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Diploma Thesis

COMPARISON OF HEALTH CARE SYSTEM IN FRANCE AND THE CZECH REPUBLIC

Analysis of ophthalmology sector

This Diploma Thesis has been written at the Catholic University of Lyon under the Double Degree Agreement between the Czech University of Life Sciences Prague, and the Catholic University of Lyon. In accordance with the Double Degree Agreement, this Diploma Thesis is fully recognized as part of MSc study programme at the Czech University of Life Sciences Prague.

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Declaration

I declare that I have worked on my Diploma Thesis “Comparison of Health Care System in France and the Czech Republic: Analysis of ophthalmology sector” by myself and I have used only the sources mentioned at the end of the thesis.

In Lyon ……

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BSc. Helena Chocholoušková

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Summary

The Diploma Thesis is deals with two different health care systems – in France and the Czech Republic. The purpose of the literature overview is to define what health and health care is, to provide with information about determinants of health, and their influence as well as to sum up each health care system. It describes the historical development of the each system, the structure, main organizational agencies and the method of financing.

The situation of ophthalmology sector in the Czech Republic and France is compared to determine the quality of care delivered to patients in each country. The comparison analysis is based on study of main (most common) eye diseases, the availability of care to the patients provided by certain number of ophthalmologists and their activity. From the economic point of view, costs connected with certain interventions, private expenditure on ophthalmology and total earnings of ophthalmologist are studied.

Finally the health care expenditure of France and the Czech Republic is discussed and compared to other OECD countries in order to find out to what extent the health expenditure is covered by public and private sector and what part of GDP it represents in each country.

Research question:

What Health Care System (France or Czech Republic) contributes to higher quality of health care? How is ophthalmology care carried out in each country? What is the expenditure on ophthalmology in France and the Czech Republic?

Focused group of readers:

Policy makers, governments, patients, health insurance companies

Empirical sample:

International comparison of two Health Care systems (France and the Czech Republic)

How is each system managed and organized? What authorities (state and private) participate on right functioning of the health care system in France and the Czech Republic? What is the activity of ophthalmologists in each country and which health care system is more effective in ophthalmologic diseases treatment.

Key words: Health Care, Health Care Systems, Financing of Health Care, Health Insurance, Ophthalmology,

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1 Introduction

In recent times, every sphere in developed world is driven by increasing importance of quality. Low price and quantity of product is not the only indicator of success in strong competition. There has been an increasing demand for goods and services provided at the right time, at the right place, for the best price and of the best quality. This principle is also applicable and useful in health care.

Quantifying and improving the quality of health care is an increasingly important goal in medicine. Quality measurement identifies where things are going well, shows where things need to be improved and helps define how to make improvements. Technology is a factor that positively influences the development of health care quality. Due to new technologies and the progress in health care quality has saved many lives during last decades.

The dissertation will be aimed at the concept of quality in health care and its measurement. There are several approaches and tools used to measure quality in health care in order to improve it that will be mentioned and discussed in the work. It also includes quality indicators used to effectively guide quality improvement efforts. Due to the high number of indicators and indexes determining quality in Health Care and the large extent of this topic ophthalmology care is chosen for thorough study and later comparison in this thesis. Ophthalmology as general health care uses similar indicators to measure quality of care such as number of personnel (doctors, nurses etc.), number successful interventions or number of beds for inpatient care. In ophthalmology it depends on a method of intervention, some surgeries do not require inpatient care.

One of objectives of the thesis is to explain what health and health care is and what are the determinants of health. This will be done by describing and defining its related terms and problems. Simultaneously, the work deals with the two health care systems (France/Czech Republic) and its financing that will be compared from different point of views.

So the second objective is to examine the activity of health care in both countries regarding to the ophthalmology and the financial part of it. How big is the part financed by state and what is considered as extra or special care that must be paid by patients? What is the expenditure of health insurance companies? Deciding where the patients are offered with better quality of treatment based on the qualification of specialists.

The practical part of the dissertation is focused on a branch of medicine – ophthalmology and introduces the most common diseases in ophthalmology. What causes them, what are their symptoms and how they are fixed are the main questions answered in the chapter. The international comparison is based on comparison of the activity of ophthalmology in two health care models that are mentioned above. In the thesis is also discussed which country recorded higher number of patients of each eye disease. I have chosen ophthalmology because of the opportunity of co-operation and consultation of my topic with professionals in ophthalmology sector in both countries.

Both, French and Czech health care systems belongs to the group of models that are typical for European countries and which applies the principle of solidarity to finance health care. However the systems themselves and the level of solidarity differ from country to country. Solidarity express the idea that health care must be provided to anybody who needs it regardless their ability to pay. It is solidarity between the rich and poor, healthy and ill, young and elderly, economically active and economically inactive population. Financial resources are obtained in two possible ways. Taxation of population, as the first one, represents a national health care that is connected to national budget and is driven and controlled by state. The second form is carried out by general health insurance companies that support all health care providers from their funds. Both, French and Czech health care systems are funded in part by obligatory health contributions levied on all salaries and paid by employers, employees and the self-employed. The part of costs that is financed by state (government funding) is different in each country as well as the fraction of the other costs that users/patients have to pay by themselves.

Health care is naturally different in every country. The differences are stated by culture, tradition, education, political and economic development, social structure etc.

After establishing criteria during the literature review, and after comparing the systems, finding advantages and disadvantages of both of them, the main concentration will be addressed to the medical personnel available in each country, its performance, how the health care is addressed to the patients and what interventions are carried out in each health care systems. The level of costs accompanied with ophthalmologic will be studied in order to find out if the costs are increasing along with the age of patients and over time. For completion of financial data the average annual earnings of ophthalmologic department will be mentioned. The results of the research will be evaluated and interpreted. Based on the evaluation of data and the current situation in both countries, some proposals and recommendations will be made.

The dissertation is addressed to policy makers, insurance companies and governments that prepare new reforms. They can use the international comparison and later findings as a source of next economic studies. The data compared can be useful for setting up future goals, planning and policy making.

This study can also serve to ordinary people or patients that can find information and answers about ophthalmology and its financing. The study can provide them a clear understanding of the issues and organizations that are working to improve health care quality. They can learn from the comparison about the advantages and deficiencies of the health care system they are part of.

The literature review of this thesis uses information and data from books, academic articles and studies of international organizations, researches and official websites of statistical offices.

The practical part (Empirical observations) will be mainly based on statistical data from official web page of Organization for Economic Co-operation and Development (OECD), the information site of French Ministry of Social Affairs and Health (DREES), and website of L'Assurance Maladie (www.ameli.fr). The websites of the Institute of Health Information and Statistics of the Czech Republic and Czech Statistical Office are used in order to obtain data concerning the Czech Republic. The collected data from public databases and graphs will be studied and processed in order to get better understanding of the topic and to answer the research questions.

Hypotheses

The French Health care system, namely in ophthalmologic sector, is better from patients' point of view. The number of ophthalmologist in France ensures better availability of health care to the patients due to higher number of interventions performed than in the Czech Republic. Therefore the waiting time for examinations/interventions is shorter in France than in the Czech Republic.

Generally, public health care expenditure in France represents larger part than in the Czech Republic comparing to private expenditure.

What if the Czech Republic adopted some points of the French model?

2 List of abbreviations

SHI – Statutory Health Insurance

VHI – Voluntary Health Insurance

ARS – Regional Health Agency (Agence Régionale de Santé)

ARH – Agence Régional d'Hospitalisation (Regional Health Agency)

AFSSAPS – Agence française de securité sanitaire des produit de santé (the French Health Products Safety Agency)

AFSSA - Agence française de securité sanitaire des aliments (The French Food Safety Agency)

HAS – Haute Authorité de Santé

GP – general practitioner

CSG – contribution sociale généralisée (general social contribution)

CNSA – Caisse nationale de Solidarité pour l'Autonomie (The National Solidarity Fund for Autonomy)

VZP ČR – Všeobecná zdravotní pojišťovna ČR (General health insurance company Czech Republic)

WHO – World Health Organization

OECD – Organization for Economic Co-operation and Development

UN – United Nations

DREES – La Direction de la Recherche, des Études, de l'Évaluation et de Statistiques (the information site of Ministry of Social Affairs and Health)

DOM – Département d'outre-mer (overseas departments of France)

URSSAF - Union pour le recouvrement des cotisations de sécurité sociale

et d’allocations familiales (The Union for the Recovery of Social Security Contributions and Family Allowances)

CSG – Contribution social généralisée (General Social Contribution)

3 Literature Review

3.1 Definition of Health

According to the Constitution of the World Health Organization, *"Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity."* (WHO, 1948)

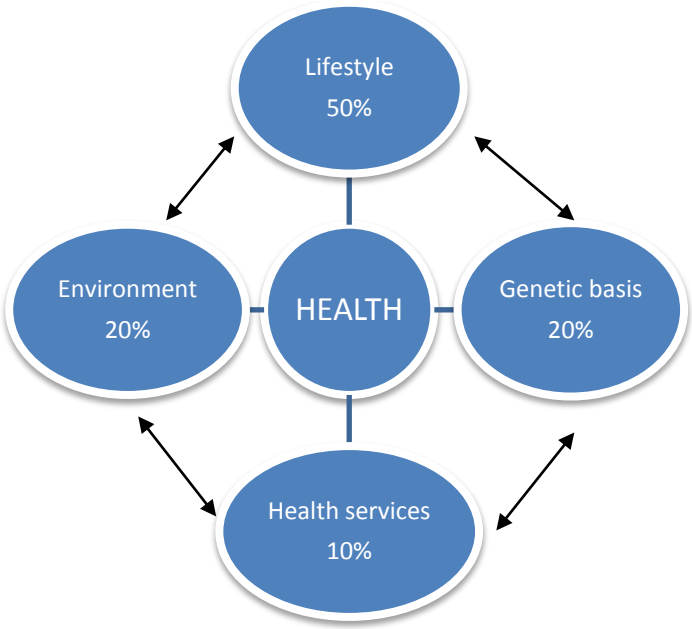
Charles-Edward A. Winslow defined public health as *"the science and the art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections, the education of the individual in principles of personal hygiene, [and] the organization of medical and nursing service for the early diagnosis and preventive treatment of disease"*. (Lawrence O. Gostin, Public Health Law and Ethics: A Reader, online)

The Institute of Medicine proposed one of the most influential contemporary definitions: *"Public health is what we, as a society, do collectively to assure the conditions for people to be healthy."* (The Institute of Medicine, 1988)

Healthy lifestyle and following the principles of prevention is essential for a life without health complications for both, the individual and the whole society. It plays an important role in saving policy of health care financing. It is general knowledge that it is better to prevent illnesses and diseases than latter suffer from them. However, many people find it hard to integrate preventive behavior into their everyday life.

The Figure 3.1.1 shows a scheme of fundamental determinants and their estimated percentage influence on health. In order to improve the health status of society it is necessary to focus on these determinants and adapt them into our lives.

Figure 3.1.1: Fundamental determinants of health and their percentage influence on health



Source: Holčík, J. Systém, péče o zdraví a zdravotnictví. Brno: NCO NZO, 2005

3.2 Definition of Health Care

The online medical dictionary defines health care as *"the prevention, treatment, and management of illness and the preservation of mental and physical well-being through the services offered by the medical and allied health professions."* (The free dictionary, online)

Each society, country provides different health care. The differences are determined by historical development of the country, social and economical conditions, political system and health policies. The access to health care and its organization is managed by health care systems of the country. Each health care system is based on one or a combination of more health care models. The two most commonly used models, especially in Europe, are Bismarck and Beveridge models.

The following chapter of this work is focused on description and explanation of two health care systems in Europe. Firstly, health care system of France is mentioned, its structure and organizational authorities and system of financing of French health care. Secondly, the similar structure is kept in describing the system of the Czech Republic.

These two selected systems both use Bismarck models, thus should have some similar point in their structure. However both systems are also characterized by features that vary in each country.

3.3 Health care system in France

3.3.1 Introduction

France, a country situated in Western Europe, surrounded by Spain, Andorra, Italy, Monaco, Switzerland, Belgium, Luxembourg and Germany accounted population of about 64,285,510 in January 2014. The country with the mainland area of 551,695 km^2 is divided into 22 regions.

The official name the French Republic describes the political situation in the country. The executive part represented by a directly elected President and Government. The current president is François Hollande who won the presidential elections in 2012. The legislative branch is represented by the Senate and the National Assembly.

France belongs to one of the founding members of the European Union that started the European integration in order to foster economic cooperation of European countries. In 2002, France became a part of the Eurozone thus implemented Euro currency. French has the second largest economy in the European Union. The most important part of economy is the automotive, aerospace and railways sectors as well as nuclear power generation. The government is the majority owner of these industries. The strength of the economy is also supported by financial sector, including banking and insurance, cosmetics, luxury goods and tourism. According to date from OECD statistics, the unemployment rate was 9.8% at the end of 2013 and it continues to rise. Since 2010 Gross Domestic Product has been increasing, in 2013 it accounted €2,059,852 million. [1]

French health care system lies between the Bismarck and Beveridge models. The combination of these two models brought in implementation of insurance funds providing population of the country with insurance and strong state intervention of the system. The system is characterized by a combination of statutory health insurance and complementary voluntary health insurance. It is financed partly from taxes and wage related contributions.

[1] OECD statistics

According to the Health care analysis made by Herbert J. Geschwind in 1999 there was a lack of intensive care and hospice beds for elderly who cannot be maintained at home. Therefore there was a tendency to reduce the number of beds in private and public hospitals in order to lower mortality rate and public health care expenditure. [2]

In the year 2000, the World Health Organization (WHO) classified the French health care system as the best in the world. The assessment was based on a number of indicators, ranging from life expectancy and infant mortality to timely, universal access and out-of-pocket cost to the patient. [3]

3.3.2 Historical background

The Health system of France has undergone a long development and several changes. Before the present system of social security that was established at the end of the Second World War, mutual benefit associations became a base for creation of many European health systems, especially the French one in the 19th century. Mutual benefit societies are mainly descendants of the oldest part of the European non-profit sector. First organizations were founded in the Middle Ages as charitable brotherhoods (continental Europe) or friendly societies (United Kingdom). They provided members with help in case of illness or their family. Mutual benefit associations have played a significant role also in French politics. The importance of mutual benefit associations rose during 19th century due to poor level of traditional solidarity of the family cause by industrial revolution and rural depopulation. [4] The

[2] Health care in France: Recent developments. In: [online]. 1999 [cit. 2014-08-25]. Availabe at:http://search.proquest.com.zdroje.vse.cz/docview/757251390/9F9661B094E547C8PQ/1?accountid=17203

[3] Health Care in France: Facing hard choices. In: LOPES. *Canadian Medical Association, ProQuest* [online]. 2007 [cit. 2014-08-25]. Available at: http://search.proquest.com.zdroje.vse.cz/docview/204847299/9F9661B094E547C8PQ/7?accountid=17203

[4] ARCHAMBAULT, Edith. Mutual organizations, mutual societies. In: [online]. [cit. 2014-05-30]. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=2&ved=0CDcQFjAB&url=http%3A%2F%2Fhalshs.archives-ouvertes.fr%2Fdocs%2F00%2F26%2F75%2F66%2FDOC%2FMutual_organizations.doc&ei=SHuIU8acIaTG0QWsDQ&usg=AFQjCNEwMqGDAQcFRMyX8GlYGZEVBbvBzg&sig2=x3JKvhOwAY3r_HWKFguhvA

number of their members has risen since 1900. In 1940, there were 10 million members registered. [5]

In 1930, a new legislation based on the Act on Social Insurance formed a system of compulsory protection paid by employers for employees in industry and business. The employees whose earnings did not reach a certain level were provided with coverage in illness, old age, disability, maternity and death. The role of mutual benefit associations and their meaning changed in 1945 when first Statutory Health Insurance (SHI) was established. The associations either served as providers of complementary insurance or vanished.

The social security system that includes SHI was officially created and put into practice by the Ordinance of 4th October 1945. Its main purpose was to cover all the social risks. According to the reform of the organization of social security in 1967, four separated branches were established: health insurance (disease, incapacity, maternity, death), insurance for work-related accidents and occupational illnesses, retirement (pensions and widowhood) and family allowances. SHI, which is part of social security covering health, offered benefits in cash and in kind. The social security was funded from payments from both employers and employees. Due to the economic recovery needed after the Second World War, the plan of expanding coverage to the whole population had to be postponed and applied in phases. Therefore, the provision of social security was aimed primarily at workers and their families. [6] After the extension of SHI for farmers in 1961 and for self-employed non-agricultural workers in 1966 the principal change came with the statutes of 1974 which created a system of personal insurance provided by SHI for people that did not belong to those two categories.[7] Individuals were able to get the insurance under the condition of their own contribution. The differences between population groups created through these conditions made the access to public health unequal. There

[5] SANDIER, Simone, Valérie PARIS a Dominique POLTON. Health Care Systems in Transitions [online]. 2004 [cit. 2014-05-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0009/80694/E83126.pdf

[6] FAGNANI, Jeanne. International Encyclopedia of Social Policy: Family Policy in France [online]. Routlefge, 2006, p.501-506 [cit. 2014-05-30]. Available at: http://hal.archives-ouvertes.fr/docs/00/10/17/03/PDF/encyclopedia.pdf

[7] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-05-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

were several groups, especially from private sector, that were privileged. Another problem regarding to coverage to the whole population appeared in 1980 when the number of unemployed people dramatically increased. The individuals' right to SHI was conditioned by their professional activity. Dissatisfaction of unemployed people that could not claim the right for SHI grew.

The system of individual insurance with partial contribution of general councils according to individual's income underwent a change based on the 1999 Universal Health Coverage Act (couverture maladie universelle; CMU Act; Act no. 99-641 f 27 July 1999). The CMU Act provided French residents with universal health coverage financed by the state. It also determined a level of income under which people have right for free public coverage. According to the CMU Act state covers the health insurance costs of residents that are not eligible for SHI such as unemployed persons.

The main change that had been brought by the CMU Act was the principle of the health insurance system based on a system of universal health coverage instead of a former work-based system. The role of parliament in health care area had been also modified, in order to achieve expenditure targets and to determine policy control. This Act does not only deal with health coverage. It also guaranteed people whose income was under certain level the right to free complementary Voluntary Health Insurance (VHI) coverage. This had contributed the development of the social security system in France.[8]

3.3.3 Structure (organization) of the health care system

The responsibility for organization of the French health care system is split between the Statutory Health Insurance funds, the state and other local communities, particularly at the department level. The extent of the state organization is divided between parliament, Ministry of Health and the government. According the Juppé reforms from 1996, the government takes all the responsibility for the health and social protection of French residents. [9] It establishes and controls the annual budget for the social security scheme in order to regulate the health care system. The state

[8] SANDIER, Simone, Valérie PARIS a Dominique POLTON. Health Care Systems in Transitions [online]. 2004 [cit. 2014-05-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0009/80694/E83126.pdf

[9] Civitas report: Healthcare Systems: France. In: [online]. 2013 [cit. 2014-06-10]. Availabe at:http://www.civitas.org.uk/nhs/download/france.pdf

ensures the qualification of health personnel and their training as well as their working conditions. It also monitors safety, defines and regulates quality of health service organizations etc.

