> FIRST DAY / SECOND SESSION

PRESENTER- Dear Participants, I now invite Dr. Nihat Yurt, from Department of Information Processing of the Ministry of Health, to speak about the Topic E Health Applications in Turkey.

Dr. NİHAT YURT

Hello everybody. First of all I want to congratulate you for the project. "E-Health for All" is a project that is really open to dialog between civil society and public institutions.

I could not attend the morning session due to a meeting. We are going to start Health-Net on 1 January 2009. We want to give information on our activity, that I think is very useful, as well as on the possible future developments.

General problems of the health sector, e-health and e-Europe as parts of e-transformation in Turkey are on our agenda. The issue of Health-Net within the framework of e-health will be told to you tomorrow. I am going to give some superficial information on it today. I will briefly tell about Turkey's strategy of being an information society. I will try to explain what have we done about e-medicine within the scope of e-health.

You can understand the general problems of the health sector in any presentation on the health sector. The known general problems are aging population and cost problem. The difference between the health policies of the two candidates during the famous US elections was about the coverage of health costs. I guess, a plan about the coverage will be defined in the forthcoming period. In addition, information explosion on health and administration of information are also problematic issues. The health sector is the primary sector that is affected from information technologies. For this reason, the administration of the huge information on health. Health sector is a big organization. There are more than

1200 hospitals, around 6 thousand first step health centers and family practice system existing in 30 cities. Administration of this big sector that includes shareholders, pharmacies, first step health care institutions that is based on an information based mechanism is very important.

Citizens, today are naturally expecting a better health service, which is possible with the new technology. Safety and confidentiality are important while providing a good health service. As you know, it is more critical to ensure the confidentiality, safety and privacy in personal health record. There are several regulations concerning these points such as some articles in the current Civil Code but the EU's renowned Data Protection Directive 95/46 should be made compatible in Turkey and it should become a law. This is currently discussed in parliament.

Unexpected health problems are another point among the generally known problems. We need to be prepared against them and to respond with an already prepared infrasturucture. We were faced with diseases such as SARS, bird flu but unexpected cases might exist within next 10 years as well.

When we look at the cost dimension of health, we see the USA as the major example. Its health expenditure is 2,1 trillion dollars. It is approximately 4 times of our grand national product and it is increasing day by day. While it was 27,5 billion dollars in 1960 it increased to 2,1 trillion dollars in 2006. The USA has of course the most advanced information technology. Despite this, health expenditure has been increasing. Its grand national product is around 13,1 trillion dollars. It means that they allocate 16 percent of their grand national product to health expenditure.

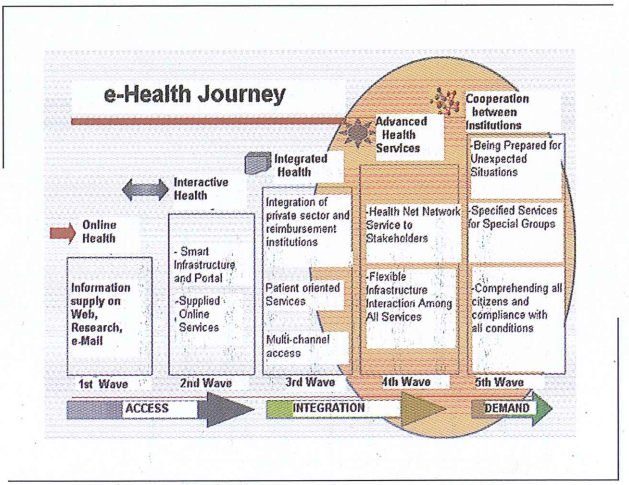
I would like to mention briefly by which methods we are trying to collect data in the health sector. We use several ladders to see the other side of the wall but we are trying to look at the other side on such a ladder pile: there are several applications. Hospitals, health institutions are asked to give

information both in printed form, in excel format and by web applications. We have talked about paper format. There are field coordinators who go to a city and shot a picture of it. When they return they submit the so-called current situation of that city. However, the situation is complex today due to the use of methods thar are not structural. This is not the case at the moment but we have had such a system until now.

Can we collect high quality data without a health information system? We conducted a work as follows: We organized integration trainings about Health-Net. We invited the data processing managers of all the hospitals in Turkey, that are around 1200, and asked their primary problems and how often they are asked to give information. Their answers were like this: "some people call us to send a data urgently, for example until 5 o'clock. Next day we receive a phone call from another department of the Ministry asking to send the same data in another form". In sum, the same data is asked repeatedly, or sometimes unnecessary data is asked. We cannot collect high quality data. A confusion occurs because the data is not defined in terms of content and format. As a result, what we have initiated to prevent the problems stated above? As you all know, the initiative was the Health Transformation Programme that was published in 2003.

