSFs that were analyzed in this research. They can express their opinions and rate this factors according to their relative importance. That will allow to make more accurate recommendations. This research can be also extended to other sectors including transportation, energy, water etc.

List of references

1. Acerete B., Stafford A. and Stapleton P. (2012) New development: New global health care PPP developments—a critique of the success story. *Public Money & Management*, 32 (4), 311-314.
2. Akintoye, A., Beck, M., Hardcastle, C., Chinyio, E. and Asenova, D. (2001). Framework for Risk Assessment and Management of Private Finance Initiative Projects. Glasgow: Glasgow Caledonian University
3. Archive [In Russian]. Retrieved on 2016, February 22 from: http://mzio.tatarstan.ru/rus/arhiv.htm
4. Arthur Andersen and Enterprise LSE, (2000). *Value for Money Drivers in the Private Financial Initiative*, the Treasury Task Force
5. Babatunde, S.O., Opawole, A. and Akinsiku, O.E. (2012). Critical success factors in public-private partnership (PPP) on infrastructure delivery in Nigeria. *Journal Of Facilities Management, 10(3),* 212-225.
6. Barrows, D., MacDonald, H. I., Supapol, A. B., Dalton-Jez, O., & Harvey-Rioux, S. (2012). Public-private partnerships in Canadian health care: A case study of the Brampton Civic Hospital. *OECD Journal On Budgeting*, *2012*(1), 21-34.
7. Bing, L., Akintoye, A., Edwards, P.J. and Hardcastle, C. (2005). The allocation of risk in PPP/PFI construction projects in the UK. *International Journal Of Project Management*, 23, 25–35.
8. Bogolib, T. M. International Experience and World Tendencies of Developing State-Private Partnership. *World Applied Sciences Journal*, 21 (3), 360
9. Boyfield, K. (1992). Private Sector Funding of Public Sector Infrastructure, *Public Money & Management*. Oxford. 12 (2). pp.41-46.
10. Brodie, M. J. (1995). Public/Private Joint Ventures: The Government as Partner – Bane or Benefit? *Real Estate Issues*. Chicago. 20 (2). pp.33-39.
11. Bullen, C. V. & Rockart, J. F. (1981). *A primer on critical success factors*. Cambridge, MA: Center for Information Systems Research, MIT.
12. Canadian PPP project database (2016, May) The Canadian Council for Public-Private Partnerships. Retrieved from:
13. CEC (2008). Commission Interpretative Communication on the application of Community law on Public Procurement and Concessions to Institutionalised Public-Private Partnerships Brussels, Belgium: Commission of the European Communities.
14. Chan, A. C., Lam, P. I., Chan, D. M., Cheung, E., & Yongjian, K. (2010). Critical

Success Factors for PPPs in Infrastructure Developments: Chinese Perspective. *Journal Of Construction Engineering & Management*, *136*(5), 484-494.

15. Cheung, E., Chan, A., Lam, P., Chan, D., & Yongjian, K. (2012). A comparative study of critical success factors for public private partnerships (PPP) between Mainland China and the Hong Kong Special Administrative Region. *Facilities*, *30*(13), 647-666. doi:10.1108/02632771211273132

16. Chou, J., and Pramudawardhani, D. 2015. "Cross-country comparisons of key drivers, critical success factors and risk allocation for public-private partnership projects." *International Journal Of Project Management,* 33 (5), 1136-1150.

17. CII and KPMG (2009). The Emerging Role of PPP in Indian Healthcare Sector. Policy Paper, Retrieved on 2016, March 10 from: www.ibef.org/download/PolicyPaper.pdf

18. Commentary: Policy framework on the governance of major infrastructure projects of Quebec, Politique-cadre sur la gouvernance des grands projets d'infrastructure- Quebec, 2010.

19. Daniel, D.R. (1961). Management information crisis. *Harvard Business Review*, (Sept-Oct), 111-116.

20. Dini, F., Pacini, R. and Valetti, T. (2006) Scoring rules. Handbook of procurement [Text] / ed. by Nicola Dimitri, Gustavo Piga and Giancarlo Spagnolo. – Cambridge, UK [et al.]: Cambridge University Press, p. 347-380.