3.3.4 State entities and their roles

3.3.4.1 Government, Ministry of Health

Government contribution into health care system and its structure is done by co-operation of various ministries. The main part in regulation represents the Ministry of Health which also controls most of healthcare expenditures. The Ministry of Health works on the annual Social Security Finance Act together with the Ministry of the Budget, Public Accounts and Civil Administration. Their goal is to agree on the objectives of health insurance and its budget for the following year, settle new regulations and introduce changes in policy for health and social security.

The Ministry of Health itself has other responsibilities such as:

- Supervising agreements between Statutory Health Insurance and unions that represent self-employed health care professionals, ensuring that the conditions are fulfilled
- Distributing money from the health budget among hospitals, mental health care, ambulatory care, and health and social sector for the disabled
- Prioritizing areas for national programs (e.g. rare disease treatment, unhealthy behavior and addiction, and quality of life for people with chronic illnesses and more)
- Pricing of special medical procedures and drugs approved by the National Health Authority
- Determining the number of places available for medical students every year
- Setting safety standards in hospitals, regulating the number of hospital beds and the amount of equipment

The Administration of Health and Social Affairs (Administration sanitaire et sociale) includes following directorates:

- General Directorate of Health (Direction générale de la santé) which controls health policy
- General Directorate of Health Care Supply (Direction générale de l'offre de soins)monitoring and distributing of resources for hospitals
- Directorate of Social Security (Direction de la sécurité sociale) that supervises SHI
- General Directorate for Social Policy (Direction générale de la cohesion sociale) focusing on health and social care for elderly, disabled or vulnerable people

Besides Ministry of Health, these directorates are controlled by other Ministries such as Ministry of the Budget, Public Accounts, the Civil Service and State Reforms and the Ministry of Labour, Solidarity and Public Service. [10]

Along with General Directorate of Health and General Health Agencies, Ministry of Health is responsible for health of population. Their task is to apply regional health policy of specific health services such as school health services, maternal health services etc., participate in health care prevention and patients' information and education, monitor the health status of the population, control of respecting of hygiene rules, the quality of water and air, approve new health services and more.

The Hospital, Patients, Health and Territories (HPST) Act brought a single "one-stop shop" in each region which was the first step of decentralization of governance and health policy decision-making. These so called Regional Health Agencies deal with national health expenditure objectives. In order to ensure whether the quality of health care provided for health care provision corresponds the needs of the population the Regional Health Agency oversees and improves the communication between health and social services, between the ambulatory and hospital care sectors.[11]

[10] SANDIER, Simone, Valérie PARIS a Dominique POLTON. Health Care Systems in Transitions [online]. 2004 [cit. 2014-05-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0009/80694/E83126.pdf

[11] International Profiles of Health Care Systems: The Commonwealth Fund. [online]. 2013 [cit. 2014-06-10]. Available at:

3.3.4.2 Parliament

The main task of Parliament is to study and approve proposals made by government, mainly the new proposals of the annual Social Security Finance Act. The national ceiling for health insurance expenditures projected for the next year as well as new provisions relating to benefits and regulation are included in the Social Security Finance Act. This Act, that also passes a report on trends in policy for health and social security, is based on reports of four public bodies:

- The High Council for the Future of Health Insurance (Haut conseil pour l'avenir de l'assurance maladie)
- The High Council of Public Health (Haut conseil de la santé publique)
- The Accounts Commission (cours de comptes)
- The National Health Conference (Conference nationale de santé)
- Besides the budget regulation, Parliament also endorses revenues based on the contribution rates for employers and employees. [12]

3.3.5 Statutory Health Insurance – first tier

Recently, there are three main SHI schemes that provide insurance for 95% of the population: the general health insurance scheme, the agricultural scheme and the national insurance fund for self-employed people. Each of these schemes is financed by National health insurance fund and local structures. The final integration of these three insurance schemes was made by the Reform Act of 2004 in a National Union of Health Insurance Funds. [13]

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http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

[12] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-05-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

[13] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-06-30]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

The general scheme covers 87% of the population that belongs to the group of people employed in commerce and industry and their families, and also individuals that receive CMU. This scheme operates through a system of 16 regional and 105 local funds. Each fund has its own management board that consists of representatives of employers and trade unions. The regional funds have different remit from the local funds. For example, regional funds cover work-related accidents and illnesses whereas local funds are divided in geographical departments and each department's responsibility is reimbursement of the cost of treatment. The agriculture scheme covers farmers and agricultural employees and their families that represent around 6% of the population. The third regime is the regime for the non-agricultural self-employed. It provides around 5% of the French population that is self-employed such as lawyers and craftsmen with health insurance coverage.

The rest of the population is covered by several smaller also work-related schemes. Clergy, miners, military personnel, students and others belong to this scheme. However students, military personnel, local and national civil servants and some doctors are partly linked to the general scheme, regarding organization and function of the scheme. [14]

SHI does not cover of all expenditures, 92% of the population has complementary and supplementary voluntary health insurance (VHI) provided through their employers or so called CMU complémentaire that are means-tested voucher. The services that are excluded from SHI coverage may be reimbursed by VHI.[15]

Health care costs represent 85% of SHI expenditure, the remaining 15% is paid in cash benefits as maternity, sickness, or occupational leave and disability pensions.

There are many services that are covered by SHI, such as hospital care and treatment in rehabilitation institutions, outpatient care provided by general practitioners, dentists, specialists, prescription drugs, diagnostic services prescribed by doctors and performed by laboratories and paramedical professionals. The cost connected with health care-related transport is also covered by SHI. Statutory Health Insurance

[14] Civitas report: Healthcare Systems: France. In: [online]. 2013 [cit. 2014-06-30]. Availabe at:http://www.civitas.org.uk/nhs/download/france.pdf

[15] International Profiles of Health Care Systems: The Commonwealth Fund. [online]. 2013 [cit. 2014-07-03]. Available at: http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

partially provides coverage of long-term and mental health care and dental care. The level of reimbursement is different for outpatient and inpatient care. The patients pay for the full treatment costs of ambulatory care and part of it is reimbursed by their health insurance fund. Covered outpatient services are determined in three official lists:

- A list of covered procedures
- A list of reimbursable drugs
- A list of reimbursable medical devices and health materials

The Ministry of Health is responsible for defining the covered drugs and medical devices, and the list of covered procedures is controlled by the National Union of Health Insurance Funds. Even though these lists are rather being extended than regulated in order to cost effective approach, there are some services that has been limited, for example dental care or eyeglasses. On the other hand, hospital inpatient care is paid for directly by the health funds. [16]

As mentioned earlier, SHI does not cover all costs. There are only three situations when individuals are fully reimbursed for the treatment:

1) those suffering from one of 30 specified long-term illnesses (ALD 30 – Les affections de longue durée); see appendix 1 List of serious illnesses eligible for 100% reimbursement
2) for specific hospital and fertility treatments
3) for work accidents, pregnant women after the fifth month of pregnancy, and disabled children and pensioners

The mandatory health insurance system reimburses 70% of the costs of general practitioner (GP) visits, 80% of the costs of inpatient hospital care. The reimbursements for medicines from a pharmacy are either 15%, 30%, 65% or 100%. The rate depends on type of medicine, for instance non-substitutable or expensive

[16] MOORE, Kathryn L. A Comparison of the Role of the Employer in the French and U.S. Health Care Systems: Draft. [online]. 2013 [cit. 2014-07-04]. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Fwww.bus.umich.edu%2FConferences%2FUS-Benefits-Law-A-Meta-Assessment%2FGetFile.aspx%3Fpaper_ord%3D635517&ei=y7u2U_DXGqmv7Aa80IGwCQ&usg=AFQjCNEbIjRPNxI71YzXEpBMBpGAHQDqcg&sig2=glAaKOBUWSO5Y4JXbynrJA

drugs are fully reimbursed while drugs considered to have a low medical benefit are reimbursed at the rate of 15%. [17]

There have been introduced 3 forms of cost-sharing policies, coinsurance, co-payments (*ticket modérateurs*) and extra-billing. Unlike the coinsurance that can be fully reimbursed by VHI, co-payments represent the requirement that individuals have to pay a portion of the cost of care. Moreover, in 2005, the additional flat co-payments were implemented by government. These additional co-payments cannot be covered by voluntary health insurance. They define particular fees that individuals have to pay, such as €1 for every doctor visit and €0.50 for each drug or €2 for each medical transport by ambulance. The gate-keeping system is closely connected with rate of reimbursement. For example visits to a registered gate-keeping GP or specialist recommended by a gate-keeping GP are reimbursed at the rate of 70% whereas the reimbursements of visits outside of the gate-keeping system are only 50%. On the other hand VHI partly covers extra-billing which is described as a fee set at higher level than the SHI's reimbursement rate. Dental care and optical services are those commonly extra-billed. [18]

3.3.6 Voluntary Health Insurance – second tier

Voluntary Health Insurance (VHI) serves as a complementary coverage for costs that are not covered by SHI, however, originally covered only services that were already financed by SHI. Lately, some VHI providers added services and amenities that are not covered by the basic health insurance into the system of VHI coverage. Even though more than 75% of total health care expenditure is financed by SHI, the majority of the French population has complementary health insurance, provided

[17] The costs of using the French health system. *Complete France* [online]. 2013 [cit. 2014-07-06]. Available at:http://www.completefrance.com/living-in-france/healthcare/the_costs_of_using_the_french_health_system_1_2679603

[18] International Profiles of Health Care Systems: The Commonwealth Fund. [online]. 2013 [cit. 2014-07-06]. Available at: http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

either by private Voluntary Health Insurance or the public CMU-C program (Couverture Maladie Universelle Complémentaire). [19]

VHI does not provide individuals with better quality of health care it only reimburses co-payments and particular medical goods, mainly for optical and dental care for which the costs are higher than statutory fees. France together with the Netherlands and the USA belongs among 3 OECD countries with the largest share of health care covered by private health insurance.

VHI is divided into three types: substitutive, complementary and supplementary according to its relevance and extent. Substitutive insurance financially supports individuals who are excluded from the SHI, complementary insurance finances services that or not fully covered by SHI or completely excluded from reimbursement, as well as supplementary. Supplementary insurance ensures better and faster access to care by increasing number of providers. VHI can be taken out individually or through group contracts by employers. The benefits accompanied by better coverage come with group contracts rather than individual contracts.

CMU-C is the other type of complementary health insurance provided free of charge to people with low income who do not have chance to get private complementary insurance and who would have higher out-of-pocket costs. In July 2014, the ceiling of minimal annual income of an individual was set on €8645.[20] As the Figure 3.3.6.1 shows the ceiling is different for residents of France and those who live in overseas countries.

Figure 3.3.6.1: Annual income ceiling to qualify for the CMU-C, applicable from 1st July 2014

Number of people in household	Amount of income ceiling in France (€)	Amount of income ceiling in overseas areas (€)
1	8 645	9 621
2	12 967	14 432

[19] Civitas report: Healthcare Systems: France. In: [online]. 2013 [cit. 2014-07-08]. Availabe at:http://www.civitas.org.uk/nhs/download/france.pdf

[20] L'Assurance Maladie. [online]. [cit. 2014-07-11]. Available at: http://www.ameli.fr/assures/soins-et-remboursements/cmu-et-complementaires-sante/cmu-complementaire/les-conditions-pour-en-beneficier.php

3	15 560	17 318
4	18 153	20 205
Every extra person in a household comprising 4 and more people	+ 3 457.807	+3 848.53

Source: www.cmu.fr

The individuals who fulfill the conditions for CMU-C are reimbursed for the co-payments (tickets modérateurs). It also imposes limitations on doctors' fees for their services as well as prices of eyeglasses and dental prostheses. This complementary health insurance is financed by a tax on voluntary health insurance contract premiums.

For people who are not eligible for CMU-C coverage, there is a possibility of a voucher system. It is available for individuals with incomes below a ceiling equal to 120% of the CMU ceiling to purchase voluntary health insurance. [21]

There are many providers of voluntary health insurance that could be divided into 3 categories, according business orientation and target group of clients:

1) mutual insurance companies *(mutuelles)*
2) provident institutions
3) insurance companies

Mutuelles are non-profit organizations that underline principle of solidarity and mutual aid. Their services account almost 60% of the market. Their clients are offered by open enrollment and lifetime coverage therefore seniors are more likely to be covered by mutuelles. Mutuelles provide insurance for specific occupational group of employees or people living in one geographic area.

[21] MOORE, Kathryn L. A Comparison of the Role of the Employer in the French and U.S. Health Care Systems: Draft. [online]. 2013 [cit. 2014-07-11]. Available at: https://www.google.com/url?sa=t&rct=j&q=&esrc=s&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Fwww.bus.umich.edu%2FConferences%2FUS-Benefits-Law-A-Meta-Assessment%2FGetFile.aspx%3Fpaper_ord%3D635517&ei=y7u2U_DXGqmv7Aa80IGwCQ&usg=AFQjCNEbIjRPNxI71YzXEpBMBpGAHQDqcg&sig2=glAaKOBUWSO5Y4JXbynrJA

The non-profit provident institutions that also provide individuals with complementary health insurance were established at the end of the Second World War. The original purpose of this insurance was retirement and other social insurance benefits to employees. Provident institutions concentrate on group contracts for companies that have a policy of mandatory enrolment in voluntary health insurance for their employees.

Commercial insurance companies are for-profit insurance providers however complementary health insurance is not their main business intention. Farmer households usually sign a contract with commercial insurance companies. Unlike mutuelles these institutions use risk-based pricing and varying premium with age.[22]

3.3.7 Independent authorities

French national Authority for Health (Haute Authorité de santé)

The National Health Authority (HAS) is an independent public authority that regulates quality of the health system. Even though it closely co-operates with government health agencies, national health insurance funds, unions of healthcare professionals and patients' representatives, it has financial autonomy.

The HAS was founded in August 2004 with an objective to unify all activities regarding the quality of patient care and its improvement. Accreditation of healthcare organisations, certification of doctors as well as training in quality issues belongs among its main activities.

The authority is governed by its own Board that decides on the mission. Every member of the Board is dependent on a specialists' Committee, however the Board member is responsible for the mission. [23]

[22] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-07-11]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

[23] Haute Authorité de santé. [online]. [cit. 2014-07-07]. Available at: http://www.has-sante.fr/portail/jcms/c_1002212/fr/missions-de-la-has

3.3.8 Subordinate Agencies

In late 1990's the state started to set up institutes and agencies, each of them has a particular function. [24]

With regard to medical safety, vigilance and warning systems there have been three bodies established that operates under Ministry of Health - the French Health Products Safety Agency concerning health products, the French Food Safety Agency that is responsible for food products and the Institute for Monitoring Public Health. These three agencies co-operate together on similar activities.

There are two other agencies under supervision of the Ministry of Health that has been created recently. The French Biomedicine Agency, that took over the responsibility of French Transplant Agency, focuses on the procurement and transplant of organs, assisted reproductive technologies, prenatal and genetic diagnosis.

The French Blood Agency which monitors the availability and the safety of red blood cells, platelets and plasma, is the only institutions dealing with blood transfusions in France.

The subordinate agencies and institutes are all oriented on the quality of health care and public health. It is necessary to mention the National Institute for Public Health Surveillance, the National Institute for Prevention and Health Education, the Agency for Information on Hospital Care and more.

3.3.8.1 Institutions at the regional level

In order to execute the decentralization of governance and management of health care system in France, each region of the country has its own regional hospital agency (ARH) and the regional union. The ARHs deal with allocation of financial resources between public and private hospitals and tariff regulation for private profit-making hospitals. The role of the regional unions of the insurance funds is risk

[24] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY.

management and supervision of the funds. The regional unions of self-employed doctors are focus more on specialized practices, analysis and evaluation of health care system and information of patients and doctors.

3.3.8.2 Institution at the department level

The associations and institutions at the department level are administrated by general councils. They manage many activities such as prevention of certain diseases (cancer, sexually transmitted diseases), public health and hygiene security, social support of low-income elderly and disabled people etc.

3.3.8.3 Professional organizations

Professional organizations are other actors in French health care system. First group of professional organizations is formed by chambers (conseil de l'ordre) for specific professional practice that are aimed at supervision and medical ethics. The chambers for doctors, dentists, nurses and other health professionals more likely deal with controlling and reviewing criteria for continuing medical education unlike trade unions. Trade unions represent another type of professional organizations. They act in favour of professional groups. Trade unions ensure negotiations between the professionals and SHI in national and departmental level, between self-employed and salaried professionals. Trade unions negotiate conditions between SHI and professionals such as referral patterns, the level of fees or the authorization of extra-billing. Professionals in private practice are represented by several trade unions, for example the National Union of Health Professions at the national level or *Union Régionale des Professionnels de santé* (URPS) at the regional level to deal with SHI and VHI as well as the ARS. Pharmaceutical manufacturers and other professional groups have their own union. Unlikely the self-employed doctors, hospitals have different unions or organizations that negotiate on behalf of them. The organisations representing hospitals are distinguished according the business status of the hospital. The Federation of Personal Assistance Institutions represents non-profit-making private hospitals and residential care services for elderly, the Federation of Private

Hospitals act for profit-making private hospitals, and the Confederation of General Hospitals or the National Union of Hospital Medical Personnel represents public hospitals. [25]

3.3.9 Financing

The Figure 3.3.9.1 shows the growing trend of total expenditure on health in France from 2004 until 2012. Total health care expenditure includes personal expenditure plus expenditure activities related to research; teaching; health administration and insurance and public health and prevention. In 2012, total expenditure on health in France was € 235.9 billion which represents 11.1% of gross domestic product. Statistical data from OECD shows that in 2013 total health care expenditure accounted even more, 11.2% of GDP. [26]

Figure 3.3.9.1: Total expenditure on health in France (2004-2012)

	2004	2005	2006	2007	2008	2009	2010	2011	2012
Billion of €	180.2	187.8	195.1	203.3	210.9	218.7	223.7	230.6	235.9
% of GDP in France	10.5	10.5	10.4	10.3	10.3	10.5	11.2	11.1	11.1

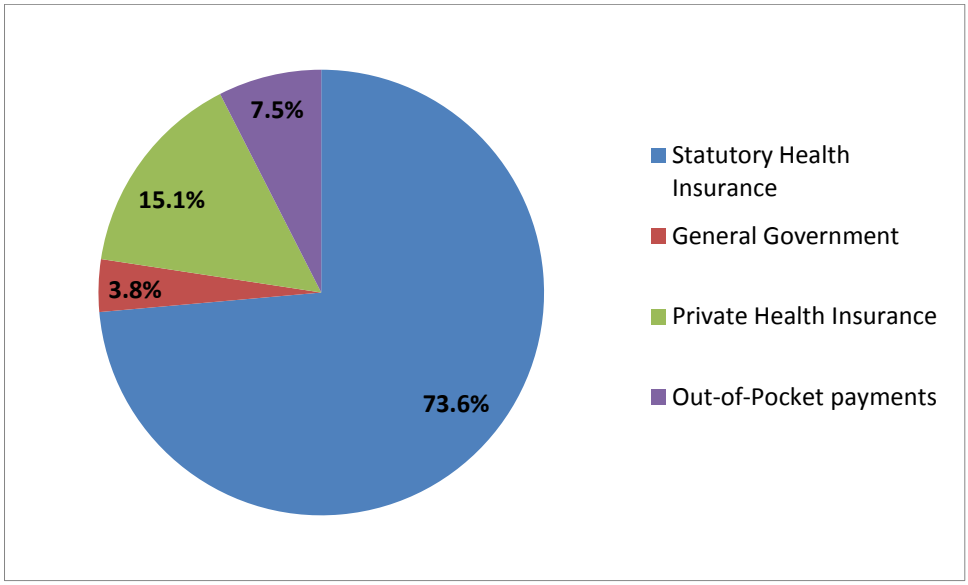
Source: own table, data provided by OECD

Financing of health care is carried mainly by Statutory Health Insurance (SHI) which represented 73.6% of total expenditure on health in 2012. More than 22% of total health care expenditure is financed by private sources. State contributes in the financial coverage by 3.8%. The exact proportion of total expenditure on health is shown in the Figure 3.3.9.2.