Health Transformation Programme includes a general restructuting and re-orgnization of the Ministry of Health, initiation of general health insurance, formation of information and labor force resources of establishment of e-health, health information system that is the most crucial element and locomotive of the administration of health sector.

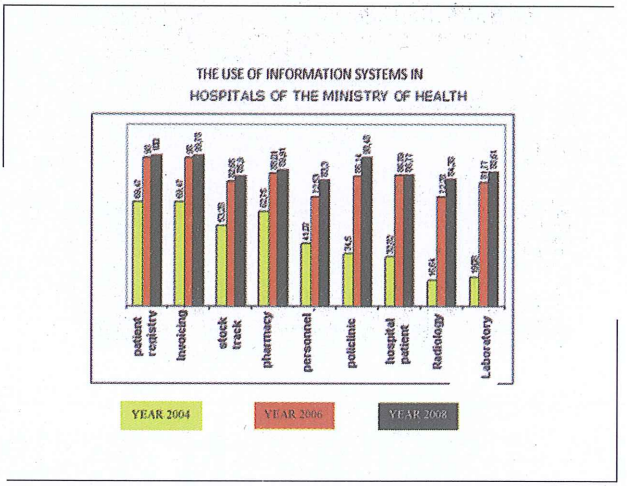
I gave prefence to this point in order to emphasize the milestones of the e-health in general and our progress in it. In fact, we see the e-health journey as five waves. The first wave is online health through which we provide just passive information. Researchers use this during their studies and there is simply e-mail communication.



The second wave is the interactional health. First of all, a smart infrastructure and a portal are established. Several online services are provided but they are limited and not widespread. First and second waves are in the access part. The third and fourth waves include the integrated health and advanced health services. Here we see the integration of private sector and reimbursing institutions, primacy of patient centered services and concurrent access through multi channel access.

In the wave of advanced health services, I will talk about Health-Net and its functions. We supply service to shareholders over Health-Net that is based on a flexible infrastructure. There is an interaction between all the service suppliers. When we come to the last wave, we see the cooperation between institutions. Again, we need to be prepared against unexpected cases, be able to comprehend all the citizens and reconcile with the changing conditions.

What is our stage at the moment? We are in between the fourth and fifth waves and have already established the infrastructure of e-health.



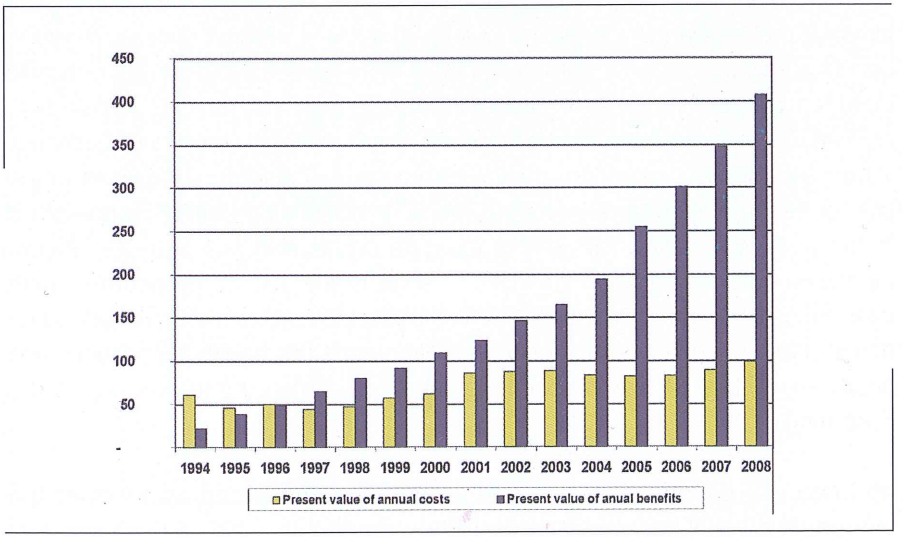
We have shot a picture of the situation in the hospitals of the Ministry of Health three times: first in 2004, second in 2006 and the last in 2008. Here is the slide showing the latest situation. Here we questioned whether the hospitals have information systems or not. The ones with numbers show the modules and the possession rate of modules. Hundred percent of the hospitals of the Ministry of Health have automation systems at the moment. So, we do not have limitations in terms of information systems in hospitals.

