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Nóra Munkácsi
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Thesis Supervisor: Ágnes Neulinger

STATEMENT ON THE ORIGINALITY OF THE THESIS WORK

Name: Nóra Munkácsi
E-mail address: nora.munkacsi@gmail.com
NEPTUN code: TQZK2S

Exploratory research on adherence programs in Hungary

Thesis Work consultant/supervisor' name: Neulinger Ágnes

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INTRODUCTION

"Over the years I have worked hard to become an expert in my own self-care...

Sometimes I use medications, therapy, self-help and mutual support groups, friends, my relationship with God, work, exercise, spending time in nature – all of these measures help me remain whole and healthy, even though I have a disability." (Alakeson-Perkins, 2012)

From /Deegan, 1993/

I, as a prospective marketing expert think that pharmaceutical industry faces lot of difficulties not only regarding observe laws, but also in terms of how to improve healthcare in term of minimize the number of potential patients due to the stabilized presence of adherence programs and maintain economic effectiveness. The main problem is arisen from patient and their medication, which cause a huge dilemma for pharmaceutical companies. In Hungary, significant numbers of people do not trigger the prescription, or which is even worse they buy the medicine, but do not take it. This phenomenon causes a problem for pharmaceutical companies and patients as well. The medicine of pharmaceutical companies won't be bought and people won't be recovered. Formerly, it was really hard to be able to control the therapeutically patient, but in the last years cooperation programs have been built between the patient, the doctors and the medical factories. This so called Adherence Program. This system has proven that it works in most Western_European countries, but this program was in a rough here in Hungary. The patient takes the pills as prescribed, these results less disease, less sick leave, doctors have more time for one sick person and there will be less pharmaceutical waste. All in all these programs are able to generate a positive chain reaction. It works in England, Germany and also in the United States, but in Hungary there are quite few obstacles to be overcome. I would like to investigate how patient adherence could be improved in Hungary and give advice which marketing tools should be more appropriate to help keeping Hungarian people in better health in an effective way.

To begin with, and in order to understand why diseases and healings became important in our lives, the origin of illnesses as well as the different historical eras need to

be detailed. Our forbears have to be started. The available information reveals that the Neanderthal man's supernatural world and physical life existed in parallel. In fact, this phenomenon disappeared due to the development of their physical senses, and this theory became blurred. In addition, the man of ancient times has already performed complex surgeries, such as trepanation or caesarean section, and had already had the substantial details of herbal knowledge. Although, they thought that it all came from the spiritual world. Wizards, shamans and holy people, referred to as doctors, possessed all the knowledge of the spiritual healing power and wisdom (Hajdu Ráfis, 2010).

In the old ancient empires faith appeared as today's meaning from the historical Jewish's and Christian's creation story. At this time, faith was in a strong relationship with epidemics, suffering from diseases and even death. This means that people believed that God punished them for their irreligiousness thinking by physical and mental illnesses, personal disabilities and obsession. On the other hand, people thought that God gave health and recovery to those who were good to him. For instance: The healing at the pool of Bethesda. According to the Bible, there was a tradition according to which an angel of the Lord landed on a nearby spring, stirred up the water at certain times and healed the sick who first stepped into it. At the very beginning, the healing person was a priest with a special occupation, and that started to evolve (Kölnei, 2007).

In the Greek-Roman era, remedy carried the wisdom of God and its principles of human reasons. The Greek Asklepios was one of the oldest medical schools. The famous Egyptian hypnotic sleep healing was used here. Priest healers focused more on mental health than the physical side. The treatments always started with a special feast and ritual cleaning, and the patients had to sleep in a temple. Otherwise, the knowledge of the healing was kept a secret and it passed from father to son. The biggest revolution came up in this field when Hippocrates' teaching appeared. He was the first person who thought that the healing person has a divine property. In general, he was a man-like god. He was responsible for observing patients carefully, answering their questions on how environment and nature can influence and support this process. Thanks to Hippocrates, remedy took a new direction that turned away from religion. This became the foundation of the contemporary European healing system. In Rome, the Roman physicians like Celsus exercised Greek principles. He said that the Gods of Rome did not help this remedy; they rather harmed patients' health (Hajdu, 2010).

During the Middle Ages Christian faith was maintaining its problem-solving and healing functions. Folk medicine got expanded by some knacks of naturopathy. In this era,

caring for the soul became part of the church and the role of remedy decreased even more in this field. Faith unfolded in a three dimensional triangle which was the body-soul-spirit. Regarding the importance of religion, faith was more emphasised than health (Kölnei, 2007).

In the 10th-11th century, based on the effect of Gondisapur's school, Arabian physicians brought chemistry, magic and astrology with them as well. Paracelsus (1493-1541) was a famous alchemist doctor. He is very important to mention because he created radically new methods. His opinion was that every person has his or her own spirits (archeus), and the forces of foreign spirits can damage them. The liberation of archeus from under the negative power happens with the help of nature or art.

At the beginning of the age of enlightenment, differently from the views of the previous eras when the main focus was on soul and faith, remedy turned only to physical-chemical observations. Rationalism, what became a new trend, had totally changed the definition of soul. Otherwise, psychiatry was also part of this changed perception.

In the 19th-20th centuries, although the average human age was increasing, the health status of the population in the developed countries continued to deteriorate. The role of the soul returned in the form of psychosomatic healing and searching the relationship between body and soul.

By the second half of the 20th century, pristine and contemporary symptoms could be defined with the help of up-to-date technologies and scientific means. In addition, this philosophy destroyed the boundaries of the three-dimensional view of the world, body-soul-spirit (Hajdu, 2010).

1. PATIENTS RELATIVE ATTITUDE TOWARDS THEIR AND OTHERS' DISEASES

After this short historical introduction, the present situation is going to be in the centre. Now, in the 21th century, it is quite difficult to understand the actual tendency regarding the type of relationship between health and faith. One thing is for sure. Most of the people rather rely on scientifically supported arguments than on spiritual and religious aspects. Hence, a short overview is needed on the patients of the 21th century in order to help us understand the reasons and perceptions they have in this field. So, in order to gain a deeper insight, some psychological and mental factors are necessary to be analysed. In

the recovery process, each person should be treated individually because the perceptions and attitudes concerning their health conditions are individual as well. There are several attributes that have factors influencing a person's perception regarding to his illnesses. For example: past experience, the closest family members, financial and personal abilities, WOM (word of mouth), and so on. This means that on the one hand we all have our own personality to understand our own sicknesses, as well as our strength, skills and values. On the other hand, the closer social environment we live in triggers different aspects off. For instance, family members can enhance the rate of recovery. There is a framework that lists all the factors that have an effect on the individual in general. According to Alakeson-Perkins (2012) this 5 dimensional 'real wealth' framework represents the quality of people's lives. They are the followings:

1. Strengths:

Everybody has its own strengths and weaknesses. Strength comes from the physical body and includes skills, interests and even needs.

2. Relationships:

In this field, friends, family, and other supporters have to be thought about, they have to be mentioned. They are the most important people who can ensure positive support regarding physical and mental health.

3. Community:

The community provides less support to the individual than the family but regarding work, education, contribution and personal expression it is connected to it to a great extent.

4. Control:

The three 'real wealth' factors listed above depend on how we can control our future actions. Strict control makes individuals move in the right direction where they originally wanted to go. But the lack of it results in uncertainty and unwillingness that help to realise their goals.

5. Resilience:

This can also be an important factor that determines a person's ability to achieve good outcomes. With the help of this, they have the faculty to see and recognise positive opportunities and not to be overwhelmed by difficulties and problems. This can also be thought of as hope.

(Alakeson-Perkins, 2012)

1.1 Psychological thinking of illnesses

This section can be linked to the above mentioned 5 dimensional 'real wealth' framework, through the first component, which is the strength. It comes from the intrinsic values of people, and is able to highly influence the outcome of personal equations in term of illnesses. For instance, they might have strong or even weak psychological thinking regarding their own health. There are many people, who suffer from serious illnesses, and due to their power of will, at the end of the recovery period, they become asymptomatic. In contrast with this, there are people who smoke cigarettes and do not really care about its health consequences. If they don't want to take any actions against the development of the diseases, they will probably catch them. This chapter will present those psychological factors, that are highly determined the final outcome of the healing process. There are several psychological factors, I will mention three of them. The first human inner emotional approach is depression. That is why it is important to go back to the individual's psychological thinking. In this case, the role of depression needs to be emphasized in this phenomenon. The treatment of morbid behaviour and illness refers to the interest that incorporates the individual's actual state of health and the health action he or she undertakes (V. Kasl-Cobb, 1963). The second one is the human self. Another study shows that low self-acceptance, assessed from a self-report measure as well as the subsequent pieces of evidence regarding suicide attempts, is associated with higher rates of applying for medical care. In other words, bodily distress leads both to low self-acceptance and seeking of medical aid (Roessler- Greenfield, 1958). One can find the connection between self-esteem, anger and aggression. For instance: it can be frustrating that someone wants to get a higher occupational status, but he or she cannot achieve it and stagnates in a lower one. In this case anger and the feeling of restlessness become stronger and stronger that can eventually lead to a disease (V. Kasl-Cobb, 1963). The third one is pessimism, that refers to an explanatory style. Beside distress this can also be a dangerous risk factor. So, all these aspects of investigations, regarding how an individual's psychological thinking can influence his health related behaviour, should be taken into account. A person's negative emotional personality has an impact on his own state of health. Speaking of negative feelings there can be a strong relationship between pessimism and poor health condition. This means that individuals with such feelings helplessly care and pay less attention to their symptoms. In the first instance these negative outcomes come into sight in the field of poor work performance, academic

failure and athletic setbacks. For example: in case of the people, who find themselves in a bad situation the probability of becoming ill, visiting their physicians, showing faulty immune function, and even dying in an early age is higher than in the case of optimistic individuals. Without any hope and the desire to fight to be optimistic fatalistic people think that there is no link between actions and outcomes. They believe that all events are predetermined and inevitable. Emily H. Lin and Christopher Peterson, Department of Psychology, University of Michigan, made a research in 1989. It was an exploratory study wherein 96 young adults were asked (45 men and 51 women) to fill in a questionnaire. The purpose of this study was to measure their explanatory style, habitual responses to illness, and their ways of coping with their most recent episode of illness. Results show that subjects who has a pessimistic attitude to bad events with internal, stable, and global causes said more frequent illnesses during the past year and ranked their overall health more poorly, than those who habitually favour external, unstable, and specific explanations.

“Our results suggest that one pathway leading from pessimistic explanatory style to poor health is mundane: passivity in the face of disease.” (E. Lin-C. and Peterson in 1989. pp 243)

Hope and optimism bear on sick people as well as stress, but in a positive way. Positive reinforcement has been correlated with health and successful co-operation, but the negative one, like depression, despair, and hopelessness, have been associated with capitulation, illness and even death. In this point of view it is essential to make a difference between hope and optimism. The latter corresponds to cognitive variable, while hope has been referred to be an emotion, albeit with cognitive components. According to Scheier and Carver, (1987) optimism can be described as a generalized belief in good outcomes. In other words, hope is an acknowledgement that motivates by giving hope in order to take action and also affects thoughts and behaviour. Where optimism is based on evidence, reasons, and a belief in personal efficacy, early trust experiences are influenced by external or collaborative control beliefs. So, for example, when people find rational facts about their good health that they believe to be true and believe that the outcome can be positive (McLenon-Scioli-M. Samor-L. Campbell-M. Chamberlin-B. Lapointe-R. Macleod, 1997).

1.2 Types of health-related behaviour

There are many theories that demonstrated different factors in connection with the patients' attitude, opinion and judgement in more detail than the above mentioned 5 dimensional 'real wealth' framework regarding illnesses. Besides psychical considerations there are many approaches that have been collected in order to explore all kinds of possibilities that might lead to the final choice in the participating medical care. Generally speaking, three kinds of health-related behaviour exist. These three aspects will be detailed because, in my opinion, they are able to encompass all the possibility factors that could influence the patient's final choice regarding medical care. The first one is illness-behaviour, the second one is health-behaviour, and the third one is sick role. In order to distinguish them well their definition need be clearly understood (Larsen-Lubkin, 2009).

"Sick-role behavior is the activity undertaken, for the purpose of getting well, by those who consider themselves it."

"Illness behavior is any activity, undertaken by a person who feels ill, to define the stage of his heath and to discover a suitable remedy."

"Health behavior is any activity undertaken by a person believing himself to be healthy, for the purpose of preventing disease or detecting it in an asymptomatic stage."

(Larsen-Lubkin, 2009. pp 24)

1.2.1 Sick-role behaviour

This theory was one of the most substantial ones in the field of medical sociology. Talcott Parsons was the first person who was concerned with it and published (1950) his own views in the form of a book, *A Social System*. He thought that being ill is not a biological and psychological condition and that it isn't simply an unstructured sequence of events, but it is a social consideration of the patients' engagement to the doctor-patient relationship. When somebody is talking about sick-role the following rules should be taken into account:

1. Sick people are exempted from “normal” social roles, which depend on the severity of condition and the approval of the physician.
2. Sick people are not responsible for their condition. Illness dominates over a person’s own control and help is needed in order for them to feel better.
3. The aim of a sick person is to get well. Sickness should be interpreted as an undesirable event of an individual, that dispenses from all the roles that are in connection with sicknesses as well as the responsibilities for illness that are in a conditional relationship with the obligation that leads to recovery. In general, sick individuals have to seek technical competent, and this can probably help them to cooperate with the physician (Cockerham, 2012).

All in all, the role of the patient is stipulated by the psychoanalytic structure of personality. In this case doctors and physicians have different authorities. Doctors practice the social control in the sick role system. Physicians enhance the importance of social goals like wellness, adjudge the legitimacy of illness for the patient and provide deviance mitigation. Illness behaviour is affected by the sick role concept, in terms of defining roles, norms and expectations that significantly contributed to the resolution of the event of illness and the returning to health (Young, 2004).

1.2.2 Illness-behaviour

Just, digging a little bit deeper in terms of the relationship between people and their illness behaviour, there are several theories that can clearly present different kinds of micro and macro factors, which should be taken into account. The definition of illness behaviour: “*The ways in which given symptoms may be differentially perceived, evaluated, and acted (or not acted) upon by different kinds of people.*” (Mechanic, 1962. pp 189). In general, this is a term in respect of what people do when they get sick. There are a lot of people with different kinds of personalities. For instance, one person might stay at home if he or she gets a cold while another one may continue with his or her daily routine without any care. Moreover, there may also be others who may consult a pharmacist or doctor or both. That is why we should educate people on how to pay enough attention to their health care. This should be started in a very early stage in their life. It is a proven fact that behaviour can be developed during different stages of a *person’s life cycle*. This theory

says that the base for illness behaviour is laid down in the early years. An example will be presented in order to understand the whole process. What will happen if a small boy or girl has a health problem? First, caregivers, like family members (mother, father), will be addressed. With crying or refusing the bottle he tries to call the caregivers attention. After that the caregiver realizes the physical (pain, constipation) and emotional (fear) symptoms. One thing is certain: the caregiver is going to respond to the observed physical and functional appearance on the basis of his or her own experiences. As it was mentioned before, there are a lot of people with different attributes. Some of them might monitor and handle the problem by themselves, and some of them might call the doctor. During these procedures a child will go through a learning process. As a consequence, the child learns to react with confidence or fear (van de Lisdonk E, 2004).

The adaptation theory questioned the aspect of deviant illnesses. Beyond the social, biological, and cultural events, there is a framework that points out the reasons that trigger the attitude towards illnesses. Illnesses are not unusual things in our lives. What is more, they are part of it. In this case, it is required that the sick adapts to the illness. The interaction of the society, through cultural, social, institutional and biomedical mechanisms, could form this adaptation theory. Toward Twaddle's assumptions is that illness is a socio-cultural event and sickness is a socio-biological event. The first can be described as the complexity of actions and the second one can be presented as the interactions in a complex model of behaviour (Young, 2004).

There is one model which can monitor all stages of illness behavior. In *Suchman's case* the theoretical background comes from Mechanic and Volkart (1961). "*The way in which symptoms are perceived, evaluated, and acted upon by a person who recognizes some pain, discomfort, or other signs of organic malfunction.*" (Suchman, 1965 pp: 114). Suchman, on the basis of his further conception regarding the topic, analyses this kind of behavior in respect of social patterns accompanying the seeking, finding and outlining of medical care (Suchman, 1965). There are five different stages in terms of medical events, which highlight the transition points involving new decisions made about the future actions of medical care.

The following list presents the five stages:

1. Symptom experience
2. Assumption of the sick role
3. Medical care contact
4. Dependent patient
5. Recovery or rehabilitation

(Suchman, 1965, pp: 114)

A short description is presented from each stage in order to gain a clear overview from it. The first stage is the Symptom Experience Stage that includes the awareness of the physical change, assess the change related to severity and form an emotional reaction, which has to be associated with assessment. Regarding this, the person will recognize that something is wrong. In this case there are three possible outcomes. People deny or accept the symptoms and then enter the second stage or delay to take any actions because they cannot make any decisions individually and then they wait for the further development of the symptoms. The second stage is the Assumption of the Sick Role. The fact is that illness has become a social phenomenon. Thus the ill person seeks validation for the sick role from other people. Some of them might deny the request for the sick role and others might accept the illnesses that entail stepping forward on the third stage. The third stage is the Medical Care Contact. Ill people have to leave lay remedies and enter the professional care system. This means that they try to find scientific care instead of lay care. When the physician accepts the confirmation of the request for sick role, people are able to enter the next stage. This is called the Dependent-Patient Role. Ill people hopefully will make a decision on illness treatment and become a real patient. There are some patients who might refuse treatment and there are others who may be a bit reluctant and just partly but contribute to the recovery system. Fortunately, there are some people who want to work together with the physician. The final stage is called Recovery and Rehabilitation. There are different kinds of recoveries. For instance: recovery means that the patients accept normal activities, however in gradual recovery patients take actions step by step. In the recovery process patients lay aside sick role, and at the end, when patients have already gone through the whole process, they would join and practice healthy life (Suchman,1965).