[25] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-07-17]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

[26] OECD.StatExtracts. [online]. [cit. 2014-07-14]. Available at: http://stats.oecd.org/#

Figure 3.3.9.2: Percentage of total expenditure on health according to source of revenue in 2012



Source: own figure, data provided by OECD

Statutory Health Insurance has always been financed by social contributions from employers and employees. The contribution represents a proportion of wages and salaries. In 2013, the employer contribution rate was 13.1% and employee contribution was only 0.75% of gross earnings. A special tax called the general social contribution (CSG) that was imposed on revenues with different rate depending on source of income played a role in financing of mandatory health insurance. Higher rates were applied on revenues from capital and gambling, on the other hand revenues of individuals with low income had a decreased rate. Taxes from turnover of pharmaceutical companies contribute as well as taxes on profit of companies with turnover of more than €760 000. [27] Part of the finance also comes from the state budget. Moreover, in 2004, the National Solidarity Fund for Autonomy (CNSA) was found in order to collect resources for long-term care and support services for elderly

[27] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-07-14]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

and the disabled. The fund is financed by the revenue of an unpaid working day (the solidarity day). [28]

People that are not covered by SHI on an employment bases pay a fixed premium to SHI. This participation is voluntary and people low income or the unemployed can choose it. The criteria for coverage by CMU have been changed from employment status to resident status since 2000. It was CMU Act that started to ensure basic health insurance coverage to the poorest French residents. Contributions rate depend on the level of income and people lower income than €9020 per year do not have to pay contributions. On the other hand, people with income above this ceiling pay 8% of their income.

SHI coverage varies for outpatient and inpatient care. It only reimburses costs connected with treatment provided or distributed by health care professionals or institutions that is registered by SHI.

SHI covers medical goods and services as follows:

- Hospital care and treatment in public or private institutions (including rehabilitation or physiotherapy)
- Outpatient care provided by GPs, specialists, dentists and midwives
- Pharmaceutical products, medical appliances and prostheses prescribed by health care professional and registered for reimbursement by SHI
- Diagnostic services and care prescribed by doctors and carried out by laboratories and paramedical professionals
- Prescribed health care-related transport[29]

The Union for the Recovery of Social Security Contributions and Family Allowances (URSSAF) is the main body responsible for collecting contributions and General Social Contributions (CSG).

[28] International Profiles of Health Care Systems: The Commonwealth Fund. [online]. 2013 [cit. 2014-07-14]. Available at: http://www.commonwealthfund.org/~/media/Files/Publications/Fund%20Report/2013/Nov/1717_Thomson_intl_profiles_hlt_care_sys_2013_v2.pdf

[29] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-08-11]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

The coverage by VHI is different in each sector as well as SHI coverage. The main part of VHI expenditure is represented by fees to health professionals (41%), a quarter is spent on drugs, a hospital care accounts for 17% and 16% of expenditure go to financing off medical devices. And the importance of VHI in financing health care expenditures is growing. In 2007, VHI covered 13.4% of total health care expenditure. [30]

Along with aging of population and frequent occurrence of severe diseases, special sources/funds of financing for health care of these groups of patients have been established. There are special funds for disabled people, elderly and sources financing mental health care. The sources are divided between national and local authorities however out-of-pocket payments are introduced as well (for example for residential care services).

[30] Health Systems in Transition: France: Health System Review. In: CHEVREUL, Karine, Isabelle DURAND-ZALESKI, Stéphane BAHRAMI, Cristina HERNÁNDEZ-QUEVEDO a Philipa MLADOVSKY. [online]. 2010 [cit. 2014-08-12]. Available at: http://www.euro.who.int/__data/assets/pdf_file/0008/135809/E94856.pdf?ua=1

3.4 Health care system in the Czech Republic

3.4.1 Introduction

The Czech Republic is a country with the area of 78,866 km^2 situated in the center of Europe neighbouring with Germany, Austria, Slovakia and Poland. The country consists of three historic regions, Bohemia with the capital, Prague; Moravia and Silesia.

According to Czech Statistical Office, in January 2014 total population was 10,512,419. The predominant part of Czech citizens is ethnically and linguistically Czech, the rest is represented by smaller ethnic groups of Germans, Poles, Slovaks, Vietnamese, Ukrainians and Roma.

Czech Republic became a member of European Union in 2004 together with other 10 countries. By the end of 2013, GDP was €149,491 million. The unemployment rate has a decreasing trend in June 2014 the level of unemployment rate was 7.37%. The economy is determined by well-known car industry, especially production of automobiles, machine tools and engineering products. Due to the fact that majority of produced car are exported the high-quality automobiles of Skoda brand are popular worldwide. Besides manufacturing, beer production is one of the economic activity by which the Czech Republic has strengthen its name in the world.

Political system in the Czech Republic has undergone several changes. The area of current Czech Republic was under political system of Soviet Communist Party for more than 30 years. All the changes brought with Communist regime affected lives of Czech people, economy and development of the whole country. Democratic political system with diversification of political parties was introduced after the Velvet Revolution in 1989. These changes influenced also development of Czech health care system and implementation of main health care laws. The historical development of the health system is described in details in the chapter Historical background.

The health care system of the Czech Republic is based on the Bismarck model where the main role plays social health insurance. Following chapter of the diploma thesis describes the Czech health care system.

In the study published in Central European Journal of Public Health in 2012 the Czech Republic was compared to other 27 EU countries, according health care and population health. In order to compare the health care systems and the quality of health and quality of life 8 indicators were used and divided into three different categories such as life expectancy, death rate, number of hospital beds per 100,000 inhabitants, number of physicians working in public or private health services, GDP per capita of each country and total health expenditure as percentage of GDP (public and private expenditure). The results say that *"the Czech Republic balances on the verge of the groups of countries with average or poorer values of these indicators"*. Only the acute hospital beds per 100,000 inhabitants indicator shows better level of the Czech system. The economic level indicators are accompanied by almost the same trend of population health status indicators and it is expressed by the life expectancy. [31]

The situation of eye health care in 2002 was studied and described in the article Eye Health Care in the Czech Republic (Kocour and Kuchynka, 2002). The authors recorded a high number of ophthalmologists in the Czech Republic and many changes which this sector has undergone. The cataract surgeries are not part of in-patient care, as it was done before 1990's they are examined within one day. This has contributed to the cost savings. Concerning in-patient eye departments, the equipment is needed to be upgraded (especially perimeter, ophthalmic sounds, refractometer and laser machines). Kocour and Kuchynka also summarised their suggestions that eye health care in the Czech Republic need. From the financing point of view it is an increase of financial support to university and large ophthalmological centres to provide their services for patients with more complicated conditions, a specification of diagnostic and therapeutic procedures which are covered by health insurance and to improve salaries for health care personnel of

[31] HÁJEK, GREBENÍCEK, POPESKO a HRABINOVÁ. CZECH REPUBLIC VS. EU-27: ECONOMIC LEVEL, HEALTH CARE AND POPULATION HEALTH. *Central European Journal of Public Health* [online]. 2012 [cit. 2014-08-25]. Available at:http://search.proquest.com.zdroje.vse.cz/docview/1152079630/BC2E7AA314DA40DDPQ/1?accountid=17203

state-operated hospitals. According to this article, there was lack of well-equipped regional diagnostic and therapeutic centres. [32]

3.4.2 Historical background

Development of health care system in the Czech Republic has a long history and has undergone many dramatic changes. The first notes regarding health care were recorded by literature in 17th century when the territory of present Czech Republic suffered from plague. [33] In the second half of 18th century, due to patents of General medical code issued by Maria Theresa and Joseph II from the House of Habsburg, health care started to be organized and administrated. Number of their reforms provided with improvement of quality of health care. In 1888, the system of health insurance was implemented based on the manners of Germany. [34] This health insurance system is based on the principle of solidarity.

In the term of the First republic, when the independence of Czechoslovakia was proclaimed, the health care system was set up on the principle of mandatory health insurance. However, the health insurance concerned only wage-related workers, including family members. The insurance covered fundamental health care provided by general practitioners and public hospitals.

After the World War II, health insurance and retirement insurance was unified into one system whose administration was hold by Central national insurance company. The principal change came in 1951 with Soviet model of health care when the state took all responsibility for providing health care. The Central national insurance company was abolished and health care financing was organized by state budget. Health care was free of charge for all citizens and was financed from taxes.

The year of 1989 brought another cardinal change in health care system in the Czech Republic. The centralized way of planning and managing health care system was replaced by the Bismarck system of health care. The system is based on social health

[32] KOCOUR a KUCHYNKA. Eye Health Care in the Czech Republic. In: *Ophthalmologica, ProQuest* [online]. 2002 [cit. 2014-08-25]. Available at: http://search.proquest.com.zdroje.vse.cz/docview/224692773/6FA5C4B95C774096PQ/4?accountid=17203
[33] Matoušek, M. Přehled dějinného vývoje lékařství. Orbis: Praha, 1953, p. 29
[34] Gladkij, I. Management ve zdravotnictví. Brno : Computer Press, 2003, p. 15

insurance where the health insurance companies take the responsibility for financing and organization of health care. [35]

The Bismarck system carries the name after the founder, Otto von Bismarck who was a leader of Germany between 1883 and 1889. He accepted first modern health insurance system. Health care free of charge was provided to workers in order to declare them fit to work as soon as possible. This system was applied in the Austro-Hungarian Empire which Czech state used to be a part of. Later on it was replaced by Soviet model for some time and re-introduced in the Czechoslovakia after the Velvet revolution.

The main objective of the health insurance was to support and improvement of public health, thus reach higher life expectancy and lower sickness rate of population. Besides different financing, the new reform offered an independent choice of a doctor and health institution. Between 1991 and 1992 several health insurance companies began operate in order to create a competition among health insurance providers. The first health insurance company, the General health insurance company (Všeobecná zdravotní pojišťovna ČR) was established in 1991 by the Act of General health insurance company Czech Republic (551/1991 Coll.). The other health insurance companies were authorized by the Act of resort, union and company health insurance companies (280/1992 Coll.). There used to be 26 health insurance companies in the Czech Republic, however, majority of them terminated their activity.

In 1992, privatization of health care facilities assisted to transformation of health care system. The privatization was caused by liberal political thinking and its goal was to remove the state monopoly on providing with health care. [36] The privatization was applied to hospitals that became administrated by municipalities instead of state, pharmacies, introduction of more private practice and spa facilities. The general practitioners became a self-employed and made a contract with particular health insurance companies. The problem coming from the privatization is a significantly higher income of a self-employed doctor than income of a doctor in hospital. This

[35] Zpráva o stavu, vývoji a výhledu zdravotnictví v ČR: Zdravotnictví v číslech a názorech. In: [online]. Prague, 2008 [cit. 2014-07-18]. Available at: http://www.kulatystul.cz/cs/system/files/Zprava+o+stavu_WEB.pdf

[36] Gladkij, I. Management ve zdravotnictví. Brno : Nakladatelství Computer Press, 2003, p. 38

caused outflow of qualified doctors to private practice thus lack of professionals in hospitals. In other case the outflow of professionals was to the other European countries.

Due to the reform of municipalities and their administration in 2002, the changes were recorded even in health care system. Many hospitals under state administration were heavily indebted. When the responsibility was given to particular municipalities, their institutions could not afford to finance all hospitals therefore some hospitals were closed. These actions were part of second stage of privatization.

Currently the situation of the health care system has been influenced by the reform of the minister MUDr. Tomáš Julínek. The reform concerning elimination of differences between quality and financial expenditures within the system was realized in 2008. One of the main changes connected to this reform has been implementation of out-of-pocket payments so called regulatory fees. The implementation of these fees caused several political disputes. Political parties discussed whether regulatory fees contradict the Health of People Act 20/1966 coll. that ensures health care without direct payments. The patients are obliged to pay a fee of 30 CZK for a visit of general practitioner, 60 CZK for one day of stay in hospital and 90 CZK for emergency. The main purpose of regulatory fees has been reduction of medical performance thus limitation of health care system burden.

3.4.3 Structure and organization

The structure of health care system in the Czech Republic is distributed among these subjects:

- Ministry of Health
- General Health Insurance Company and other health insurance funds
- Health care providers
- Health care professionals
- Supervisory institutions
- Advisory Institutions

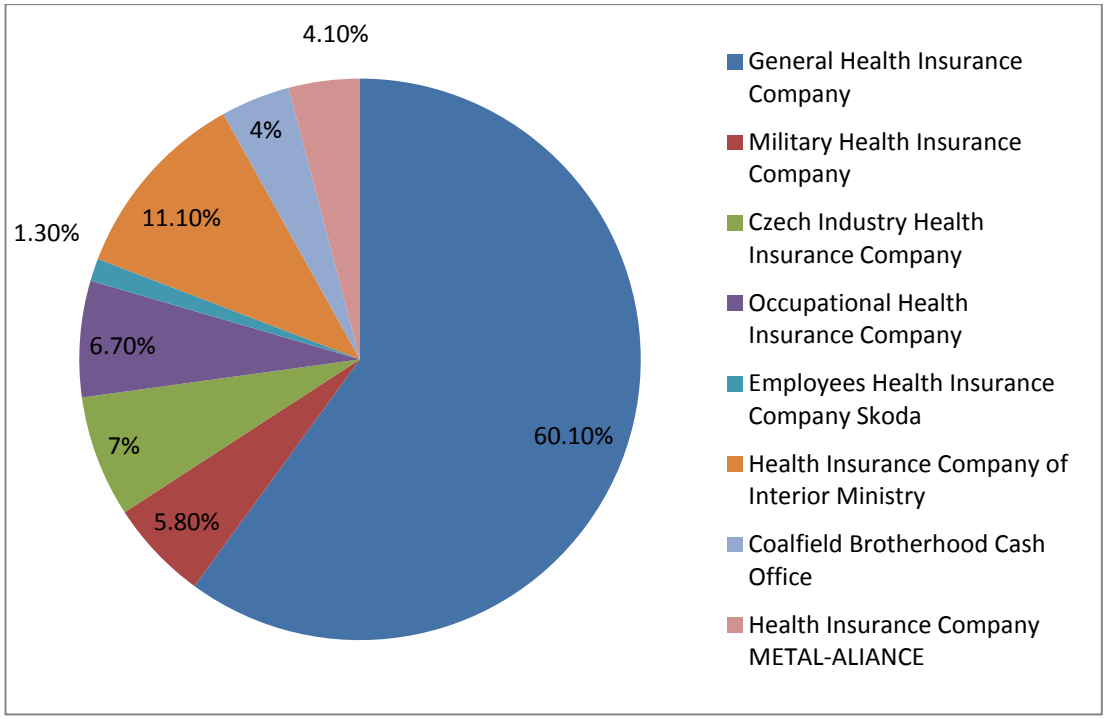
3.4.3.1 Ministry of Health

The Ministry of Health is the central authority for protection of public health; health scientific and research activity; setting the health care policy agenda and administration health care facilities; manipulation of addictive drugs; ensuring sources of preventive care; searching, protecting and using natural medical resources and maintenance of natural spa facilities. The Ministry of Health is responsible for licensing the professionals, health insurance and health information system. [37]

3.4.3.2 Health Insurance Funds

According to the Ministry of Health, there are 7 insurance companies in the Czech Republic. Besides the General Health Insurance Company that accounts majority of the market, there are so called "employee insurance companies". Due to strong position of the General Health Insurance Company, the smaller insurance providers had to merge in order to be able to compete.

Figure 3.4.3.1: Health Insurance Companies' share on the market in 2012



[37] Vláda České republiky. [online]. [cit. 2014-07-19]. Available at: http://www.vlada.cz/cz/clenove-vlady/ministerstva/

Source: Czech Republic and Insurance Sector: VZP. In: [online]. [cit. 2014-07-19]. Available at: http://www.insuranceeurope.eu/uploads/ModuleXtender/Eventsmanager/97/Zdenek_Simek_Union_of_Banks_and_Insurance_Companies_CZ_end.pdf

As shown in Figure 3.4.3.1 the General Health Insurance Company accounts more than half of the share in the health insurance market. Health Insurance Company of Interior Ministry with 11.1% on the market represents the second place. The rest of employee insurance companies have nearly the share. Health Insurance Company METAL-ALIANCE that is shown in the chart of the year 2012, is not mentioned afterwards because it does not currently exist.

Figure 3.4.3.2: Insurance companies and number of their clients in 2012-2014

Insurance provider	January 2012	January 2013	January 2014 *
General Health Insurance Company	6,178,670	6,094,224	5,997,224
Military Health Insurance Company	625,118	626,807	656,807
Czech Industry Health Insurance Company	736,897	1,171,737	1,189,737
Occupational Health Insurance Company	697,889	702,611	726,611
Employees Health Insurance Company Skoda	137,363	137,193	138,193
Health Insurance Company of Interior Ministry	1,182,442	1,186,964	1,217,964
Coalfield Brotherhood Cash Office	415,489	417,191	427,191

*rounded in thousands

Source: Ministry of Health Czech Republic. In: [online]. [cit. 2014-07-19]. Available at: http://www.mzcr.cz/dokumenty/zmeny-poctu-pojistencu-jednotlivych-zdravotnich-pojistoven-mezi-112010-a-1_6183_1.html ; own elaboration

Figure 3.4.3.2 displays number of clients of particular health insurance companies during 2012 and 2014. Unlike the General Health Insurance Company, all employee insurance companies recorded increase in last three years. The fact that the General Health Insurance Company was the only health insurance provider 20 years ago with more than 10 million clients has changed when the new health insurance companies entered the market. One of the reasons of significant outflow of clients in January 2014 is unsuccessful project of electronic health records, so called IZIP health records, to which the company invested more than 1.7 billion CZK. [38]

General Health Insurance Company (VZP)

VZP was founded by the Act of General health insurance company Czech Republic (551/1991 Coll.) in 1991 as a fundamental body of health care system in the Czech Republic. It is administrated and controlled by state and has specific position among all insurance companies as it is regulated by different criteria. VZP provides health insurance to people who are not insured by another insurance company. It is the largest health insurance company in the Czech Republic however it mostly covers clients with the highest costs of health care and who pay minimal contribution or state pays for the insurance. Moreover VZP also focuses on health programs and other preventive actions aimed at preventing serious diseases.