We were not so sure in 2000 whether the health applications were useful or not. It is an undeniable fact that the most cost-efficient is e-health in solving the general problems of e-health, managing the information in health sector.

The report -titled E-Health is Worth it- of the survey conducted in ten countrries by the European Union in 2006 proves the above argument. Database of access to health services in Germany, e-prescribing in Sweden, wide-range e-health applications in Paris, etc. are available in this report. This survey proves the advantages of e-health applications with evidences. European Commission published the report of this survey in 2006.

	Country	Aplication	Description
1	Germany	AOK	Access to Health Services
2	Sweden	ePrescrip.	e-Prescription Application
3	Romania	DISPEC	Tele Trial System
4	Paris	Curie	Comprehesive EPR
5	Chezc Rep.	IZIP	Web Based National EHR
6	Belgium	FVD	Immunisation Program
7	Denmark	Medcom	Denmark Health Data Network
8	Germany	MOC	Supply Chain Optimisation
9	England	NHSDO	NHS Information Service
10	Sweden	Siunet	Spain and Sweden Radiology Consultation

E-Health Economic Utility Analysis
(e-Health is Worth it, EU Commission, 2006)



In another comparative survey on e-Europe in 2005, the average time saving owing to online public services was calculated. Several services were included in this calculation, related to tax paying, social security applications, job searching, use of public library. Among these services, online health applications ensure substantial time saving, in other words time-efficient health service supply.

As you know, health services have also a demand dimension. Demand indicates a better health service and resource allocation for it. There is an infrastructure that ensures fast access to service, increasing productivity, use of new technology, administration of staff and materials. E-health applications, in fact, increase the productivity, efficiency of services and new techniques.

How did e-health emerge in Turkey? European Union made an assessment in 2000, which was originally made in 1998 and 1999. It was seen that if the EU progressed in this way it would be behind the USA and Japan. When the EU made its own assessment, the gap between the two super powers was widening. United States and Japan were very much ahead of the EU. So, the EU was in hurry to catch them. In a meeting of Presidents they initiated e-Europe to be a competitive information society. This e-Europe initiation has four core themes. The European Union focuses on e-state, e-health, e-work and e-education. The aim of the European Union was to build a wide band internet access for all the services and the security infrastructure of the internet access. This umbrella includes the applications like Health-Net applications, tele-medicine, tele-education, tele-monitoring, electronic health record, national health data dictionary. Thus, the applications of information and communication technologies in the field of health have progressed from then on. How has e-health been evolved in the world? It started with electronic data processing in the 1960s. A new discipline called medicine informatics began in the 1970s. It became health informatics between 1970 and 1980. Tele medicine applications were added on this and tele-education, tele monitoring, afterwards tele health applications and finally e-health, that includes all these services, entered into our lives in the beginning of 2000s.

Its historical development in Turkey can be summarized as follows: the electronization of the services in Turkey started in 1998 with Public-Net

applications. When the European Union declared e-Europe for the candidate countries, Turkey was one of the 14 candidate countries. A year later a summit was organized in Goteborg when the candidate countries adopted that e-Europe approach and e-Europe+ emerged. E-Europe+ was revised two years later in the Barcelona summit. Combined with plus, e-Europe 2005 approach was focused on four thematic area. E-Turkey was immediately started in 2001 when Turkey was included in that process. 13 working groups were formed one of which was e-health by the Prime Ministry. The Public-Net was revised again and Public-Net started to carry out the e-state tasks. In the last phase, State Planning Organization undertook the coordination of all these task with a Prime Ministry circular. Consequently, E-Transformation Turkey Project was started.

When the E-Transformation Turkey was being initiated all the works conducted from 2001 to 2003 were analyzed. The 13 working groups were reduced to 8 working groups. The 7th group is e-health that was conducted under the coordination of our ministry. Other groups are listed as education, legal infrastructure, technical infrastructure, e-trade, standarts and monitoring. E-Transformation Turkey Action Plan was conceived within this attempt. We started the Health Information System of Turkey in 2003 parallel to that plan. As far I have seen Turkish Pharmaists' Association referred to these processes in its project document.

Within the action, ten distinct working groups such as data dictionary, norms and standarts, personal health integrant, minimum health data set, confidentiality and safety of records, early warning systems, special health networks, tele-medicine applications, education, general monitoring and coordination were established. These action groups analysed the works in their fields conducted both in Turkey and in the world, and issued an action plan in January 2004. Different institutions undertook the coordination of these working groups and they issued another action plan one year later.

