DECISION MAKING THEORIES IN MEDICINE REIMBURSEMENT

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We have been continuously affected by decisions that are made by various organizations in which we have little or no influence. Our existence, our well-being is directly dependent on the organizational decision-making process of our governments, companies we work for, our municipalities where we live or our families. Having in mind how much health and health care impact our lives it is not surprising that this subject is high on each person's agenda and is consequently becomes important for governments or political parties. Depending on the way the decisions are being made by health care officials, the process has many implications from the effect on patients who are the end health care users to financial and human resources spent in this case. This paper examines the way decisions are being brought up in Croatian NHIF (National Health Insurance Fund) that are related to medicines reimbursement. It studies how much information is available to the decision makers; how much are they aware of the alternatives and related choices? What is their order of preferences and how it works when all of this is mixed with real life complex environment in which decisions are being made? The practical use of the paper should indicate a direction to the healthcare officials to improve the decision-making process in the way it would bring more benefits to its users, patients, through increased efficacy and productivity.

Key words: Organizational decision making, bounded rationality, medicines' reimbursement, Croatia

INTRODUCTION

Health Systems of virtually all countries are currently facing many challenges. From the fact that population in developed countries is getting older and needs better and wider health care services, to financing and organizational challenges that ultimately threaten their ability to sustain the provision of health care to their population in line with expected standards (WHO 2014). The response that our health systems will make to these challenges in the coming decades will reshape the ways governments deliver healthcare to its citizens. Today, there is a wide disproportion by country in health care spending. While total expenditures on health care in the World, according to WHO, reached US$ 6.5 trillion**,** the amount was spent very unevenly among OECD countries on one side and the rest of the World on another side. The country with highest per capita spending in the World is US with over US$ 8.000, comparing to Eritrea where per capita spending is only US$ 12 and is the country with lowest expenses in the Health Care. Average amount spent per person per year on health in countries belonging to the OECD countries is US$ 4380 while only 18% of the World population lives in OECD countries, they account for 84% of total HC World spending (WHO 2014).

The health system in Croatia is regulated by a legal framework that includes three key laws: Law on Health Care, Law on Compulsory Health Insurance and Law on Protection of Patients' Rights. Health Care Law regulates the principles and measures of protection, rights, and obligations of insured persons that use health care services, social care, content and organizational forms for performing health activities and audit. Health Care activates for the Croatian population are carried out on principles of comprehensiveness, continuity, accessibility and integral approach of primary health care system, and specialized approach in specialist and hospital health care (Novine Narodne 2008).

With Health Care Insurance, insured persons acquire the rights and obligations for the use of health care, and other rights and duties from Health Care Insurance. In Croatia, the Health Insurance is divided into basic, additional and private. Basic Health Insurance is compulsory and carried out by

the Croatian Institute for Health Insurance (HZZO - Hrvatski Zavod za Zdravstveno Osiguranje). Supplementary and Private Health Insurance is voluntary. Supplementary Health Insurance provides the payment difference for the health services that the Croatian Institute for Health Insurance does not cover through Basic Health Insurance. Private Health Insurance is determined by individual contract between the insurer and the insured person for medical services that are not covered by Basic Health Insurance. Fundamental rights deriving from the basic health insurance are the right to health care and the right to financial compensation. Primary Health Care is financed by the insured people, employers' contributions, the contributions of other payers determined by law, special contribution for the use of healthcare abroad, special contributions for employment injuries, revenues from the state budget and income from interest, dividends and other income (Novine Narodne 2008).

Like most other health care systems, the system in Croatia has been facing significant financing and organizational challenges that are threatening to its ability to support Croatian population healthcare needs that have to be in line with EU standards (Kutzin et al. 2010)the social and economic policies of the transition countries of central and eastern Europe, the Caucasus and central Asia have diverged, including the way they have reformed the financing of their health systems. This book analyses this rich experience in a systematic way. It reviews the background to health financing systems and reform in these countries, starting with the legacy of the systems in the USSR and central and eastern Europe before 1990 and the consequences (particularly fiscal. The type of response that health systems, like Croatian, will make to such challenges will determine the way the organizations will operate in the future. Moreover, to make quality decisions and respond to current and future challenges, the policy makers that manage Health Care System will be better off if they a) understand tendencies and limitations that all players within Health Care are experiencing, and b) come up with plans for better and more cost-effective policies.

Within every Health Care System, the development and application of the new pharmaceuticals and therapies were a major

success story of the past century, providing humans with longer and healthier lives and an opportunity for further economic development. However with longer and healthier lives of its population, countries and its health care systems today are also facing various issues like ageing population, with decreasing number of HC professionals, rising demands for Health Care, ever increasing cost, and Government Budget restrictions in times of no or very limited GDP growth (Dixon 2002).