21. EIB (European Investment Bank) (2004). The EIB's Role in Public-Private Partnerships (PPPs), European Investment Bank, Luxembourg, www.eib.org/Attachments/thematic/eib_ppp_en.pdf.

22. Engel, E., Fischer, R., and Galetovic, A. (2007). The Basic Public Finance of Public-Private Partnerships, NBER Working Paper No. 13284, National Bureau of Economic Research, Cambridge, Massachusetts, United States

23. EPEC (2011) The Guide to Guidance.How to Prepare, Procure and Deliver PPP Projects. Available at: http://www.eib.org/epec/resources/guide-to-guidance-en

24. European Commission (2003). Guidelines for successful public- private partnerships. Brussels: Directorate General Regional Policy.

25. Federal Law № 115-FZ of July 21, 2005 «On concession agreements»

26. Federal Law № 224-FZ of July 13, 2015 «On public-private partnership and municipal-private partnership in the Russian Federation and amending certain legislative acts of the Russian Federation»

27. FHWA (2010). Public–Private Partnership Concessions for Highway Projects: A Primer. – US Department of Transportation, Federal Highway Administration, October.

28. FHWA (2012) Risk Assessment for Public-Private Partnerships: A Primer. – US Department of Transportation, Federal Highway Administration, December.

29. Finnerty, J. D. (1996). *Project Financing: Asset-Based Financial Engineering*. John Wiley & Sons, New York.

30. Fourie, F. N., & Burger, P. (2001). Fiscal Implications of Public-Private Partnerships (PPPs). *South African Journal Of Economics*, *69*(1), 147-167.

31. Frilet, M. (1997). Some Universal Issues in BOT Projects for Public Infrastructure, *The International Construction Law Review*. 14 (4). pp.499-512.

32. Garvin, M., Bosso D. (2008). Assessing the effectiveness of infra- structure public–private partnership programs and projects. Public Works Management and Policy. 13 (2), 162–178.

33. Gentry B. and Fernandez, L. (1997) Evolving Public-Private Partnerships: General Themes and Urban Water Examples. *Globalisation and the Environment: Perspectives from OECD and Dynamic Non-Member Economies*. OECD, Paris. pp.19-25. http://www.undp.org/pppue/.

34. Gilbert, E. (2009). Failing grade for public–private partnership hospitals. *Canadian Medical Association Journal*, *180*(4), 380-380.

35. Grimsey, D., & Lewis, M. K. (2005). Are Public Private Partnerships value for money? Evaluating alternative approaches and comparing academic and practitioner views. *Accounting Forum*, *29*(4), 345-378.

36. Grunert, K. G., & Ellegaard, C. (1992). *The concept of key success factors: theory and method* (pp. 505-24). MAPP. Haryana, India: Public-Private Partnership (PPP) Policy

37. Hambros, SG. (1999). *Public-Private Partnerships for Highways: Experience, Structure, Financing, Applicability and Comparative Assessment*. Canada.

38. Healthcare UK: Public Private Partnerships, UK Trade&Investment, 2013

39. HM Treasury. 2012. A New Approach to Public Private Partnerships. Available at http://cdn.Hm-treasury.gov.uk/infrastructure_new_approach_to_public_private_parnerships_051212. pdf

40. Hodge G. (2004) Risks in Public-Private Partnerships: Shifting, Sharing or Shirking? *Asia Pacific Journal of Public Administration, 26*(2), 155-179

41. Humber River Hospital. Retrieved on 2016, February 26 from: http://www.infrastructureontario.ca/Templates/Projects.aspx?id=2147484327&langtype=1033

42. Hurst, C. & Reeves, E. (2004). "An Economic Analysis of Ireland's First Public-Private Partnership." The International Journal of Public Sector Management, 17(5): 379-388.