The activities of the e-health working group were determined in parallel to the content of E-Transformation Turkey. Within the content of the E-Transformation Turkey Project, 74 distinct activities were defined, including e-state, education, legal infrastructure, etc. 15 of them are related to e-health. In fact, we will

complete these actions, that are the fundamental activities of e-health, in a short term action plan. Among these activities, determination and application of the standarts of health informatics, formation of electronic health records starting particularly from first step health centers, family medicine information system can be listed. We assess these activities together with State Planning Organization and have already completed this part. There is an execution board including Vice-President, three ministers and presidents of civil society organizations, which monitors the activities. They offered a new action plan. They proposed to prepare an application-oriented 2005 action plan. We published 5 activities related to health.

These activities are about the exchange of clinical data between the reimbursement health institutions, family medicine information system, hospital management information system, electronic health records and confidentiality. We have already completed these activities.

Information Society Strategy (2006-2010), that is the number one action of the e-Transformation Turkey, and its annex Action Plan (2006-2010) were issued in 2006 in collaboration with State Planning Organization. It was aimed at describing the information society strategy of Turkey and establishing its action plan. In the last phase, which we have entered, there are four activities to be done; establishing health information system, data share between blood banks, online health services and tele medicine services. We are still working on them at the moment.

In 2003, we made a collaboration with the e-strategy department of the ITU - International Tele Communication Union- which is an organization like the United Nations, World Health Organization and determines the standarts on telecommunication for e-health activities. We submitted Turkey's e-health project proposal which was accepted by the ITU. Turkey's e-health project was issued during the summit World Information Society organized in Geneve in December 2003.

What have we done with the support of the ITU? We prepared Turkey's e-health strategy and and application plan. This plan was approved by the Minister. Like this, there are 10 different reports concerning the installation of the system,

which is the cont of Turkey's e-health strategy. Our e-health strategy was structured on ten main pillars. First of them was the establishment of national health data operation center. We established health data operation center in 2007. It is working now. The second component of the strategy was transforming the present LAN-WAN network of the Health Ministry into an information and communication platform that is called Health-Net. Health-Net is now a platform that is connected with the health directorates and hospitals in 81 cities. I will try to show schematically how this platform operates in cities. The third one was the health administration information system. We prepared a technical guide book on how to accomodate to the hospitals and announced it by a circular. In addition to this technical guide book we sent the national health data dictionary to all hospitals. Now there is a standart in this field. We also told the hospitals to adjust their information technology infrastructures to HL7 that enables the exchange of information in health. We gave trainings to the experts in hospitals and organized technical workshops. These actions have been accomplished. We are counting back now. We will have been receiving real time data 15 days later, by 1 January 2009. moreover, we issued a circular that allows the hospitals to send data after 17 December 2008 if they are ready. We are receiving data from some hospitals now but we will be receiving data from all of them by 1 January.

The fourth component was the national health data dictionary. It is a dictionary in which all the data is defined, data sets are formed, minimum health data sets are defined. We published the first version of it in July 2007 and the second version on 1 January 2008. I will try to show some points concerning this dictionary.

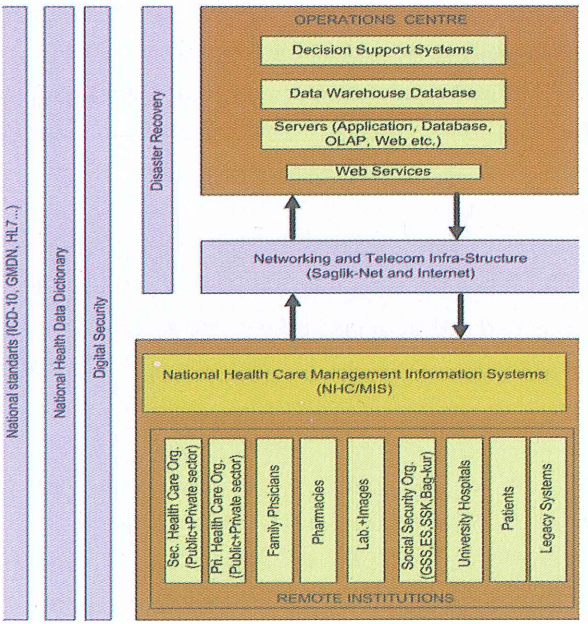
The fifth pillar is digital safety. This pillar is an important element aimed to ensure the confidentiality, safety and privacy of the electronic health records. As far I have seen on the programme, Mr. Sami from the Social Security Institution will talk about it tomorrow within the context of e-identity and e-prescription, which will give us the possibility of a detailed information. This project was initiated in 2007 with the Prime Ministry Circular No. 16. Instead of the identity card also you have been used here, another one having credit card dimensions, on which it has a chip, and which will be used only for identity verification purposes was designed by the TÜBİTAK (The Scientific and Technological Research Council