The Health Care and country progress are just two seemingly separate and entirely different categories. However, the health of the people is actually basic motive, but also a prerequisite for country progress and growth. The state of the economy of a country depends on many factors, including the overall health of human capital. Human capital is linked to people's health because only healthy individual can maximize potential employment and increase productivity. Health could affect the country's performance through four channels: (1) productivity, (2) the supply of labor, (3) education and (4) the savings available for investment in physical and intellectual capital (Bazzoli et al. 2004). At the same time, the state of the economy affects the health of people. Furthermore, one can distinguish health as durable goods and health as a capital asset (Lichtenberg 2007). When the health is viewed as expendable, then it has a direct impact on the individual, because people want to be healthy. As a capital asset, health has an impact on the individual and the overall market because it is believed that healthy people spend less time on sick leave, and they are capable of working and carrying out work activities directly and indirectly associated with the market. Here we assume that more work would increase income and satisfaction (Lichtenberg 2007; Gigerenzer et al. 2008). Taking into account life expectancy, the link between health and economy can be viewed in two ways: a) savings and b) investments. A country in which the population is healthy and with a longer life expectancy of the population is more likely to have greater economic growth and then a greater incentive for investment in physical and intellectual capital, than a country in which the health of people is affected and life expectancy is relatively short (Kruk et al. 2007).

This paper is focusing on exploring Health Care System from Decision Making Theory perspective. The Health Care insurance is organized in the way that everybody contributes to the Health Care budget to be used by these who need it most. What makes the issue specific is the fact that health care services, as well as medicines, are financed from one central fund that is loaded by citizen's contributions and the direct users are not involved directly in the decision-making process. The goal is to look into theory through practice and to give some idea how to apply academic knowledge in the field of health care.

This paper explores empirical and practical dimension and consequences of not having a clear approach to the decision-making process and authors applies the theory to examine how sound are the decision-making processes and how the process impacts the decision quality? Authors would explore how much is it vital, no matter what was the dominant driver of decision-making, to have a clear purpose that is established in advance of what decision makers want to accomplish with their action. This may have various consequences, from better usage of resources to the overall level of health care in the particular country. Authors would argue that objective should be flagged out and should be used as a reminder if what decision makers are doing is in line with their pre-established goal.

THEORETHICAL BACKGROUND

The history of decision making has numerous standpoints and researchers, as it is the case in many other fields of management, dispute about "effective organizational decision making" processes. As per Hendry (2000) early epistemological views on organizational decision making were founded in neo-classical economic concepts of rationality, were not thought-provoking, they looked at the process as "rational choice based on logical connections between cause and problem, where searches for alternative potential solutions, prioritizes preferences according to identified criteria and arrives at an optimizing choice". This model observed decision making as "both logical and linear" and it didn't make difference between individual and organizational

decision making assuming that if "individual managers make rational decisions, then decisions made by groups within organizations are equally rational". Nevertheless, the weaknesses of such thinking have been known for long by researches.

The decision making is concerned with uncertainty and has always occupied human mind, even thousands of years ago, when men have sought guidance from stars when facing doubts. Such questions about who and how decisions are made are explored whenever systems of government, justice or social order is being reviewed (Cyert and March 1963; March and Simon 1993). According to (Buchanan and O' Connell 2006) the organizational decision making as a subject of research was introduced in the late 1930s and 1940s. Some of the themes of organizational decision research have been evident for many years. Academics discussed decision maker's rationality, political behaviors, and the way decision maker's experiences were being interpreted.

Theorists like James March, Herbert Simon, Richard Cyert and Henry Mintzberg studied decision making as part of different science disciplines such as sociology, psychology, economics as well as political science. Some researchers used a decision-making process to look into organization's values or leadership qualities, but decision-making also helped managers to become more efficient in a way of better managing the risk or understanding human behavior (Edwards 1961). The researchers, over the years, have realized that no sound decision-making strategy is based on seamless rationalism. They have discovered a number of constraints whether contextual or psychological that would prevent optimal decision-making. Simon (1993) has argued that complex situations, restricted time, human cognitative restrictions, limitations in collecting all relevant information would make decision makers operate within "bounded rationality," even he believed that humans would make economically rational decisions if they would be capable of gathering and processing enough information. He noted (Simon 1977) that "some decision processes may approximate to rational prescriptions, others may not".