VZP prepares regularly a plan of annual report of previous year and auditor's report for the Ministry of Health and the Ministry of Finance. [39] The General Health Insurance Company organizes and manages several funds, such as fundamental fund for health insurance coverage, social fund, property fund and more.

[38] Medical Tribune CZ: Tribuna lékařů a zdravotníků. [online]. 2013 [cit. 2014-07-20]. Available at: http://www.tribune.cz/clanek/30469-vzp-prijde-k-lednu-o-temer-sto-tisic-pojistencu

[39] Všeobecná zdravotní pojišťovna České republiky. [online]. [cit. 2014-07-20]. Available at: http://www.vzp.cz/

Other health insurance companies, also called “employee insurance companies” are:

Military Health Insurance Company (201)

Czech Industry Health Insurance Company (205)

Occupational Health Insurance Company (207)

Employees Health Insurance Company Skoda (209)

Health Insurance Company of Interior Ministry (211)

Coalfield Brotherhood Cash Office, a health insurance company (213)

3.4.3.3 Professional Organizations

Professional medical organizations in the Czech Republic are represented by chambers: the Czech Medical Chamber, the Czech Dental Chamber and the Czech Chamber of Pharmacists. Chambers ensure the ethical behavior of their members and represent the interests of members’ professions. Membership within a chamber is compulsory for every practicing physician, dentist and pharmacist.

Czech Medical Chamber

Czech medical Chamber is an independent, non-political autonomous professional organization that was founded in 1991. It unifies all physicians executing their private practice in the Czech Republic. All physicians have to be members of this chamber. Czech Medical Chamber protects rights and interests of its members and guarantees their expertise to patients. Organization is divided among several boards and committees, and on the top of it is a president who represents the chamber on public.

Czech Dental Chamber

It was established in 1990 as an organization with voluntary membership. Currently, it is independent, non-political autonomous professional organization with

mandatory membership of dentists in order to protect their common interests, expertise and ethics. Another role of the chamber is to resolve complaints against its members. In order to increase expertise of its members, the chamber runs educational center and publishes a journal.

Czech Chamber of Pharmacists

Chamber of Pharmacists was founded at the same time as Czech Medical Chamber, in 1991. Its objective is to represent all pharmacists, both employers and employees. It closely co-operates with Czech Pharmaceutical Society, pharmaceutical schools and universities and other educational institutes.

3.4.3.4 Other health care institutions and associations

State Institute for Drug Control

The Institute ensures the availability of high quality, effective and safe human medicine in the Czech Republic. It sets and controls the standards of human pharmaceuticals, it evaluates the regulatory system by monitoring customers satisfaction. The Institute also controls quality and safety in production process of medicals and later official registration of medicals. [40]

Institute of Health Information and Statistics of the Czech Republic

The Institute was established by Ministry of Health as a component of the State Statistical Service. The main role of the Institute is collecting of methodological and technical data, processing and analysis them. While collecting and processing data, the Institutes co-operates with the Czech Statistical Office, health insurance companies, associations of hospitals, associations of physicians and other

[40] Státní ústav pro kontrolu léčiv. [online]. [cit. 2014-07-23]. Available at: http://www.sukl.cz/sukl

organizations. Within analyzing of international health statistics, the Institute collects and shares data with organizations such as WHO, OECD, OSN, EUROSTAT. [41]

Trade Unions

The most important trade unions in the Czech health care system are the union for Health Care and Social Care (*Odborový svaz zdravotnictví a sociální péče*), the Physicians Union Club/Association of Czech Doctors (*Lékařský odborový klub – Svaz českých lékařů*), and the Professional Sector Union of Health Care Staff (*Profesní a odborová unie zdravotnických pracovníků*). These groups play an important advocacy role in negotiations regarding the wages f health care workers.

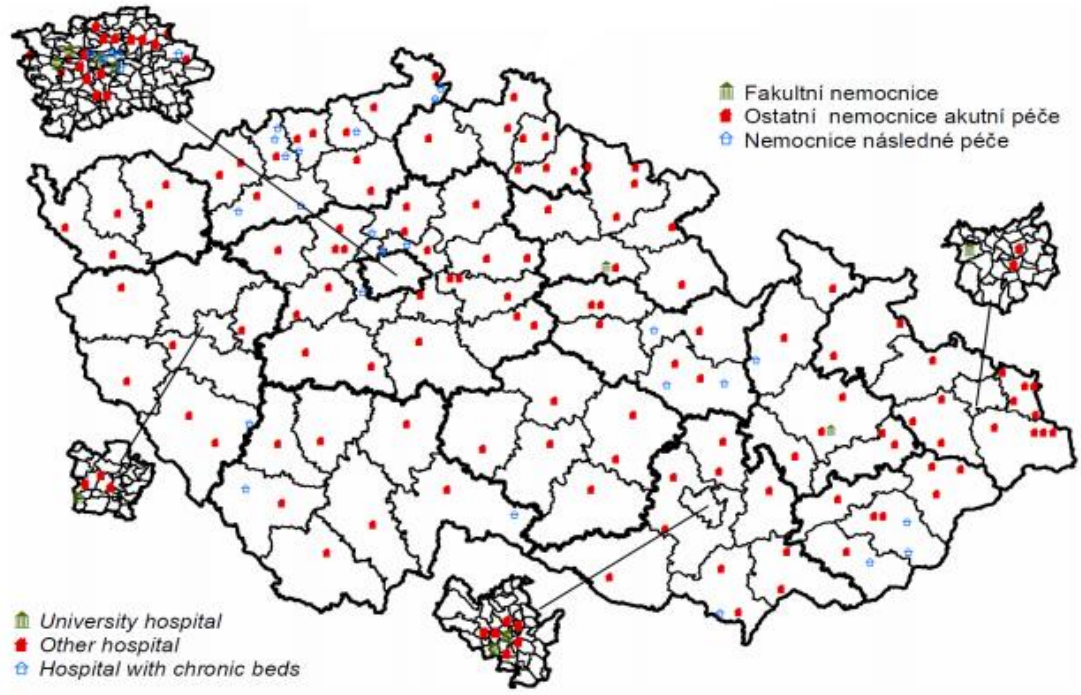
3.4.3.5 Health Care Providers

Health care facilities in the Czech Republic are either private or founded and administrated by state and can be divided into:

- University hospitals
- Regional hospitals
- Other in-patient facilities
- Ambulatory facilities (out-patient, specialized health care)
- General practitioners
- Pharmacies
- Specialized medical facilities – including preventive therapeutic care and spa treatment
- Providers of hygiene services

[41] Ústav zdravotnických informací a statistiky ČR. [online]. [cit. 2014-07-23]. Available at: http://www.uzis.cz/nas

Figure 3.4.3.5: Density of hospitals in the Czech Republic in December 2012



Source: UZIS, Czech Health Statistics Yearbook 2012

According to Czech Health Statistics Yearbook there was 28, 753 registered health facilities in the Czech Republic at the end of 2012. The Figure 3.4.3.5. only illustrates density of hospitals in the Czech Republic in 2012. The university hospitals are concentrated mainly in the capital, Prague and other big cities such as Brno, Plzen and Ostrava. Health care in smaller towns and areas outside of the largest cities is ensured by regional hospitals.

Health care in the Czech Republic is split into three segments – primary, secondary and tertiary according to its purpose and specialization thus its availability and usage.[42]

Primary health care occurs in the area closest to where people live and work. In the Czech Republic it is represented by general practitioner, dentist and gynecologist that provide regular preventive care, vaccination or screening and information about particular diseases. Patients must be registered at some general practitioner. Most of the primary health care providers in the Czech Republic operate private practice that

[42] Gladkij, I. a kol.: Management ve zdravotnictví. Brno: Computer Press, 2003, s. 49

is conditioned by license from Czech Medical Chamber and registration by a relevant regional authority. If the health care is financed from public resources, the general practitioner must sign a contract with a health insurance company. [43]

Secondary health care comprises specialized ambulatory and hospital care, both out-patient and in-patient care. Primary health care is usually followed by the secondary based on the recommendation of GP. [44]

Tertiary health care is the one available in health care facilities with highly specialized professionals, for example cardiac surgery or neurosurgery. It is usually provided in university hospitals aimed at post-graduate or pre-graduate education or research facilities founded by the Ministry of health. [45]

3.4.3.6 Health care professionals

According to available data from Czech Health Statistics Yearbook that was published in 2013, there was 249 658 employees in health services in the Czech Republic by the end of 2012. The majority of health personnel, almost 3 quarters, were employed in non-state facilities. The rest of health personnel, more than 25% of them worked in state health facilities established by Ministry of Health.

Figure 3.4.3.6: Employees on payroll by founder of establishment

Category	City or municipality	Private	Other central organs
Total Professional Health Personnel	7,631	122,615	3,606
Physicians	1,168	24,415	773
Dentists	8	6,917	56
Pharmacists	44	5,650	30

Source: UZIS, Czech Health Statistics Yearbook 2012

[43] Gladkij, I. a kol.: Management ve zdravotnictví. Brno: Computer Press, 2003, s. 49
[44] Velký lékařský slovník. In: [online]. [cit. 2014-07-21]. Available at: http://lekarske.slovniky.cz/pojem/zdravotni-pece-rizeni-spotreby
[45] Velký lékařský slovník. In: [online]. [cit. 2014-07-21]. Available at: http://lekarske.slovniky.cz/pojem/zdravotni-pece-terciarni

Out of total number of health personnel, only 133,852 are professional health personnel. The other half of employees is represented in administrating and management. As shown in the Figure 3.4.3.6, the majority of professional health personnel is employed in private sphere, namely physicians, dentists and pharmacists. The table shows only part of the professional health personnel, however, general nurses, midwives and paramedical workers that accounts 52% of the total profession personnel belong to this group as well.

3.4.3.7 Patients and patient organizations

Patients represent one of the three main groups of participants in health care system of the Czech Republic. Patients affect demand for health care by their behavior, life style, physical activity, nutrition and eating habits. Their attitude to preventive care is also very important.

Patients tend to become part of patient organizations that represents their interests and ensure them their rights. Each patient organization focuses on supporting patients suffering from a specific disease, such as diabetes, mental diseases etc. List of all 69 patient organizations in the Czech Republic is available on the website of State Institute for Drug Control. [46]

There are three ways how the insurance is paid according to economic activity of individuals. Insurance premium of employed people (economically active) is paid partly by themselves and partly by the employer. The financing and payment of premiums will be discussed in the chapter Financing. Parents or legal representative pays premiums for children under age of 18. State pays premiums of 13.5% of determined amount for premiums paid by the state. By 1st of July 2014 the determined amount is 6,259 CZK from which state pays every month 845 CZK for particular individuals. [47] Economically inactive population for which state pays premiums from the state budged belongs to one of these groups:

- Students

[46] Státní ústav pro kontrolu léčiv. [online]. [cit. 2014-07-22]. Available at: http://www.sukl.cz/sukl/pacientske-organizace
[47] Všeobecná zdravotní pojišťovna. In: [online]. [cit. 2014-07-22]. Available at: http://www.vzp.cz/platci/informace/povinnosti-platcu-metodika/stat/vymerovaci-zaklad-stat

- Orphans
- Seniors
- Disabled people
- Mothers on maternity leave
- Job applicants registered in particular office for unemployed individuals
- Individuals taking care of person dependant on care of others

State also pays premiums for specific group of individuals, such as foreigners, however they must be registered in some health insurance company and fulfill certain conditions.

3.4.4 Financing

The Figure 3.4.4.1 indicates the total health care expenditure in 2012 that was more than 293 billion CZK, out of which 78.8% was financed by the public health insurance system. This amount represents 7.63% of GDP in 2012. The total health expenditure has an increasing trend, comparing to the year 2011, it increased by 5.8 billion CZK. According to data provided by the Institute of Health Information and Statistics of the Czech Republic, the most significant growth of health care expenditures was recorded after implementation of regulation fees in 2008. In 2008 growth rate of expenditure increased of almost 3%.

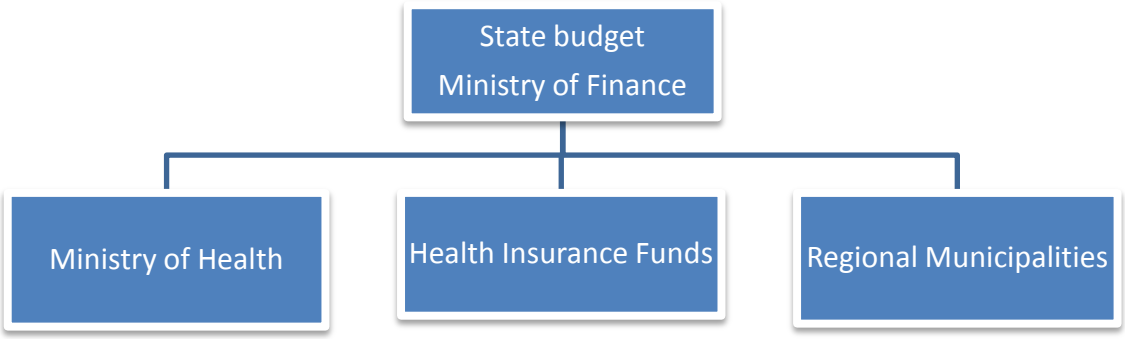
Figure 3.4.4.1: Health Care Expenditure in the Czech Republic

	2009	2010	2011	2012
Total expenditure (millions CZK)	292,708	289,035	287,768	293,635
Proportion of GDP (%)	7.79	7.62	7.53	7.63
Public expenditure (millions CZK)	244,754	243,281	242,410	246,918
Proportion of GDP (%)	6.51	6.42	6.34	6.42
Private expenditure (millions CZK)	47,954	45,754	45,358	46,717

Source: UZIS, Czech Health Statistics Yearbook 2012

The Figure 3.4.4.2 shows sources of financing of health care. The system in the Czech Republic is financed by direct and indirect payments. The indirect financing is based on public budgets (state and municipal) financing contribution for certain groups of economically inactive people; compulsory membership in a health insurance fund; voluntary and occupational insurance; charity and international aid. The other type of financing, direct financing founded on direct payments from health service recipients. The mandatory SHI contribution is divided between employers and employees (from a payroll tax), self-employed individuals pay a fixed percentage of their profits.

Figure 3.4.4.2: Main sources of health care financing in the Czech Republic



Source: Nahodil, F. Veřejné finance v České republice. Plzeň: Aleš Čeněk, 2009. p. 95

Private sources of expenditure are used to cover the cost of over-the-counter pharmaceuticals and some dental procedures; co-payments on medical aids and prescription pharmaceuticals whose actual price exceeds the reference price in particular pharmaceutical group; and user fees for doctor visits, prescription pharmaceuticals, hospital stays, and the use of ambulatory care services outside of standard office hours. [48]

[48] BRYNDOVÁ, Lucie, Kateřina PAVLOKOVÁ, Tomáš ROUBAL, Martina ROKOSOVÁ and Matthew GASKINS. Health Systems in Transition: Czech Republic, Health System Review. In: [online]. 2009 [cit. 2014-07-24]. Available at:http://www.euro.who.int/__data/assets/pdf_file/0010/97633/E92968.pdf

The practical part of the thesis is focused on international comparison between France and the Czech Republic in a specific field - a medical discipline of Ophthalmology.

In the first section the term of ophthalmology is described, what this discipline studies and the most common eye diseases and defects are discussed.

The next two chapters are aimed at study of data concerning state of ophthalmology in the Czech Republic. The data describing total number of ophthalmologists, annual number of patients suffering particular disease or treatment help determine the situation of ophthalmology in the Czech Republic. On the other hand the expenditure and costs connected with certain disease or treatment are studied in order to examine and compare financing of ophthalmology discipline. The French situation is characterized later on. The same categories of data have been collected in order to compare the statistics and financing of both countries most precisely. The statistical data are provided mainly by Institute of Health Information and Statistics of the Czech Republic and Czech Statistical Office. In case of France, data were provided by World Health Organization, Organization for Economic Co-operation and Development.

The last part sums up the information about both countries and compares the situation of ophthalmology and its cost efficiency in each country.

4 Empirical Observation - Ophthalmology

4.1 Definition

Ophthalmology is a branch of medicine specializing on prevention, diagnostics and treatment of disorders, developmental errors and diseases of the eye.

It is very narrowly specialized discipline, mainly due to the fact that eye is very complicated organ. Ophthalmology is represented by ambulatory care and surgery care.

The eye is composed of several parts and each part has its own particularity. Ophthalmic diseases can affect only individual parts or the whole eye. [49]

4.2 Ophthalmic diseases

Ophthalmic diseases are divided into several categories according to the type of disorder or part of the eye that is affected. There is also different treatment of each disorder. Some can be fixed by glasses or contact lenses, the most severe ones are corrected by complex and delicate eye surgery.

Among the most common vision problems belong Glaucoma, Cataract and so called refractive errors, more commonly known as astigmatism, nearsightedness and farsightedness. Less common however very severe diseases are disorders of conjunctiva; and disorders of eyelid, lacrimal system and orbit. The other groups of eye disorders are:

- Disorders of choroid and retina
- Disorders of vitreous body and globe
- Disorders of ocular muscles, binocular movement, accommodation and refraction
- Visual disturbances and blindness
- Other disorders of eye and adnexa

[49] The information about individual diseases were provided by Canadian Ophthalmological Society and internet source www.lekari-online.cz

Ophthalmology often co-operates with other branches of medicine because some illnesses or their inconveniences have impact on the eye. These are mainly neurology, diabetology and immunology.

Because of high number of ophthalmic diseases the diploma thesis will focus only on some of them, mainly the most common disorders and errors.

4.2.1 Refractive errors

This type of vision problems occur when the shape of the eye prevents light from focusing directly on the retina. It is caused by the length of the eyeball, changes in the shape of the cornea or age of the lens. A combination of these problems is usually diagnosed. The most common types of refractive errors are astigmatism, nearsightedness, farsightedness and presbyopia.

Astigmatism

Astigmatism is an error caused by defective or deformed shape of the cornea. It is a physiological character of the eye when the cornea is not perfectly symmetric and round but has elliptical shape. The eye does not focus light evenly onto the retina, thus images appear blurred.

This problem can be corrected by wearing toric lens or cylindrical glasses or the other option is a surgery by laser. Patients with astigmatism in many cases suffer from other refractive error such as myopia or hypermetropia.

Myopia (Nearsightedness)

Myopia occurs when the eyeball become too long and so light comes to focus in front of the retina instead of on the retina. It might be also caused by abnormal shape of the cornea or lens. Myopia is characterized by symptoms as eyestrain, headaches and squinting. The patients see close objects clearly, but distant objects appear blurred.

Nearsightedness is divided into three stages, according to number of diopters – myopia simplex, myopia modica and myopia gravis that refers to serious damage of the eye.

The easiest and safest way to correct nearsightedness is wearing eyeglasses or more comfortable contact lenses. The other option is refractive surgery that can decrease or completely eliminate dependency on eyeglasses or contact lenses.

Hyperopia (Farsightedness)

Hyperopia manifests itself by opposite characteristics than myopia, thus distant objects may be seen more clearly than objects that are near. The eyeball is too short which prevents incoming light from focusing directly on the retina, thus eyes focus images behind the retina.