After recognizing different levels of personal equations regarding the participation in medical care, there are several other micro-macro environmental considerations that can influence the final decision making. It would be highly recommended that the model, which was made by Suchman, should be supplemented in order to get an extended overview over influencing factors. Furthermore, it becomes clear why most of the people argue in pros or against medical care. In my opinion, economical factors should also be mentioned regarding the choice of medical care. So, *Economic approach* should be taken into account because it also has the power to influence people's decisions in the seek care process. For instance, in Great Britain, income does not affect the level of care intention. Compared with this, in the United States of America, people with lower income pay less attention to their illnesses. There are many countries that provide social programmes like Medicare or Medicaid. Indigent people have resort to them much more than those of the middle class. Not only the number of participants varies in terms of the income level, but also the type of services. The lower income-level groups resort clinics and emergency rooms, while the groups with higher income level prefer private practitioners. Nevertheless, payment is not the only issue in illness behaviour. There are different types of approaches that should be presented in order to make their importance easier to understand (Young, 2004).

Among the different theories *Geographic approach* is not at the top of the priority list, but as far as I'm concerned, it is also important to mention. The theory, that the proximity of services can influence the health care utilisation, has been proven. It is almost like the economic approach, but in this case it is assumed that the greater the distance between the patient and the place of services is, the lower the probability of their better caring for their health would be. The opposite effect of the theory strengthens the fact that there are many countries where the transportation is inexpensive (Wanjiru Musyoka, 2011). There are other personal factors that should be taken into consideration. Such as *Socio-Demographic Approach*, that is based on different national surveys. All the information gained from a database highlights macro sociological effects of demographic variables on health-facility and health systems utilisation. Most variables that should be taken into consideration include age, sex, education, socio-economic status, ethnicity, religion and marital status. Some of them will be detailed (Young, 2004).

Age: In generally speaking, it is true that older people become ill more often than the younger generation. This means that the probability of care interest increases with the age.

Sex: Since the 20th century, the life expectancy of women has increased faster than of men's. Women pay more attention to the prevention of their health care, and they also have higher morbidity, more symptoms, and higher rates of healthcare use than man.

Education: It provides a better health care program at schools; therefore, people get adequate information about health care.

Socioeconomic status: *"Traditionally, the poor have utilised services less often than individuals at higher economic levels."* (Young, 2004. pp 18)

Race/ethnicity: *"Health care utilization varies with race and ethnic background. Lay referral systems, as well as the availability of alternative medicine capabilities, may vary among ethnic groups, so that they may seek care differently. People perceive illness differently based on their social construction of illness, which is partly shaped by their race and ethnicity."* (Young, 2004. pp 19)

Social network, as I have mentioned above, it refers to the family, friends and co-workers. The social network forms a bridge between micro and macro sociological approach and illness behaviour. In other words, it is a link between the 'pre-patient' world and the professional world in terms of efficacy, access and satisfaction with care. For instance, if the patient has doubt about his participation in a medical care program, a strong family support can help him to make that final decision. (World Health Organization, 2002) Levy (1983) outlines the mechanisms that show that social network affects care:

1. *directly modulates by family and peers;*
2. *can transmit beliefs through the socialisation process*
3. *reinforces healthy and unhealthy behaviours by activities, verbal stimuli*

And example

4. *reduces social supports or increases social impediments to care*

(Young, 2004. pp 21)

Consumer addiction can also be an influencing factor. It occurs when people depend on certain products in a psychological way. These problems, of course, include alcoholism, drug addiction, and nicotine addiction. In these cases addicted people are not self-aware so it is quite obvious how their social network (family, friends and other relatives) come into play.

1.2.3 Health behaviour

The answer to the question, why individuals perform different health behaviours, can be found in the section of psychological and socio-demographic factors, in Chapter 2.1 and under Illness- Behaviour as well. The performance of health behaviour can vary by gender. For instance, females are generally less likely to smoke and consume large amount of alcohol. They have more control over their diet, they take vitamins and engage in dental care. These assumptions are also true in case of the socioeconomic status and ethnic groups. The likelihood that the younger, wealthier, and better educated individuals, who are under lower levels of stress, and have a higher levels of social support participate in medical care and behave in a protective way is higher.(Conner, 2002). As it was mentioned above, stress is a psychological factor associated with health risking behaviour such as smoking and alcohol abuse. However, in my opinion, there are other factors that are also important to be taken into consideration. This is the reason why different kinds of models will be explained and demonstrated in this section, in order to explore the patients' thinking and their own approach to their illnesses. The factors and courses of actions within each model could influence the patients' behaviour. These models reflect and predict why people behave or change this way regarding health care. For instance, taking actions in order to protect themselves, screening alternative solutions and controlling illness conditions. The first theory is Social Learning Theory (SLT, which is the same in form as SCT), based on the concept that behaviour is characterized by expectations and incentives. According to the heuristic purposes, there are three kinds of expectations. The first might be the environment. An individual person identifies signs and beliefs on the basis of the way events are connected. The second one is about the consequences of one's own actions. This means that the outcome changes in terms of the change in customer's behaviour. And the third shows one's own competence to perform a behaviour that is needed in order to influence the outcomes. Incentives refer to the value of a certain object or outcome. In this case behaviour regulated these outcomes only. For

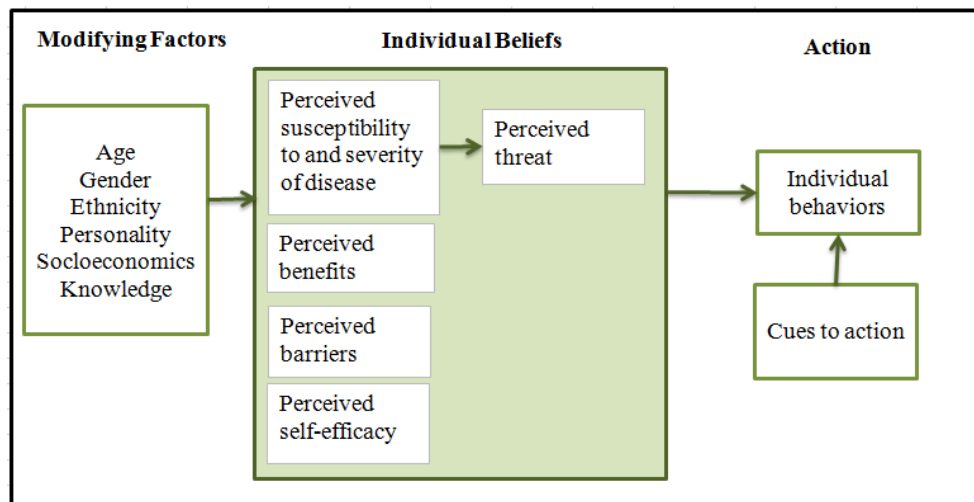
example, health status, physical appearance, approval of others as well as economic gain (Redding, 2000).

The next model is Health Belief Model (HBM), that also should be mentioned because it somehow connects to the previous SCT model above (Simon, 2013). It hypothesizes that people's actions depend on the simultaneous occurrence of susceptibility, seriousness, benefits and barriers to a behavior, cues to action, and finally self-efficacy. The table below shows the definitions and application of HBM

Concept	Definition	Application
Perceived susceptibility	Belief about the chances of experiencing a risk or getting a condition or disease	Define populations at risk, risk level Personalize risk based on a person's characteristics or behavior Make perceived susceptibility more consistent with individual's actual risk
Perceived severity	Belief about how serious a condition and its sequelae are	Specify consequences of risk and conditions
Perceived benefits	Belief in efficacy of the advised action to reduce risk or seriousness of impact	Define action to take: how, where, when, clarify the positive effects to be expected
Perceived barriers	Belief about the tangible and psychological cost of the advised action	Identify and reduce perceived barriers through reassurance, correction of misinformation, incentives, assistance
Cues to action	Strategies to activate "readiness"	Provide how-to information, promote awareness, use appropriate reminder systems
Self-efficacy	Confidence on one's ability to take action	Provide training and guidance in performing recommended action Use progressive goal setting Give verbal reinforcement Demonstrate desired behaviors Reduce anxiety

1. Table: Key Concepts and definition of Health Belief Model.

Karen Glanz, Barbara K. Rimer and K. Viswanath (2008): John Wiley & Sons, 4th edition, Published by Jossey-Bass, San Francisco. pp 46-51



1. Figure: Figure: Health Belief Model Components and linkages.
 Karen Glanz, Barbara K. Rimer and K. Viswanath (2008): John Wiley & Sons, 4th edition,
 Published by Jossey-Bass, San Francisco. pp 46-51

The components in the HBM model are interrelated. Figure 1 presents this kind of relationship. Modifying Factors like age, gender, ethnicity, personality, socioeconomics and knowledge, can bias health perceptions. Regarding this model, the Individual Stage is the most important part of HBM. For instance: susceptibility, severity, benefits, barriers and self-efficacy. The Modifying factors effect health beliefs that cause some kind of actions. Thus, all the combinations in the second stage (Individual beliefs) drive to behaviour. This means that if we add up the perceived susceptibility and severity factors they would be responsible for perceiving threats. It is obvious that this model is a very basic one, and it includes the most important components. Due to the existence of different studies it also has an extended version. For example, whereas many studies have tried to establish each of the major dimensions as independent, others have tried multiplicative ones. Analytical approaches focus on relationships, because the utility could be predicted in the HBM model (Glanz-Rimer-Viswanath, 2008).

This section will submit the comparison of HBM and SCT models, because in some cases they are closely related to each other. The following figure shows these kinds of differences.

Concepts	
Social Cognitive Theory	Health Belief Model
Expectancies about environmental cues	Perceived susceptibility to and severity of illness or its sequelae (threat)
Expectations about outcomes (Social Cognitive Theory does not explicitly include cost or barriers)	Perceived benefits of taking a particular action minus perceived costs or barriers to action
Expectations about self-efficacy	(Not explicitly included in Health Belief Model though implied in "perceived barriers")
Incentive	Health motive: value of reduction of perceived threats

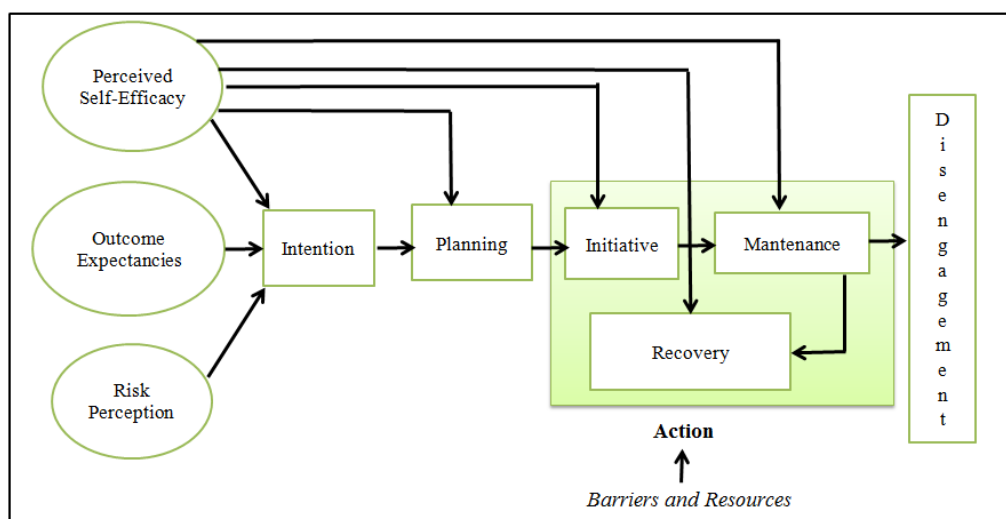
2. Figure: Difference between the SCT and HBM models.

Irwin M. Rosenstock, Victor J. Strecher and Marshall H. Becker (1988):

Social Learning Theory and the Health Belief Model. *Journal of Health Education Quarterly*, Vol. 15. No. 2. pp 177

As you can see in the case of Social Cognitive Theory there are only two components that explain health-related behaviour, which do not appear in HBM. *“The first is the emphasis on the several sources of information for acquiring expectations, particularly on the informative and motivational role of reinforcement and on the role of observational learning through modelling (imitating) the behavior of others”* (Rosenstock-Strecher-Becker, 1988. pp 177)

Now it becomes obvious that these two models, in certain parts, are connected to each other. It also visualizes which steps should be taken into account regarding the pharmaceutical company's point of view. There is a model that contains HBM and SCT models as well. This model clearly detailed where they are connected to and affected each other, thus it is made much more understandable. The following figure shows the factors step by step.



3. Figure: The health action process approach.

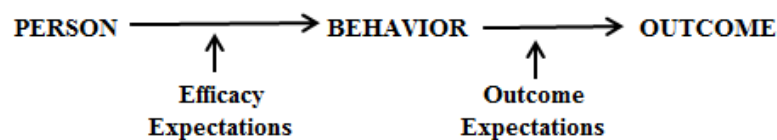
Ralf Schwarzer (2001): Social-Cognitive Factors in Changing Health-Related Behaviors Published by Blackwell Publishers Inc, Vol. 10. No. 2. 47-51

This health action process approach focuses on what will probably happen after people create intentions to change their behaviour and transfer an explicit self-regulation perspective. The model makes distinction between the motivation process and the volition as well. The social-cognitive variables may influence the outcome of the predication in different way. So that is the reason why SCT comes into play. At the beginning of the motivation phase people collect all kinds of possibilities form HBM and SCT, which can contribute to the final outcomes. Like: from HBM's side it can be a perceived risk (barrier), perceived self-efficacy, and from SCT's side it can be an outcome expectancy. So, all these factors are significantly contributed to the change of intention. After goal setting people enter into the self-regulation phase. Their goals will be put into effect by planning the details, trying to act somehow, investing effort and persistence. Finally, even if the patient is afraid of a possible failure, when they arrive in the recovery stage, they will probably disengage at the end. During the progress of the process people have to complete each substage successfully in order to go further (Schwarzer, 2001).

After understanding the main differences and similarities between Health Behaviour Model and Social Learning Theory, there are some other facts that should be taken into account. Outcome expectations should be detailed from the above mentioned health action process approach that implies some questions. The determinations of the sources of expectations offer dissimilar potentially-effective strategies in order to modify the individual's behaviors, due to the change of their expectations towards health care. On the

other hand, the introduction of the distinction between self-efficacy and outcome expectations also became important. The outcome expectations in the SCT model are very similar to the perceived benefits in the HBM model. *“Efficacy expectation is defined as the conviction that one can successfully execute the behavior required to produce the outcomes. The distinction between outcome and efficacy expectations is important because both are required for behavior.”* (Rosenstock-Streicher-Becker, 1988. pp 178)

The following diagram shows the relationship between Efficacy and Outcome expectations:



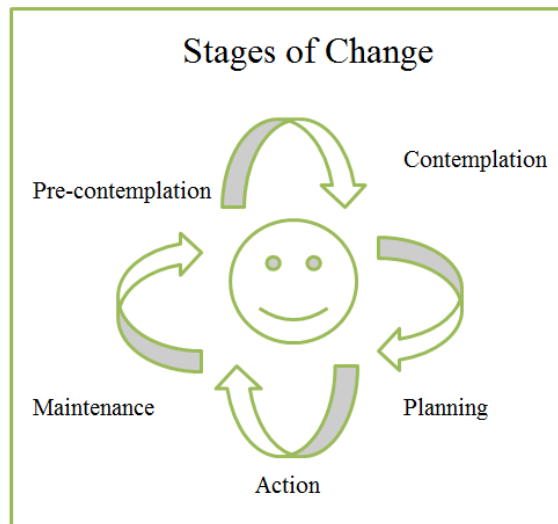
4. Figure: Difference between the SCT and HBM models.

Irwin M. Rosenstock, Victor J. Strecher and Marshall H. Becker (1988):

Social Learning Theory and the Health Belief Model. Journal of Health Education Quarterly, Vol. 15. No. 2. pp 177

Let's see an example: There is a person who is a “chain-smoker”, and now he would like to quit smoking in order to be healthier. The man is the PERSON who wants to quit smoking. He performs a BEHAVIOR in order to be healthier which comply with the OUTCOME. In this stage he has to believe in the fact that he will stop smoking, thus his health status would acquire a beneficial impact (OUTCOME EXPECTATION) and he will be able to perform this behavior, which refers to EFFICACY EXPECTATION. (Rosenstock-Streicher-Becker, 1988)

Every person in the world creates his own habits and behaviour. The most difficult thing to do is to maintain and achieve them. The reasons behind this are the influencing factors in society which have an effect on people's will to change behaviour. There are also other reasons. For example the beliefs underlying the behaviour as well as their values; the perceived costs and benefits of change; the barriers of change and also our; faith in that we are able to perform behaviour change and so on. There is a model that shows the cycle of change that people use many times before making a permanent change. The following figure shows these stages:



5. Figure: Cycle of change.

Christine Bundy (2004): Changing behaviour: using motivational interviewing techniques. Journal of the Royal society of medicine, Vol. 7. No. 44. pp 44

1. *Pre-contemplation*: In this stage the person does not really think about the change.
2. *Contemplation*: The person have realised the problem and wants to take some actions in order to find an appropriate solution, but do not really know how to do it.
3. *Planning*: There are some strategies that have been defined, but not yet used.
4. *Action*: The person has made some efforts. For instance, he stops smoking, accepts some advice.
5. *Maintenance*: Finally, the person wants to take an active part in a programme.