Students of decision-making studied the process of decision-making in many ways; in order to examine the issue, they would

frequently look into one particular dimension of the subject and diminish or neglect the others. This approach brings questions like is the logic of consequence more important than the logic of appropriateness? Is the process qualified as clear and consistent or vice versus (Santos and Eisenhardt 2005)? How are decisions made in the organization when all stakeholders do not have the same interests and goals (Gailmard 2012; Miller 2005)? In real life decisions are rarely black or white, much more often they are within wide range of gray shades. They may at the same time be driven by the logic of consequences as well as the logic of appropriateness, sometimes more clear and consistent and sometimes not as much (Augier 2004).

METHODOLOGY

The research explores decision-making process of Drug Reimbursement in Croatia since its independence, the set of standard procedures, regulations and implemented practices that bring medicines to the Reimbursement List, in order to find out how the medicines are evaluated before reimbursed, and to understand which decision making theory is dominant during the decision process and, related to particular decision making theory, if a) decision makers are guided by logic of consequence, choosing among alternatives by evaluating possible consequences based on prior preferences, or they follow a logic of appropriateness fulfilling their identities by recognizing circumstances and following norms that match expected behavior to the situation they face or they are guided by other factors of the decision making process; and b) if decision making is characterized by clarity and consistency or by uncertainty and inconsistency.

While the subject is very specific and has elements from other sciences, like Pharmacology and Medicine, that have to be taken into consideration and researcher with social science background has to be at least familiar with some concepts, the significance of this research could be of ever-growing social importance of Health Care in general, in any country. The research should look at the issue from two angles: a) are activities and

policies proactive in finding potential issues or the approach is reactive and b) are resources adequately distributed in accordance with the importance of established goals or the distribution is more on blind side. As the decision-making process is limited to small group of participants, even taking into account the people who participated in this process during the previous governments in Croatia and also very sensitive in nature, a qualitative approach is looked upon as the most appropriate. Also, as the area is quite specialized and therefore not well researched so far, it is more appropriate to use qualitative and inductive techniques.

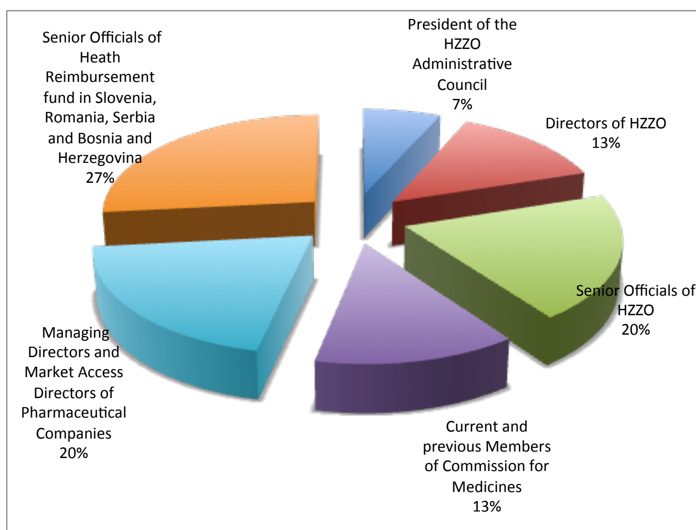
The research design has interpretative, inductive – abductive, qualitative approach. The reason for this is that the research goes from particular to general (induction) and compares the empiric finding with theory (abduction), in order to find an explanation, through researcher judgment (cognition), that will illuminate the best link between general (theory) and particular (empirical phenomenon). We compared empirical data from the research and different theories of the organisational decision-making in order to interpret the data in light of the theory and confirm or disconfirm the theories' preunderstanding. Considering the qualitative nature of the research, 15 in-depth interviews were conducted with current and past most relevant stakeholders and top decision makers, including officers in Minister of Health, NHIF executives, Reimbursement Commission heads and members, as well as officers that work on other side of the process, like executives of pharmaceutical companies that directly work with the government officials in inclusion of medicines in the reimbursement lists.

The interviews (Figure 1) were done with the following officials:

- One interview with President of the HZZO Administrative Council
- Two interviews with Directors of HZZO
- Three interviews with Senior Officials HZZO responsible for medicines
- Two interviews with Current and previous Members of Commission for Medicines

- Three interviews with Managing Directors and Market Access Directors of Pharmaceutical Companies
- Four interviews with Senior Officials of Heath Reimbursement fund in Slovenia, Romania, Serbia and Bosnia and Herzegovina

Figure 1: *Number of interviewees by their position*



Source: Authors' own analysis

Officials at above positions were the key decision makers as they have played crucial roles in creating, changing and implementing drug reimbursement policies as well as making medicine inclusions, based on data analyzed and input from all main stakeholders. Particular attention was made to recruit respondents of different medical specialties, as it was expected that they would have differences of opinion on drugs and reimbursement priorities. Also, care was taken to include stakeholders that served in HZZO and MOH (Ministry of Health) at various times and were nominated by both main political parties/blocs, expecting that the decision-making process would evaluate the time, and different political options would have specific governing styles as well as diverse priorities and procedures.