Same as myopia it can be fixed by eyeglasses, contact lenses or by refractive surgery.

4.2.2 Cataract

Cataract is illness affecting eye lens which allows light to get to the retina. The reasons causing cataract can be injury, diabetes or using some medicine, especially corticosteroids. As the eye lens get older cataract is more likely to occur. Cataract is presented by clouding of the lens inside the eye which leads to a decrease in vision. The occurrence of cataract can be a consequence of different factors and external impacts. The main factors are ultraviolet radiation (UV), lifestyle such as smoking or obesity, and genetic predisposition. There are many types of cataract; the most common is age-related cataract. The rare types of this illness affect babies and young children.

Treatment of cataract is only possible through surgery when the eye lens is replaced by artificial lens.

4.2.3 Glaucoma

Glaucoma is a group of diseases of the optic nerve and can result in vision loss or blindness. The optic nerve is made up of many nerve fibers which transmit the images what we see from eye to the brain. It has many causes as well as the spectrum of symptoms. Glaucoma results from increased the intraocular pressure (the pressure inside the eye) and damages nerve fibers which can cause blind spots and vision loss. Among the factors standing behind glaucoma which we cannot affect is aging and genetic predisposition. Those factors that can be partly influenced are the intraocular pressure, stress, emotional deviations and diabetes.

The main two types of glaucoma are Open-Angle Glaucoma and Angle Closure Glaucoma. Treatment of glaucoma is done by three possibilities – medicamental treatment, laser therapy or surgery.

4.2.4 Diabetic Retinopathy

Retinopathy is a term for pathologic changes in the retina and its blood vessels which result from diseases such as diabetes mellitus, hypertension (high blood pressure), hyperlipidemia (abnormally elevated levels lipids in the blood) etc.

Diabetic Retinopathy is the most common disease of blood vessels in the retina. It is one of latter complication of diabetes. It can occur at the same time when diabetes is diagnosed or after some time. Despite of fast technological and medical development, diabetic retinopathy is the most common cause of blindness in developed countries. Diabetic retinopathy is regulated by laser therapy.

4.2.5 Strabismus

Strabismus (“crossed” eyes) is very commonly occurred eye disease referring to misaligned eyes. It is an error when both eyes do not co-operate properly. The seriousness of this disorder is determined by the angle in which the eye is deviated.

Strabismus is usually diagnosed in infancy or childhood. However, strabismus can be developed by adults as well as by children. Children’s brain is able to adapt to different position of eyes and thus can create a unified image. The brain of adults is incapable of such adaptation and it brings impacts such as double vision or loss of depth perception.

Strabismus exists in different types – Esotropia, exotropia, hypertropia and hypotropia.

Hypertropia and hypotropia is a condition when one eye is higher than the other. Hypertropia is a term for the higher eye, hypotropia stands for the lower eye. Esotropia, also called “crossed” eyes, occurs when the eyes turn inward. Exotropia, aka “wall-eye”, is caused when the eyes turn outward.

Strabismus usually occurs together with other ophthalmic diseases such as farsightedness or cataract. In some cases, strabismus can be corrected by glasses or exercising. If the conservative treatment does not succeed, the surgery of both eyes is recommended in order to get the eyes in uniform position

Ophthalmology deals with more and specified diseases as well as small errors of some parts of the eye. Patients can have problems with mechanical injury of the eye by small objects, burn or acid burn. Even these small injuries have to be examined by ophthalmologist. Some of the severe diseases cannot be completely fixed or corrected. The eye problem is monitored by ophthalmologist, glasses or contact lenses are used to correct the vision quality, but the patient has to live with particular disorder. In other cases surgery or laser therapy can eliminate eye errors.

Following part of diploma thesis is based on available data on the internet, and internal data obtained from personal and email communication with ophthalmologist in the Czech Republic. Collecting statistical and financial data is very difficult due to sensitivity and low availability of them freely on the internet.

The general data regarding situation of Ophthalmology in the Czech Republic are provided by the Institute of Health Information and Statistics of the Czech Republic and its report of Activity of health establishments in selected branches of curative and preventive care published in 2013. This publication provides with information regarding activity of health care facilities and number of personnel.

The elaborated data are divided according to the 14 regions in the Czech Republic where all health care establishments are situated.

Numbers of personnel are approximate because of frequent fluctuation of personnel, mainly foreigners. Another reason is that besides permanent and full-time ophthalmologists these figures also include personnel working on contract basis.

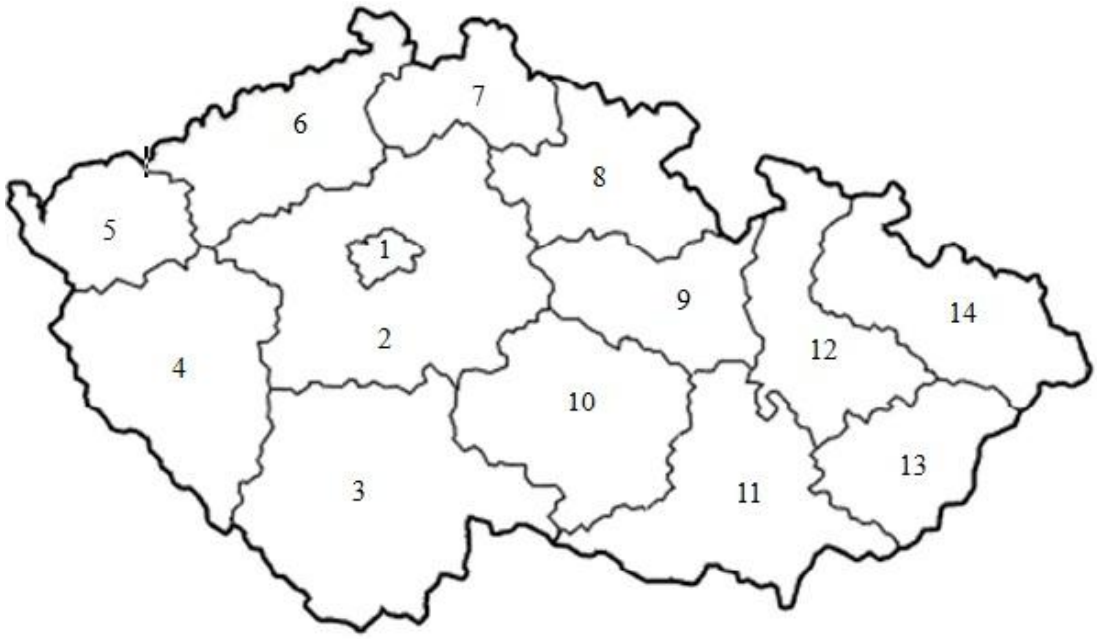
The latest data available are from 2012 because state institutions submit the annual reports at the time of requirements for a budget of upcoming year.

The internal information of financing particular ophthalmic disease

4.3 Ophthalmology in the Czech Republic

The area of the Czech Republic is divided into 14 regions. Every region has its own administration with a head representative. The regional division is depicted in the Figure 6.3.1. In order to achieve better understanding of the practical part of this thesis, the Czech names of the regions are accompanied by numbers that are marked in the table with legend under the scheme.

Figure 6.3.1: Map of the Czech Republic with its regions



Source: Klub českých turistů. [online]. [cit. 2014-07-31]. Available at: http://www.kct.cz/cms/vyber-oblasti

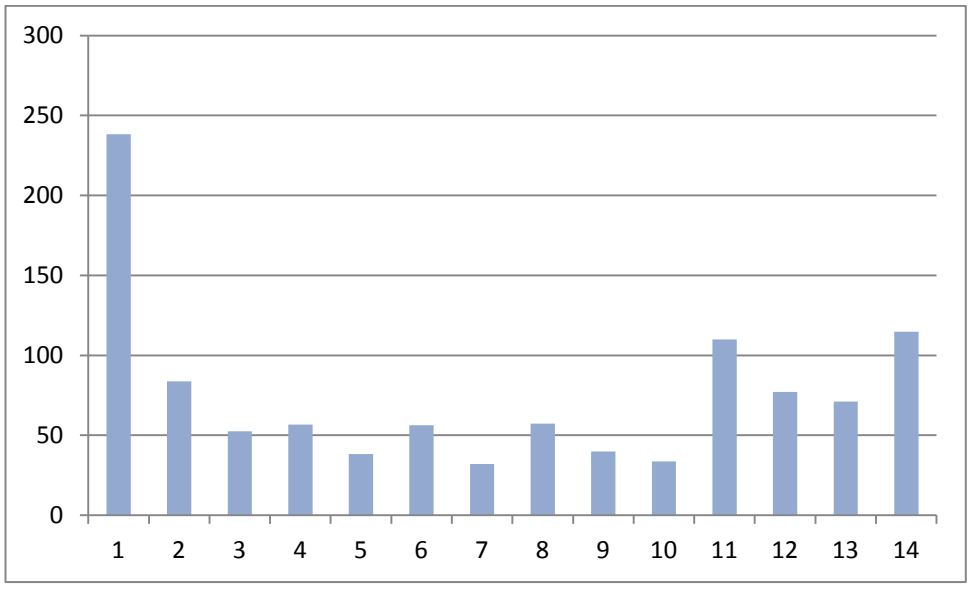
Legend

No.	Name of the region	No.	Name of the region
1.	Prague, the Capital	**8.**	Královehradecký
2.	Středočeský	**9.**	Pardubický
3.	Jihočeský	**10.**	Vysočina
4.	Plzeňský	**11.**	Jihomoravský
5.	Karlovarský	**12.**	Olomoucký
6.	Ústecký	**13.**	Zlínský
7.	Liberecký	**14.**	Moravskoslezský

The numbers of regions will be used together with the Czech names in all tables and text, the graphs concerning ophthalmology in the Czech Republic will use only the numbers of regions. It will serve as a better and easier way of comparing data.

According to the information from the Institute of Health Information and Statistics there were 71.1% of all physicians in the Czech Republic working in ambulatory care, by the end of 2012. Out of these 71.1% physicians, 1,092 were represented by ophthalmologists. It is almost impossible to get the exact number of ophthalmologists in the Czech Republic because of fluctuation of personnel in health care and the number of foreigners, mainly from Slovakia, that are not counted in the statistics. The Figure 6.3.2 shows approximate number of ophthalmologists in each region.

Figure 6.3.2: Number of ophthalmologists in 2012 by each region

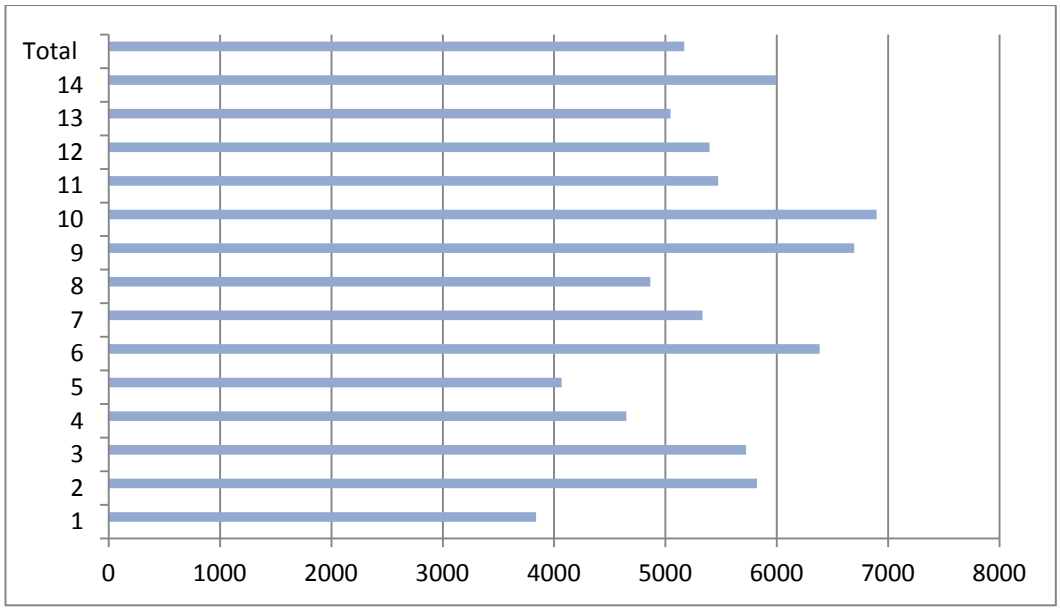


Source: Institute of Health Information and Statistics of the Czech Republic, own elaboration

It is evident from the graph that the highest number of ophthalmologist is concentrated in the capital Prague with 238 ophthalmologists and the region No. 11 (Jihomoravský) and the region No. 14 (Moravsko-slezský). These two regions account together 225 ophthalmologists. The lowest concentration of eye specialists is in region No. 7 and 10 (Liberecký and Vysočina). The reason explaining this fact could be lower density of population in these areas.

Based on another source of data, International Council of Ophthalmology, total number of ophthalmologist in the Czech Republic by March 2014 was 1,150. It means approximately 110 specialists per million inhabitants. The data were gathered by survey in 213 global ophthalmic societies published in 2012 and updated in March 2014. [50]

Figure 6.3.3: Number of medical intervention/examination per 1 ophthalmologist (in 2012)



Source: Institute of Health Information and Statistics of the Czech Republic, own elaboration

[50] International Council of Ophthalmology. [online]. [cit. 2014-08-01]. Available at: http://www.icoph.org/

The already mentioned number of 1,092 ophthalmologists together with 1,331 nurses ensured the activity of 797 ophthalmologic offices in 2012. In comparison with the year 2011, an increase of 25 new offices, 18 more ophthalmologists and 34 nurses was recorded. As the Figure 6.3.3 represents, there are more examinations or interventions in regions where the health service is provided by lower number of ophthalmologists. On the basis of data development, a decreasing number of medical examinations per one ophthalmologist is monitored. In comparison with the year 2001, the number of medical examination done by one ophthalmologist decreased from 557 to 431 per month. More than 500 ophthalmological examinations per month examined by a doctor in 2012 were recorded in the region number 10 (Vysočina) with 575, the region number 9 (Pardubický) with 558 and the region number 6 (Ústecký) with 532 examinations per month. The lowest number represents the region of Prague with 320 and the region 5 (Karlovarský) 339 examinations per month by one ophthalmologist. The decrease is caused by rise in number of specialists in big cities, thus each ophthalmologist have less patients.

Figure 6.3.4: Activity of ophthalmology in the Czech Republic in 2012

No.	Region	No. of doctors per 10,000 inhabitants	Number of patients		Number of interventions/examination			
			total	per 10,000 inhabitants	total	per 1 patient	per 10,000 inhabitants	per 1 doctor
1	Hl. m. Praha	1.92	484,417	3,895.0	915,379	1.9	7,360.2	3,836.3
2	Středočeský	0.63	281,563	2,189.5	473,404	1.7	3,681.4	5,822.2
3	Jihočeský	0.82	170,652	2,681.6	298,799	1.8	4,695.3	5,723.0
4	Plzeňský	1.01	155,323	2,715.4	268,243	1.7	4,689.4	4,648.9
5	Karlovarský	1.24	91,330	3,019.3	153,061	1.7	5,060.1	4,067.5
6	Ústecký	0.68	197,534	2,387.6	356,698	1.8	4,311.5	6,384.4
7	Liberecký	0.71	96,447	2,199.0	166,196	1.7	3,789.3	5,333.6
8	Královéhradecký	1.03	153,802	2,779.8	276,125	1.8	4,990.6	4,863.9
9	Pardubický	0.72	131,276	2,542.1	247,859	1.9	4,799.7	6,695.3
10	Vysočina	0.67	141,025	2,756.4	235,522	1.7	4,603.4	6,894.7
11	Jihomoravský	0.91	315,172	2,700.4	583,963	1.9	5,003.4	5,471.9
12	Olomoucký	1.18	202,048	3,167.7	407,777	2.0	6,393.1	5,396.0
13	Zlínský	1.11	184,458	3,135.4	328,310	1.8	5,580.7	5,045.5
14	Moravskoslezský	0.93	367,784	2,994.4	681,895	1.9	5,551.8	5,994.2
Total		**0.99**	**2,972,831**	**2,828.8**	**5,393,231**	**1.8**	**5,131.9**	**5,168.1**

Source: Institute of Health Information and Statistics of the Czech Republic

According to data of registered health care establishments (Figure 6.3.4), during the year 2012 there were almost 5,400 thousands medical examination carried out in ophthalmologic departments of roughly 3 million patients. These patients underwent more than 142 thousands one-day surgeries and out of which almost 60% were by women. In average it was recorded 18.1 medical examinations per 10 patients. The highest number of medical examination is in the region 12 (Olomoucký) where one patient is examined by ophthalmologist more than twice and the lowest in the region 10 (Vysočina) where a patient is examined 1.7 times.

Glaucoma

Figure 6.3.5: Number of dispensarized patients with Glaucoma in 2012

	Glaucoma				
			Age category		
	Region	Total	0-19 years	20-64 years	over 65 years
1	Hl. m. Praha	58,419	800	27,573	30,046
2	Středočeský	29,564	368	14,992	14,204
3	Jihočeský	20,614	313	10,614	9,687
4	Plzeňský	17,132	186	8,108	8,838
5	Karlovarský	9,973	242	5,170	4,561
6	Ústecký	24,221	355	11,668	12,198
7	Liberecký	8,471	32	4,313	4,126
8	Královéhradecký	25,020	738	11,714	12,568
9	Pardubický	22,979	640	11,538	10,801
10	Vysočina	11,178	101	5,278	5,799
11	Jihomoravský	28,935	274	12,300	16,361
12	Olomoucký	24,580	430	13,367	10,783
13	Zlínský	16,446	612	7,410	8,424
14	Moravskoslezský	42,696	455	21,445	20,796
Total (Czech Republic)		**340,228**	**5,546**	**165,490**	**169,192**

Source: Institute of Health Information and Statistics of the Czech Republic

By the end of 2012, in the Czech Republic were registered more than 340 thousands patients suffering from glaucoma (Figure 6.3.5), 60.6% represented by women. The new cases recorded in 2012 accounted 8.2% out of total glaucoma patients. Comparing to the previous year, there was an increase of 3.1% patients of glaucoma in 2012. Unlike the 31.4 patients per 1,000 inhabitants in 2011 there were 32.4 patients of glaucoma per 1,000 inhabitants. The increase is more evident between the years 2001 and 2012 which is represented by 58%. As shown in the Figure 6.3.6, in 2012, the statistics recorded in the Czech Republic up to 95.7 glaucoma diseases per 1,000 inhabitants in the age category over 65 years. The highest number of patients of glaucoma per thousand inhabitants belonged to Prague with 46.9, the region number 8 (Královéhradecký) with 45.3 and the region No. 9 (Pardubický) with 44.5 per 1,000 inhabitants. Total number of one-day surgeries of glaucoma performed in 2012 was 357.