2. THE NECESSITY OF ADHERENCE AND THE INTERACTION AMONG PARTIES

Why do we deal with people's health problems and take care of them all around the world? Why is it a key question nowadays? The answer would be that the national demand is responsible for the quality improvement of health care. However, there are many patients, who are not very concerned about taking the right pills, asking for a doctor's help or just asking him to trigger a prescription. On the other hand, the number of sick people is increasing worldwide. Most people in the world, approximately 60%, die of a non-infectious disease. Half of these, 60%, die of a circulatory problem and more than one-tenth of them die of a respiratory disease. Others die of a problem with their digestive

systems. The second biggest group, 31% of the world's total population, dies of an infectious disease (77%), or complications during childbirth (20%), and only 3% of the 31% die of nutrition problems. The reason of deaths, in case of the one-tenth of the people, is accident. In the first place, there is traffic (67%) and secondly they die a violent death (28%). In 2004, KSH made a list with the 20 leading diseases worldwide. Firstly, 7.2 million people died due to coronary problems. The second most common illness was provoked by problems of the vascular system in the brain. Almost 5.7% of the people died of it worldwide. The third one is COPD (Chronic Obstructive Pulmonary Disease). 4.2 million people died of it in 2004. The last illness that stands on the 20th place was bowel cancer. (KSH Szám-Lap, 2009) The phenomenon of non-adherence activity, drug interaction, under and overuse of drugs are responsible for this mortality rate as well. Recently, 1.6 billion prescriptions have been written by 500,000 physicians and have been filled in in 55,000 pharmacies, and the cost of drug use is also rising (Berg-Dischler-Wagner-Raia-Shevlin, 1993). The presence of consumption drugs also effected the world's economy. It generates economic profit to countries so this is the reason why we have to pay attention to this industry and not neglect it at all.

2.1 Non-adherence and its consequences

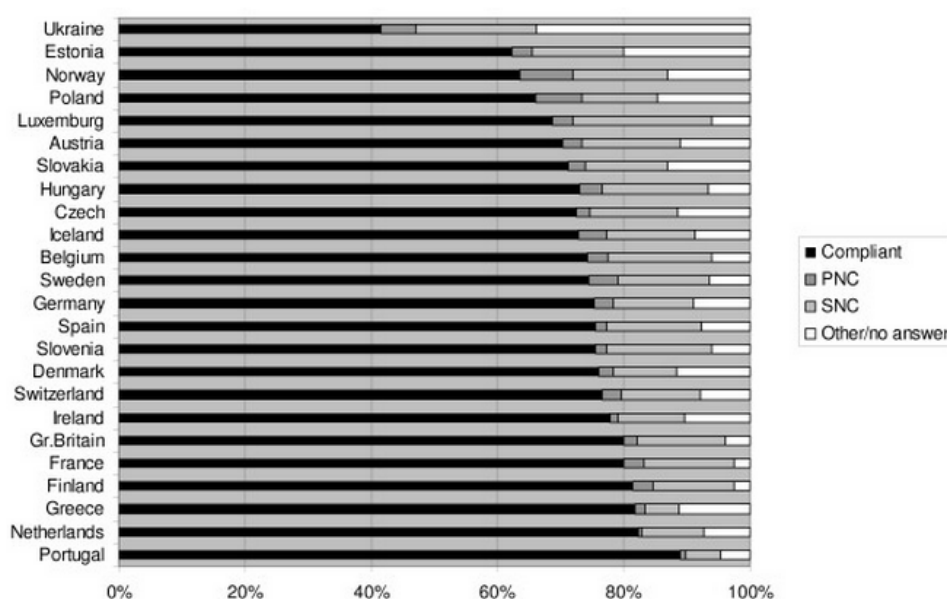
At the beginning of my thesis work, I detailed the definition of adherence, in order to help to understand the definition of non-adherence. J. Urquhart described the following definition in 1996 in the European Heart Journal.

“The extent to limits, so long lapses in dosing will nullify action of any drug, with economic consequences that depend on the clinical consequences of lapsed action, or, with some drugs, rebound effects.” (Urquhart J, 1996, pp 8)

So, non-adherence program is the contrary of adherence program. It takes place when somebody refuses to practice adherence in the health system. In this case, this means that the patient is not allowed to be in the centre of the process, where doctors make a healthcare based alliance with them. This could decrease the adherence or the persistence. However, such an agreement has to be made in order to make the initial doctor-patient consultation take place. We can distinguish three unique patterns of non-adherence,. (1) Primary non-adherence, (2) Non-persistence, and (3) Non-compliance or poor execution (Blackburn-Swidrovich-Lemstra, 2013). The primary non-adherence refers to failures

when the initial prescription is filled out improperly. It can be one of the non-adherence phenomena. Furthermore, in general, 50% of non-adherence could be the result of forgetting to take the medicine (Elliot-Shinogle-Peele-Bhosle-Hughes, 2008). Non-persistence and poor execution are caused by patients. In this case, patients make the mistake by failing to take the right quantity on a regular basis. I will illustrate a problem in order to make the concept, non-adherence, understandable. Originally, Patricia Stenger (Bayer Healthcare) presented these findings from Bayer's Males into erectile dysfunction in *Journal of Sexual Medicine*. Overall, 27,838 men were asked in eight countries about the followings: 1. The prevalence of diseases of men. 2. The attitude of men towards their aspect about their health and sexuality. 3. Factors and/or attitudes that might predict barriers in the men's, with erectile dysfunction, seeking help among men. 4. The experience of patients with on-going Phosphodiesterase type 5 (PDE5) treatments. The results showed that 24% of the surveyed received a PDE5 prescription, 21% filled it in and only 14% were using it. Consequently, less than one of four patients was compliant, but this number is altering over time, because non-adherence is increasing. This means that four of five patients did not remain on therapy. 42% of the men who did not fill in their prescription worried that the drug was dangerous, 31% thought it was too expensive to buy it, 29% thought that their illnesses were not important enough to deal with and only 20% felt embarrassed. On the other hand, 34% of the men, who stopped using it, said, that their erections were not acceptable, another 34% thought that the medicine did not work at all, 29% of them said that the medicine was too expensive, 22% used the medicine occasionally and only 9% had side effects from the medicine (Hosken, 2006). To summarize it, the majority of the patients were not cooperating with the treatment, because they were not satisfied with the medicine at all. From this, you can see that the general problem is that patients did not follow the doctors' advice and that led to inefficient recovery. They simply stopped taking the medicine because of the lack of trust and too expensive products, and also because people are less health conscious. There are many reasons why non-adherence is taking place. It may come from a lower level of health responsibility from the patient side. For example, in 2000, 20% of the patients, who got a medication prescription, never filled it in, and 50% of those who filled it in did not take the medication as directed. This means, that 70% of the patients belong to the non-adherence group (Pearson, 2007a). On the other hand, social, demographic and physical factors can enhance the level of risk. For example, patients from low-income urban areas are often identified as being at high risk of non-adherence. Non-adherence programs have

strict consequences all over the world. There was a multi-country interview survey, called European Social Survey, which was conducted in 2004-2005. The main aim of it was to analyze medical drug compliance all around the world. The mean response rate was 62.5%, varying between 43.6% in France and 79.1% in Estonia. The total number of participants was 45,678 who came from 24 countries ranging from 579 in Iceland to 3,026 in the Czech Republic. So, all in all 41,102 participants answered the compliance questions. The following chart shows the rate of total compliance and primary and secondary non-compliance. The Primary compliance means that the respondents did not collect the medicine at all. The Secondary compliance means that they did not take the medicine as prescribed.



6. Figure: Total compliance and primary and secondary non-compliance in 24 European countries.

Larsen, J. (2009): Can differences in medical drug compliance between European countries be explained by social factors: analyses based on data from the European Social Survey, round 2. BMC Public Health, Published by Bio Med Central, Vol. 9, No. 145, pp. 1-9

In Europe, non-compliance with latest prescribed drug was 16.8%, varying from 6.4% in Portugal to 24.9% in Luxemburg. The primary non-compliance varied between 0.6% in the Netherlands and 8.5% in Norway. On the other hand, regarding the number of compliance in the first place, it shows that the willingness of cooperation is higher than the passive behavior. However, later on, the phenomena of passiveness increase. (Larsen, 2009). The willingness of participation leads to negative health results in Europe. According to the calculations of the Pharmaceutical Group of the EU (PGEU) in Europe, in 2008, 194,500 people died that could be traced back to the incorrect quantity of

medicine consumption and the absence of adherence programs. It caused an EUR 1.25 billion of additional expenditure. (Molnár, 2009)

On the other hand, the situation was also bad in the USA. Between 10-25% of hospital and nursing home admissions resulted in 340 deaths a day. The 20% of unintentional pregnancies in the US works at a cost of \$2.6 billion. Three times as many doctors are visited, and there is an additional cost of \$2000 per year compared to patients who follow their treatment plans. In the US, between 33-69% of all medication-related hospital admissions cost \$100 billion. Thus, in the USA, the total annual healthcare, due to the reasons mentioned above, during 11 years, varied. It started from \$100 billion than increased to \$170 billion to \$300 billion. According to The American Heart Association's summation, the cost of non-adherence, in terms of human life and money, is shocking (Pearson, 2007b). It is very hard to calculate the cumulative cost of the non-adherence, because it consists of different components. However, it was proven that non-adherence programs cost more than adherence programs. It might be true because further costs should be considered in terms of non-adherence as well. Internal and external costs should be distinguished (Macher, 2011). The internal cost consists of direct, continual crises and remediation costs. The direct one is related to product failure and scrap, like raw materials, processes and operations. Continual crises refer to the unexpected costs and the dilemma between non-adherence and adherence costs. The third, the internal cost, is the remediation that is based on problem identification, correction and reporting of activities. The external cost contains regulatory action costs, marketing share costs and reputational costs as well. The regulatory action relates to a legal, 3rd party, and suspended operations. Market share cost refers to the volume, supply availability and reliability. The third cost component is the reputational one, which is based on product and corporate spillovers and shareholder values costs. What is the situation in Hungary? Based on the OEP's (Országos Egészségbiztosítási Pénztár-National Health Insurance Fund Administration) financial data only 22% of the patients triggered a recipe after a year from the beginning of the treatment. Probably, there were fewer patients, who took the medicine appropriately. The conclusion is that the churn rate is more than 78% regarding new patients at the end of the first year, in case we assume that at the beginning of the year each person started the adherence program. It became obvious, that the patients, after a one-month churn, lavished a medicine support of one month and of course after a two -month churn, they lavished two monthly of it and it goes on like this until the end of the year. The insurant spent a lot of money on those patients who took lipid-lowering medicines, but stopped to

consume them earlier than 12 months. For instance, in 2007 the amount paid on the support of medicine was HUF 21.5 billion and spent from it HUF 10.1 billion. In 2008 they spent HUF 10.2 billion from HUF 21.7 billion and in 2009 they spent HUF 10.8 billion from HUF 23.2 billion. (Molnár, 2009)

2.2 About adherence programs

After the short description of the non-adherence phenomenon and its negative consequences on healthcare, the main focuses of this paragraph are the reasons and the importance of program existence. It is not just a program. In most cases, it is well structured and organized by health care professionals. So, in general, the management of the adherence programs has wide experiences on medication and on the patients' attitude towards health care. How do they behave, what do they want and what do they need.

2.2.1 The importance of adherence programs

Now, it is understandable, why it is important to close the gaps between all the parties that take part in the adherence program. That is why it has become important to recognize, which areas should be taken into account regarding the patients' point of views. Based on my opinion, the different tasks of the parties should be matched, because in case someone misses only one step, than this one missing part will throw the program off balance. As a result, the last patient will be unsatisfied with the program, because the information flow will not operate well. He will get inappropriate information or be dismissed, because his doctors do not get the right education from the pharmaceutical companies. When patients begin to have doubts about the effectiveness of the program, the level of their trust will decrease and become non-adherence. That is why a short overview is presented showing why it is important to enhance the effectiveness of the program. If the adherence program works well, it will create a win-win situation for all participants (patients, physicians, payers) by decreasing the cost and improving the outcomes. It has the benefit of building a strong trust based relationship and besides that building brand equity. It can support doctors' work by improving patient management and education. On the patient side, it can support them by handling their diseases and they all have contributed to a better adherence/compliance and brand loyalty as well. Furthermore, it can improve the quality of life by enhancing the positive outcomes in case of elder people who live with chronic conditions. Adherence, including enhanced self-care, personalized care, better adequacy of treatment, and safe and effective care plans are needed in order to achieve these goals. Different factors can contribute to optimize the

program. Investments into the adherence programs can reduce co-pays, further economic incentives that have to be paid by employers as well as creating positive returns on investments through effective workforce that is responsible for productivity. The manager of the adherence program should realize the benefits of incentives and encourage patient to use their medicine. For instance, encouraging by reducing co-pays, in case, the patient refills his medicines in time. If the program emphasizes more patient care, it can also increase the effectiveness of adherence. If the outcomes of the adherence are positive, it could improve in parallel with many other things. For example, the health care system. Thus, it can contribute to the health of the population, averting costly emergency department visits and hospitalizations.

2.2.2 Economical overview of adherence

After description the benefits of the adherence programs, we can say that furthermore it also provides several economic opportunities to patients and those participants who provide support as a whole in terms of medication. The main essence of this process in Hungary, for example, is to make long-term financial savings instead of potential and secured short-term additional costs. This means that investing into present adherence programs will represent future savings. However, this statement is also true conversely. If the adherence program is neglected, that entails future additional costs. Unfortunately, only few health-gain researches have been carried out, that have already proven that taking a drug in a well-controlled program involves positive therapeutic results, but does not go further in terms of calculating how the expenses will change. The majority of these surveys show, that the adherence/compliance outcome helps us to infer some relevant aspects of economics, but hard to be determined and to be proved based on the numbers and cost-benefit calculations (Molnár, 2009). It is a proven thing that regarding the economic point of view, a better patient compliance leads to more direct pharmaceutical fund outflows and in parallel, it means more expected savings. It becomes obvious that if the patients consume drugs according to their doctors' suggestion, it will result in the increase of the direct expenditures of the health budget. For instance, let's assume that there are 600 ill people who participate in adherence programs exactly how they are supposed to, and 3 of them fall into a major cerebrovascular event and the a rehabilitation cost of their hospital care is HUF 2 million in each case. The additional cost contains the rehabilitation cost and other expenditures of HUF 5 million for the financier for two years. So overall, the healthcare of these three patients could mean HUF 21 million public

expenditure. This is primarily financed by the in-patient healthcare budget. Finally, the result speaks for itself. There were 600 people participating in the adherence program with an incremental cost of HUF 10.8 million. Thus, had a chance to avoid three catastrophic situations and a total cost of HUF 21 million. With this practice, HUF 10.2 million was saved from health spending. On the other hand, costs were saved on people who have the ability to work and their family could exempt them from several incidental expenses as well. Therefore, it might be clear that the adherence program is costly, but in the end, the costs will return. Therefore, the real question is after a while that what kind of a plan should be made regarding the cost in order to make the program worth launching and will the patients cooperate appropriately with the parties. These two basic questions will ensure future gain and profitability to all parties. Few U.S. data suggest that each HUF spent on an adherence program will earn and gain tenfold savings for the in-patient health care budget. Furthermore, thanks to the presence of this program, the turnover of the pharmaceutical companies could increase. Some people have negative attitude towards this. However, it is important to notice that drug manufacturers take huge part in organizing and ensuring health services. (Dankó, 2011)

To sum up those mentioned above, it is obvious that, in case the patient does not take the medicine, it would have a negative effect on the patient's health and on the economic benefit as well. During the secondary research, several national and international articles reported the importance of the adherence programs. Furthermore, actors of medication are even more interested in the effectiveness of the treatment (the adherence programs). In order to increase the effectiveness of the patient treatment, ill people have to follow their doctors' recommendations. Therefore, first of all, it is important to emphasize this program. But, what does it mean? The development of the adherence will make the state pay more on medication. But, on the other hand, this means less health care as a whole. Therefore, the state is just making money allocations from care institutions to drug manufacturers. It sounds weird, but let us just look behind it. Thus, the main aim was to allocate resources (money, time, efforts, workforce, innovation, technology, support) to those areas where the biggest benefits, in terms of all parties in the adherence program, could be realized. It sounds logical and efficient. So, despite of the churn rate of the patients' adhere attitude, adherence programs actually bring economic benefits to pharmaceutical companies through revenue growth. However, unfortunately, no scientific evidence is available yet, as it was mentioned before, and based on the numeric calculations, it is difficult to draw accurate conclusions because it would not reflect the

reality. All parties will reach a win-win position, if sufficient efforts are set and all patients are motivated to take steps forward on the way of development. It can be worthy for the patients, because they could reach real therapeutic results if they really follow the instructions. Furthermore, doctors could gain benefits from adherence, because the probability of their healing work will succeed if the patients cooperate them with 100%. Pharmaceutical companies could also gain benefits by keeping their people working with 100% efficiency; they can increase their business profitability by gaining benefits to the society as well. Finally, health insurance organizations could gain from it, too, because social security funds would be appropriately utilized. In addition to this, those people's money that pay incidental expenses would be well invoked. Therefore, a well-organized health system could greatly improve the situation in Hungary, and the offer of the adherence programs should be accepted.

2.2.3 Legal background of adherence

As it has been mentioned before, adherence in the pharmaceutical industry means co-operation of the members of the health care sector, where players are doctors, clinics, patients and governments. The connection between doctors and the European industry should highly be based on codes in order to establish special principles and guidelines. That is why the EFPIA (European Federation of Pharmaceutical Industries and Associations) implemented a Transparency Code (Börner, 2013). This contains the responsibility of health's organizations to what extent should it contribute to the pharmaceutical industry. For instance, in Europe the relationship between them should be based on only patient or health education, and should fit into the organization profile. In almost every activity, it should be written before accepted and done. For instance if patient organization get monetary support from another pharma organization, the details should be written down pro forma. The first code was concluded in 1992 (Barnard-Lai-Robson, 2008). The main guideline, what companies have to face with, and all criteria that are imposed by the regulatory body, should be met and accepted. The legal process does not end at the acceptance stage; because it will be continued by monitoring and controlling medication and performances through the market lifetime. The most important regulatory body in the UK is MHRA (Medicines and Healthcare products Regulatory Agency), EMEA (European Agency for the Evaluation of Medicinal Products) at the EU level, and FDA (Food and Drug Administration) in the American market. In general, all of

these bodies provide rules and principles for example GMP (Good Manufacturing Practice) and GLP (Good Laboratory Practice). (Fisher et al. 2008)

There are loads of regulations regarding the improvement of the adherence program, and it varies from country to country. So pharmaceutical industry is restricted by regulations, which contribute to encourage adherence. In 2004, the core problem was in the EU because there was no difference between direct-to-consumer-and direct-to-patient advertising. This means that it is hard to make any difference between information and advertising. However, the problem further escalated. (Barrette, 2004) In 2006, the regulation code had a crucial part, which was direct-to-patient advertising. That was, the latest television advert for a vaccine in Ireland that triggered a huge scandal against EU legislation. The regulations of Australia and New Zealand were merged, but New Zealand accepted direct-to-consumer advertising, on the other hand, Australia did not. That is why a research was conducted, and it found that 43% (56 respondents from 132) of the doctors in New Zealand confirmed the ads, but they aspired to give as much information as possible after drug prescription. (Hosken, 2006)

In 2007, key changes were made on the promotion of medicines. Promotion activities were expanded from prescription only to interaction with professionals. This interaction plays a significant role in the pharma industry. By the way, manufacturer companies use traditional promotional materials and activities, for example, advertisement, mailing and representative visits, but they could also enhance their positions by promotional meetings. The following table contains the requirements of the promotion activities.