of Turkey). The pilot application of this card was started in the city Bolu where 10 thousand persons were distributed cards. With this card, the right person, verified by biometrical tools, is provided health service. Besides this card, e-signature application was also initiated. As you know, the law on e-signatures was adopted in 2005. E-signatures susbstitute the script signatures. A prescribing application with electronic signatures is being caried out in Bolu as well.

I said that I would talk more about National Health Data Dictionary. We conducted a detailed analysis in 2006. We see the best applications of national health data dictionaries in Australia and New Zealand. We examined both our present systems, hospital information systems and their systems. We looked at what was happening in the Statistical Institute. We examined a 800 page report on the standards of the Eurostat and World Health Organization. After this detailed analysis, a data dictionary, an example of which you can see on the screen, came out. This data dictionary can be used both over internet and as a book. We defined its illustrative and relational features and explained how it is used in an information system. Therefore, any hospital in Turkey has to obey the definitions in the national health data dictionary when it is establishing a health institution automation system or adjusting its present automation system. We defined a case notification in the national health dictionary. This can be either newborn registration, minimum health data set or citizen/foreigner registration data set. For example, when a patient is accepted to a hospital or any other health institution acceptance unit data set is used. If she has an examination result or suffers from a communicable disease, conclusive incident notification data set is constituted. How is a case notified, how is it disciplined? We prepared a dictionary in a way that gives answers to all of these questions. With this dictionary, we have started a project that stands as an example of e-state applications to other public institutions. Such a dictionary has not existed in many European countries or it is not possible to say that we encountered a dictionary designed in this way.

Let me show it schematically: we have a data operation center. Health institutions, hospitals, patients, pharmacies, family physicians send data to our data operation system over Telekom. The decision support system functions on this data operation system at the moment. We have already established the family medicine

health record system that operates in 30 cities at the moment. 13 million citizens in this 30 cities have electronic health records. These records are analyzed. There are data store, diabetics applications, HL7 communication in this system. Hospitals are going to send data to the system by 1 January. We are establishing it in a disaster management center now. There is also a disaster management center established to make the system work as it was before if the system crashes. The whole system is based on national health data dictionary and national standards, and integrated on a digital security infrastructure.

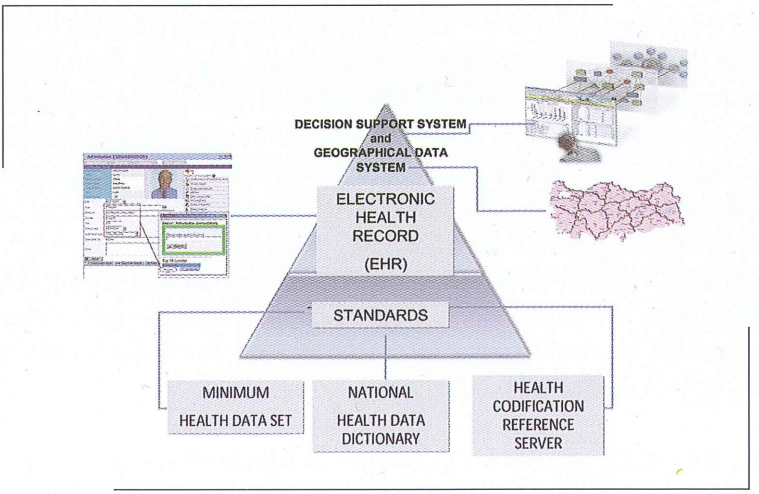


HEALTH-Net (Schematic Operation)

Net portal. This portal has three interfaces. One of them is the interface that provides infomation on health for the citizens. There are legal regulations, arrangements, etc. regarding health for the health professionals. And the last interface provides analysis for the health informatic experts. National health data dictionary and other standarts used in health sector take place here. Data processing experts integrate the information such as health data dictionary, that I have mentioned already, and health reference server to their own infomation systems. The health data sets in the dictionary are arranged in ten groups. It includes the data sets of birth, death, newborn, child, female health, epidemic diseases, chronic diseases, Hospital patients, examination. When you go to the address www.sagliknet.saglık.gov.tr and click the title of data processing experts you can find all the data sets and all the definitions under the national health data dictionary. For example, you can find diabetics health data set, data elements in diabetics health data set, definitions of this data elements, how they are implemented to the information system, etc. here.