Figure 6.3.6: Number of dispensarized patients with glaucoma and strabismus per 10,000 inhabitants (in 2012)

	per 10,000 inhabitants							
			Age category				Age category	
	Region	Total	0-19	20-64	over 65	Total	0-19	20-64	over 65
		GLAUCOMA				STRABISMUS			
1	Hl. m. Praha	468.6	36.8	340.8	1 365.5	78.3	369.3	16.7	17.1
2	Středočeský	228.9	13.6	183.5	696.3	37.0	142.6	9.5	7.0
3	Jihočeský	323.8	24.7	263.9	901.0	93.5	415.8	15.2	6.1
4	Plzeňský	299.2	16.9	223.1	891.1	71.0	325.0	12.0	5.1
5	Karlovarský	330.5	40.5	267.0	942.4	43.5	196.9	5.9	4.1
6	Ústecký	293.0	20.7	221.9	941.1	59.9	251.2	10.0	9.9
7	Liberecký	193.1	3.6	155.3	579.4	51.4	206.7	10.2	16.4
8	Královéhradecký	452.5	67.4	339.7	1 275.0	54.8	237.9	10.9	4.9
9	Pardubický	445.0	61.4	355.5	1 230.9	65.1	279.7	11.6	8.2
10	Vysočina	218.7	9.8	164.6	661.1	46.7	187.5	12.6	6.2
11	Jihomoravský	247.6	12.1	166.1	811.0	58.4	246.3	14.1	10.0
12	Olomoucký	385.5	34.3	331.3	990.5	103.4	445.5	21.4	13.6
13	Zlínský	279.8	53.8	199.1	826.7	137.1	600.0	24.2	33.2
14	Moravskoslezský	348.1	18.8	273.9	1 033.9	88.1	338.6	26.5	26.1
Total (Czech Rep.)		**323.5**	**26.8**	**247.8**	**957.2**	**70.5**	**298.1**	**15.2**	**12.9**

Source: Institute of Health Information and Statistics of the Czech Republic

Strabismus

Figure 6.3.7: Number of dispensarized patients with strabismus in 2012

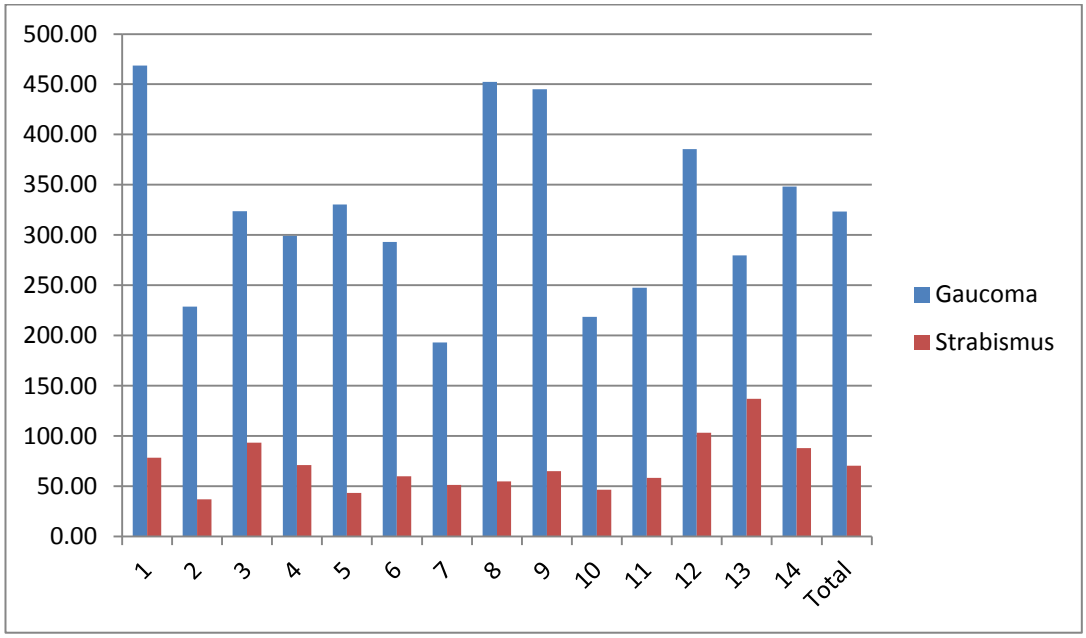
	Strabismus				
			Age category		
	Region	Total	0-19 years	20-64 years	over 65 years
1	Hl. m. Praha	9,765	8,038	1,351	376
2	Středočeský	4,785	3,863	779	143
3	Jihočeský	5,951	5,275	610	66
4	Plzeňský	4,064	3,578	435	51
5	Karlovarský	1,311	1,176	115	20
6	Ústecký	4,955	4,302	525	128
7	Liberecký	2,256	1,855	284	117
8	Královéhradecký	3,032	2,607	377	48
9	Pardubický	3,363	2,914	377	72
10	Vysočina	2,387	1,930	403	54
11	Jihomoravský	6,820	5,575	1,044	201
12	Olomoucký	6,592	5,579	865	148
13	Zlínský	8,060	6,821	901	338
14	Moravskoslezský	10,808	8,208	2,076	524
Total (Czech Republic)		**74,149**	**61,721**	**10,142**	**2,286**

Source: Institute of Health Information and Statistics of the Czech Republic

At the end of 2012, more than 74 thousands patients were diagnosed with strabismus (Figure 6.3.7) where 10.8% of it belonged to the new occurrence. From gender structure point of view, women constitute 52.6% of total number of patients suffering from strabismus. The majority (68.8%) of strabismus patients is represented by children under 15 years old which stands for almost 51 thousands patients. Total prevalence of strabismus in Czech population was 7.1 patients per 1,000 inhabitants. (Figure 6.3.8) The total number per 1,000 inhabitants has had a decreasing trend in the age category under 19 years, the number of 29.8 patients was recorded in 2012. More than double, with 60 patients of strabismus per 1,000 inhabitants was in the region number 13 (Zlínský). The lowest amount of strabismus occurrence in this

category was in the region No. 2 (Středočeský) accounting 14.3 patients per 1,000 inhabitants.

Figure 6.3.8: Number of dispensarized patients with glaucoma and strabismus per 10,000 inhabitants (in 2012)



Source: Institute of Health Information and Statistics of the Czech Republic

According to the Figure 6.3.8 it is evident that there higher presence of glaucoma than strabismus, in some cases even 3 times higher in the Czech Republic. The highest difference is recorded in the regions number 1, 8 and 9 (Prague, Královéhradecký and Pardubický).

Cataract

The statistical records provided by the Institute of Health Information and Statistics of the Czech Republic recorded 374 thousands patients with cataract in 2012. The 57.9% of total number of these patients were women. Approximately 35.5 patients of

cataract were found per 1,000 inhabitants in 2012. There were 102 thousands ambulatory interventions of cataract in the Czech Republic.

Costs and expenditure on ophthalmology

As mentioned in the theoretical part of, some costs and expenditures of patients on ophthalmologic care in the Czech Republic are reimbursed by Health Insurance Companies. The expenditure of Health Insurance companies is shown in the Figure 6.3.9 based on the data from Czech Statistical Office.

Figure 6.3.9: Expenditure of Health Insurance Companies on health services and eye diseases (in million CZK)

	2000	2005	2010	2011	2012
Eye disorders and diseases	1,717	2,202	2,816	3,187	3,155
Total expenditure on health services	115,792	170,093	213,900	222,856	226,035

Source: Czech Statistical Office, own elaboration

The Health Insurance Companies spent over 3 billion CZK (€125,743,801.5) on treatment of eye diseases and disorders which was 1.4 billion CZK (€57,312,072) more than in 2000. In 2012, they spent 32 million CZK (approx.1.3 million EUR) less than in 2011. However the total expenditure of insurance companies on health services in 2012 has increased of more than 3 billion CZK (126.7 million EUR) against 2011.

The Figure 6.3.10 shows total expenditure on health care in the Czech Republic and which part of it represents expenditures on ophthalmologic devices. Ophthalmologic devices include retail sale and other suppliers of dioptric glasses and other products of ophthalmology. The years 2000 and 2005 are recorded for comparison of expenditures in long-term period.

Figure 6.3.10: Expenditure on ophthalmology devices and its proportion of total health care expenditure in the Czech Republic (in million CZK)

	2000	2005	2010	2011	2012
Ophthalmology devices	2,328	3,661	4,389	4,346	4,760
Total expenditure on health care in the CR	146,835	218, 774	284,141	289,180	292,002

Source: Czech Statistical Office, own elaboration

Total health care expenditure in the Czech Republic in 2012[51] was around 292 billion CZK that accounted with the 2012 exchange rate more than 11 billion EUR (€11,558,147,040). The expenditure for ophthalmologic devices (€189,711,726) represents only 1.63% from total health care expenditure in 2012. Comparing to the year 2000, the Czech Republic spent around 2.5 billion CZK more on ophthalmology devices in 2012.

Figure 6.3.11: Expenditure of households on dioptric glasses and its proportion of total expenditure of households on health care (in million CZK)

	2000	2005	2010	2011	2012
Expenditure on glasses	2,006	3,343	4,361	4,267	4,282
Total households expenditure	13,873	23,110	41,876	42,275	43,634

Source: Czech Statistical Office, own elaboration

Total expenditures of households on health care had exceeded 40 billion CZK since 2008 (Figure 6.3.11). In 2012 it equaled 43.6 billion CZK (1.74 billion Euros). The expenditures of households on health care had been growing by the average rate of growth 9.5% since 2005.

[51] The Euro to Czech Koruna exchange rate on 31 December 2012 was: 1 EUR = 25.0907 CZK

Czech households spent more than 4 billion CZK (170.7 million Euros) on glasses in 2012 that is more than double than in 2000. Part of the expenses of dioptric glasses is covered by health insurance funds, and only in particular cases. From the Figure 6.3.4 is apparent that the highest expenditure on glasses (4.3 billion CZK) was recorded in 2010. Two years later the expenditures were decreased by 79 million CZK (€3.1 million).

The Figure 6.3.12 shows the expenses of the General Health Insurance Company Czech Republic (VZP ČR) on particular eye disorders in 2012. Since the VZP is the largest health insurance company in the Czech Republic and finances more than 60% of the insurance market, the data provided by VZP are used to illustrate the expenses on treatment of certain disease or disorder.

Figure 6.3.12: Costs of treatment covered by VZP in 2012

Eye disease	Number of the insured examined	Costs (in thousands CZK)
Glaucoma	220,267	232,366
Diseases of eyelid, lacrimal system and orbit	65,679	80,426
Lens disorders	157,218	906,579
Diseases of choroid and retina	109,238	308,521
Disorders of ocular muscles, binocular movement, accommodation and refraction	760,241	467,231

Source: VZP, Annual Report 2012, own elaboration

There were more than 220 thousands insured by VZP that were examined/treated of glaucoma. The total cost for glaucoma treatment in 2012 was around 232 million CZK (€ 9.1 million).[52] The General health insurance company spent more than 900 million CZK (€ 35.5 million) on treatment of lens disorders and thus it is one of the

[52] The Euro to Czech Koruna exchange rate on 1 January 2012 was: 1 EUR = 25.5202 CZK

largest parts of total costs. The most examinations financed by VZP were disorders of ocular muscles, binocular movement, accommodation and refraction that accounted more than 760 VZP insured in 2012. The costs connected with this category amounting to 467.2 million CZK (€ 18.3 million).

4.4 Ophthalmology in France

Based on the study made by l'Observatoire régional de la santé des Pays de Loire in 2005, the estimated number of 1,700,000 of people visually impaired represented 2.9% of the population of France. All the cases of vision problems are divided into 4 categories according to the severity. Out of the total estimated population suffering from vision diseases 61,000 people face vision loss or blindness, 146,000 patients have partially sighted vision with ability to see shapes and silhouettes. The largest part represents 932,000 cases of partially sighted vision with serious problems or incapability to recognize shapes in a distance of 4 meters. More than 500,000 people suffer from light vision errors.

The studies show that 10% of new born children in France are diagnosed with some vision problem. The most common disease in these cases is strabismus, amblyopia (also called "lazy eye") and refractive errors that can be fixed without surgery or medication. Approximately 1% of these patients suffer from serious eye disorders such as glaucoma, cataract or pigmentary retinopathy.

It is estimated that more that 60% of population in France over 60 years old have vision problems and the prevalence is still increasing with higher age. People over 60 years old very often suffer from cataract, glaucoma, diabetic retinopathy and Age related Macular Degeneration. [53]

The total number of ophthalmologists in France and their allocation in certain regions is shown in the Figure 6.4.1. In 2009, the Ministry of Social Affairs and Health recorded 209,143 doctors that were divided between 101,667 general practitioners and 107,476 specialized physicians. From the total number of specialized physicians, 5.2% represented ophthalmologists. The number of 5,567 ophthalmologists in France métropolitaine and 112 ophthalmologists in oversees areas of France accounted for 2.7% of all doctors in the country. The number of ophthalmologists has had a decreasing trend in almost 20 years period between 1990

[53] Alcon France. [online]. [cit. 2014-08-04]. Available at: http://www.alcon.fr/

and 2009. In 1990 the ophthalmologists represented 6.3% of total number of specialized physicians.

Figure 6.4.1: Number of ophthalmologists in each region of France (in 2009)

	Number of ophthalmologists		
Region	**number**	**women(%)**	**per 100,000 inhabitants**
Alsace	154	35.2	8.4
Aquitaine	299	33.1	9.4
Auvergne	116	45.8	8.7
Basse Normandie	105	41.5	7.2
Bourgogne	110	36	6.7
Bretagne	242	45.1	7.7
Centre	160	39.1	6.3
Champagne Ardenne	73	41.1	5.5
Corse	23	34.1	7.6
Franche-Compté	66	45.4	5.7
Haute Normandie	125	38.8	6.9
Ile-de-France	1,527	54	13.1
Languedoc Roussillon	256	42.5	9.9
Limousin	53	38.7	7.2
Lorraine	165	40.5	7.1
Midi-Pyrénées	239	44.3	8.4
Nord Pas de Calais	250	29.9	6.2
Pay de la Loire	259	37.9	7.4
Picardie	113	38.5	5.9
Poitou-Charentes	117	30.1	6.7
Provence-Alpes-Côte d'Azur	589	36.6	12
Rhône-Alpes	525	45.3	8.6
Total (France Métropolitaine)	**5567**	43.3	**8.5**

Source: Commission Démographie et Santé Publique du SNOF

The highest number of ophthalmologists is concentrated in the region Ile-de-France, where is situated the capital Paris and thus the highest proportion of French population. The regions with more than 500 ophthalmologists are Rhône-Alpes (525) and Provence-Alpes-Côte d'Azure (589). Only 23 ophthalmologists are recorded in the small island Corse, that belong to the mainland of France.

According to the data from the Ministry of Social Affairs and Health, 84% of ophthalmologists (4,657) work in their private practice. In comparison to it, only 683 ophthalmologists, that represent 12% of total specialist, work in public hospitals.

By 2009, 43% of total number of eye specialists constituted women. The largest proportion of women was recorded in big cities and regions with high density of population, such as Ile-de-France, Rhône-Alpes, Auvergne and Bretagne.

For comparison of density of ophthalmologist per 100,000 inhabitants, the 22 regions seemed to be the best indicator. Comparing the individual departments would not be objective because certain departments are less inhabited with very different economic activity than for example Paris. On the other hand significant density in some departments is often explained by the presence of the cities or big universities. Therefore it is necessary to ensure adequate access to ophthalmologic care to the whole population and distribution of care within each region. In 2009, the average density of ophthalmologists in France was 8.5 per 100,000 inhabitants. The lowest rate was in region Champagne Ardenne (5.5) and Franch-Compté (5.7). On the contrary, Ile-de-France and Rhône-Alpes both have more than 12 ophthalmologists per 100,000 inhabitants. Generally, with recent activity of ophthalmologists, the density equal or higher than 10 ensures no waiting for patients, the value between 8 and 10 ophthalmologists per 100,000 inhabitants is acceptable. According to the studies of the Ministry of Social Affairs and Health (DREES) the ophthalmologists in France are well distributed.

According to the latest data provided by the International Council of Ophthalmology, total number of ophthalmologist in France by March 2014 was around 7,000. It means approximately 111 specialists per million inhabitants. The data were gathered by survey in 213 global ophthalmic societies published in 2012 and updated in March 2014.

The relative lack of specialists, such as ophthalmologists for example, has led to experimentation with transferring competence from ophthalmologists to orthoptists and to optometrists in order to compensate for the scarcity of ophthalmologists.

The figure 6.4.2 shows number of surgical interventions in ophthalmology in private and public establishments in 2003. The table includes only intervention of particular diseases. The total number of intervention carried out was more than 600,000 where almost three quarters were done in private establishments. The majority of interventions belong to surgeries of cataract (with almost 500,000 interventions). From the table is obvious that private establishments carry out more interventions than the public ones. In case of cataract surgeries, 81% were done in private establishments.

Figure 6.4.2: Number of surgery intervention in ophthalmology in France (in 2003)

	TYPE OF ESTABLISHMENT		
	PRIVATE	PUBLIC	TOTAL
Glaucoma	8,000	7,400	15,400
Cataract	402,800	96,500	499,300
Strabismus	8,000	5,900	13,900
Total	473,300	164,700	638,000

Source: Commission Démographie et Santé Publique du SNOF

For objective comparison of the ophthalmology areas in the Czech Republic and France, latest available data from 2012 were collected in France and the comparison is done in the next chapter.

Figure 6.4.3: Number of ophthalmologists in 2012

REGION	TOTAL	POPULATION	DENSITY/100,000 INHABITANTS
Ile-de-France	1,102	11,845,026	9.3
Champagne-Ardenne	69	1,363,153	5.1
Picardie	105	1,946,752	5.4
Haute-Normandie	120	1,864,400	6.4
Centre	141	2,599,056	5.4
Basse-Normandie	92	1,506,190	6.1
Bourgogne	96	1,680,451	5.7
Nord-Pas-de-Calais	209	4,074,918	5.1
Lorraine	139	2,387,639	5.8
Alsace	145	1,866,100	7.8
Franche-Comté	61	1,198,786	5.1
Pays-de-Loire	247	3,647,730	6.8
Bretagne	217	3,275,891	6.6
Poitou-Charentes	103	1,810,050	5.7
Aquitaine	274	3,294,996	8.3
Midi-Pyrénées	208	2,941,046	7.1
Limousin	42	758,932	5.5
Rhône-Alpes	445	6,334,712	7.0
Auvergne	98	1,377,881	7.1
Languedoc-Roussillon	227	2,672,140	8.5
Provence-Alpes-Côte d'Azur	519	4,944,946	10.5
Corse	24	312,396	7.7
TOTAL FRANCE MÉTROPOLITAINE	**4,683**	**63,703,191**	**7.4**

Source: www.ameli.fr, own elaboration

By the end of 2012 there was registered total number of 4,683 ophthalmologists in France (Figure 6.4.3). Almost a quarter of them (1,102) are concentrated in the region Ile-de-France where live nearly 12 million people. Significant part of ophthalmologist is also in the region Provence-Alpes-Côte d'Azure with 519 eye specialists and Rhône-Alpes with 445 ophthalmologists. On the other side only 24

ophthalmologists carry out their practice in the small island Corse with the population about 300,000.