43. Hwang, B., Xianbo, Z., and Gay, M.J.S. (2013). Public private partnership projects in Singapore: Factors, critical risks and preferred risk allocation from the perspective of contractors. *International Journal Of Project Management*, 31 (3), 424-433.

44. Infrastructure Canada (2012). Infrastructure Spotlight: Improving Canada's Infrastructure Through Public-Private Partnerships. Available at http://www.p3canada.ca/_files/P3_eng.pdf

45. International Financial Services London (2003), Public Private Partnerships: UK Expertise for International Markets, London: IFSL

46. Irvine, R., and H. Hall. 2015. "Factors, frameworks and theory: a review of the information systems literature on success factors in project management." *Information Research* 20 (3)

47. Ismail, S. (2013). Critical success factors of public private partnership (PPP) implementation in Malaysia. *Asia-Pacific Journal Of Business Administration* 5 (1), 6-19.

48. Ivanov A. On the new approach to the risks' identification in the projects of public-private partnership. Working Paper #1(E) –2015. Graduate School of Management, St. Petersburg State University: SPb, 2015.

49. Jefferies, M., Gameson, R. and Rowlinson, S. (2002). Critical Success Factors of the BOOT Procurement System: Reflection from the Stadium Australia Case Study. *Engineering, Construction and Architectural Management*. 9 (4). pp.352-361.

50. Jin (2016, April 07) Problems and tasks of PPP/PFI projects in Japan [PPT]. GSOM SPBU

51. Jones, I., Zamani, H. and Reehal, R. (1996). *Financing Models for New Transport Infrastructure*. OPEC, Luxembourg.

52. Kanter, R. M. (1999). From Spare Change to Real Change, *Harvard Business Review*. Boston. 77 (2). pp.122-132.

53. Ke, Y., Wang, S., Chan, A. P., & Lam, P. T. (2010). Preferred risk allocation in China's public–private partnership (PPP) projects. *International Journal Of Project Management*, *28*(5), 482-492. doi:10.1016/j.ijproman.2009.08.007

54. Kwak, Y. H., YingYi, C., & Ibbs, C. W. (2009). Towards a Comprehensive Understanding of Public Private Partnerships for Infrastructure Development. *California Management Review*, *51*(2), 51-78.

55. Moszoro, M. W., & Spiller, P. T. (2012). *Third-party opportunism and the nature of public contracts* (No. w18636). National Bureau of Economic Research

56. Mustafa, A. (1999). Public-Private Partnership: An Alternative Institutional Model for

Implementing the Private Financial Initiative in the Provision of Transport Infrastructure. The Journal of Project Finance. Summer. pp.64-79.

57. National Commentary: The Public-Private Partnership Law Review, Chapter 5: Canada, Fasken Martineau, Law Business Research, April 2015

58. Nephrology Centre Haldwani innaugrated, December 21, 2011 Retrieved on 2016, February 27 from: http://cell.upppc.org/index.php?option=com_content&view=article&id=150:nephrology-centre-haldwani-commences-operation&catid=60:project-monitoring&Itemid=46

59. Database of Infrastucture projects in India. Retrieved on 2016, February 27 from: https://infrastructureindia.gov.in

60. Ministry of Land and Property Relationships in the Republic of Tatarstan. Retrieved on 2016, February 1 from:: http://mzio.tatarstan.ru

61. OECD (2007), OECD Principles for Private Sector Participation in Infrastructure, OECD Publishing, Paris.

62. OECD (2008). Public-Private Partnership: in pursuit of risk sharing and value for money. Principles and Practice of Public Procurement (2012). – The Chartered Institute of Procurement & Supply (CIPS) and The Institute for Public Procurement (NIGP). Available at http://principlesandpractices.org/

63. Osei-Kyei, R., & Chan, A. P. (2015). Review of studies on the Critical Success Factors for Public–Private Partnership (PPP) projects from 1990 to 2013. *International Journal Of Project Management*, *33*(6), 1335-1346. doi:10.1016/j.ijproman.2015.02.008

64. Patil, N. A., Tharun, D., & Laishram, B. (2016). Infrastructure development through PPPs in India: criteria for sustainability assessment. *Journal Of Environmental Planning & Management*, *59*(4), 708-729. doi:10.1080/09640568.2015.1038337

65. Porter M., Teisberg E. (2006) Redefining Health Care: Creating Value-Based Competition on Results, Harvard Business School Press.