The coding server includes the medicine code, be it ICD-10 or ATC. Be it ICPC, or the codes used in the first step, they are all included. In addition, codes such as sectoral codes and codes of institutions, are also existent in our center. All the software developers, hospitals, polyclinics, the Social Security Institution use these codes.

I will briefly tell about the Health-Net solution. We will see its details tomorrow. Health-Net is an information communication platform. There are several applications of the Health-Net. We are working on the family medicine, tele-medicine, central hospital appointment systems at the moment. There is also a mobile signature application integrated to the family medicine system. We financed it together with Turkcell last year and it is utilizable at the moment. Pilot applications of smart card and citizenship have been started while the pilot application of e-prescribing is being worked on.



Actually, this is a kind of summary. Our standards are composed of health coding reference server, health data dictionary and minimum health data sets. These are the elements of health data dictionary. These standards form an electronic health record center. There is a decision support system above the electronic health record. Health conditions can be monitored on the decision support system, we are now integrating it with the geographical information system. Integration of the system is as follows: this is the Health-Net. Adjusting to the Health-Net is ensured by the national data dictionary. The health data dictionary is composed of data sets. This wheel's ability to work together is secured by HL7.

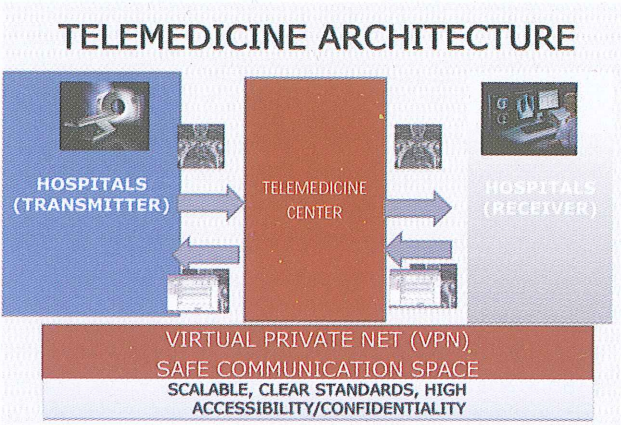
My colleague will render information concerning the Decision Support System that is in the scope of the Health-Net. We have several reports concerning it such as operational reports, health indicator and administration reports. We prepared health indicators dictionary too but it is still a draft at the moment. 800 health indicators dictionary have been translated into Turkish. It is possible to follow on the automation system what is going on in the health sector. How does it operate? How is the data received?

After recording the details of the patient, family physicians send the data to the center via the Family Medicine Information System. Hospitals send the data of patients to our ministry according to HL7 standards. How do we share the data? Actually, we already have an infrastructure that enables family physicians to share the data with hospitals and other health institutions but there is the problem of confidentiality. After the Draft Law on the Protection of Personal Data is brought into force we will not have any obstacles and become more participative. Although the infrastructure is ready we work with the data specifiying no name s or anomicising in only decision support systems. But after the law has been passed we will be able to work on this structure. The other health related institutions have also been integrated into Health Net.

Actually, we have a security policy. Health Information Security Policy covers both, workers and managers. Statements and definitions concerning the access to health data are also existent.

I would like to talk briefly on another application of e-health that is tele medicine, in other words remote supply of health service. First, I will give an example from a developed country and then I will tell what we have done in our country. Here is Norway. There is Tromso in the very north of Norway. Both land and airway transportations are interrupted in winter due to A 2,5 meter snow. Besides, it is located in the north pole, so for its connection with the center they established a tele medicine center in order to supply health service to the people in Tromso. There are smart cloths, e.g. for ear, nose and throat. The physicians in Oslo or in somewhere else who have smart cloths too can help the patients here.

Here is our country. We went to Bahçesaray district of Van last year. The center of Van is somewhere here while Bahçesaray is there. At first glance, it seems as if you can reach Bahçesaray within half an hour from Van. But it takes 3,5 - 4 hours due to road conditions. There is a hospital in Bahçesaray namely Bahçesaray State Hospital. There are only general practitioners working at this hospital. We developed a tele-medicine project and established tele-radiology, tele-pathology, telebiochemistry, tele-electrocardiogram in Van.