To test for rational choice decision making, different elements of rational decision making were considered with stakeholders, notably whether they had sufficient knowledge of alternatives and consequences, how was their order of preferences established and possibly changed over the time, as well as how procedures were enabling single action. To test for rule-based decision making, the existence and application of rules were discussed, as well as situations where rules were inexistent, difficult to apply, bent or dismissed altogether. And to test for artifacts of the decision-making process, authors discussed with the respondents how does final decision come into existence and how far was it from their own or other stakeholders' opinions or wishes.

THE RESEARCH QUESTION AND SUB-QUESTIONS

In the main research question we study the decision-making process of Drug Reimbursement in Croatia since its independence, the set of standard procedures, regulations and implemented practices that bring medicines to the Reimbursement List, in order to find out how the medicines are evaluated before reimbursed, and to understand which decision making theory is dominant during the decision process?

Sub-Questions

We want to identify if decision makers are guided by logic of consequence, choosing among alternatives by evaluating possible consequences based on prior preferences, or they follow a logic of appropriateness fulfilling their identities by recognizing circumstances and following norms that match expected behavior to the situation they face or they are guided by other factors of the decision-making process?

Is the decision-making procedure characterized by clarity and consistency or by uncertainty and inconsistency? We explore practical dimension and consequences of not having the well-designed approach to the decision-making process and applying the theory to examine how sound are the decision-making processes and how the process impacts the decision quality?

Are activities and policies in medicine reimbursement proactive in finding potential issues or the approach is reactive? We want to explore how much is it vital, no matter what was the dominant driver of decision-making, to have a clear purpose that is established in advance of what decision makers want to accomplish with their action.

Are resources adequately distributed in accordance with the importance of established goals or the distribution is random, based on the instant needs of the decision makers?

DISCUSSION – MAIN RESULTS OF THE STUDY AND IMPLICATIONS

Dominant decision-making theory

Due to the specific nature of interest that goes from particular to general and compares the empiric finding with theory, seeking an explanation and looking for the strongest link between theory and researched empirical phenomenon, the research has a qualitative approach. During the interview, the objective was to identify what was the dominant decision-making process by identifying and classifying the elements of decision-making theories. The research is to determine if the decisions making during drug reimbursement process was predominantly: Decision-making as a rational choice, Decision-making as Rule-based Action, Decision-making as Artifacts of Organizational Decision-Making process, or it has the elements of other decision-making theories that cannot be classified under above three main theories.

Decision-making as a rational choice

To determine whether the decisions to include a drug on the reimbursement list can be a rational choice, the research has examined if the policies and concrete actions of Croatian NHIF and Health Ministry officials were based on the following: knowledge of alternatives, knowledge of consequences, consistent order of preferences, decision makers have a set of standard operational procedures that lead them to choose single action.

Knowledge of alternatives

In order to make a rational decision HZZO would need to know all possible options, first of all through collecting and processing relevant information. Therefore, the knowledge of alternatives when making a decision is a critical element of rational decision-making. By observing it in a simplistic way, the alternatives for reimbursement decision are quite straightforward: the drug could be reimbursed or not reimbursed. However, if the drug is accepted in reimbursement list, many alternatives impact the number of patients to whom the drug would be available, e.g. their health condition and real medical need vs. purchase power of the patients. And even the drug would be reimbursed there are a number of sub-decisions that will impact how many patients will benefit from the drug, starting with the decision which specialists would be authorized to prescribe the medicine. If the medicine would be prescribed by broader number physicians, e.g. specialists and general practitioners, then more patients would be able to receive the drug, but on another side, it would mean higher spending and bigger budget impact for HZZO. Also, there is a question for which indication (specific disease) the medication is going to be reimbursed (sometimes the same drugs can cure different diseases that have different social or health significance) and for which line of treatment the drug will be used? Would it be: a) mono-therapy, b) "add on" to existing drug or c) switch as second- or third-line therapy? And then some drugs can be only partially reimbursed, meaning that part of the price would be paid by the patient, and this again has an impact on accessibility since the patients with lower income may not be in a position to pay participation for the medicine. More thorough understanding of alternatives would also include knowledge of the existing therapy options as well as the fact that HZZO is operating within limited budget, meaning there is a clear need to prioritize among medicines that are being available for Croatian patients.