- No promotion (of a product or indication) prior to marketing authorization
- Consistent with the PSC
- Accurate, balanced, fair and objective
- Sufficiently complete to prompt an informed opinion
- Up to date
- Not misleading in any way
- Objective not exaggerated
- No statement that a product has no side-effects
- No use of the word 'safe' without a qualification
- No use of 'new' after 1 year
- Professional and not likely to cause offence
- Capable of substantiation
- Clear reference to any published studies used
- Artwork from publications faithfully reproduced and sourced cited
- Directed to an appropriate audience
- Not disguised
- Prescribing information

(Barnard-Lai-Robson, 2007, pp7)

In case we compare the pharma industry to an international FMCG company, we can see that these are really strict requirements. However, if pharma companies want to operate well, all of these rules shall be taken into account. Further activities got also accepted; for example, work with third parties (consultants, market researchers and advertising agencies). Transparency became one of the most demanded rules that has to be observed. Let's go on with the meetings, namely congresses, conferences, symposia and other similar events. However, advisory board meetings, visits to research or manufacturing facilities, and planning, training or investigating meetings for clinical trials and non-interventional studies also fall into the meeting category. Furthermore, money could be a problematic factor in this industry. Generally, companies transfer money to health professionals. The code basically mentioned only gifts and sponsorship, but in 2007 it became concrete. In 2007, new articles were added, for example donations, grants, fees and consultancy arrangements (Efpi, 2014). The use of promotional gifts is also acceptable as long as the gift is inexpensive and does not aim personal benefits only practical. Donates and grants are allowed to be given only by organizations that employ healthcare professionals. Furthermore, companies have to record all of their grants and donations. In terms of sponsorships, trainings and healthcare professionals it shall be taken into consideration. Finally, service fees are also determined by the code. Naturally, healthcare organizations should provide services. These services should be appropriate to support the healthcare, researches as well as arrangements. So, healthcare organizations as consultants, (like speakers, chairpersons, clinical study investigators, trainers, advisory board members) have many strict rules.

- **Written contract/agreement specifying:**
 - a. services to be provided
 - b. basis for payment
- **Legitimate need for services identified**
- **Selection of consultants:**
 - a. based on identified need
 - b. decided by person with appropriate expertise
 - c. number of consultants justified by identified need
- **Services provider**
 - a. records maintained
 - b. appropriate use by company
- **Fees:**
 - a. reasonable
 - b. reflect fair market value

(Barnard-Lai-Robson, 2007, pp10)

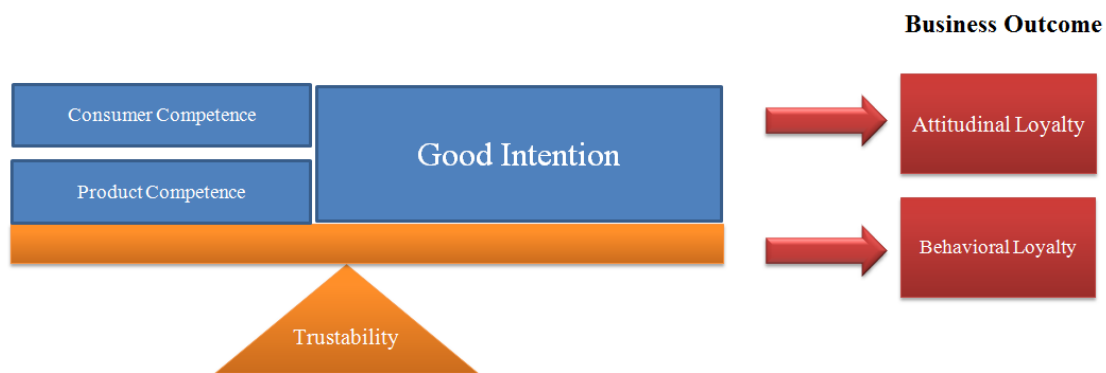
In Hungary, the application of the Code is used more differently than in other European countries. Hungary has a status with liaison in the EFPIA under the name of Association of Innovative Pharmaceutical Manufacturers (AIPM). AIPM represents many pharmaceutical companies operating in Hungary. All of them have to be aware of the Hungarian Code. This contains several components that are similar to EFPIA's Code, but it is stricter than the national one. In general, this Hungarian Code presents the implementation of the ethical pharmaceutical marketing communication, the role of the industry, trading in the Hungarian healthcare system ethically, and so on. The Hungarian version is continuously changing and expanding its contents. If there are any changes, only the responsible decision-making bodies of the Associations are allowed to approve it. In this case, only the General Assemblies have the right to revise this Code and authorize the Board of MAGYOSZ / AIPM Executive Committee to take actions. So, the Hungarian Code gives a very detailed description about what the pharmaceutical company can or cannot do. Some rules of the Hungarian Code are highlighted, because its marketing activities are more detailed and authorized than of other countries. (Efpia, 2006)

First, there are three rules that refer to marketing authorization and they generally explain what activities the law (Efpia, 2014) prohibits. 1. Without the granting of a medical product by the marketing authorization in Hungary, it is not allowed to do any kind of marketing activities. 2. All marketing information should be consistent with the product characteristics. 3. All of the latest scientific information should be available on the scientific conferences only if it is not used for marketing commercial practice. Nevertheless, the main question is that what kind of marketing activities have been accepted by the authorization. All marketing activities shall comply with the highest ethical level. In case a pharmaceutical company wants to operate legally, the following six rules have to be taken into account. They explain in detail what is or is not allowed in terms of marketing activities. 1. Marketing activities shall not bring discredit up the pharmaceutical industry, and hazard the reputation of the companies. 2. It must be recognized, that this industry requires professional recipients. 3. Marketing activities shall not be abusive, offending, decisive or aggressive. 4. All written information shall be consistent with the Hungarian grammatical, orthographical and style rules. 5. Marketing activities must be easy to understand for consumers and/or patients. 6. Reasonable self-control and moderation. The code further details the Recipients of marketing communication, the Transparency of marketing communication and the Advertisements

targeting patients and consumers practices. Regarding the European comparison, let us follow with the hospitality and the events. First, events must be held in an appropriate venue. Extravagance and entertainment facilities must be avoided. Secondly, Pharmaceutical companies are allowed to sponsor or organize outside Hungary unless most of the participants are from abroad. The end of the event depends on the relevant resource or expertise or in terms of different kind of programs, which are related to the events, hosted during that event and a supplementary/scientific program. The third one is related to any kind of events hosted in Hungary. It shall not contain claims that are contrary to or not presented in the valid marketing authorization of Hungary. The fourth rule regarding the events says that any sponsorship is granted at those events only that are held with professionals, for advanced training purposes, and that if they are not qualified as promotion activities. The fifth rule reflects that the parties have to conclude a sponsorship contract in which the sponsor guarantees that the sponsorship shall not be used for any other purpose whatsoever and in a manner other than allowed by the Code. The final, the sixth rule, says that the events held under the name of Healthcare Professionals shall not include entertainment (cultural, sport, or leisure) programs. It shall be based on professional, scientific or educational purposes. Gifts and inducements shall not be any entertainment tickets for any entertainment programs. Flowers, consumer goods or other benefits shall not be supplied, offered or promised in any way (neither directly nor through a third party) to Healthcare Professionals. All kinds of gifts have to meet the requirements of this Code. All parties are allowed to give donations or grants only if they are supporting the healthcare or a research. They must not use any inducements to recommend, prescribe, purchase, supply or sell, or to influence any processes of decision making with reimbursement. It shall be documented, kept available for the publicity, and kept on record by the donor/grantor. This Hungarian Code also contains further legislations and strict rules regarding all parties that shall be complied with. In Europe, the harmonisation of this code was not ensured in 2013, but regarding the requirements, some activities have moved forward. (Efpia, 2014)

2.3 Trust and communication between parties

After a long introduction of the adherence program's advantages, it became obvious that more attention should be paid on the increase of its effectiveness. Looking at things from this point of view, this assumption implies a huge challenge not only for pharmaceutical companies, but also for doctors and patients. All these three parties have different interests. In general, patients in the first stage - regardless of the non-adherence phenomenon - want to get the right treatment at the lowest price, to use the best medicines and to get the best of attention from their doctors. Doctors would like to be in situations, in which their reputation is higher than the average, they use the best medicines for curing the patients without any side effects, and healing as many patients as they can. At the first stage, pharmaceutical manufacturers would like to generate the highest sales and increase their market share, realize reputation and awareness, cross selling and avoid cannibalization as well. It is apparent, that if there are any differences regarding the purposes, it can emerge problems. In order to avoid uncertainty between the parties and make the adherence program efficient they have to trust each other. Trust is one of the most important elements that can help to solve misunderstandings. If trust exists between the parties, pharmaceutical companies can speed up the adaptation of their products to doctors. The doctors can easily understand the effects of the medicines and they will highly recommend and prescribe them to their patients. If patients have trust in the medicine, they will use it and will cooperate with the participants in the program. To summarize it, trust is the key component in the creation of a successful relationship between the parties. Pappers & Rogers Group (2012) made an online survey with the participation of more than 2,400 adults in the U.S., who took prescription drugs for 12 months. The results of the research showed that trust greatly influences tangible business outcomes by increasing patients' compliance, improving patient engagement, and by selling new products and services. Pharmaceutical companies have to pay attention to the level of trustworthiness. There is a framework, which is able to measure the level of trust in respect to the patients. "Trustability Index" can help to measure the level of trust in relation to pharmaceuticals via product competence, customer competence and good intention.



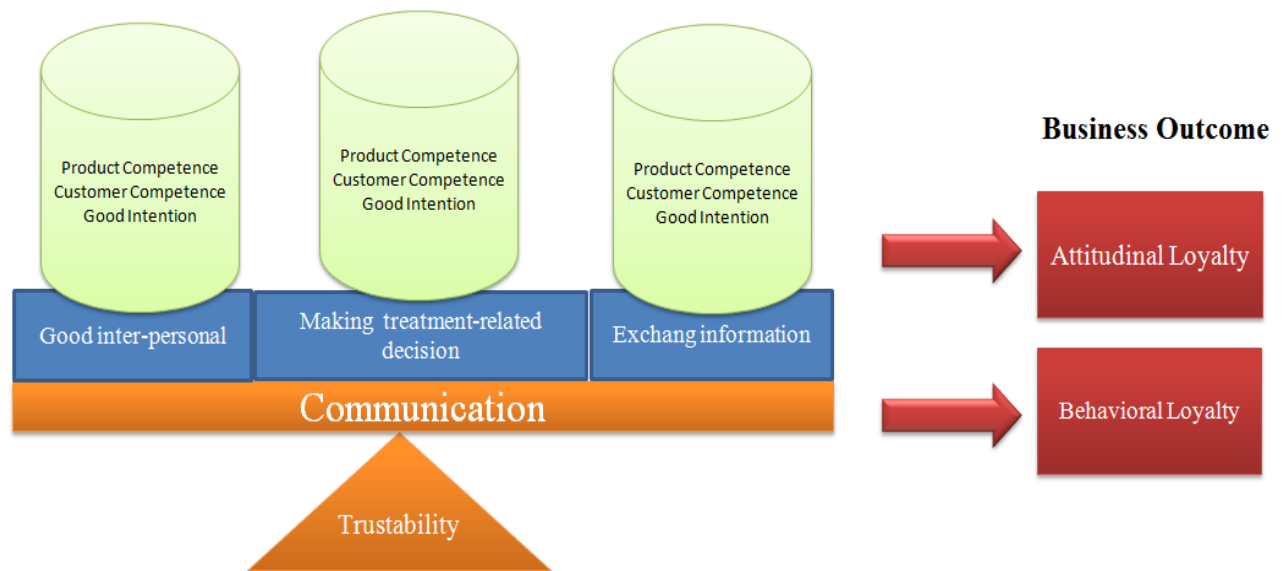
7. Figure: Framework of the Trustability Index

Peppers & Rogers Group (2013): Unlock patient engagement by building trust. Published by White Paper, Retrieved: February 16, 2014, pp. 3, <http://www.teletech.com/media/16036237/wp-unlock-patient-engagement-by-building-trust.pdf>

This model consists of three pillars. The first one is Product competence. This means that pharma companies try to deliver the best quality goods (medicines) that meet the needs and solve the problems. and it is designed to handle. This stage contains the patient's opinion on the medicine. The second component is Customer competence. This second pillar refers to the customer's experiences by understanding them and their needs, as well as the interaction and the communication between the patients and their doctors. This communication needs to be smooth and efficient. At this stage, carefully applied communication techniques are needed to be used. The third pillar is Good intention that is defined as the way pharmaceutical companies make money, aligned with the needs and the highest demands of the customers. Therefore, they try to focus on them in the short run and in the long run as well. Finally, the combinations of these three components influence the results of the business outcomes in percentages. In the pharma industry, business outcomes could be all those theories that were mentioned in section 2.2 (illness and health-behaviour theories). The level of compliance has an impact on social interactions as well. (Peppers & Rogers Group, 2013)

It has been already mentioned how important trust is between the parties in the adherence program. In order to improve the effectiveness of trust at this stage, it is substantial to dig a little bit deeper. My opinion is that communication plays a great role in enhancing the level of trustability. Like a chain reaction, using the appropriate communication. Pharmaceutical companies could exercise indirect (representatives and agencies) influence on doctors, who understand the importance of the adherence programs and they could try to convince patients to participate at the highest level of co-operation. Overall, attitudinal and behavioral patient loyalty can originate in every pillar of communication. This is the

reason why it would be necessary to supplement the Framework of Trustability Index with communicational components. The following diagram visualizes where communication factors need to be placed in the original framework of Trustability Index, in order to reach a higher level of business outcome.



8. Figure: Extended framework of the Trustability Index.
Own resources

After defining the importance of communications in the adherence program, let's begin to analyze it in more details. So, the communication between the doctors and the patients is based on three different aspects (Ong-de Haes-Hoos-Lammes, 1995). The first one is creating a good inter-personal relationship, the second one is exchanging information and the third one is making treatment-related decisions. Creating a very good relationship between patients and doctors seems to be the purpose of communication. If good relationship exists between the parties, it can impress the patients' trust in products usage. This means that if communication works well between them, patients will not feel that they have to make any effort to convince them of the contrary. It would be even more difficult to negatively influence them by a WOM (word of mouth), or in such cases when some problems arise with the products. So, if the relationship is close, doctors can immediately solve the problems. On the other hand, if the relationship is closer than the average, the chance of misunderstanding will dramatically decrease. Furthermore, if pharmaceutical companies would pay attention to their medicines through closer relationships, they will know which part of their portfolio should be emphasized to the

doctors. And this theoretical thinking is also true in relation to the doctors and patients. At this stage the so called necessary 'ingredients' are the followings: laughing or making jokes, making personal remarks, giving the patient compliments, conveying interest, friendliness, honesty, desire to help, devotion, non-judgmental attitude and social orientation. In general, empathic doctor-patient relationships consist of eliciting feelings, being patient-centric, paraphrasing and reflecting, using silence, listening to what the patient say, but also to what he is unable to say, encouragements and non-verbal behaviour as well (Ong-de Haes-Hoos-Lammes, 1995). Let's continue with the second pillar of communication that is exchanging information. This means that information go through verbal interaction between the parties. Exchanging information contains both giving and seeking activities. However, the question is that how this could influence the three elements of trust. During the treatment, doctors need to get the right information from the patients, in order to be able to set the right diagnosis and treatment plan. At this stage, if the patients' points of view are examined, they need to know and understand what is happening. This means that they like noticing that their doctors are taking care of them seriously, and pays enough attention to where the pain comes from. Furthermore, patients would even like to get more and more information regarding their disease. In order to create an effective treatment plan, doctors have to focus on and understand their patients' desire for information. Now it becomes obvious why the exchange of information factors could influence the three trust components.. First, doctors should give as much information as possible about the products (medicine) in order to make their patients feel composed. On the other hand, in order to achieve an effective exchange of information, doctors have to draw off their patients' attention from their illnesses and make a mutual solution concerning their diseases. Finally, if pharmaceutical companies get up to date information regarding the patients' needs, they will highly emphasize the benefits and give further opportunities to doctors in terms of their products. If companies give up to date information to doctors, they could expand their knowledge regarding the products, and give wise advice to their patients. It can probably fulfill patients' expectations regarding the medical treatment. Here everything relates to everything, it is like a chain reaction. The third communication pillar is a medical decision-making process. In general, doctors are very aware and have a strict opinion on their own treatment preferences. However, patients and pharma companies could have different perceptions regarding the treatment, however, in most cases, patients follow the doctors' recommendation.. It seems that doctors do not communicate the process of recommendation about the medical

treatment, so the probability of non-adherence dramatically increases. So, due to the lack of specific benefits from medicines and ignoring patients' wants and needs leads to the dissatisfaction of both parties and to inefficient treatment. Nevertheless, the patients' health results will spectacularly indicate the doctors' wrong decision and enhance the level of trustability in the patients' mind. Furthermore, communication provides several benefits to the parties in this program. A smooth doctor-patient communication is one of the main keys to increase the efficiency of an adherence program. Thus, it became the central element of the delivery programs, which support patients' health care. A good doctor-patient communication could help regulating patients' emotions, make professional information more understandable and enables the easier identification of the patients' needs, expectations and perceptions. If the communication between the parties is good, the probability of the patients' satisfaction is higher with this health care program. Thus, patients are more likely to follow the doctors' instructions and take their advice. If this patient's behaviour falls into a habit, they facilitate the doctor's work. . This means that patients will initiate being controlled and followed up, because they will strongly associate with their recovery. This kind of a mental thinking has a positive impact on doctors, because the number of healthy patients, grow such as the doctor's satisfaction level, will increase as well. However, communication process has several pitfalls that need to be improved. In some cases, doctor's communication skills decline as medical students focus on medical education and cannot see beyond the theoretical material. Furthermore, during overtime practice, doctors tend to forget to think about holistic patient care. This kind of an interaction between the parties is a very complex procedure. Problems could arise from the misunderstanding of the patients' information, for instance, when the patient does not really understand the purpose of care, the expectations, and his involvement in the treatment. Despite of using good communication, patients could feel like a full participant during the health care treatment. Furthermore, there are several examples when the doctors try to avoid to discuss the patients' emotional and social problems, because this situation distresses them if they cannot solve the real problem. Hereby, stress emerges in the doctors and patients as well, that influence the willingness of participating in the adherence program. (Fong Ha-Longnecker, 2010)

3. PRIMARY RESEARCH

This study follows the steps of traditional exploratory research. This means that in order to understand the situation of adherence program in Hungary, both side of participant's viewpoints have been unfolded. In terms of patients, by using narrative in-depth interview to explore the relationship between patients and their disease, with their doctors and overall thinking of the healthcare. But in order see the overall situation and see behind the real problem, other side of the parties should be asked. So specialist who work in pharmaceutical companies have a detailed view regarding the operation of adherence program. The reason why I made in-depth interviews with specialists is that it could give a deeper insight into the operation of the program It is supports a deeper understanding of the problem and allows the development of sophisticated explanations. The main disadvantages of this approach that it is unable to provide quantifiable answers, non-representative and the data processing requires prudent evaluation. (Malhotra, 2010) When narrative technique is used only in case of patients, because the main aim was to without any kind of directed questions, the moderator let the interviewee to speak about the topic. This in-depth interview technique can categorized as a descriptive and exploratory as well. Exploratory narrative research has been detailed, because this thesis work was written in this style. I have used this technique in order to seek how extent people above 50 years old pay attention to their chronic diseases.