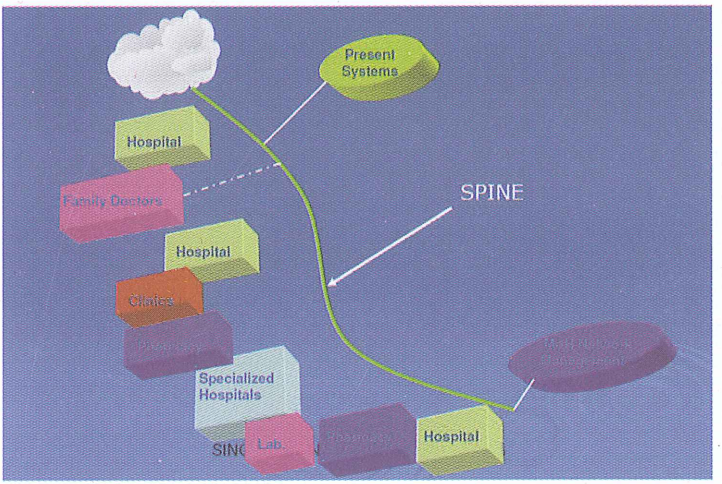


We have established the tele medicine project in 11 hospitals. These are sender hospitals located in different geographical regions. There are receiver hospitals in the center. Besides, we set up an architecture in the following way: the sender hospitals take the images of the patient, for example by tomography. Assume that there is equipment in Malatya but no radiologist. There is a technician who can use the device. After taking the tomographic image she sends the image to the tele medicine center under the Health-Net. A tele-medicine protocol regulates the working of the receiver hospitals. According to this protocol, receiver hospital, which is on duty, gets the images and after writing the reports of them, it sends them back to the sender hospital. We developed this project in 2007, awarded its tender and then completed it. We switched on 1 January 2008.

More than 1600 images, either tele-pathological or tele-radiological, have been reported over this system since 1 January 2008. In addition, we established tele-electrocardiogram and tele-chemistry for Bahçesaray. If samples can be taken there pathologists or someone else can shoot the photo by microscope and send them to the receiver hospitals. Afterwards, these images can be seen at reporting stations and the doctors working there in the receiver hospitals. They have high resolution medical monitors that do not allow any visual loss, so the physicans can write the report directly as if they were present in the sender hospital.

Another point is the supply of tele-health services that are also in the frame of tele-medicine. We are planning to enlarge the system towards elderly care, home care technologies. The population is getting older as you know. Japan and Italy share the first place among 15 countries having the oldest population in the world. Turkey has a young population but it is getting older. When we get old, we will be more experienced and able to make a better planning in terms of health services for older population. This is a projection for 2025. Of course there are projections for 2100 but I did not put them here. What do we expect in the near future? What will be the percentage of the population at the age of 65 and older? 11 percent of the world population will be older than 65. Great progress has been made in terms of solving the health problems of elderly aged 65 and over by the methods of e-health and tele-medicine. Several works are being carried out about home care and chronical disease management. The percentage of the elderly in Africa, Asian and other less developed countries in the future has also importance. The projections show that 20 percent of the population in developed countries will be 65 and over in 2025. Therefore, this will stay as a hot issue on the agenda.

CURRENT CONDITION IN USING INFORMATION TECHNOLOGIES IN HEALTH IN TURKEY



This is the Health-Net's backbone in e-health. Our national health data dictionary, health reference server, our present systems and Ministry's information system are on this backbone. In addition, our tele-medicine application operates also on this platform. Digital security application and the pilot application related to family physicians are being carried out in Bolu.

The picture we will see after 1 January 2009 will be like above because the hospitals will be integrated in the system. Decision support system will be operating for the hospitals as well. After the integration with Social Security Institution we will have integrated also the family medicine and the second step through electronic health records. Actually, the electronic records of 13 million citizens in 30 towns already exist on the family medicine information system.

As shown in the project [of the TPA], e-health is a hot issue as well in Europe in terms of dialog between civil society and the theme of e-health for all. This is a really nice theme. It is consistent with the discourse of information society for all. This topic has gained importance in the framework programmes of the European Union. 174 million Euros were allocated for the information and communication technologies for health in the 7th framework programme. 3 main areas concerning information and communication technologies for health are supported. The first one is personalized follow up such as chronical diseases and elderly care targeting mostly the aged population chronical diseases. Second realm is risk assessment and patient safety that includes the development of information systems that make predictions about side effects and injuries. The third area is the development of new computer styles for early warning systems and personalized care in health services. 7th Framework Programme supports also the projects on simulation models for education and early diagnosis models

We are able to exchange electronic health records with a hospital in the EU because our infrastructure and electronic health records are coherent with the HL7. Actually we wish to share information between the two hospitals in the EU and Turkey. This is a very concrete example. Because there are countries and regions in Europe where a dense Turkish population lives in. The Europeans started to live in Turkey as well, particularly in th Southern regions.