Knowledge of consequences

To understand consequences of a decision to reimburse or not reimburse a drug for HZZO and the MOH, means to understand not only the impact on healthcare outcomes that would be the

first thought. The decision-making process here is more complex as it involves the third-party decision maker who is deciding on behalf of the second party, in this case, the whole community. And from this point of view, the decision-making process in drug reimbursement has elements of "Principal Agent Theory". Since all income-making citizens are contributing to the health care fund, there is a need for agents to decide on their behalf. The knowledge of consequences should consider such facts like improved patient's outcome, drug safety, and its side effects, the overall cost of the medicine, but also should examine less transparent possible needs and implications, e.g. political or individual. From the individual decision maker's point of view, and depending whether the person is a member of the Committee, an expert employed by HZZO, or senior manager appointed by leading political party, this also means understanding the impact on his/her future career, social status and personal finances. It comes from the research that, due to financial constraints, the impact on the budget was first considered, and it is generally the best understood. And whatever other benefits are later considered it would be compared with the cost, meaning the bigger cost, the more significant benefits the drug should bring.

Consistent order of preferences

When considering alternatives, one has to ask if the preferences are: absolute, stable, consistent and precise, can the decision makers affect the preferences with choices they control. Ministry of Health orders of preferences are available and are published. The newest and the most comprehensive document is "National Health Care Strategy" published in May 2012. The strategy is over 400-page document that lists and discusses, almost all topics that are related to the Health Care. It starts with health parameters in Croatia and then covers various subjects from macroeconomic indicators, human resource issues, information technologies, and health care financing. It is noteworthy to comment that the vision and strategic goals are not discussed in the documents in a way that it represents a milestone and lead for overall Heath Care analyses and health status of the Croatian population with its identified issues and related strategic goals.

As such, one would expect to see these goals at the beginning of the document, as a guideline for other topics to refer upon and follow that would make the preferences consistent and precise throughout the document. In reality, it is not easy to trace these strategic goals and vision in other parts of the document including Drug Policy that mostly deals with financial aspects.

Decision-making as Rule-based Action

The research would indicate that there are many elements of the rule-based decision-making process in Croatian drug reimbursement system. Much of decisions are made in a conventional way following the rules and effectively preventing decision-making stakeholders' narrow self-interest. The evidence of such behavior could be found by looking into professional bodies of HZZO. For professionals, each meeting preparation is regulated by strict guidelines that they need to prepare for every medicine application in order to be even included as a topic of the Drug Committee's meeting and considered for inclusion in the Drug Reimbursement List. Preparation for the meeting, set of documents that Drug Committee is supposed to review, the way the committee members are being chosen and appointed, documents that reimbursement procedure require and many other processes are described in details in "Ordinance of Establishing The Criteria For Inclusion Of Medicinal Products In The Basic And The Supplementary Reimbursement List Of The Croatian Institute For Health Insurance" and in "Ordinance Establishing The Criteria For Wholesale Pricing Of Medicinal Products And The Method For Reporting Wholesale Prices". Both documents consist of over 30 pages detailed instructions on how the procedure should be structured and followed. These instructions have been times improved and rewritten since Croatian independence, every time bringing more detailed and transparent procedures. It can be noticed that in practice the procedure is applied very smoothly and is strictly followed if there is no assumed additional cost for Health Care. Therefore, reimbursement process for generic drugs is very transparent and fast, since generic medicines are being introduced once original medicines lose its patent protection, they are assumed to have similar quality as

originals, that is checked during the registration process by the Drug Agency, but usually come in the market with considerably lower prices, in some cases over 30% lower than innovative original medicines. Therefore, HZZO has a real interest to include generic drugs in the Reimbursement List as fast as complicated registration and a reimbursement procedure allows it. The logic of appropriateness, Rule-based Action, is different from the logic of consequences as instead of evaluating the result, decisions as rule-based theories consider situations and identities. In this way, in order to make decision as a Rule-based, the HZZO as an organization or each member of the decision-making process of medicine reimbursement in Croatia need to answer the following questions: What kind of situation is this? What is my perception of me as an organization or person? What is appropriate for an organization or individual like me to do in a situation like this?

When each member of HZZO's Drug Committee or the whole team makes decisions following pre-established rules, according to the Rule Based Theory, it is viewed as consent to behave appropriately in return for similar appropriate treatment for each individual stakeholder or organization. In this way, the rules HZZO has brought, and their independence from every single objective enables the HZZO as an organization to function more consistently.