66. Porter, Michael E. (1985). Competitive Advantage. Free Press.

67. Potential Benefits of Public Private Partnerships, URL: http://ppp.worldbank.org/public-private-partnership/overview/ppp-objectives, Retrieved on 02.03.2016

68. PPP in health care in the spotlight of the Russian Federation (2015, April 7) [In Russian] Unified information system on PPPs in RF. Retrieved on 2016, March 15 from: http://www.pppi.ru/news/gchp-v-zdravoohranenii-v-centre-vnimaniya-pravitelstva-rossiyskoy-federacii

69. Projects database (2016, May). Unified information system on PPPs in RF. Retrieved from: http://www.pppi.ru/projects

70. Qiao, L., Wang, S.Q., Tiong, R.L.K. and Chan, T.S. (2001). Framework for Critical Success

71. Rating of Regions on PPP Development (2015). The Association “Public-Private Partnership Development Center” (PPP Development Center). Retrieved on 25.03.2016 from: http://pppcenter.ru/analitika/reiting.html

72. Reference to question 4 of the agenda of the meeting of the Coordination Council of Russian Ministry for Public-Private Partnerships "On the practice of implementation of infrastructure projects of public-private partnership in the health sector on the example of the specific subjects of the Russian Federation" [In Russian] Retrieved on 2016, February 21 from: ttps://www.rosminzdrav.ru

73. Rockart, J. F. (1979). Chief executives define their own data needs. Harvard Business Review, (March-April)

74. Round table “Risk Management in PPP Projects in Health Care” (2015, February 10) GSOM

75. Shaoul, J., A. Stafford, and P. Stapleton. 2007. “Partnerships and the role of financial advi- sors: Private control over public policy?” Policy & Politics 35 (3): 479–495.

76. Siemiatycki, M. (2015). Public-Private Partnerships in Canada: Reflections on twenty years of practice. *Canadian Public Administration*, *58*(3), 343-362. doi:10.1111/capa.12119

77. Stein, S. W. (1995). Construction Financing and BOT projects, *International Business Lawyer*. International Bar Association. 23 (4). pp.173-180.

78. Tender documentation and results [In Russian]. Retrieved on 2016, February 22 from: http://mzio.tatarstan.ru/rus/konkursnaya-dokumentatsiya-i-itogi.htm

79. The World Bank, (2016). Sector Snapshots. Retrieved February 24, 2016, from: http://ppi.worldbank.org/ppinew/snapshots/sector/electricity

80. Tingting, L., & Wilkinson, S. (2011). Adopting innovative procurement techniques: Obstacles and drivers for adopting public private partnerships in New Zealand. *Construction Innovation*, *11*(4), 452-469. doi:10.1108/14714171111175918

81. Tkachenko M.V., Kongulov A.S., Dolgov A.A. (2014). Рейтинг регионов ГЧП-2014. Развитие государственно-частного партнерства в субъектах Российской Федерации. – М.: Центр развития государственно-частного партнерства

82. Tshiki Pr, Masibonge1 (2015). Critical success factors for infrastructure construction projects in South Africa." *Journal Of The South African Institution Of Civil Engineering* 23 (6), 19-24.

83. Van Ham, H., & Koppenjan, J. (2001) “Building Public-Private Partnerships: Assessing and Managing Risks in Port Development.” Public Management Review, 3(4): 50 93-616.

84. Vinogradov, D, Shadrina, E., and Kokareva L. (2014) PUBLIC PROCUREMENT MECHANISMS FOR PUBLIC-PRIVATE PARTNERSHIPS. *Journal Of Public Procurement 14* (4), 538-566.