Definition of "Narrative have been studied from a variety of perspectives. Mishler (1986) summarized analyses of spoken narratives as emphasizing: a, textual matters, or the syntactic and semantic devices internally connecting parts of the text, b, ideational matters, or the referential meaning of what is said? and c, interpersonal matters, or the role relationships between teller and listener as reflected in speech." (Sandelowski, 1991, pp. 161)

Still, in the first section this is the appropriate method. In this case, the key -as I mentioned before- is to understand patients willingness of recover, the relationships with their doctors and to reveal their opinions regarding adherence. Furthermore the others side of the phenomenon was important as well. Thus, it is also possible to review the underlying motives, attitudes and innovative ideas of potential patients and people of pharma industry.

All in all 12 in-depth interviews have been conducted. 8 narrative in-depth interviews have been made by patients and 4 in-depth interviews have been made by specialist all of them work in pharmaceutical company. During the in-depth interview, I could ensure a more safe and pleasant atmosphere, so the respondent would be more likely to cooperate. Additionally, greater depth of insight can be covered with this method compared to focus group interviews. Nevertheless, arranging and conducting the interviews was also easier, which also influenced my choice (Malhotra, 2010). The respondents have been chosen for this exploratory research by using snowballing sampling technique and got personal referrals. Furthermore purposive sampling criteria used in this study were that each patient participant was 50 years old or above and should have some kind of chronic disease. Regarding pharma specialist the criteria were that they have to be in higher position at one of pharmaceutical company and should have experience regarding adherence program in a professional way. All the interviews were audio-taped and transcribed, because the results of in-depth interview going to be analyzed by the Nvivo program. This entailed reading, documenting and systematising the interview transcripts.

3.1 Introduction of the senior target group

Before analyzing the in-depth interview of the senior segment, a short introduction will be detailed in order to understand what these people have in mind, and to gain a deeper insight into this segment as well. From the ‘Graying Revolution’ of the 21 century, the older generation get more attention and its number is dramatically growing, too. The following table shows the changing numbers of pensioners from 1990 to 2012 in Hungary.

Years	Pensions, retirement benefits						pensioner of their own right	
	The recipients		The benefits of spending		Per recipient		numbers in thousands of people	average pension per capita Ft/month
	average numbers in , thousand of people	percentage of the population	billion in Ft	percentage of GDP	monthly nominal amount , Ft	supply as a percentage of average net nominal earnings		
2000	3 103,00	30,4	1 228,50	9,3	32 986	59,1	2 461	39 380
2001	3 084,00	30,3	1 420,10	9,6	38 374	59,1	2 465	45 519
2002	3 070,00	30,2	1 696,30	10,1	44 446	57,3	2 465	52 350
2003	3 056,00	30,2	1 849,20	10	50 428	56,8	2 453	57 847
2004	3 041,00	30,1	2 052,70	10,2	56 244	60	2 461	63 477
2005	3 036,00	30,1	2 294,50	10,5	62 978	61,1	2 474	67 993
2006	3 028,00	30	2 510,30	10,6	69 088	62,3	2 489	73 748
2007	3 024,90	30,1	2 769,30	10,9	76 293	66,9	2 523	81 919
2008	3 027,30	30,2	3 062,60	11,5	84 306	69,1	2 525	87 247
2009	2 989,00	29,8	2 991,10	11,5	83 393	67,2	2 496	92 422
2010	2 937,10	29,4	3 043,80	11,2	86 361	65,1	2 463	97 259
2011	2 900,70	29,1	3 177,70	11,3	91 292	64,7	2 483	97 930
2012	2 889,70	29,1	3 349,70	11,8	96 600	67,1	2 013	112 593

2. Table: Pension, retirement benefit.

KSH (2013): Nyugdíjak, nyugdíjszerű ellátások, sajátjogú nyugdíjak (2000–)*. Retrieved: February 18, 2014. https://www.ksh.hu/docs/hun/xstadat/xstadat_eves/i_fsp001.html

There was a slight decrease from 2008 to 2009. The average number of retired people reduced, by only 38. However, during this period, the number of recipients in Hungary was around three thousand, in general. The following table shows the number of seniors in terms of age category.

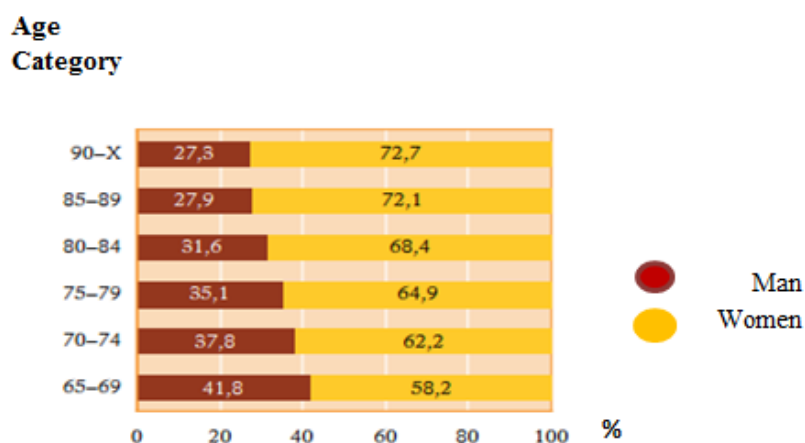
Age Category	1990	2001	2011
65-75	797450	899645	930540
75-85	489013	448338	570836
85+	87459	119832	169759
Σ	1373922	1467815	1671135

3. Table: Numbers of senior age groups in different years.

KSH (2012): Demográfiai portál 2012, jelentés a Magyar népesség helyzetéről. Retrieved: February 20, 2014, pp. 91,

http://www.demografia.hu/letoltes/kiadvanyok/DemPort2012/Demografiai_Portre_2012.pdf

This table proves that the numbers in the older age category continuously increased year by year from 1990 to 2011. The largest group contains approximately 930,540 people, aged 65-75. These numbers show a growing tendency.



9. Figure: The sex ratio in different senior segment.

KSH (2012): Demográfiai portál 2012, jelentés a Magyar népesség helyzetéről. Retrieved: February 20, 2014, pp. 91,

http://www.demografia.hu/letoltes/kiadvanyok/DemPort2012/Demografiai_Portre_2012.pdf

This table shows that the proportions of women are increasingly higher than of men. This means that men die much earlier than women do. Therefore, women have a higher probability to live longer, and they live to a higher age category, like 90-x.

Age Category	Central Hungary	Central Transdanubia	Western Transdanubia	South Transdanubia	Northern Hungary	North Flat	South Flat	Country Σ
	%	%	%	%	%	%	%	%
45-	5,3	7,2	6,2	7,9	7,6	8,7	8,1	7,1
45-49	1,7	2,7	2,2	3,5	3	3,5	3,2	2,7
50-54	3,3	4,8	4,2	6,8	5,8	7,3	6,5	5,3
55-59	9,8	11,4	10,8	12,4	12	13	11,8	11,4
60-64	20,8	19,3	19,9	17,7	17,6	17,1	17,6	18,8
65-69	19,3	17,7	17,6	16	16,8	15,3	16,2	17,3
70-74	13,7	14,2	13,9	13,2	14	12,9	13,2	13,6
75-79	11,5	11,3	11,8	10,9	11,4	10,7	10,8	11,2
80-84	8,4	7,2	8,1	7,3	7,2	7	7,6	7,7
85-89	4,6	3,4	4,2	3,6	3,6	3,5	3,9	3,9
89-	1,5	0,9	1,1	0,9	1	0,9	1,1	1,1
Σ	100	100	100	100	100	100	100	100

4. Table: Different age group in different region.

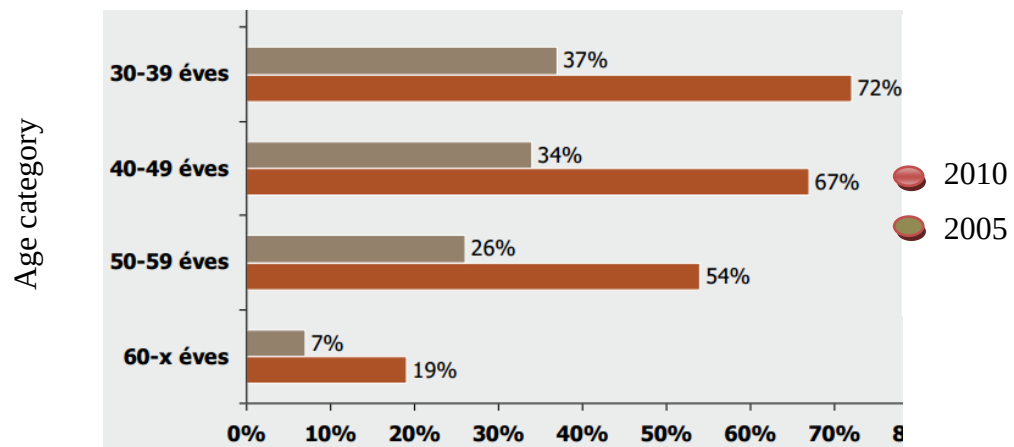
KSH (2010): Nyugdíjasok, nyugdíjak, 2010. Retrieved: February 20, 2014, pp. 6
<http://www.ksh.hu/docs/hun/xftp/idoszaki/regio/orsz/nyugdij/nyugdij10.pdf>

In 2010, the oldest society lived in Western and Central Hungary. The proportion of the age category 85-89 and above 89 lived in these regions. Most of them who belong to the younger age category, aged 50-54, live in the South of Hungary. In 2010, most of the people belonged to the age category 60-64, 18,8% of the population in Hungary as a whole. Overall, referring to these statistical figures, the older generation will have a huge influence on the future. In most cases, the activity of the elderly will increase as the consumer behaviour dramatically drops, and it cannot be avoided and ignored regarding economical, marketing, consumption and ethical points of views. Companies might dislike this segment, because this kind of a market gap do exists and has not been utilized yet. The companies and the people, who want to deal with them, have to use the appropriate tools in terms of marketing. In general, if enough attention had been given to this segment, it would make sure that elderly people get respect and have a positive image of their everyday lives. In order to understand this segment, it is very important to categorize these people. As you can see it from the above-mentioned age groups, the senior group can be differentiated by age (Figure XIII). However, there are many ways to segment the seniors. The category of the elderly can be determined based on several criteria. For instance: age, biological, psychological, sociological and life-cycle criteria. Regarding Törőcsik Mária's age category, it can differentiate three groups. The first one is the first senior group into which people aged 50-59 belong to. These people are usually grandfathers and grandmothers and they are just about getting ready for retirement. The second group is the younger senior age 60-69. This segment has a lower income than the first group, and has more free time as well as increasing health problems. The third segment is the older

seniors aging between 70 and above. In this life period, death is more common and physical and psychological problems are arising. (Hofmeister, 2008)

In general, people do not feel themselves as old as they are. Some of them feel much younger, but others might feel much older than they are. The definition goes: '*How old a person feels as opposed to his or her chronological age.*'. Borok and Schiffman are American sociologists who made these following three categories. "Feel age", "Look age" and "Do age". The first group is the "Feel age". It reflects those people who feel themselves as old as they are. The second group is the "Look age" category. People in this category are concerned about their looks, how old they look like. Finally, the third group is the "Do age" People in this group feel themselves as old as they really are when doing something, because there are some activities that belong to certain age groups (Hofmeister-Kasza-Piskóti, 2011a). The Biological criteria can be measured easily, because most of its symptoms are visible. For example, death, visual and hearing impairment and posture. The question is that to what extent people are sensitive to changes in terms of biology. Several researches show that 50-year-old people face first with the fact of aging. However, it is also true that no matter how old you are most people will mention physical and mental problems regarding older years. Generally, those in their 70s and above are apperceptive of their ages. Senior group creation with sociological approach based on different changes. For example: change of residence, termination of employment, grandchild's birth, friends, and partner's death. Those senior groups who are differentiated by their life-cycle live with their children, one of them or both of them have already retired, society have negative association from them, and the differences between sex will diaper by the time. (Hofmeister, 2008)

In conclusion, this segment is highly neglected by society and marketers as well. Their needs and wants do not get much attention. For example, this segment is the fastest growing group regarding internet usage.



10. Figure: Changing internet usage from 2005 to 2010.

Kántor, K. (2011): A médiahasználat változása. Retrieved: February 20, 2014, pp. 28

http://www.epitomarketing.hu/download/kantor_kata.pdf

These numbers reflect that the older generation fell into line and used internet as much as younger generation did from 2005 to 2010. If seniors age, 50-59 are checked, internet usage dramatically increased by 28% from 2005 to 2010. As we can see, there is a growing tendency. Furthermore, marketers are able to gain many benefits from this segment if they pay enough attention to them. If all age groups are compared, this grey market is the most brand-loyal of all the generations. One of the most important key values is that most of them want to be self-sufficient. They want to live with the feeling of connectedness. This means that they have value bonds with other people (friend, family members). Speaking of altruism, in the rest of their lives they want to give something back to the world. (Hofmeister-Kasza-Piskóti, 2011b)

3.2 Sampling of senior target group

In order to make good use of the gained experiences from my direct environment, which could contribute to avoid and suppress various non-sampling errors, I narrowed my target group to senior (50 + years old) with chronic diseases and who live in the city of Győr. The following table summarizes the respondents and their characteristics, which were eventually included in the sample.

Senior					
Respondent	Age	Occupation	Level of education	Date of interview	Chronic Disease
Andi	51	entrepreneur	High-school graduation	22-02-2014 18:30 pm	Hypertension
István	75	retired	Vocational school	23-02-2014 13:00 pm	Hypertension
Éva	75	retired	Primary school	23-02-2014 14:30 pm	Hypertension
Gizella	74	retired	College degree	21-02-2014 19:00 pm	Hypertension
Hedvig	71	retired	Vocational school	22-02-2014 16:30 pm	Osteoporosis
Péter	77	retired	University degree	22-02-2014 15:00 pm	Parkinson-disease
Mihály	53	entrepreneur	University degree	22-02-2014 10:00 am	High Cholesterol level
Béla	85	retired	Vocational school	22-02-2014 13:00 pm	Hypertension

5. Table: Interviewee profiles.
Own resources.

Half of the participants were men, the other half were women, all of them are above 50. Due to my limited resources, the respondents were selected by a non-probability sampling technique, namely snowball sampling. The respondents, who met all the requirements, were chosen by the suggestion of close acquaintances. For this reason, available phone and email contacts determined the sampling frame. Snowball sampling techniques rely on the reliance of people who recommended other possible participants. Therefore, it was my responsibility to select the most appropriate individuals based on certain research objectives and trusting their suggestions. The advantages of this technique are that it is the least expensive, less time-consuming and more convenient compared to others, therefore it properly suites to my limited resources.

3.3 Analy of the senior in-depth interviews.

The patients' interview guideline contains two main questions:

1 Please tell me step by step what happened to you from the time you found out about your disease up to this day. Please, describe your relationship with the doctors that you have met during the healing process.

2 Please, give me any reasons why you would participate in this program, or why you would not.

Let's start with the **first question**. As I have already mentioned, the entire interview was analysed by the Nvivo program, because it helped me to find linkage between words, to make categories and hierarchical lists of words and phrases. After importing the answers of the interviews, I started with the Word Frequency Query. You can see the results below.



11. Figure: Word Frequency Query from the first patient’s interview question.
Own resources.

Before running the Word Frequency Query, I adjusted the requirements. The criteria showed only the first 50 commonly used words with the length of 10 letters and the middle-level of synonyms. It became obvious, that the medication was the most frequently used word during the interview. Then came the words phlebotomy, specialist, recommended, personality and experience that were the most often used. The following table shows the number of times these words were mentioned.