In practice, similar instructions work differently if the cost is associated with inclusion of the medicines in the reimbursement list. Once we have such case, the decision-making process becomes less logical and transparent. What all interviewees pointed out, and was also visible from regulations about medicines reimbursement process, that even the process is described in details, it still leaves the room for subjective decisions, as well as a possibility for top officials to over-rule and not accept the results of decisions that were made following established procedure. It is usually justified by the lack of financial resources. However, it gives the possibility for policymakers, like Director of the HZZO, Minister of Health or President of the Board, to subjectively influence the decision of including or not including the specific drug in the Reimbursement List. One could suspect,

and it is confirmed in interviews, that in case there would be top decision makers desire to include particular drug, the medicine could be approved by avoiding thorough analyses that other drugs would usually go through. To be fair, over the time, such exceptions were less frequent, and they are more and harder to make. For instance, each Reimbursement List update in 90's, before it would be published in State Gazette, would go for approval to Minister of Health that had discretion right to take out any medicine from the list, as well as to include one that didn't go through the regular procedure. Such things are not possible nowadays, but it doesn't mean that one with enough authority could not smoothen the procedure and steer decision in one or other way. The current procedure confirms this claim since the Director of HZZO has the power to ban the drug from reimbursement list that has passed regular process if this would "*represent overall treat for Medicine Budget*." All interviewees would admit that there was an exception to the rules in making decisions about medicine reimbursement, but the research confirms that a) the process has been improving over the last 20 years and b) there are fewer exceptions to the rule as the time passes.

When overlooking current HZZO processes we considered if:

- The rules were clearly brought up in organizations in two ways; 1) by learning from its own experience and 2) from other countries' organizations that are similar, but more advanced. And to what extent were both of these ways associated with rule-based decision-making process?
- If the decision process considered the current standards and processes in HZZO as a collection of individual rules that continue to live over the time through survival process? Meaning that these decision makers and individual rules with higher success rate would stay while other less successful would disappear and following that line of thinking, HZZO procedure would continuously improve. The research shows that the real reason that the medicine is included in the list at the first place, patients' benefits, are not observed regularly at HZZO level, and their overall impact on the population health is not monitored, nor the medicines are compared to other drugs treating the same diseases**.** One can argue that

such comparison is made at the level of each patient by their physicians, however at this level, the approach is empiric and not based on strict protocol, meaning it may not be consistent, and it is subjective.

Decision-making as Artifacts of Organizational Decision-Making process

Till now the research has been dealing with theories of decision making that treat the outcome as a central point of the process or consider the process as a concept of hierarchies where higher levels control lower levels through policies, procedures and implementation. Such theories do not take into consideration a complex environment in which decisions are being thought and made. Bearing in mind the fact that "*Many decisions are happening at once; technologies are changing and poorly understood; alliances, preferences, and perceptions are changing; problems, solutions, opportunities, ideas, people, and outcomes are mixed together in ways that make their interpretation uncertain and their connections unclear; actions in one part of the organization appear to be only loosely coupled to actions in another; solutions seem to have only modest connection to problem; policies are not implemented; decision makers seem to wander in and out of decision arenas*" (March and Romelaer, 1976). When considering all of the above at once, decision-making process moves to the concept of the decisions as artifacts, which means that decisions are not any longer the central point of the decision-making process.

The practical purpose of this research was to look into reimbursement policies of HZZO in order to determine in which way the government body has been spending considerable financial, human and all other resources to deal with such important social issue as population health. We argue that HZZO would have to make its decision-making process as rational and rule-based as possible, decreasing and eliminating decision-making processes that do not have a clear objective and hierarchical rules. From US and EU where governments annually spend, per capita, thousands of euros, to countries where the annual cost of health care per capita is just a few euros, we see the importance of following the rational and rule-based decision-making process. In Croatia,

it is evident that these processes have improved over the time, they firstly became more transparent eliminating many potential conflicts of interest spots. What authorities would need to consider in the future, without neglecting requirements for further improvement in process clarity, is agreeing on the main objective(s). And then move to strategies and actions that would fulfill the goal, having in mind considerable, but still limited resources that the country is taking from its budget.

Other Decision-Making theories

In order to make this research more comprehensive other Organizational Decision-Making Theories were considered, including sub-groups of the main theories of attention. We wanted to check if there were other elements of the decision-making process that could help better explain decision-making processes in Croatian Health Care System. With reference to the Croatian HZZO and the ways its bodies make decisions, there was no single Organizational Decision-Making Theory that could explain all HZZO's processes, but all theories could be applied together focusing on different elements of the decision-making process. These theories can be more or less specific, concentrating on certain components of the decision-making process. For instance, the research could just look at the narrower way decision makers collect and process information, or one could consider a brother scope of elements that would include environment or could even include stakeholders individual diversified needs. Which illustrates how decision-making process is complex and difficult to understand in full.