85. Yongjian, K., ShouQing, W., Chan, A. C., & Cheung, E. (2009). Research Trend of Public-Private Partnership in Construction Journals. *Journal Of Construction Engineering & Management*, *135*(10), 1076-1086. doi:10.1061/(ASCE)0733-9364(2009)135:10(1076)

86. Исследование «Развитие государственно-частного партнерства в России в 2015–2016 годах. Рейтинг регионов по уровню развития ГЧП» / Ассоциация «Центр развития ГЧП», Министерство экономического развития Российской Федерации. – М.: Ассоциация «Центр развития ГЧП», 2016. – 36 с.

Appendix 1. PPP projects in healthcare in Russia

Name	Country and region	Form of PPP	Form of PPP	Construction/Reconstruction	Length (years)	Number of bidders
Hemodialysis center	Republic of Tatarstan-Naberezhnye Chelny)	Concession agreement	DBFOM	Reconstruction	7 (10.2014-)	1
Hemodialysis center	Republic of Tatarstan-Bugulma	Concession agreement	DBFOM	Reconstruction	7 (11.2014-)	1
Hemodialysis center	Republic of Tatarstan-Nizhnekamsk	Concession agreement	DBFOM	Reconstruction	7 (10.2014-)	1
Hemodialysis center	Republic of Tatarstan-Kazan	Concession agreement	DBFOM	Reconstruction	7 (06.2012-)	2
Perinatal Center	Republic of Tatarstan-Kazan	Concession agreement	DBFOM	Reconstruction	10 (03.2011-)	1
Extracorporeal blood correction and clinical transfusion	Samara Oblast - Samara	Concession agreement	DBFOM	Construction	15 (06.2014-)	1
Maternity hospital	Novosibirsk Oblast - Novosibirsk	Concession agreement	DBFOM	Reconstruction	22 (04.2010-)	1
City Hospital №40 of Resort District	St. Petersburg	Concession agreement	DBFOM	Construction	10.5 from which 3.5 on construction (12.2015-)	2
City Clinical Hospital № 63	Moscow	Concession agreement	DBFOM	Reconstruction	49 (04.2013-)	1
Maternity hospital №17	St. Petersburg	Concession agreement	DBFOM	Reconstruction	28 (3 for construction)	-

Name	Investments of private partner (mn Rub)	Size q.m)	Size (No of special apparates)	Number of patients served/ procedures/ beds	Private partner	Public Partner
Hemodialysis center	100	4745.7 (building)	29 dialysis machines	226 patients (35256 procedures per year)	OOO "Klinika sovremennoy meditsyny HD"	The Ministry of Land and Property Relations of the Republic of Tatarstan
Hemodialysis center	50	1784.3 (building)	14 dialysis machines	106 patients (16536 procedures per year)	OOO "Klinika sovremennoy meditsyny HD"	The Ministry of Land and Property Relations of the Republic of Tatarstan
Hemodialysis center	60	598.9 (building)	15 dialysis machines	119 patients (18564 procedures per year)	OOO "Klinika sovremennoy meditsyny HD"	The Ministry of Land and Property Relations of the Republic of Tatarstan
Hemodialysis center	40	2389.2 (building)	25	200 patients (31200 procedures per year)	OOO "Klinika sovremennoy meditsyny HD"	The Ministry of Land and Property Relations of the Republic of Tatarstan
Perinatal Center	30	697.4 (building)	-	25 thousand specialized patients visits and 600 fertility treatment cycles of IVF	AVA-Peter	The Ministry of Land and Property Relations of the Republic of Tatarstan
Extracorporeal blood correction and clinical transfusion	350	1285 (land); 4844.5 (building)	48 machines “artificial kidney	270 patients (52500 procedures)	Farm SKD	The government of Samara Region
Maternity hospital	60	1799.1 (building)	-	IVF for 48 people (per year)	Авиценна	Municipality of Novosibirsk
City Hospital №40 of Resort District	150	l25725 (land)	-	480 beds	Neva medical infrastructure	The Government of Saint Petersburg
City Clinical Hospital № 63	4370	26426.9 (buildings)	-	>613 beds	European Medical Center	The Moscow Department of City Property
Maternity hospital №17	5160	18628.9	-	200 beds; 5500 birth per year	not defined	The Government of Saint Petersburg