Word	Length	Count	Weighted Percentage (%)	Similar Words
medication	10	41	0,98	antiseptic, medicaments, medication, medications, prescription
prescribed	10	22	0,40	appointment, prescribed, prescribing
phlebotomy	10	12	0,29	phlebotomy
everything	10	11	0,26	everything
recommended	11	10	0,24	recommendation, recommended
examination	11	9	0,21	examination, examinations, gastroscopy
specialist	10	12	0,20	cardiologist, dermatologist, gynaecologist, specialist
personality	11	20	0,20	appointment, connection, personality, replacement, specialist
experiences	11	9	0,19	experience, experienced, experiences, experimented, experiments
osteoporosis	12	7	0,17	osteoporosis
vegetables	10	7	0,17	vegetables
determined	10	13	0,16	appointment, compulsion, determined, discovered, recognition,
occurrence	10	13	0,15	appearance, background, circulation, conception, difference,
information	11	8	0,13	background, conversation, inflammation, information
relatively	10	8	0,12	connection, difference, relationship, relatively
cholesterol	11	5	0,12	cholesterol
complaints	10	7	0,12	complained, complaints, information

6. Table: Number of commonly used words.
Own resources.

Here you can see, as I have mentioned it before, the word “medication” were used 41 times. The word “prescribed” was mentioned 22 times and the words from “Everything” to “Experience” were used about 10 times. After checking the text environment, it was obvious that the words that I highlighted with red in Table VII got into focus. At the

beginning of the coding process I noticed that the first three words (medication, phlebotomy and recommended) strongly linked to each other. I named this group Process and the last three words (specialist, personality, experience) got the name Attitude.

This group received the name Process, because each of these three words refer to the “Process” of healing. So, this was the interaction between the doctors and their patients in terms of the recovery from a chronic disease. The word “medication” and its synonyms were the most popular ones. It was not enough to describe their meanings, the point was to analyse the words in terms of their own context because in different text environments, similar words have various meanings.

All participants mentioned the word of “Medication”. Most of them referred to it as something they had to take, but they all had different experiences from the past. The perception of medication highly depends on the patients’ personality and their behaviour. People are so different from each other, that is why it became important to analyse different patient segments. For example those interviewees who are much closer to 50 years on have the willingness to take actions to their recovery. Older generation (around 70 years old) are reconcile themselves to their destiny. The willingness of the recovery after 3-4 times is lost. The reason could be that in rest of their life, they want to be happy and want to enjoy each and every moment with their family. Half of them had positive and the other half had negative associations with it. In Andi’s case for example, she had nettle rashes as a side effect of the blood pressure reducing medicine. *“It was itching like hell. I told him to change it ... He told me to wait a little bit longer”* At this stage the doctor lost Andi’s trust for good. He did not really listen to her and only gave her a quick solution. The result was the following: *I went to a dermatologist that I paid. Again ... Then, I went to an allergy specialist ... Then I begged my local doctor to do an electrocardiogram check-up.* So, in the healing process, not appropriate communication and treatment lead to mistrust and disbelief. This was one of the negative experiences, but Hedvig had another. She had Osteoporosis that could not be cured with pills so the doctor sent her home. In this case, it was the patient’s wrong psychological recognition, so Hedvig took her own way. This means that she tried to find vitamins on her own that she could take in, in order to improve her condition and as a placebo, she started to take them. She said that: *I take half a pill daily just to ensure my piece of mind. Moreover, it is also good for my heart.* Péter also had a negative association with medicine, because long time ago he did not find the best medication therapy for himself, and doctors neither. He made a long and deep research in order to find the best one. He even went to the USA to consult with a professional about

his possibilities. Finally, he found a doctor, who offered him a new treatment therapy that brought results of recovery. He said that: *I got cheesed off and went to another doctor who treated me with a new therapy and in most cases it involved new medications also that could maintain the state of my health.* Finally, Béla also had some negative experiences regarding his medication. He had a very dangerous surgery, but before that, the doctor had forgotten to inform him about the fact, that after this surgery he had to take the pills for the rest of his life. He said that: *The unpleasant part of this is that I have to take pills on a daily basis. I did not know about this because they had not informed me about this earlier. So now, I have to have these medications.... I am taking this medication but how will I know that it really helps.* None of the other respondents really cared about the medicines they had to take, and did not have negative experiences with it.

The next commonly used word was “Recommended”. It was mentioned 10 times during the interview. Only Andi, Éva, Mihály and Béla used this word and its synonyms. This word is closely related to the previous one (medication), because it is also part of the healing process. Approximately half of the respondents disagreed with the recommendation of their doctors. The reason could be that unsatisfied interviewees have higher expectation regarding health care than the average. They want to be examined extensively and get detailed information about their own disease. In general they almost pay enough attention of their recovery. In terms of pharmaceutical companies these patients would be easily compliant in adherence program. So they enthuse over being healthy and willing to take serious changes regarding the improvement. For instance, Andi said: *Everything that my natural healer recommended I took and it worked. My local doctor does not worth a thing. He does not care for his patients.* So, Andi did not trust her local doctor, therefore she made her own research and found someone else who had wider experiences and an adequate treatment for her disease. István got an appointment with his family doctor and his doctor determined the medicine he needed to take further on and those he could stop taking, because it became unnecessary. But, he took only half of his medications based on his experience and without the doctor’s recommendation. This relationship refers to some kind of a development, but it is still not an appropriate handling of a patient’s problems, that is not to give any advice in terms of medicine taking. Béla lost his faith in the doctors. He said that: *They did not offer another one to me. However, there are still many besides this that are cheaper, they recommended this one so this is what I’m taking now. The only thing that I do not really know, and I have already mentioned this to him, is that it is true that I am taking this medication but how*

will I know that it really helps. This sentence also proves that continuous control and profound professional communication is needed from the patient side.

The third phrase is “Phlebotomy”, which is part of the medical examination and form a very crucial role regarding the patients’ point of view. Andi and Béla have the same negative experience concerning their examination. Their opinion was that phlebotomy was not performed on them unless they asked for it. Andi said: *Absolutely nothing did he do.... Then he did phlebotomy because I asked for it. I wanted him to do at least that....* Béla said: *I have not mentioned it yet that I also have to go to have phlebotomy. They check the quality of my blood. If you ask them, they measure your blood pressure but if you do not ask for it, they will not check it.* Éva and Mihály did not have to ask for any kind of treatment, because it was obvious for the doctors.

The second main group, which is called “Attitude”. The words “specialist”, “personality” and “experience” refer to what kind of relationship the doctors maintain with their patients. The connection between words also traces a logical concept to why patients’ behaviour is passive and mistrusting towards health care in general. People, in order to get a wider range of information about their illnesses, or various pieces of advice, or they are just simply not satisfied with the medical services, look for a “Specialist”. Five from the eight respondents looked for a real specialist, due to mistrust in their previous doctors. Péter said that: *What would make sense is to talk to a specialist and talk over the process, the maintenance of the disease and the medication in order to make it problem-free for a long time... Now my nerve specialist, who I trusted, became a family doctor so now I have to decide whether to go to a new GP or to the private practice and pay there.* So, he couldn’t really decide what to do. István had a very interesting comment: *...at the gastroenterology department and it is obvious that he accepts the specialist’s advice.* So in his case it became obvious that comments, suggestions and pieces of advice are more acceptable and trustworthy from the mouth of his specialist. Andi said that: *I went to a dermatologist that I paid. Again.* So we can almost say that in general, most of the respondents were willing to give extra effort (time, money) to get the right treatment and advice in order to recover. It is very hard to overcome the traditions that go back to years in the Hungarian society. It is a very bad habit that most of the people expect drug support but they do not really want to pay for the services. In numerous countries, it is natural. It seems that today, as the result of mistrust and uncertain situations, people painfully, but willing to pay a lot of money for a specialist in order to get a high-level treatment. However, we must not forget that first they always try to find the cheapest and the most

appropriate solution. In terms of the word “Personality”, most of the respondents refer to themselves. For instance, Gizella said that she had a very calm personality and always tried to remove the burden from her doctor’s shoulder. István gave more time to his new local doctor and got used to his personality. Hedvig likes younger doctors because as she says they will be the future generation in health care and that is why she gives more time for them to get the hang of it. So patients are very tolerant concerning development.

The third word is “Experience”. The text contexts are different from the previous ones. Éva, István and Mihály could not bring up any negative experiences concerning their doctors’ treatment. In general, they are satisfied with their relationships with them. However, Péter has rather negative ones. He said that: *During the last years, I have also experienced the anomalies of the medical attendance.* This is a very concrete opinion. Nevertheless, Péter and Béla would like to forget it and concentrate on the good things only, because they got tired of fighting with health care. Hedvig had a problem with one of her heart valves. It did not function well. It was very dangerous, because the surgery could take place only in Budapest, but she lives in Győr. In addition, if the problem occurs, she immediately has to go to the hospital. The doctor said that: *They told me that in case the symptoms and the complaints would return I would be taken there anyway. They could not have said anything worse than that because as far as I knew the symptom of a heart valve failure would be that I collapse in the street and die, or I am taken to the hospital just in the nick of time.*

So as a general rule, I can conclude that the respondents do not want to make a clean breast of their negative experiences, because their recovery highly depend on their attitude and skills. In general, all of them have experienced both the negative and positive sides of the relationships. There are some people, who accept these both sides. However, there are many people, who do not just let things happen. They fight and try to solve their problems by doing some research on the internet and acquire some references. Based on this descriptive assessment, the success of this program highly depends on that to what extent doctors fulfil their patient’s needs and expectations regarding the program. These can be, for example: How long will the program be effective? Will the patients be adherent during the process? Will the cooperation between doctors and pharmaceutical companies be easy or not? Regarding the patients’ answers, the key focus should be on the information flow and the best and individualised communication. As it was written earlier in Paragraph 2, the patients’ Trustability Index depends on the Product; the Customers’ Competence and the Good Intention, however, it was not clear why I compiled this basic

model into the communication part. The reason is that everything starts with it. Doctors can give the right information to patients, but if it is not well communicated, misunderstanding can occur. It can be just as dangerous as those patients browse the internet. For example, the patient conceives that he has to take a pill three times a day, however only one is needed to be taken. Especially, in case of the elderly, because for them it is not as easy to understand the instructions as for the younger generation, and it can be also very dangerous for their health.

This paragraph will detail the **second question**. After a long presentation of the program details, I wanted to know whether they gladly wanted to be involved in this program or did not want at all. They had to explain their decisions. During the analysis with Nvivo, I used the codes of “Treatment”, “Information” and “Participate”, because these words reflected the meaning of the answer. Here you can see how frequent these words were.



12. Figure: Word Frequency Query from the second patient’s interview question. Own resources.

Before running the Word Frequency Query, I adjusted the requirements as I had done it before. The criteria were the same. The following table shows how many times these words were mentioned.

Word	Length	Count	Weighted Percentage (%)	Similar Words
treatments	10	13	0,64	acupuncture, medication, phlebotomy, treatments
participate	11	9	0,61	participate, participating
everything	10	9	0,61	everything
information	11	9	0,58	information, introduction
specialist	10	8	0,44	cardiologist, dermatologist, gynaecologist, specialist
personally	10	8	0,37	appointment, connection, personally, specialist
examinations	12	5	0,34	examination, examinations
medication	10	8	0,30	medication, medications
prescribed	10	5	0,27	appointment, prescribed

7. Table: Number of commonly used words.
Own resources.

The word “Treatment” was used 13 times. The word “Participate” and “Information” were mentioned 9 times. These three words got detailed, because as the result of the analysis, they gave a complete overview in terms of the patients’ opinions on the adherence program. The most commonly used word was “Treatment”. The following table shows the environment of the text.

It is obvious that the word “Treatment” came up only once, because its synonyms were more popular. Patients interpret the word “treatment” as medication, because in general all of them talk about a kind of medicine, and the times they need to take it. So most of them should take medicines, except for one, because Hedvig should get a rheumatological therapy and she cannot take medicine for her disease. They use the word “phlebotomy” as a synonym, because the first step, when the patients get sick is to take phlebotomy. Andi mentioned that her doctor did nothing with her; she had to ask him to do some examination. The respondents were motivated by different things in order to decide whether to participate in the adherence program or not. For example, someone was interested in up-to-date machines, so the technical equipment should be number one. The reason behind is that Andi lost her trust in the doctors, because she had negative experience with them in general. Thus, if she sees that the doctor works with the best technology, she will conclude that the information given by her doctor can be authentic. However, in order to keep this rudimentary trust, as I have mentioned before, communication come into play. The more immediate a doctor is, the more satisfied a patient gets. For example, Gizella does not want to leave her doctor, because she is always very nice with her, and inquires about her family. Others get full services. This means that doctors should give a thorough medical check-up as well as a detailed recommendation about what the patients shall or shall not do in the future. When patients are in the clinic, they want to get full attention. In these cases, doctors spent only 5

minutes with their patients in general, and most of the respondents complain about it. On the other hand, the program's effectiveness, in general, depended on the type of treatment. As I mentioned before it could be technical based. This means that for example Andi said that: *...in Győr and in Budapest, who has a special machine...* So she prefers those programs that have modern equipments that enhance the effectiveness of the healing process. On the other hand treatment can be emotional based, not just technical based. She also said that: *I will be very glad if I have such a good relationship with a decent doctor. If I have a problem, I cannot count on my local doctor.* In this case, Andi had a negative experience with her local doctor. So she preferred to have a bilateral good relationship with her doctor, what was based on trust and appropriate communication. Béla referred to his age, and that was why it was hard for him to leave the medicines that he had been using for a while. So he insisted on his treatment. Mihály mentioned that a specialist might have an extra knowledge. Furthermore, his opinion was that giving more than a 5-minutes attention is very important. Éva had a similar opinion regarding attention. She said that: *In order to make them pay more attention to the patients' health. I would participate in it.* In general, patients who suffer from chronic illnesses are very opened for this adherence program. If they are not satisfied with their doctors, they do not require separate programs. An example is the case of Giselle, who: *I am really satisfied with her. I can turn to her anytime I want to. She gives me good pieces of advice. Therefore, there is no use of this program. However, I'm sure that I would get useful information there, too.* In contrast, Éva and István were also pleased with their doctors but they are more open-minded and wanted to give extra information, because their own health cares take precedence. Hedvig did not seclude herself from it, but she could not see that as a whole. Péter had a very interesting opinion. He said that he would participate not only for himself, but also for the future generation. Because, if this program found any negative side effects, he wanted the medicines to be tested on him rather than on the youths. I believe he suffered a lot in his past so in his attitude he showed some kind of selflessness. I conclude that these people are very different from each other. Not only in terms of age category, but they also have different experiences regarding their medical treatment in their past. Péter and Béla do not have confidence in their doctors and have very bad experiences, so now they do not really care about what their doctors will say in the future. In general, they know that they need medical help, but Péter and Béla have lost their trust in doctors. Gizella is very satisfied with her doctor and does everything she recommends her to do. Andi needs more suggestion from different doctors in order to ensure herself

that she accepts the best treatment she can get thus she reduces the probability of complications. Éva and István believe in their doctors' professional knowledge and do what their doctors say. This can be a very crucial part in term of the adherence program's efficiency, because if they met this program, they would react differently to it. For example, Hedvig and Andi seemed to be the most sceptical participants from all of them. Due to their negative experiences from their pasts, they do not really trust in health care. After the short introduction of the adherence program, the first question was whether it is expensive or not and why it worth for the doctors and the pharmaceutical companies. Therefore, they immediately searched for ruses and pitfalls, because they could not believe the fact that the main focus was to recover the patients or improve their health in long run. Péter and Béla went through and sorely tried out the dark side of health care. Nevertheless, they were willing to try this program. Others had very difficult personalities. They were furious, because nurses and doctors could not immediately recognize what their needs and expectations were. Generally, they cannot get into their patients' minds and find what the patients' real problems are. That is why more time would be sufficient when the patients visit their doctors, because then there would be enough time for warm-up questions in the program, for a short introduction and they could also let patients talk about their problems that could help the doctors in recognising patients' personalities. So, besides communication time and information flow are sufficient as well. "Information" was the second commonly used word in the interviews. It had a power over the patients. It can have an impact on them, especially if they feel respect for those doctors in this field. For example, Andi can do everything to get the appropriate information. She said that: *I have already started to collect information because I always read everything on the internet in connection with high blood pressure.....I download everything in connection with it..... , I am serious, I have learned a lot from the internet, I collected a large amount of information on this illness.* I am not sure and I think doctors are not sure either, whether taking information from the internet is the right solution. Probably patients can make a bigger mistake by this than by doing nothing. Mihály, for example, collected all kinds of information and he discussed it with his doctor. He did not make any decision without talking about it with a professional. This is his opinion: *...but I would collect all the information what I heard and discuss it with my specialist in order to see clearly.*

3.4 Sampling of Expert interviewees

In order to get a full overview on the topic, it was obvious that the second party - professionals, who are working or have worked in different adherence programs - should also be questioned. I conducted 4 in-depth interviews with professionals. All of them worked or working in an adherence program. The following tables will detail all the information on them.

Professionals			
Respondent	Occupation	Date of interview	Working with Chronic Disease
Dávid	Product Specialist	03-03-2014 16:00 pm	rheumatoid arthritis
Katalin	Portfolio Development Manager	04-03-2014 15:30 pm	pulmonology field
László	Marketing manager	26-02-2014 18:00 pm	hormones
Kata	Sales manager	20-02-2014 14:00 pm	diabetes

8. Table: Professional's interviewee profiles.
Own resource

According to Table 9, all the professionals come from different fields, so this topic was not approached from only one point of view, but several. Thus, it will help me to make a general recommendation in the final part of my thesis work. Moreover, it also gives a general overview on the adherence program and makes suggestions what should or should not be done in order to enhance the program's effectiveness in Hungary.

3.5 Analyse Expert group

Data have been analysed by Nvivo program. Due to the fact, that this guide contained different questions regarding different topics, it seemed to be the best choice to break down the analysis into these parts. General questions come first in chronological order. That is why it came first. At this stage, the interviewees have to talk about the adherence program in general, and also about the situation in Hungary. The following table summarizes the most commonly mentioned words.