In this context "Behavioral Organizational Decision-Making Theory" is interesting as it tries to understand the process by applying economic rationality through "*maximizing subjective utility*" (Edwards; 1954, 1961). This research cannot fit into this concept of "*economic rationality*" since the decisions, as a final product of the process, were hardly optimal. This is later confirmed by practical experiments of Behavioral Decision Making (Ariely 2008) that implies that individual decision-making is very simple, even when critical decisions are being considered, and no matter how much information is available, it is based on

just a few characteristics. In this research, even the data that were being collected and processed by HZZO in order to make the decisions about reimbursement of medicines in Croatia were voluminous and complex, from the information gathered in research, it is clear that all decision makers did not get into information collection and processing, but they rather consider the final outcome and proposal made by few members. In order words, they did not consider the enormous amount of information but were in reality relying on just a few. The interviewees didn't feel that this practice would be inappropriate or would represent a wrong doing in any other way.

Another interesting theory that needs to be mentioned and could explain some of the drug reimbursement processes is "Mental Modeling in Decision Making" where decision makers, individuals or organizations, are able to refer to their past experience and in this way produce better decisions without much information collection or process. So, if one of the main objectives of the HZZO is to manage expenses and not to increase cost by adding new drugs, decision makers will be very cautious when considering a medication that nominally fits the procedure, has all evidences and reasons to be accepted, but could harm budget balance, simply because they had such experience in the past. Under these circumstances, the decision makers would rather look into the potential cost as one of the first eliminating factors. This may explain the situation where HZZO's Reimbursement List contains many relatively expensive drugs for rear diseases, but with the overall lower cost for HZZO, while cheaper therapies for a wide number of potential patients were often not accepted in the list as it represents a potential threat to HZZO budget.

RECOMMENDATIONS

Croatian Ministry of Health has published over 400 pages large document named "National Strategy of Heath Care Development" (Ministarstvo Zdravlja 2012) that among other things has explored many issues in Health Care. The section five of the document has covered "Vision, Values And Principles"

of Croatian Health Care where the vision of the Health Care System of the Republic Croatia states: "*The health system in the Republic Croatia will improve the quality of life and create the conditions for economic growth through the maintenance and improvement of each individual and the entire population*". While anyone can argue if this is the most suitable vision or not, what is the author's concern, is that there is little connection with this statement and other parts of the documents. As the matter of fact, the paper functions more like a script of many independent sections and not comprehensive and focused National Health Care Development document with clear strategies and action plan. In line with this, even the HZZO's medicine reimbursement processes are improving and becoming more transparent; it continues to lack the connection with the strategic vision and other goals proclaimed by Ministry of Health. It rather appears that the policies in drug reimbursement works as an independent process within Health Care and has little connection to the main visions/objectives of the Ministry of Health.

Looking outside of the medicine reimbursement policies one could observe that Health Care in Croatia does not exist only because of the patients who pay for the Health Care services and at the end finance the system. There is an entire community, headed by politicians, physicians, nurses, administrators, suppliers of medicines and medical devices, as well as all other vendors. They all have its interests in health care and benefit from Health Care Budget in one or other way. It remains an open question if their contribution to health care is equal and fair to their remuneration or in other words if the same results could be obtained with less cost. Reimbursement of medicines is just one separate ecosystem within the larger one that may have the same weaknesses.

From interviews that were conducted it can be concluded that the most of the interviewees share the same vision how to improve Croatian Health Care, however, all of the respondents also stated how difficult it was to implement and change the system due to many interest groups that prevent these changes from happening. In the future, the health care officials in Croatia could focus their efforts on creating a simple short document

that would cover vision/mission/strategic goals/strategies and action plan that, in order to make difference, will be a) shared by all stakeholders in process; b) accepted and supported by relevant political subjects; c) realistic to be accomplished in one government term.

As far as drug reimbursement is concerned, there is a need to apply simple and transparent Pharmacoeconomics that would work in each case, with no need to justify and band the system. It should be able to justify spending by estimating the drug impact to morbidity and mortality or "years of life gained," comparing existing most probably more affordable therapies. It should be able to resist lobbying activities of various interest groups that frequently manage, through their lobbying activities, to move resources to less productive treatments. The process should be taken away from any such group and simplified as much as possible. In line with this, there is an interesting initiative for small countries to avoid expensive and cumbersome processes of evaluating new therapies by using referent countries for drugs reimbursement in the same way that these countries were used for establishing referral drug prices. In short, it's respectable to see the process is improving over the time; however, the improvements need to continue and even to speed up.

RESEARCH LIMITATIONS AND FUTURE RESEARCH

During the research, it was rather challenging to find proper interviewees that have occupied critical positions in Croatian Health Care System, who were willing to discuss the matter openly. In this respect, the researcher's personal contacts and position that he occupied were of big help. Another difficulty was collecting proper data about the cost of medicines from HZZO, as the data were rear and often conflicting. Accounting practice of Ministry of Health, as well as HZZO, was (probably for a reason) not transparent, and the data were not available. The examiner had to use his own judgment selecting the data that were credible enough and could appear logical over the years.