The average density of ophthalmologists in France was 7.4 per 100,000 inhabitants (Figure 6.4.3). The lowest density was recorded in regions Chapagne-Ardenne, Nord-Pas-De-Calais, Franche-Comté, Picardie and Centre with the density around 5 eye specialists per 100,000 inhabitants. The highest density of 10.5 ophthalmologists is in Provence-Alpes-Côte d'Azure, however very sufficient density (around 8) is in Ile-de-France, Languedoc-Roussilon, Aquitaine and Lorraine.

The number of 4,683 ophthalmologists that was mentioned above represents only the mainland of France, however there are 104 specialists working in overseas departments of France where Guadeloupe, Martinique and French Guiana belongs. The overseas departments account for population roughly 2,099,756. Out of the total number of 4,787 ophthalmologists in the whole France, more than 60% are men. (Figure 6.4.4)

Figure 6.4.4: Division of ophthalmologists by gender in 2012

AREA	MEN	WOMEN	TOTAL	AVERAGE AGE
France Métropolitaine	2,764	1,919	4,683	55
Overseas areas	75	29	104	54

Source: www.ameli.fr, own elaboration

The whole ophthalmology unit carried out more than 35 million medical treatments, consultations and other interventions in 2012. The largest part is represented by consultations that accounted for total number of 13 million. Technical interventions that consist mainly from examination of vision and back of eye are more often than the surgical interventions. As the Figure 6.4.5 depicts the most technical interventions non-surgical were done in the region Provence-Alpes-Côte d'Azure (2,615) and Haute-Normandie (1,289). It is very strange that in the most populated region Ile-de-France only 275 technical non-surgical interventions were carried out which is 4 times less than in Haute-Normandie. However, when the total number of

all technological interventions is compared, the region Ile-de-France has more than 3.5 million of technical interventions. If the focus is on surgical interventions, the first place with the highest number is Haute-Normandie, followed by Provence-Alpes-Côte d'Azure and Ile-de-France. On the other side, in some regions such as Alsace, Picardie the surgical interventions are not carried out at all.

Figure 6.4.5: Activity of ophthalmologists in 2012

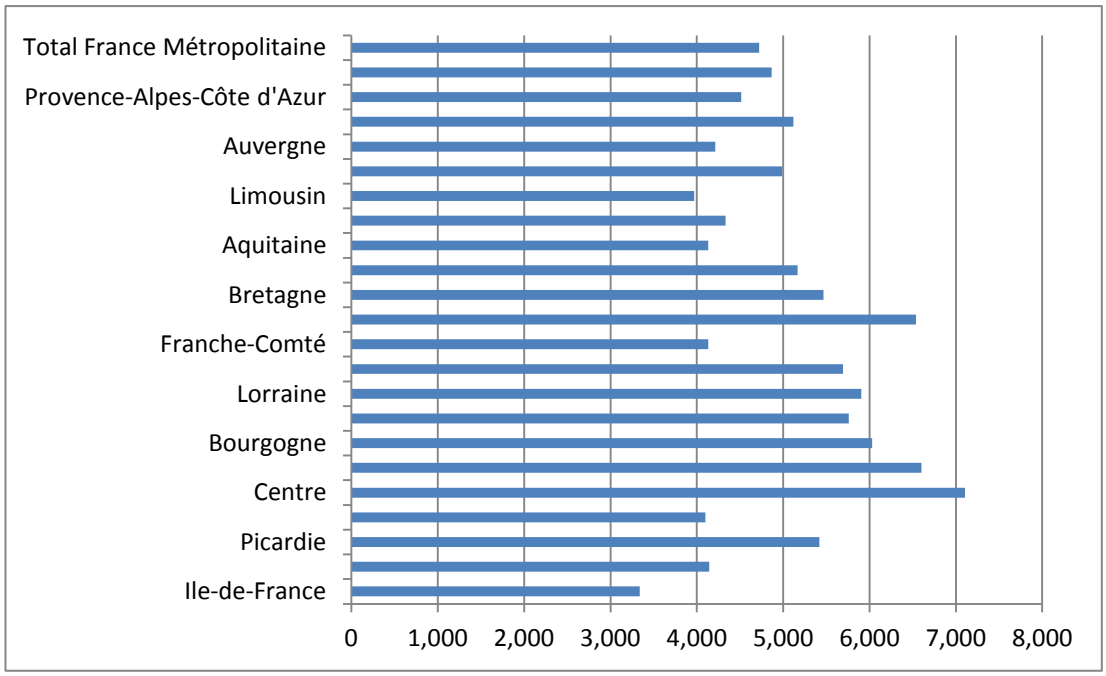
REGION	CONSULTATIONS	VISITES	SURGICAL INTERVENTIONS	TECHNICAL INTERVENTIONS	TOTAL ACTIVITY
Ile-de-France	2,522,577	192	40	275	6,203,715
Champagne-Ardenne	260,540	8	7	38	546,324
Picardie	333,142	10	0	119	902,219
Haute-Normandie	430,113	4	64	1,289	921,984
Centre	338,867	10	0	148	1,340,799
Basse-Normandie	269,393	3	0	130	876,488
Bourgogne	313,416	7	0	254	892,296
Nord-Pas-de-Calais	698,690	18	3	640	1,902,537
Lorraine	443,609	25	1	74	1,264,096
Alsace	378,269	5	0	515	1,203,782
Franche-Comté	226,835	9	1	158	478,973
Pays-de-Loire	722,389	15	1	726	2,336,696
Bretagne	742,921	22	5	167	1,928,740
Poitou-Charentes	407,142	10	6	264	939,469
Aquitaine	890,887	19	27	616	2,023,055
Midi-Pyrénées	702,868	18	1	147	1,603,879
Limousin	165,020	12	2	255	331,688
Rhône-Alpes	944,934	22	1	511	3,165,203
Auvergne	367,180	10	0	539	780,243
Languedoc-Roussillon	598,193	13	15	213	1,760,329
Provence-Alpes-Côte d'Azur	1,162,422	100	47	2,615	3,504,652
Corse	63,794	25	0	4	180,584
TOTAL FRANCE MÉTR.	**12,983,201**	**557**	**221**	**9,697**	**35,087,751**

Source: www.ameli.fr, own elaboration

The third column shows number of doctors visits at the patients place. It is not a common service however more than 500 of these visits are done in France every year.

In 2012, there were approximately 22,103,960 ophthalmologic interventions/examinations without consultations carried out in France (Figure 6.4.6.). For the international comparison the number of interventions per one ophthalmologist is more important. One French ophthalmologist does in average 4,720 interventions per year. In region Centre 7,106 examinations/interventions belong to one ophthalmologist. The number higher than 6,000 interventions per ophthalmologist is recorded in Basse-Normandie (6,599), Bourgogne (6,030) and Pay-de-Loire (6,536). Contrary the lowest number of examinations per one specialist (3,340) is done in Ile-de-France where, is the highest density of ophthalmologists in France.

Figure 6.4.6: Number of interventions/examinations per 1 ophthalmologist (2012)



Source: www.ameli.fr, own elaboration

The Figure 6.4.7 shows earnings of ophthalmology by each region in 2012. Total earnings of French ophthalmology equaled 1.4 billion Euros where more than 1 billion Euros represented the earnings themselves and around 370 million were charged as extra fees *(dépassements)*. These extra charges are not reimbursed by SHI they are financed by individuals (patients). The amount of dépassements differs by each ophthalmologist.

Figure 6.4.7: Total earnings in 2012

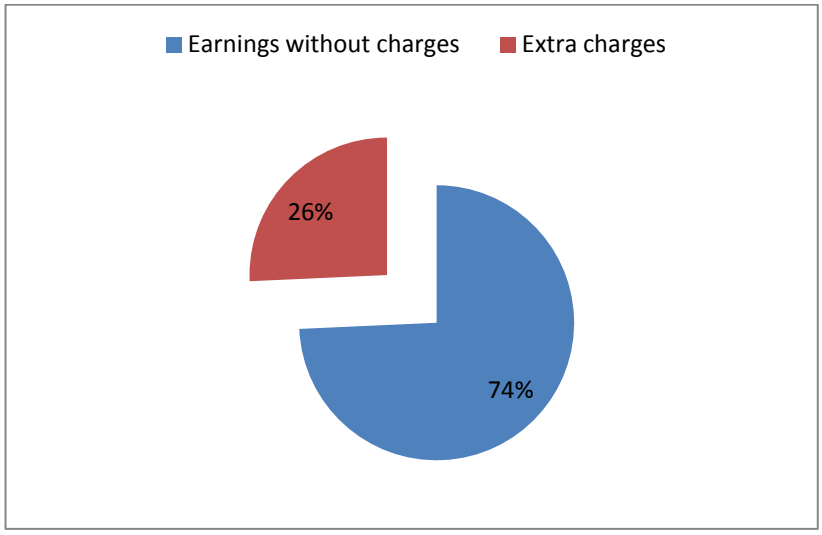
REGION	OPTHALMOLOGISTS	EARNINGS WITHOUT EXTRA CHARGES (Euros)	EXTRA CHARGES (Euros)	TOTAL EARNINGS (Euros)
Ile-de-France	1102	174,427,422	127,682,718	302,110,208
Champagne-Ardenne	69	17,043,535	5,821,971	22,865,511
Picardie	105	24,861,540	8,946,920	33,808,460
Haute-Normandie	120	29,316,802	5,340,295	34,657,102
Centre	141	38,959,935	11,726,801	50,686,755
Basse-Normandie	92	25,904,121	4,277,440	30,181,580
Bourgogne	96	27,271,131	9,463,520	36,734,670
Nord-Pas-de-Calais	209	57,831,723	12,524,233	70,355,984
Lorraine	139	37,829,602	7,389,717	45,219,396
Alsace	145	33,753,750	14,084,422	47,838,174
Franche-Comté	61	13,804,191	3,490,341	17,294,532
Pays-de-Loire	247	76,031,618	13,052,410	89,084,303
Bretagne	217	62,072,040	7,055,466	69,127,510
Poitou-Charentes	103	29,655,348	8,236,109	37,891,581
Aquitaine	274	65,361,840	18,892,451	84,254,543
Midi-Pyrénées	208	52,467,742	10,192,302	62,660,064
Limousin	42	12,244,887	2,283,500	14,529,133
Rhône-Alpes	445	93,183,745	42,434,933	135,618,715
Auvergne	98	25,323,373	5,728,810	31,052,240
Languedoc-Roussillon	227	55,318,723	11,660,383	66,979,536
Provence-Alpes-Côte d'Azur	519	111,509,108	38,013,811	149,523,272
Corse	24	5,825,761	2,125,996	7,951,761
TOTAL FRANCE MÉTR.	**4683**	**1,069,997,937**	**370,424,549**	**1,440,425,030**

Source: www.ameli.fr, own elaboration

The highest earnings were recorded in the most inhabited regions – Ile-de-France, Rhône-Alpes and Provence-Alpes-Côte d'Azure. It is necessary to point out that in Ile-de-France the extra charges accounted for 42% of total earnings however in the region Provence-Alpes-Côte d'Azure the extra charges represented only 25%. The significantly higher proportion of extra charges in the region of the capital than the other region could be explained by the number of ophthalmologists that is doubled. The extra charges are not reimbursed by health insurance companies.

The extra charges *(dépassements)* represented around a quarter of total earnings of ophthalmology in 2012 as it is displayed in the Figure 6.4.8.

Figure 6.4.8: Composition of total earnings in ophthalmology in France (2012)



Source: www.ameli.fr, own elaboration

Fees of transfer (*Frais de déplacement*) are included in the total earnings (Figure 6.4.7). These fees that accounted for 2,544 EUR in France in 2012 represent the costs connected with doctor's travel to the patient's place for examination. Doctors usually commute to patient's place in regions where the density of population is lower and patients are more likely not able to travel. The region Limousin recorded costs of €746 in 2012 for the fees of transfer.

Glaucoma

The data concerning glaucoma are based on 8 international studies. These studies estimate that from 1.1 to 3% of population aged 40 years suffers from glaucoma. In the Figure 6.4.9 the prevalence of glaucoma in certain age categories is shown. The prevalence of glaucoma grows with the age of population. Less than 1% of population between 40 and 49 years suffer from glaucoma, however it is from 2.16 to 8.2% of population over 80 years with this disease. The long-term studies demonstrate that at least 50% of patients with glaucoma do not know it.

Figure 6.4.9: Average prevalence of glaucoma by age

	Age category				
Prevalence of glaucoma	40-49 years	50-59 years	60-69 years	70-79 years	over 80 years
	0.1 - 0.92 %	0.3 - 0.72%	0.88 - 1.9%	2.89 - 5.2%	2.16 - 8.2%

Source: L'Assurance Maladie

According to the Figure 6.4.10, in 2020 the prevalence of glaucoma is estimated between 340,000 and 880,000 people. The highest prevalence will occur by people over 70 years.

Data provided by Programme de Médicalisation des Systèmes (PMSI) recorded more than 170,000 ophthalmologic stays in public establishments in France, in 2003. The 80.5% of these stays were surgical, comparing to the private establishments where 99.1% of their stays of patients are surgical. Almost 7,500 of these stays were in case of glaucoma, which represent only around 4.5% of total number of stays. The largest proportion of stays in public establishments is determined by diseases of eye lens (96,490 stays) and diseases of choroid and retina (23,940 stays).

Figure 6.4.10: Estimated number of people suffering from glaucoma in 2000 and 2020

	Age category					Total
	40-49 years	50-59 years	60-69 years	70-79 years	over 80 years	
Population in 2000	8,449 - 77,713	20,104 - 48,250	47,784 - 103,169	131,576 - 236,745	46,133 - 175,134	254,046 - 641,031
Population in 2020	7,952 - 73,161	24,860 - 59,664	67,919 - 146,644	158,680 - 285,515	84,701 - 321,549	344,112 - 886,532

Source: L'Assurance Maladie

Cataract

The prevalence of cataract is increasing together with age of population. The average age of the patients with cataract is between 66 and 77 years. Unlike the category between 43 and 64 years that accounts 4.2% - 10% of population suffering from cataract, the highest prevalence of 60 – 67% of population is recorded among people over 85 years old. (see Figure 6.4.11)

Figure 6.4.11: Average prevalence of cataract by the age

	Age category			
Prevalence of cataract	43-64 years	65-74 years	75-84 years	over 85 years
	4.2-10%	18-29%	37-59%	60-67%

Source: l'Assurance Maladie

Based on the data of prevalence of cataract showed in the Figure 4.2.3, the estimated number of patients suffering from cataract in the 10 year interval (in 2000 and 2020) is recorded in the Figure 6.4.12 In 2020 the highest increase of cataract patients is estimated in between 43 and 64 years. The total number of people suffering from cataract is estimated between 4.8 million and 7.6 million.

The surgery of cataract that accounts more than 550,000 interventions per year is the most carried out surgery in France. Cataract used to be second most common disease

causing hospitalization, after births. The average time of hospitalization of cataract surgeries got shorten from 7 days in 1985 into two days in 2000. Nowadays, most frequently the operation of cataract is examined under the local anesthesia. The cataract surgeries have started to be carried out under local anesthesia in France since 1990, the development of medicine and technology has brought not only shorter stay of patient in the establishment, but also early socialization, decrease of repeating interventions and decrease of morbidity. Recently, the intervention is generally carried out as an ambulatory surgery, the patient undergoes the intervention and the same day leaves. [54] In 2009, there were 638,000 cataract surgeries examined. The cataract surgery is on the first place of all surgeries done in France.

Figure 6.4.12: Estimated number of people suffering from cataract in 2000 and 2020

	Age category				Total
	43-64 years	65-74years	75-84years	over 85 years	
Population in 2000	642,597 - 1,529,992	930,302 - 1,498,821	1,100,060 - 1,754,150	763,144 - 852,178	3,236,103 - 6,635,140
Population in2020	752,031 - 1,790,551	1,284,794 - 2,069,945	1,443,262 - 2,301,48	1,289,647 - 1,440,106	4,769,734 - 7,602,020

Source: www.ameli.fr

The significant development and progress has been recorded also in surgery of retina. The volume of these interventions rose between 2003 and 2009 by 36%. The number of refractive surgeries has tripled over last 15 years.

The increase in volumes of surgeries represents the general progress in ophthalmology in France. The development has mainly concerned the technical (specialized) acts than the surgical acts. According to the number of interventions, the surgical interventions represent only 3% of total volume of interventions. However, it is estimated that time spent by surgeries accounts roughly 20% of total time of ophthalmology work.

[54] L'Assurance Maladie. [online]. Available at : www.ameli.fr

5 Results of observation

The last chapter deals with the results that come from the comparison of two health care systems. In order to sum up the topic of ophthalmology and health care in France and the Czech Republic certain data are compared also to other European countries. Because the main source of international data was the Organization for Economic Co-operation and Development, the comparison is made on the member states, including the Czech Republic and France.

Based on the OECD data that are released on the websites of the organization and its annual publication Health at a Glance – OECD Indicators and the data collected by Czech Statistical Office and the Institute of Health Information and Statistics of the Czech Republic the results of the observation are presented. Out of total number of 34 member states of OECD, the 18 states were chosen to determine different trends and compare some of health indicators on the international basis. The results from particular chapters of this thesis that can be compared are discussed in this part.

It is very difficult to collect exactly same data in two different countries with different health care systems and methods of collecting data. Even though France and the Czech Republic have some mutual attributes the countries vary by demographical composition, historical development, economical and political situation.

The following part brings the indicators of health status, health care personnel and the activity of ophthalmology in both countries. The financing of ophthalmological care is too different to compare it, the individual financing methods, expenditures and costs are discussed in each chapter. Health care expenditure in general and its composition are data useful for international comparison.

Which system is the most convenient or suitable is the fundamental question while studying and comparing two health care systems.The evaluation has to be done from different points of view and by several criteria.

First criterion is satisfaction and responsiveness of population with health care and its approach to needs of population. This is a very subjective criterion the evaluation is done by questionnaire survey. The subjective part is the choice of respondents. Responsiveness is for example the waiting time for a planned treatment. The time of waiting depends on several factors. The most important is finance and capacity of health care establishment. The possibility of health care personnel to work in private and public sphere is significant factor in many countries. Another factor of responsiveness is opportunity of choice of doctor or Health Insurance Company.

Another criterion is fairness of the approach to health care which means access to health care regardless to patient financial resources.

The last criterion is efficiency that is assessed by the rate of health care expenditure on Gross Domestic Product.