Word	Length	Count	Weighted Percentage (%)	Similar Words
communication	13	36	0,54	communicate, communication, consideration, expression, fomulation, information, intelligence, introduction, prescription, presentation
individual	10	15	0,21	connection, distributor, individual, personality, professional, specialist, speciality
information	11	29	0,45	background, consideration, documentation, educational, information, intelligence, introduction, particular, presentation
medication	10	23	0,80	medication, medications, methotrexate, pharmaceutical, prescription, therapeutic
relatively	10	28	0,38	circumstances, communication, connection, depression, difference, foundation, incidental, orientation, particular, percentage, protection, relationship, relatively

9. Table: Number of commonly used words.
Own resources

Here you can see that “Communication” came to focus. In this section, participants mentioned it 36 times. The second important word was “Information”, that is closely linked to the word “Communication”. The interviewees used it 29 times. The word “Medication” is standing at the third place by 23 counts. These three words going to be analysed because they are linked to each other in some logical way. The following graph could help to visualize the numbers of these words.



13. Figure: Word Frequency Query from the expert’s interview question.
Own resources

As it was mentioned before, the main focus was on communication. This interaction takes place between doctors and patients. All the professional participants mentioned that they could not have a direct contact with their patients, because of the state health laws. This fact contains several problems in respect of adherence program. So, this is an indirect communication, which starts from the pharmaceutical manufacturer’s representatives who gives the right information to the doctors, nurses, and finally they get into contact with the patients. It became obvious that there are too many steps in the communication process to be able to flow the information smoothly. In general, there is a third party, who handles

and provides information regarding the program efficiency or the problems. This independent party also has a direct contact with the patients. For example, patients have to use a mobile application because they have to send up-to-date information about their blood pressure to this company. Kata mentions that this is the reason why the pre-designed and well-built communication network is really important from their point of view. In this case, a greater responsibility lies on the doctors' shoulders. So, an understandable communication is needed and not just between the patients and the doctors but also between all the parties that participate in this program. So, between pharmaceutical representatives and doctors as well as nurses and patients. Based on my opinion, service marketing can help by delegating more responsibility to nurses and pharmacists. Beside medical and professional meetings and trainings for the doctors, communication and psychology should be introduced into their timetables. Marketing and promotional practice can come up only in this stage. Only doctors, nurses and pharmacist can get teaching materials, on what only the logo should dominate and it is prohibited to contain texts that encourage doctors to convince patients to purchase as well. Because, they have a view to give the right information with the appropriate communication technique. In addition, sometimes it does not really work in cases, when those doctors have been practicing for 30 years in this field. I agree that it is very hard to do something very different compared to 30 years of experience and routine. Therefore, the solution is to teach doctors and all parties the right information and communication. Kata mentioned that: *...It's great that educational materials that are needed to be given to them....* Dávid, in his opinion, emphasized the importance of communication. The main reason is that in the rheumatology adherence program people are different concerning their age, attitude, behaviour and sex. Thus, they have a technique to teach doctors to acquire the right and the most efficient communication skills. He said that: *...there is this motivation interview technic in which there is this doctor-patient communication. It means that in a given time you do not have to talk a lot, but you have to be more efficient.* On the other hand, it is very dangerous when doctors are not able to communicate with their patients well. The professionals' experiences showed that if the patients are dissatisfied, they will turn to the internet for example. This point of view was proven in Andrea's interview, because as you could read it in the interview analysis she mentioned that sometimes she browsed on the internet and took those pieces of advice. It can be very dangerous, because it might have negative consequences in the future and become non-adherence in the long run. Katalin's opinion on the communication was: *However, there is such a stair that is rather a barrier,*

so rather a bar than stair because that communication works very-very badly where in the situation the doctor and the profession personal have to communicate with patients. The reason might be that because of the wrong communication, the information flow between the parties will be inappropriate and patients will know little about their illnesses. She said that the patients would only cooperate better during the adherence program if they get extra treatment and more detailed information than in general. However, this thing only based on the appropriate communication technique. So, only that if we only tell the patient that he has to take this medication in this dosage, this way and that way, in itself it is not enough.... patients approval is needed to that he would like to join such a program....

The word “Information” was the second most commonly mentioned word in this part. As it was mentioned before, the word “Communication” and “Information” are very close to each other, because when doctors communicate with their patients they exchange information with each other in all cases. Dávid and László also said that from the first time it is very important to give the right information to the patients. They have to understand the mechanism of the program and its importance as well. On the other hand, if patients give the appropriate information, the cooperation and the probability of adherence in this case will also increase. It is very hard to work in compliance with those people who have negative bias regarding the program. In most cases, self-monitoring will pay off in the long run, because patients do not have to visit their doctors so many times, and doctors will have more time in the medical clinics for one patient. My opinion is that, it can works if patient get the right education which numbers and figures are not good enough to visit their local doctors. It sound a bit weird, and seems that doctors will lose the contol over their patients. But if appropriate technical equipments are given, it might works. Like blood pressure device that immediately send information to the central database. In addition, the pharmaceutical company and the doctors will have up-to-date information about their patients and they can trace them day by day if it is needed. Based on Katalin’s opinion, in most cases patients would like to join the program, because they will get extra information regarding their illnesses. This kind of a patient behaviour reflects that they are willing to take actions for their own recovery.

The third commonly used word was “Medicine”, because this was the main topic during the patient visits. Kata and Katalin said that if doctors make suggestions to patients how to take their medicines, the program will not surely be successful. So, doctors have to emphasize the importance of healthcare and the appropriate usage of medicines. Kata said that: *on the other hand, with certain medicines it will be you like that, like it would not*

be effective... Dávid had another perception regarding patient attitude towards medication. There are many adherence programs like Parkinson-disease, and in this case, when patients did not take their medicine, the symptoms of the disease immediately occurred. In general, such programs work well, because of the high level of patients' adherence. In case of rheumatic programs, patients have to take two different kinds of medicine. The second one is responsible for long run recovery. So, patients do not recognize its efficiency immediately. Therefore, the effectiveness of the medication depends on two factors. It depends on the type of the patient, intentional or non-intentional (voluntary or accidental). Intentional (voluntary) means people do not want to use it, because they might not agree with the doctor's suggestions. This can lead back to a wrong communication technique and bad information flow. On the other hand, in case of non-intentional (accidental), we are human and forget to take our medicine. Dávid mentioned a motivation technique, which is a good practice for doctors, and also helps patients to focus on their own illnesses. They just keep focusing on it, and what they have to do actually gets burnt into their memory

The second section in my interview guideline focuses on the adherence program in terms of the pharmaceutical company. All the questions go beyond general thinking and go deep into specific statements. The following table shows the most commonly mentioned words that will be further analysed.

Word	Length	Count	Weighted Percentage (%)	Similar Words
relatively	10	41	0.60	arrangement, circumstances, communication, connection, difference, efficiency, percentage, protection,
communication	13	46	0.58	acknowledge, affirmation, application, collection, communicate, communicating, communication, consideration, description, formulation, information, intelligence, introduction, nationalized, prescription,
cooperating	11	21	0.51	cooperated, cooperates, cooperating, cooperation, cooperative, reconciliation
medication	10	17	0.45	application, medication, medications, prescription
activities	10	37	0.42	activities, application, collection, complement, conception, contribution, cooperation, development, enthusiasm, establishment, formulation, intelligence,
information	11	34	0.41	background, certification, consideration, conversely, documentation, educational, establishment, information, intelligence,

10. Table: Number of commonly used words.
Own resources

Communication and information are also among the top three, most frequently mentioned words. But, in this case activities will be detailed. Here you can see the word frequency query that helps to visualise the words.



14. Figure: Word Frequency Query from the expert's interview question.
Own resource

Communication in this section was very similar to what it was in the first section. However, Katalin illustrated its importance in another approach. Using appropriate communication is very important from the very beginning stage of complaint, because the patient who has a negative attitude from the very beginning of the program is probably non-adherence. Furthermore, Katalin said that patients would require doctors to spend more time with them during the treatment. The second word was “Activities”. Under this word, several activities and tasks can be detailed. For example, in general, during an adherence program pharmaceutical companies try to educate doctors and give them as many information as they can by sending leaflets, brochures and any kind of printed materials. The monitoring process is very strict, the information is flowing very fast. Give indirectly an individual life style; convince them to practice self-monitoring, offer mobile application. Furthermore, give trainings and meetings for doctors and their representatives in order to be up-to-date and satisfy patients’ needs.

And finally, the third most commonly used word was “Information”. The above-analysed word in the general section was mentioned in Dávid and Katalin’s opinion. Not just emphasize the importance of educating doctors, but also nurses should take place in this program and should not be neglected. Therefore, train them as well, let them learn to recognize different patient types and select the information that transmits to patients.

The third section presents the adherence program in terms of the patients. The following table will show the most commonly used words that will be also analysed. Instead of “Information”, because it is very similar to the above mention sections.

Word	Length	Count	Weighted Percentage (%)	Similar Words
cooperating	11	38	1,93	cooperated, cooperating,
information	11	13	0,63	conversely, information, instructions
difference	10	11	0,56	difference, differences, differently
experience	10	9	0,46	experience, experiences

11. Table: Number of commonly used words.

Own resource

And I also insert the word frequency query.



15. Figure: Word Frequency Query from the expert's interview question

Own resource

The word “Cooperation” was mentioned 38 times. Kata said about the patients’ willingness of cooperation: *Usually very high. So, that this doctor, you see, honestly, he tells you that stuff, that this is it. You will sign your patient approbation like the wind.* Some of the specialists have experienced that there are different type of patients. Based on this information, nurses and doctors have to recognize which type of patient has to be handle. Thus the chance of misunderstanding and the churn rate of patients leaving the program will reduce. Dávid experienced that women are more collaborating than men. László said that there are two different types of patients: the reactive and proactive. So, those patients who do not really want to participate will be non-adherence and there are some people who just completely forget to take their medicine, but really want to take part in the whole program. It is very easy to measure, which type of a patient the doctor has to face. He makes a few questions regarding the usage of their equipment or the actual quantity of their medicine. For example, if the answers are not sure or obvious that they do not want to use them, doctors can immediately categorize them. Based on the word differences in this section two things come up. The first is that men are not so adherence than women. The second one is that patients’ willingness to cooperate. Dávid said that: *Well the scattering is very big. There is even difference between geological areas. It is*

very essential for example in this rheumatoid arthritis that where the sending-in system operates better it gets there sooner, so the family, even the family doctor or a well-trained family doctor notices that this story cannot be left at family doctor level, because it is a more serious thing.

In the conclusion section, Kata and László mentioned two interesting things regarding medicine. László emphasized that it is not enough that doctors convince patients to take the right medicine, the essential part of this program is to educate patients who can live their life much healthier than before. So changes in lifestyle can be one of the key factors in the future. Kata sees the solution in telemedicine. There will be a little application that constantly measures and controls patients' health status and sends the result to the centre. Therefore, a whole data network should be built to manage the entire operation.

3.6 Discussion and conclusion

Many conclusions could be drawn from the interviews that were made with patients and pharmaceutical professionals. It is obvious, that these 12 in-depth interviews are not representative, but thanks to the exploratory research, different questions and aspects came to surface. The interviews have unveiled that patients are willing and able to take actions in order to be healthy. For instance, some of them even make extra efforts. They spare their time on it and spend money in order to get the appropriate examination. In order to get a general overview on their behaviour, some examples will be demonstrated from the patients' side by using the Suchman's model (évszám), as well as the mixture of Health Behavior Model and Social Learning Theory. These interpretations would give an overall picture on their psychological thinking. The Suchman model and its concept on social patterns, which accompany the seeking, finding and outlining of medical care, were mentioned and analyzed in Paragraph 1.2.2. He determined to what extent could new decisions influence the future actions of the medical care. I will go through these five stages with the interviewees' explanations. The following tables shows the summary of these stages.

Suchman 5 stage model		
1	Symptom Experience	-people found out about their own diseases
2	Assumption of the sick role	-take action (all patients have been taken action) -not to take action
3	Medical Care Contact	-micro-macro barriers: geographical approach obstructed the healing process financial approach gender
4	Dependent Patient	consulted committed to the medical pieces of advice satisfied with their treatment
5	Recovery, Rehabilitation process	sensitive for WOM skeptical

12. Table: Summary of 5 stage model
Own resources

The first stage is Symptom Experience. Only two participants mentioned that their problems were the result of a routine examination and thanks to their own health care, they were discovered in an early stage. The other six people found out about their own diseases when they actually got sick and had to call for an ambulance or someone to take them to the hospital. Such patient attitude also reflects that they do not think of preventing the trouble in time. They take actions only when their health problems occur and sometimes they cannot be treated as shortly and simply as they expect it. The second stage is the Assumption of the sick role. In general, there are two types of patient behaviour. Some of them accept that they are sick and want to take actions in order to recover, however, there are others who hesitate and behave as nothing happened. Regarding my interviewees, all of them recognized and accepted immediately that they were sick and realised that they had to find a solution for their recovery. I would highlight Andi's behaviour when she was faced with the fact of her high blood pressure. She acted as a very sick person, and was not satisfied with a simple solution and a general check-up (blood, urine, heart and blood pressure check-up), but she required more specific and modern technological and scientific results in order to make her calm down. The reason to this was that she did not trust her family doctor. The third stage is Medical Care Contact. At this stage, patients act very differently. The explanations are micro-macro barriers, that were also mentioned in the Paragraph 1.2.2. These barriers vary from people to people. For instance, Hedvig could not get the right medical treatment, because she lived in Győr and the health services were in Budapest. In this case, the geographical approach obstructed the healing process. During the interview, Éva and István complained that if they wanted to recover they had to take medicines, but they are very expensive. Moreover, it would have been better, if they had had some drug support. In contrast with them, Andi

was willing to spend extra money if she got the right treatment. Mihály is a typical man-character because his barrier is gender. This means that men tend to visit their doctors on fewer occasions than women. Mihály visited his doctor 10 years before he recognized his chronic disease. The fourth stage is the Dependent Patient. All the patients, except for Andi, consulted their own doctors about the treatments and committed to the medical pieces of advice. As I have mentioned it before, Andi is still looking for the right doctor and the appropriate solutions. The final stage is Recovery, Rehabilitation process. Gizella, Éva and István are satisfied with the general medical treatment that they get from their own local doctors. Péter, Hedvig, Mihály and Andi are more sensitive to WOM (word of mouth), and they are still looking for the best treatment and able to be adherent. Béla also does what his doctor tells him, but he is tired of being at the top, because of his previous negative experiences. Health Action Process Approaches has been detailed in Paragraph 1.2.3, that can make it much more understandable how patients think and the actions they take in their healing process. This theory contains Social-Cognitive Factors in the Changing Health-Related Behaviours model (see 3.Figure). In order to understand them and to get an overview on them, short examples will be explained. Mihály is one of the ideal interviewees, whose experiences and attitude are the most appropriate to analyse this model. There are three different factors that influence the patient's decision in order to make him aware of being healthy. Mihály has high expectations on the results of the healing process and since he wants to be better he takes actions in order to recover, that contributes to the minimizing of the level of perceiving risk (time, money, geographical approaches). After a long time, he decided to visit his local doctor and have a thorough examination. This is the planning stage. He gets the right treatment, what he expected, so he becomes motivated. The fact, that he did not have any negative experiences, leads him to a positive behaviour. The adequate communication and the good patient-doctor relationship at each visit leads to Mihály's willingness to recover, even if he has to face some barriers. In contrast with Mihály, Andrea is one of the most appropriate interviewee, whose attitude and past experiences are the best to show which factors lead to the failing of the patients, to be adherence in the program. Andi is as motivated to recover as Mihály is. She said that she was willing to do anything to be healthy, pay as much as she had to, spend as many time as she had to, even if she totally had to change her ways of life. Therefore, her perceived self-efficacy and the level of the outcome expectancies are at the top, that minimizes her perceived risks. Andi is intended to figure out what is the best for her. She planned to visit her local doctor, and before talking with him, she had browsed

the internet and collected some information regarding her sickness, because she really wanted to be up-to-date about what is going on with her. After a short perfunctory examination, due to the inappropriate communication and unsatisfactory patient-doctor relationship, she walked away and never took his advice. Based on the model, after an initiative step, she failed the maintenance step, because she never went back to this doctor. This behaviour is called disengagement.