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cover vision/mission/strategic goals/strategies and action plan that will be a) shared by all stakeholders in process; b) accepted and supported by relevant political subjects; c) realistic to be accomplished in one government term. As far as drug reimbursement is concerned, there is a need to apply simple and transparent Pharmacoeconomics that would work in each case, with no need to justify and band the system. It should be able to justify spending by estimating the drug impact to morbidity and mortality or "years of life gained," comparing existing most probably more affordable therapies. It should be able to resist lobbying activities of various interest groups that frequently manage, through their activities, to move resources to less important issues. The process should be taken away from any such group and simplified as much as possible. In line with this, there is an interesting idea that is generated in some smaller countries to avoid expensive and cumbersome processes of evaluating new therapies by using bigger referent countries for drugs reimbursement in the same way that these countries were used for establishing referral drug prices. This would firstly save the time, make process more predictable and transparent, but would however take away control and decision-making power from current decision makers and they would not be able to control the process and cost by ever delaying inclusion of some expansive medicines. In short, it‘s respectable to see the process is improving over the time; however, the improvements need to continue and even to speed up.

CONCLUSION

The research has focused on exploring Heath Care System in Croatia and the system's ability to provide a quality health care for its citizens in financially sufficient and timely manner through providing innovative medicines for these in need. The motive for this research and analyses was driven by the author's desire to indicate possible ways of improving present status by making changes in the way decisions are being made and carried out afterwards. Even the research has the scholarly task to ensure authentic consideration of the process, gather and

interpret evidence, it also has the practical focus on estimating how sound decisions are being made and to suggest to potential improvements during decision-making process of medicine reimbursement in Croatia.

Throughout the study of the decision-making process of medicines inclusion in so cold “positive reimbursement list”, as expected, it was not possible to identify only one decision-making theory that has been guiding decision makers over last two decades. The type of the decision-making process varied and was dependent on the time such decision was made, as well as the nature and importance of the decision that the organization was making. Throughout the study, it was obvious that different decision-making strategies were used, but it is safe to conclude that the dynamic process of decision making has been gradually moving from decision-making process that was based on logic of appropriateness to the type of decision making that is more built on logic of consequences, that were of wider social importance and grounded on prior preferences. It is also clear that the decision-making process has moved over the time toward more consistent and transparent practice versus uncertainty and inconsistency that characterized the process in the past. Having said that, it doesn’t mean that the process cannot be further improved by adding additional transparency and uniformity.

When looking into procedure how the medicines were included in the reimbursement list, even from the beginning, there was plenty information available to make decisions that were more based on the expected outcome, than would be based on the logic of appropriateness. Throughout the process, the main challenge for decision-making body was to process a large amount of information (bounded rationality) in order to come to the best solution. Furthermore, the body also have been lacking some clear objectives what should have been achieved with the drug policy and therefore, it was easier for the organization to make decisions that were based on the logic of appropriateness, that didn’t contribute to the process consistency and transparency.

The decision-making process during medicines reimbursement procedure in Croatia showed all complexity of

organizational decision making and to analyze the decision-making-system, one might consider its publicly visible, declarative nature and/or inner-workings, a more clandestine aspect of policy-making. In the past, Croatia was repeatedly declared as one of the countries with the un-transparent decision-making process, procedures that lack pre-established consequences and goals, or non-existence of serious analysis of the alternatives as well as resources and risks that are involved in decision making. Frequent violations of conflict of interest and comparatively high corruption index, as Croatia is in 61st place out of 175 considered countries, is a tradition in the Balkans that includes strong sense of separation between "official" and "private" behaviors, even if the discrepancy is not always toward individual interest and may come from the most honorable motives. It was not the exception for the region that important decisions were made outside of the official and regular processes, where policy makers had in mind many parameters (political, existential or others) that were not always stated in officially accepted procedures. Such approach didn't come necessarily because of decision makers' desire to deceive the system or because of personal benefits (although this layer should never be neglected), but because of their view on the processes, lack of managerial skills and inability to come with comprehensive set of policies and procedures that would consider all factors that in real life influence one decision. Also, there was a constant anxiety of losing control over the process and not being able to intervene if situation skips control (e.g. exceeding drug budget). So rather than striving for a policy change, Croatian bureaucracy would often be seen as both unpredictable and corrupted; its unpredictability is likely stemming from the need to "soften" or avoid altogether policies one would disagree with in the concrete case. When researching such potentially touchy subject, it was helpful to interview knowledgeable respondents (insiders) by asking them about declared, the official version of things, as compared to the "actual practice" and "your own opinion of things."

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