Appendix 2. PPP projects in healthcare in Canada, Japan and India

Name	Country and City/ Region	VFM analysis (%) and value, mn	Price of the Contract ($mn)	Duration (in Years) and Start Date	Form of PPP	Size	Space (sq. m)	Challenges	No of bidders shortlisted
Nephrology Centre Haldwani	India – Haldwani	-	≈1200	5 (2011-)	BOT	13 dialysis machines	480	no revealed problems	3
City Clinics in Koti	Japan – Koti	9% ≈$131	≈$1500	30 years (2002-2032)	BTO	-	-	lack of experience, lack of working capital	1*
City Clinics in Omishatiman	Japan – Omishatiman	14% ≈$56	≈655	30	BTO	-	-	low demand, fixed payments, no incentives	1*
Brampton Civic Hospital	Canada –– Ontario Province	-	from 357 (2001 estimates) to 614 (2007)	25 (2001-)	DBFO	608-bed hospital	111 484	not all relevant factors were taken into account	3
Humber River Regional Hospital	Canada – Ontario Province	19.1% $469.1	1750	30 (2011-)	DBFM	656 patients	167 225	no revealed problems	4

*based on the interview

Appendix 3 Awarding criteria on case projects

Criterion Project name	Time needed for reconstruction (Decreasing)		Time period from agreement signing to reaching operations volume agreed (Decreasing)		Expenses taken by the concessionaire, in rubles (Increasing)		Conformation with technical and economic requirement of the object of the agreement		Size of the concession fee according to the concession agreement		Share of costs of the dialysis services that is covered by the government under CHI (decreasing)	
	Initial value	Weight	Initial value	Weight	Initial value	Weight	Initial value	Weight	Initial value	Weight	Initial value	Weight
Hemodialysis center Nizhnekamsk	60	0,5	70	0,5	-	-	-	-	-	-	-	-
Hemodialysis center Bugulma	60	0,5	70	0,5	-	-	-	-	-	-	-	-
Hemodialysis center Naberezhnye Chelny	90	0,3	100	0,3	100mn	0,4	-	-	-	-	-	-
Hemodialysis center Kazan	-	-	-	-	40mn	1	-	-	-	-	-	-
Perinatal Center Kazan	210	0,3	270	0,3	30mn	0,4	-	-	-	-	-	-
Hospital in Samara	-	-	36 months	0,3	-	-	Conformity	0,4	-	-	70%	0,3
City Hospital № 63 (Moscow) *	-	-	-	-	-	-	-	-	1 bn	0,5	-	-
Maternity Hospital (Novosibirsk)	-	-	-	-	-	-	-	-	46014 rub per quarter	1	-	-

Information on other cases is not available (only weights, that are presented in the cases description part)

*Specific criteria for the city Hospital № 63 in Moscow in the separate table on the next page

Criteria for the city Hospital № 63 in Moscow

Criterion		Initial value of the criterion	Weight of the criterion
Volume of medical services provided on CHI and High-tech medical care tariffs starting from the sixth year of operations	The number of PET studies center of positron emission tomography	up to 7000	0,0625
	The number of hospitalizations of Endovascular Surgery center	up to 1 000	0,0625
	Number of visits of endovascular surgery center	up to 65 000	0,0625
	The number of hospitalizations of perinatal center	up to 1 000	0,0625
	The number of visits of perinatal center	up to 55 000	0,0625
	The number of skilled births attendants	up to 1 000	0,0625
	The number of hospitalizations of rehabilitation center	up to 500	0,0625
	The number of visits of rehabilitation center	up to 25 000	0,0625