Figure 7.1: Comparison of health care systems by certain criteria

	France	Czech Republic
Type of health care system	Bismarck model	Bismarck model
Choice of doctor	Free choice of patient	Free choice of patient
Choice of health insurance company	Choice limited by profession	Free choice of insurance company
Accessibility of health care	Health care is legally available for everybody	Health care is available for everyone with permanent residence
Number of doctors	Limited by government	Limited by contract with health insurance company

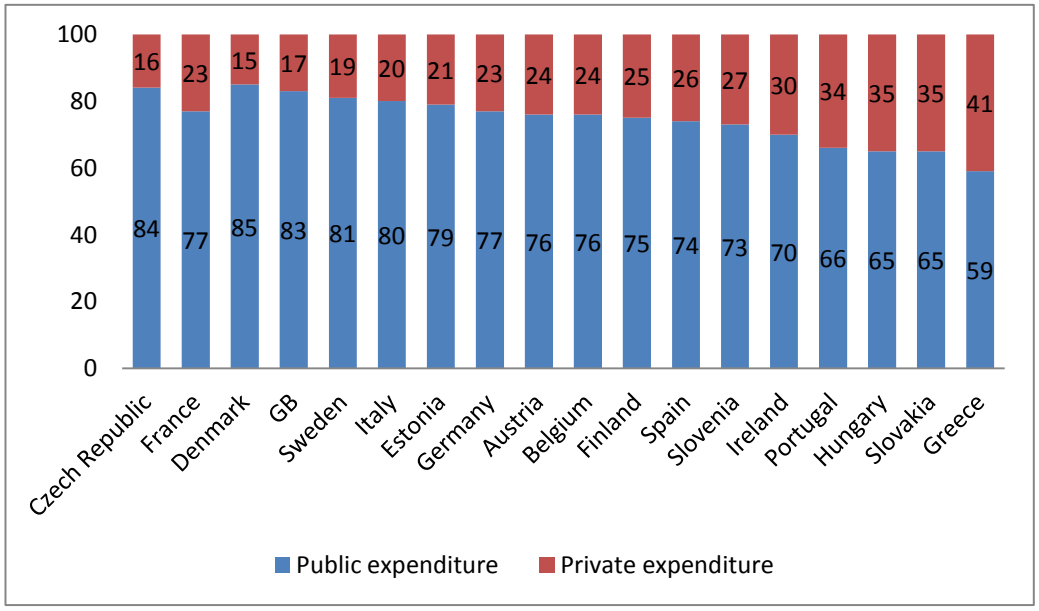
Source: own elaboration

Despite many small or big differences in health care systems, all countries have one mutual priority – ensuring appropriate health care to the largest part of population.

Health care must have determined a principle of financing, from public budget, compulsory or private health insurance and out-of-pocket payments. All health care systems deal with lack of financial resources. One possibility to raise inflow of resources to health care system is by increasing private sources from consumers of health care. This is done by implementation or increase of patients'contribution on financing. However it is very sensitive issue since it must not limit the access to health care. For example, in the Czech Republic the regulation fees (out-of-pocket payments) were introduced to avoid excessive medical care usage.

As shown in the Figure 7.2, the Czech Republic was one of the OECD countries with the lowest share of private expenditure on health care, amounting 16% of total expenditure in 2011. Private expenditure includes sum of household expenditures, expenditures of corporations, non-profit institutions and private insurance. In 2011, only in Denmark the rate of private expenditure was less than in the Czech Republic.

Figure 7.2: Health Care expenditures in OECD countries in 2011 (%)

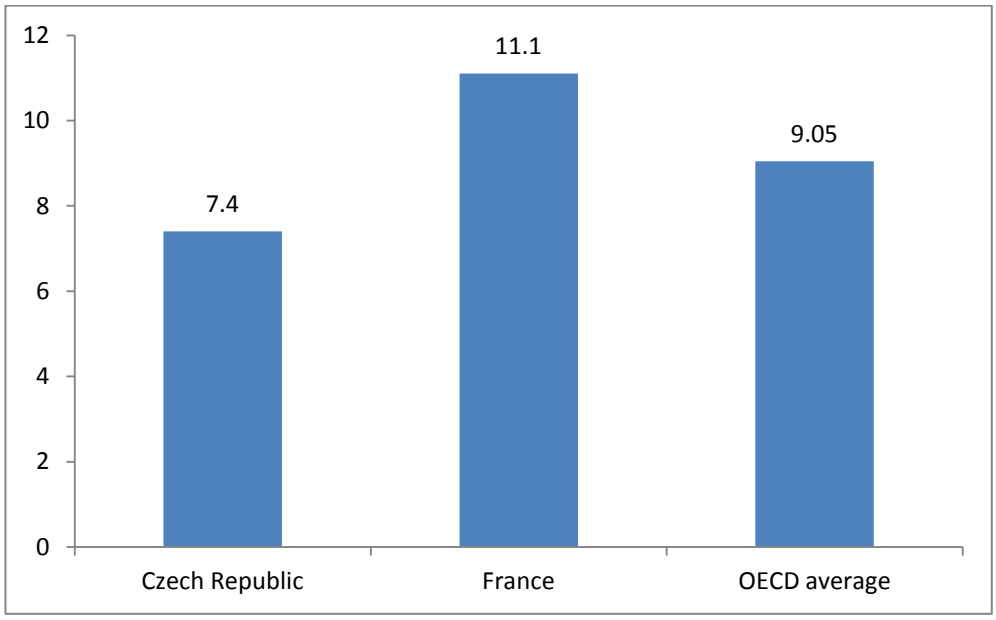


Source: Czech Statistical Office

Participation of private expenditure lower than 20% was also recorded in Great Britain (17%) and Sweden (19%). France has 23% of total expenditure covered by private one. On the other side of the graph (Figure 7.2) is Greece with 41%, Hungary and Slovakia with 35% and Portugal with 34%.

The lower rate of private expenditure is accompanied by higher public/state expenditure. The fact that public expenditure in France is represented by 77% negates my second hypothesis. Higher public expenditure (84%) is recorded in the Czech Republic. The principle of solidarity to finance health care is applied in the countries with high level of public expenditure, including France and the Czech Republic. As mentioned earlier the systems themselves and the level of solidarity differ from country to country. Solidarity express the idea that health care must be provided to anybody who needs it regardless their ability to pay. Financial resources are obtained either by taxation of population where a national health care is connected to national budget and is driven and controlled by state or the financing of health care is carried out by general health insurance companies that support all health care providers from their funds. Both, French and Czech health care systems are funded in part by obligatory health contributions levied on all salaries and paid by employers, employees and the self-employed.

Figure 7.3: Health care expenditure rate of GDP in 2012 (%)



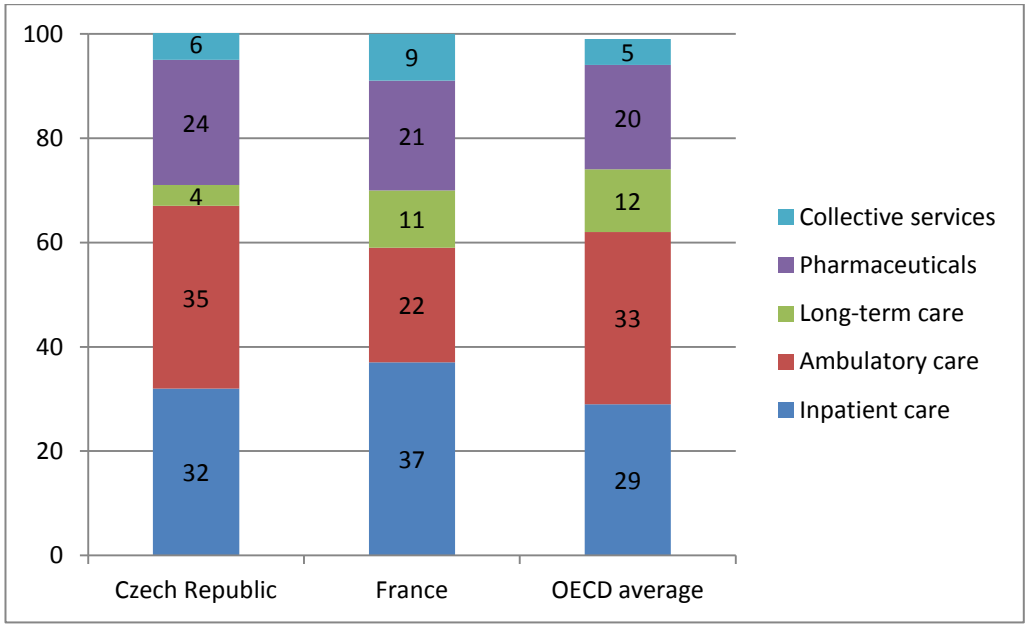
Source: OECD statistics, own elaboration

The economically more developed countries show higher health care expenditure rate of GDP. (Figure 7.3) For example, the health care expenditure in the Czech Republic represents 7.4% of GDP while the countries economically stronger such as France (11.1%), the Netherlands and Germany spent almost 12% of GDP on health care. The average of OECD countries was 9.05% of GDP.

Following graph shows comparison of ordinary expenditure on health care divided by type of health care.

If the Czech Republic is compared to the average of developed OECD countries, the Czech Republic is characterized by higher proportion of inpatient care (32%) as well as higher part of ambulatory care (35%). Higher expenditure on pharmaceuticals and other medical devices is apparent from the Figure 7.4. On the other hand the Czech Republic, amounting only 4%, is one of the countries with the lowest expenditures on long-term care.

Figure 7.4: Health care expenditure by type of health care in 2011 (%)

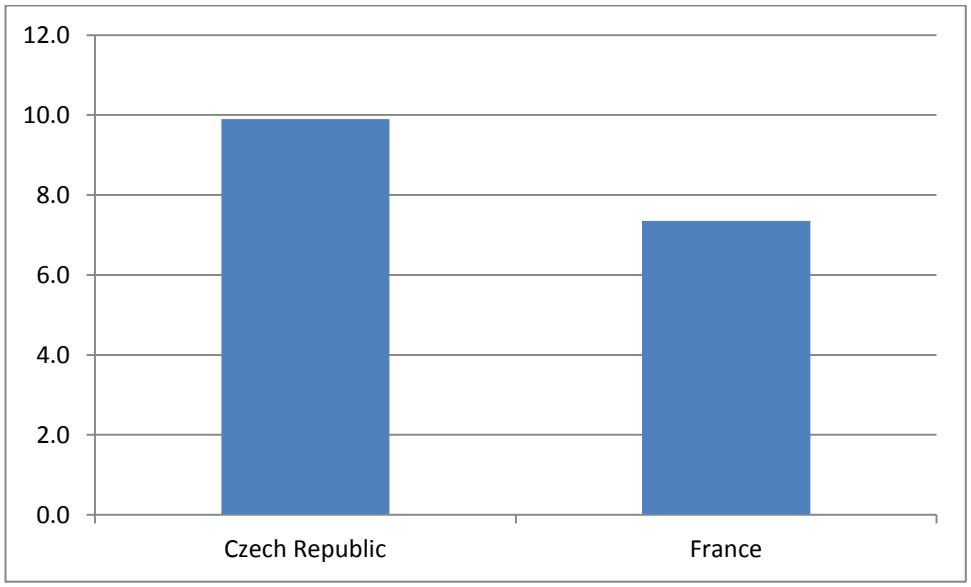


Source: Czech Statistical Office

France belongs to countries (together with Greece and Austria) with the highest proportion of inpatient care (37%). Contrary to the Czech Republic or the OECD average, ambulatory care in France accounts for only 22% of expenditure. Regarding to the expenditure on ambulatory care, France has the lowest proportion out of all OECD countries. France spent 3% less on pharmaceuticals and other medical devices than the Czech Republic in 2011. However, long-term care represents 11% of total health care expenditure which is very close to the average of OECD countries.

Total number of ophthalmologists is not an objective figure while comparing two countries because of different population number. The total number of ophthalmologists in the Czech Republic was 1,092 in 2012, and in France 4,683 eye specialists offered their services to almost 64 million people. Therefore the best criterion how to compare the capacity of health care establishments and personnel, and waiting time of patients connected to it is compare density of ophthalmologists per 100,000 inhabitants. It is evident that higher density of ophthalmologists is in the Czech Republic (9.9) whereas the average density in France is 7.4 ophthalmologists per 100,000 inhabitants. According to the Figure 7.5 a French ophthalmologist should be facing with higher number of patients and more work. However the number of patients with eye diseases and number of medical examinations and interventions play a significant role as well.

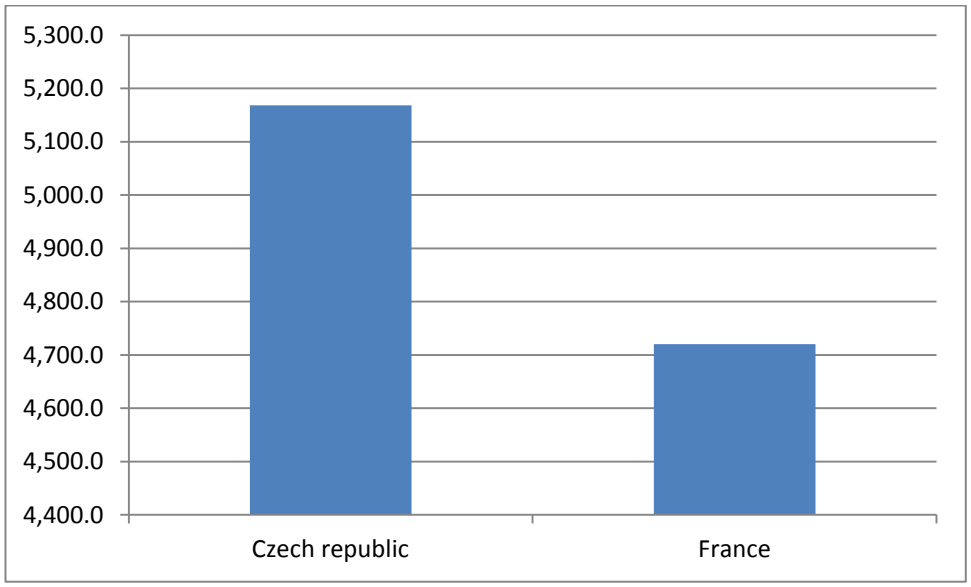
Figure 7.5: Density of ophthalmologists per 100,000 inhabitants – international comparison (in 2012)



Source: own elaboration

In order to show and evaluate the activity and capacity of ophthalmology health care available to patients the number of medical examinations/interventions per one ophthalmologist is depicted in the Figure 7.6. The difference of more than 400 examinations/interventions per year between an ophthalmologist in the Czech Republic and France say that even though there is more eye specialists in the Czech Republic per 100,000 inhabitants, the Czech ophthalmologist examines more interventions and sees more patients every year than the French one. This result disproves my first hypothesis when I stated that French ophthalmologists record higher number of interventions/examinations therefore their schedule is more busy than the Czech eye specialists. A French ophthalmologist did 4,720 examinations in 2012.

Figure 7.6: Number of medical examinations/interventions per one ophthalmologist (in 2012)



Source: own elaboration

This result partly confirms the surmise of Czech ophthalmologists and other physicians. They assume that their international colleague from France (even from other European countries) has lower number patients and thus less work. Some individuals would also add that all mentioned in previous sentence is accompanied by higher earnings, higher individuals' income.

According to my opinion, the professional situation either in France or in the Czech Republic is not so called black and white. It is very difficult to measure the real time spent a doctor spends with a patient. It depends on the point of view the work does not end after the patient leaves the office of the doctor. The number of examinations or interventions is not the only criterion how to evaluate the activity of doctors. They also spend time with patients by consultations, visits etc.

Regarding the financial part, of course, there are often significant differences between private and public physician income. However, the international differences are mainly generated by system of financing of health care in each country. For example, the problem of financing health care in the Czech Republic is not caused by lack of financial resources but the efficiency of their distribution and usage.

6 Conclusions

Health is not only a significant value for individuals it also has an importance for society in terms of economic and social development of society. Certainly, the one who decide about health is the individual itself. Therefore he/she plays the most important role. Nevertheless health is a result of several relations that make the individual a larger part of society. This is the reason why society is responsible for health care. The Constitution of the Czech Republic determines three points which health care of population is based on and which should be guaranteed by state. It is a health protection (prevention), health care (the service which individual uses while being ill) and health insurance (financing of first two points).

Illness rate is the primary indicator of health status. The statistical data about illness rate are in the Czech Republic collected by the Institute of Health Information and Statistics of the Czech Republic from different sources. In France the statistics about health status are done by Ministry of Social Affairs and Health (DREES) and Assurance Maladie (ameli.fr).

Fast pace of development and increasing quality of medicine, diagnostic and treatment methods cause lower need of hospitalization and thus number of beds in hospitals. The time of stays in beds gets shorter, some interventions require only one-day care in hospital or, and especially in ophthalmology, most of the interventions are done in ambulatory mode. Hospitalization is limited to the most severe cases.

Health care is in developed countries one of the most discussed topic. Financing of health care is influenced by economic situation of the country. The objective of the thesis besides other things was analyse and explain health care system in France and the Czech Republic in order to compare them and analyse the activity of ophthalmology in each country. Health care of a modern state which cares about general growth of population and health of current and future generations should be based on:

- ethical principles in order to help all suffering and ill people without any difference

- human solidarity and social cohesion
- individual interest
- effort to ensure a quality life for society

The quality of health care is the indicator that represents the level of country development. Health care financing method is related to the quantity and quality of health care. Due to the development of new treatment methods, high quality medicine, demographic changes of population, life style of population and presence of lifestyle diseases health care becomes very expensive and difficult to finance regardless the country or its health care system.

Generally speaking, health care systems must have enough of incomes (financial resource) in order to flexibly react to illnesses and thus improve health status of population. If the system does not work as it should the initial principle of its existence could fail as well as its purpose – healthy and active population. The objective of health care financing is to create a functioning system of health care with a use of the resources. In most of cases the problems related to health care financing are not caused by lack of resources but inefficient management, distribution and insufficient control.

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8 Supplements

La liste des affections de longue durée (ALD) – The list of serious illnesses

1. Accident vasculaire cérébral invalidant
2. Insuffisances médullaires et autres cytopénies chroniques
3. Artériopathies chroniques avec manifestations ischémiques
4. Bilharziose compliquée
5. Insuffisance cardiaque grave, troubles du rythme grave, cardiopathies valvulaires graves, cardiopathies congénitales graves
6. Maladies chroniques actives du foie et cirrhoses
7. Déficit immunitaire primitif grave nécessitant un traitment prolongé infection par le virus de l'immuno-déficience humaine
8. Diabète de type 1 et diabète de type 2
9. Formes graves de affections neurologiques et musculaires (dont myopathie), épilepsie grave
10. Hémoglobinopathies, hémolyses, chroniques constitutionnelles et acquises sévères
11. Hémophilies et affections constitutionnelles de l'hémostase graves
12. Hypertension artérielle sévère
13. Maladie coronaire
14. Insuffisance respiratoire chronique grave
15. Maladie d'Alzheimer et autres démences
16. Maladie de Parkinson
17. Maladies métaboliques héréditaires nécessitant un traitement prolongé spécialisé
18. Mucoviscidose
19. Néphropathie chronique grave et syndrome néphrotique primitif ou idiopathique
20. Paraplégie
21. Vascularites, lupus érythématheux systémique, sclérodermie systémique
22. Polyarthrite rhumatoïde évolutive
23. Affections psychiatriques de longue durée
24. Rectocolite hémorragique et maladie de Crohn évolutives

25. Sclérose en plaques
26. Scoliose idiopathique structurale évolutive
27. Spondylarthrite grave
28. Suite de transplantation d'organe
29. Tuberculose maladie, lèpre

Tumeur maligne, affection maligne du tissu lymphatique ou hématopoïétique[55]

[55] France. Décret no 2011-77 du 19 janvier 2011 portant actualisation de la liste et des critères médicaux utilisés pour la définition des affections ouvrant droit à la suppression de la participation de l'assuré. In: 2011. Available at: http://www.ameli.fr/fileadmin/user_upload/documents/Decret_n_2011-77_du_19-1-2011.pdf