Considering the willingness of patient cooperation in the adherence program, they can be analyzed as a group. Some differences have been observed during the analysis among them in terms of behaviour and attitude. So, 6 people out of 8 have intention and commitment to cooperate with their doctors. However, two interviewees are exception. As I have mentioned it before, Péter and Béla are more pessimistic and they only believe the findings of clinical tests and those proven by real consumers. As far as the adherence program is concerned, it will be very hard to convince them to consider its advantages and to take part in this program. That is why the solution could be reached by word of mouth. It would be much easier to target them through this communication channel. But first, in order to generate positive WOM, positive association and awareness should be ensured for this adherence program. However, at a certain level, when the expected support and the medical treatment are missing, patients start to behave as a non-adherence person. The majority complains about not getting substantial medical care from their local doctors. Besides general treatment, they expect to get overall information about their health problems and get emotional support as well. Therefore, based on this information, patients seem rather adherent in terms of the program. The truth is that doctors are not able to meet their patients' engagements, because they have to treat more than 300 patients a day. So, both of them need to pay more attention to the other one for more than just 5 minutes. However, in the present health care situation in Hungary, it is not feasible to fulfill the emerged needs from patient side. Thus, it is impossible for doctors to form a more personal relationship with their patients. As a result, patients feel that they do not get enough time, so it generates inconvenience. They get frustrated and disappointed, and turn to alternative solutions like finding another specialist, surfing on the internet, or bowing to their misfortunes. It is troublesome, that people solicit tools, such as the internet, that may lead to their deaths. Only one damaging recommendation is enough to cause irreversible damages. For example, there are blogs and chats, where sick people can get advice from not professionals. In this case, there is only one way to convince patients to stay and collaborate with their doctors, and this is communication. I think communication has a

power to influence the result of this program in terms of the patients, doctors, and pharmaceutical companies. As you can see it, the whole process is built on communication. Therefore, after choosing the appropriate communication technique the whole information network can be followed through. This communication technique is the tone, the voice, the tune of phrases and expressions that should be individualized. That is why doctors' training and communication education is evitable. If the discussion is satisfactory, that is, doctors give enough information and go beyond the problem; patients will be content with the services and begin to trust them. If doctors and patients regain trust in each other then it will result in a permanent, long-term cooperation. It sounds easy, but it is not that at all. It starts with the pharmaceutical representatives, who get into contact with doctors, give them appropriate information through printed materials and trainings, if needed. If doctors are well informed about the medicine and its benefits, a successful patient treatment has a higher probability. Besides, doctors and nurses should pay extra attention on them, because they also get into contact with the patients. In general, they receive complaints through a green number and try to ease their anxiety. That is why professionals emphasize the importance of psychological competence when treating patients in a right way. There are so many types of patient behaviours, which require different handling processes. Therefore, this can be one of the greatest barriers. Now it is necessary to go back to the second part of my thesis that shows models regarding patients' trustability towards their illnesses. Furthermore, extra attention should be paid right from the beginning, when patients visit their doctors, and detailed information should be given to them about the whole process. Anyway, patients from health care have negative associations and feedbacks that are very hard to be broken down. On the other hand, it is not enough that patients take the medication in the right way, in some cases they have to change their whole lifestyle. For example, people who have high cholesterol should eat healthy food and do sports. However, without any help, it is very hard for them to radically change their lives. That is why lifestyle guidance is essential. Due to this, there are many adherence programs to provide different kinds of services. In my primary research, I dealt with subjects who work in the field of diabetes, rheumatology, hormone therapy and pulmonology. Each program requires different treatment processes. Therefore, my opinion is that each program provider should consider treatments that are essential and indispensable from each patient's points of view and just after that should the program-providers tailor it to the individual's needs. In general, I can conclude that we cannot say that there is only one phenomenon that causes these

problems, and leads to this current health care situation. The correct attitude of all the parties in medication would be to contribute to the recovery process at all levels. Regarding patients, if they invested the efforts (time and money) into a program that they squandered before the wrong treatments, it would pay off in long run. This is a time, when patients need to break bad traditions and behaviour. This means that, two different kinds of patient behaviour can be observed. In general, there are people who support everything in health care until they do not have to pay. For example, Éva and István mentioned that medicines are too expensive and they do not get much medication support from the state. However, others, we could experience it through Andi and Péter's examples, are willing to pay extra money if they get the right treatment in order to get trust and appreciation. So not just adherence, but this extreme situation should also be immediately changed in order to restore the balance in health care. This means that patients have to support the appropriate services, not waste their times and money on meaningless things. I find the overall solution in communication. By choosing the appropriate communication technique, mentioned above, patients could influence it into the right direction.

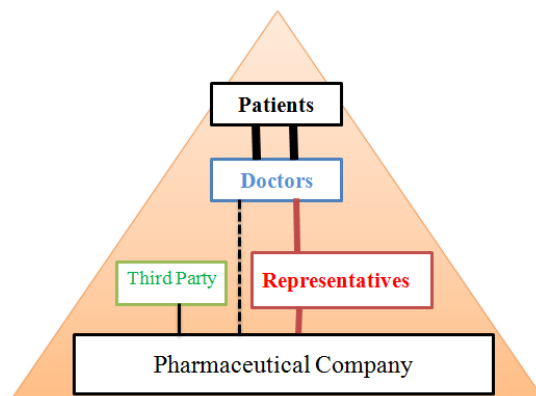
3.7 Recommendation

Based on the interviews made with patients and professionals, it is obvious that the time has come to do something revolutionary, that differs from the present situation and implies a solution that might be a reality out of place. Based on my opinion, this paragraph will show that all the parties in the adherence healthcare programs could take advantage of it. As you can read it in Paragraph 2.2.2, that gives a short economic overview on the effectiveness of adherence, it has a negative effect on the state's economic background. This means that if people are not compliant (adherence) it causes extra costs to the state. So, for example, one third of HUF 60 billion is only a wasted amount of money. Based on this information, it would be much more appropriate to spend this amount on something that will be rewarding in the long run. So it became obvious that the adherence program can be profitable to all parties. Patients will be recovered in the short run, in general, doctors will have more time to pay attention on their patients and the state can save money in the long run, too. Of course, at the beginning it has extra expenditures. I had the chance to meet Dr. Péter Molnár Márk and ask for his recommendation. We talked about his personal experiences concerning the adherence program in terms of communication and information flow. I would rather mention this interview here, because it is absolutely independent from the professionals' interviews,

since we discussed only feasible solutions. So based on this personal interview with him, I note that he also agreed on that something is needed to be done in order to improve health care. He has a huge experience on the work of the communication network in this field. He drew my attention to the fact that the appropriate communication network and the information flow between parties are getting faster and that these contribute to this program's efficiency as well. If I consider all the interviews that I have done, it becomes obvious why this is my recommendation. In terms of patients it would be much more easier if the program is institutionalize. None of them has ever heard about the existence of this program but all of them became interested in it, however they did not have any idea where to get information about it. So, if this program is institutionalized, patients will easier identify it and get the adequate information about it. After a while, people would be much more aware of it and get interested in the participation. It can be a feasible idea. For example: The real owners of the institutions all around Hungary should be individual entrepreneurs or the state itself. My opinion is that the state should help to enhance the health care status in the right way. It will be a huge investment so the execution should be started after 10 years from now. It is obvious that it cannot be done within 1 year, because there are several things, for example, legal, economic, social and governmental, and the education at university, as well, should be taken into consideration. As you could read it in the second paragraph these programs operate under strict rules, that significantly limit the effective patient recovery process. A complete system could be constructed around the adherence program, which would offer a more effective cooperation between the parties in this field. So, this "adherence centre" world is one of the most important pillars of this new and stabled system. In major cities, there should be at least one "adherence centre", where those patients would be handled who suffer from different kinds of chronic diseases. So, this means that based on the regional differences in the frequency of chronic diseases it should be determine which adherence program would operate in the adherence centre. So, the institution could recover people with diabetes, hypertension, cholesterol, Parkinson disease and so on, in parallel. If the competition between the pharmaceutical companies' adherence programs is considered, than equal opportunities must be created for all parties. So, the solution would be that, in the centre there would be several competitors present. The adherence centre should have different meeting and training rooms where pharmaceutical representatives can educate them, while other doctors in order to avoid idle time, would treat patients. Thus patient treatment would continue and they would not have to wait for such a long time until the end of the conversation between

the doctors and the representatives. Alternatively, if patients have some questions regarding the treatment or the change made in their lifestyles, nurses could arrange an individual consultation. This is the stage where marketing science comes into play. It has very strict rules on how to educate representatives and doctors. During training, they have to emphasize the 7P, because it is like a service. Based on the strict rule, which regulates marketing activities (promotional items, gifts, events, sponsorship, PR) some from 7P can be detailed. Booms and Bitner in 1981 extended the McCarthy kind of basic marketing mix elements into 7P. The fifth one is the people that include all kind of person who working at the services. Physical element is immediate environment, where the interaction between parties became real. Process is the seventh component of the extended marketing mix. This should be including all kind of mechanism that contributes to the delivery process. (Veres, 2003) Pharmaceutical representatives should emphasize the benefits of the products, based on some statistical and numerical evidences. Place and the physical evidences should be mentioned as a contribution to patients' positive attitude and behaviour. In her interview, Andi said that the modern technology and the pieces of equipment can ease patients that they get the right treatment. So, if doctors can create the right atmosphere they can relieve patients' tension. People in the 7P would also be educated. People as a definition relates to doctors nurses and third parties' tasks and responsibility in the whole process. Pharma representatives should emphasize the importance of training as a contribution to easy patient handling. Regarding the process it is also important that nobody forgets the rules, what they can or cannot do. Price and promotion are sensitive topics. This is why I would skip anything that refers to this. All kinds of online and offline materials should be built on 5P (product, place, physical evidences, people, process) instead of 7P. As a result of it, adherence programs would be handled in one place so the control over them would be strict and profound. As I have mentioned in the second paragraph and during the interview analysis, communication should be the main focus of the program, because almost everything depends on it. If communication is not appropriate between the doctors and the patients, adherence phenomenon will increase, patients will have negative or neutral behaviour and attitude regarding the program, or they will leave the program and turn to competitors. On the other hand, communication starts at pharmaceutical representatives and doctors and nurses, than it is between a third party and the nurses, the nurses and the patients and a third party and the pharma company. So the interaction is a multi-directional communication. It functions as a card castle. If the funds are not stable, the whole thing

will collapse. In this case, the fund is the relationship between the pharmaceutical representatives and the pharma company, and the interaction between the representatives and the doctors, and the third pillar is the third party and the pharma company. Following figure will summarize the communication flow between all parties in adherence program.



16. Figure: Pyramid of Communication flow in adherence program.
Own resource

I would like to refer to Dr. Molnár Márk Péter's statement that communication network is essential in this field. He would suggest using it, in order to be connected to each of these adherence centres all around Hungary. Thus up-to-date information about the patients' and the doctors' attitude, behaviour and the result of the patients' health are connected to each centre. Naturally, the communication network handles competitors separately and pays extra attention to data protection. This idea could enable to speed up information flow in both directions. Therefore, patients can always get the right treatment, because if something goes wrong the network immediately sends a report to the company. In addition, pharma companies have the chance to react to the arising problems immediately and ameliorate the trouble in time.

On the other hand, this centralized program offers new possibilities to doctors because local doctors do not have time to work in three shifts. So it is very hard to be equally there to work in their location, and in their private practice as well. So it is obvious that the present generation, that has already been working in health care as a doctor, do not have the time to work or participate in this program. However, I found an alternative solution. At Medical University, future doctors should be taught what adherence is about and offer the possibility to get some adherence program faculties. Offer professional practice to them and if they are talented in this field, motivate them in order to stay and work in the adherence program. So I would like to incorporate the adherence into the education program. This adherence education at University would be different from the basic

education. Here students would get communication and patient handling trainings and courses, as well. This education process would be very costly to the state but in the long run, it would be much more profitable, because students would study in Hungary and after graduation they will probably will stay and work here. The reason of this is that adherence programs would widen the working possibilities in Hungary. Based on the constant adherence program development, patients' satisfaction would probably increase. If the patients' expectations were fulfilled, then the level of adherence would increase as well. Regarding the popularity of the adherence programs, generally knowing people's behaviour, everyone, also those who do not have any chronic disease, would go to the centre. That is why the selection process would be the essential part of the working process. This means that doctors who work in the adherence program should closely cooperate with local doctors, because they would be assigned further to the adherence centre. In order to make this program more efficient I would recommend pharmacists to take part in this adherence program somehow. I would definitely agree with Dr. Molnár Márk Péter's suggestion that these people meet more often with patients than with any other parties in the program. Just think about that there are many people, who do not really want to go to their doctors. Instead, they visit drugstores and ask for the pharmacist's suggestion. In some cases, these patients do not have any chronic illnesses, but it refers to the behaviour that in general they trust their pharmacists. I would like to suggest that pharmacists should play as a selected section of the whole procedure in this whole process. So, they should be involved in this program to select those patients who can participate in this program due to their chronic illnesses. On the other hand, third parties and the communication network database should closely work together with pharmacists due to the fact that, they own up-to-date information about their patients.

OVERALL CONCLUSION

In the summary of my findings regarding the adherence program, it is crucial to enhance the effectiveness of this program. The main reason is of economic respect. Investing in the adherence programs can reduce co-pays, the cost of rehabilitation, as well as further economic incentives that have to be paid by employers. It also creates positive returns on investments through effective workforce that is responsible for the productivity. This program can also contribute to the constant improvement of the health care system as well as the health of the population and hospitalizations. So, in my opinion, patient management and education are both necessary for achieving the effectiveness of the program. The curriculum of the training should be based on the topic of how to gain patients' trust. It is one of the most important elements, which can help to solve misunderstandings, mainly, between doctors and patients.

However, communication in different levels (see in the communication pyramid) exists, so this is why there is relationship between pharmaceutical companies and representatives, and between representatives and doctors. Thus, doctors can easily understand the effects of the medicines and so they will highly recommend and prescribe them for their patients. If patients have trust in the medicine, they will use it and will cooperate with the participants. It is not forgettable that rigid laws restrict this adherence program. Legislation includes how conferences, trainings, events, sponsorships and other kinds of services, that pharmaceutical companies provided, should be organized. It is also important for pharma companies to get detailed information from patients. Based on Hoffmeister's age categorization, six people out of eight fall into the category of 70 years and above. This means that in this life-period, death is more common and physical and psychological problems are arising. On the other hand, older age categories were continuously increasing year by year from 1990 to 2011. In conclusion, this segment is highly neglected by the society and marketers as well. Their needs and wants do not get much attention. This could be the key for the future success of this adherence program, because it is highly built on the patients' satisfaction. As it has already been mentioned in the recommendation part, if this program institutionalize, it will be much easier for patients to be aware of this program and get interested in the participation. Furthermore, the information flow will be faster and doctors will educate them and communicate with them easier. This idea would offer a more effective cooperation between the parties in this field.

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APPENDIX

Guide of Narrative patients' in-depth Interview

1. Please tell me step by step what happened to you from the time you found out what the disease is, until today. While, please described the relationships with the doctors that you have met during the healing process.
2. So far as I draw attention to this patient co-existence program, called adherence program, where doctors, patients and pharmaceutical companies joined together to reach mutual gain. Here I explained in so many words, how should this program imagine, how it is work, detailed all the participant and their location and task in the program. And when the interviewees understand what it is I took a question. Please give reasons why you would participate in this program, or why not?

Guide of Narrative professionals' in-depth Interview

I. Introductory 2 min

Good afternoon, my name is Nóra Munkácsi. I am a master marketing student at Budapest Corvinus University and this will be my final semester. The topic of my thesis work is Adherence in Hungary and in international view. That is why I am asking you to help in my thesis work by answering the following questions. Thus we get more understandable overview and insight of the topic.

I sure you that your personal and professional responses will be handled confidentially. In generally during the interview, the concept of adherence will detailed and explored the current situation in Hungary. The interview will be approximately 60-90 minutes if all issues are explained very detailed. So let's start.

II. Warm-up questions 10 min

1. What's your name? Please introduce yourself just very briefly.
2. What do you do?
3. Please introduce the company in a few sentence!

III. Generally from the adherence program 20 min

1. Tell me about adherence program just in generally?
2. How do you determine adherence?
3. When did you meet first with adherence? When did you hear first about this program?
4. What was the main motivation factors which led you to work in this field?
5. What was your fist step in this fild? (school, work experience)
6. How should we visualise this program? What is the structure of this program?
7. What are the reasons of the presence of adherence programs?
8. What would you say if we think back for 10 years? What is your experience?
9. If we comate the past and presence situations , in what extent and which way move the change forward?
10. What is the situation in Hungary and worldwide as well? Please tell me about a specific case.
11. What kind of supports and demands are the program required?
12. What kind of lows and rules should be taken into account if somebody wants to implementing this kind program in terms of Hungary and worldwide?
13. How could you manage the restricts policies?

14. What do you think, which factors leads to non-adherence phenomenon?

IV. Focus on their adherence program 40 min

a, In terms of pharmaceutical company

1. What is the program doing all about?
2. What are the differences between your adherence program and the operation of an average adherence program?
3. How, when, where would you involved your employees into the process?
4. Is any special support made available for staff engaged in management of this facility? If no, do you think there is a need to have such support? (representatives and the management)
5. Is your Organizational policies require employees to receive periodic training and education regarding the organization's compliance program. eztkicsit szabatosabban fogalmazd át
6. What is the role of the management and the board and the employees in the whole process?
7. How controlled the whole process?
8. What strategies are in place to monitor adherence?
9. What is the main aim of this program and how could the program effectiveness measure?
10. What kind challenges have you to face during regarding the program?
11. What are the main challenges you and your colleagues face more generally in your work? (if necessary, prompt re workload, stress, burnout)
12. What strategies are in place to support adherence? (probe: family/community involvement).
13. Do you think there are opportunities for improvement in your programme, if yes probe?
14. How could you improve the whole process? (Site visits, Interviews of personnel in areas such as management, operations, coding, claim development, Questionnaires given to a cross-section of employees, Reviews of records and source document, Reviews of written materials and documentation prepared, Trend analyses or longitudinal studies that identify deviations, positive or negative)
15. Is there anything you would like to see done differently in this facility? If yes, what?
16. How is the relationship looks like with the doctors?
17. Are the doctors flexible in the whole process I mean, the cooperation is smoothly because the willing to collaborate?

b, in terms of the patients

17. Could you tell me about the result from the patients participation factors? What determines patients' willingness to coop with?
18. What do you think most of the majority of your patients adhere, if we generally speaking, in terms of adherence?
19. Could you estimate the percentage of your patients who you think are "sufficiently adherent"
20. Please, just imagine that a doctor, that he/she is connected with the company, complaining from the non-adherence patient. What do you think, from what will the doctor complaining about specifically?
21. Please, just imagine that a doctor, that he/she is connected with the company, complaining from the adherence patient. What do you think, from what will the doctor complaining about specifically?
22. How would you compare adherence between women and men?

23. How would you compare adherence between older patients and younger patients?
24. How would you compare adherence between women and men above 50 years old?
25. How does a patient's educational level affect adherence?
26. How do you think that cost to patients influences adherence?
27. What are the main challenges have you ever face in supporting your patients to adherence this program?
28. Have these challenges changed in any way ?If yes from when and for why, what was the reason?
29. What kind of marketing activities used in order to reach the patients attention to your program?
30. What is your communication strategy?

V. Deduction 5-10 min

1. What kind of solution would you recommend in order to improve the Hungarian situation?
2. Could you tell me some marketing example for the solution?
3. Please sum up in some work of your opinion, and suggestions regarding the topic.

VI. Close 2 min

1. Is there anything else you would like to tell me or ask me?
2. *Finally, I would like to thank for your cooperation and your answers.*