An important point is the question whether the information provided to citizens are correct information or not. This is also an important issue in terms of pharmaceutics. Beause these might be the information of paramedicals and non-drugs. Authenticity of these information should be verified. There is "Health On The Net Foundation" in Switzerland, an organization working on the quality of the medical information. When you enter a website having the logo of the Foundation, you know that the information supplied is reliable. We have an information system concerning to medical information on Health-Net, which was formed by the support of the experts of the ministry and academics. However, this creates another intensity. I do not know whether we may develop a project on certification of the authenticity of information or not but I think the certification of an infrastructure that provides correct information to the public is very important.

I guess I have not exceeded the time limit. I would like to answer your questions if there are any. Thank you for your patience. Lastly I want to a tell a story that I am not sure whether it is a joke or a true life story. It was told when I was controlling medicine: An old women goes to a pharmacy and asks for medicine. As you know there is a medicine control system used by the pharmacy. The pharmacist checks from the system and sees that she has enough drugs, and refuses to give her medicine. The women phones home immediately and says to her son: "hide the drugs, they can be seen here". Do you have any question?

QUESTION- Firts of all, thank you very much for your speech. You talked about high quality data in the beginning of your speech. You expressed that the Department of Information Processing is not able to supply high quality data at the moment when it is asked by several departments of your Ministry.

Dr. NİHAT YURT- Let me correct it in this way: the Ministry of Health does not ask the Department of Information Processing but the field for data. The data gathered in the field is not high quality.

QUESTION- Then let me ask it in this way: it is not important whether they ask you or field. You told that you gave trainings. Do these trained persons enter

the data into computer or have you established an infrastructure for data entry? You said that you are receiving data at the moment. But when the data flow starts from hospitals and family physicians, will the data be entered by the trained persons? Because, the only important thing is not to get high quality data but also to ensure the safety of the data. Because, reliable data means to access reliable information and to reach a reliable policy. So, what have you done concerning these persons?

Dr. NİHAT YURT- When I was talking about poor quality data I referred to the case we had three- four years ago. We started this trainings last year. The people working in the field frankly examined the field. We as data Department of Information Processing do not ask for information but other departments who need information ask for it. What can be that department? It can be treatment services, basic health services or the department of strategy. For example, a department of the Ministry asks us to post the number of polyclinics. Some officers post the number of polyclinics while some others send the number of beds in polyclinics due to different ways of asking. I just wanted to underline the structural problem in this case. It is hard to give decisions according to this data which is gathered in a confusing way. Therefore, we brought the Health-Net into force and issued the national health data dictionary in order not to do the same things repeatedly.

Concerning education, we of course issued the standards that are based on the ICD, International Code of Diseases. We gave a training on the use of these codes. How do you code and diagnose a disease? A disease can be marked or written as flu, while someone calls it upper respiratory infection or pharyngitis. In fact, they all refer to the same disease but you cannot decide as they are expressed in different ways. The user should code and enter the data correctly in order to make the disease to be understood as a upper respiratory diseases. It should be understood a hundred percent correctly when it is expressed with adjoining codes or expressions.

In addition, there were deputies of head physician, hospital directors or deputy directors who were responsible of information processing during the Health-Net

integration process. We had three training goups. We told them what they should do, how they should manage the process for the integration to the Health-Net. Because, what they should do is not only related with coding. They also make changes in their automation systems, which should be understood and implemented by the persons working in the field in the correct way. We worked with Prof. Asuman Doğaç from Middle Est Technical University who developed a platform for us. Another system, that simulates the system we developed, was prepared. Hospital programmers made data sending experiments in laboratuary environment in two technical workshops. The system checks and shows the coding or rule errors. For instance, there is a simple rule stipulating that the entry date of the patient cannot be later than the departure date. If this rule is not obeyed the system gives a notice. Consequently, hospitals were made ready for the integration. The automation systems have been highly advanced in this direction. Moreover, we started to work with the test data since November. 300 hospitals could send data in November. So, this is an ample project that will also include decision support system and many other applications within 3 or 4 years. There is also an e-prescribing application that needs a change in the law. This application is an infrastructure that provides opportunity for other applications having added value. Yes please.

QUESTION- Thank you for your presentation. As far as I understood from your speech, the e-health system of the Ministry of Health is extremely inharmonious with the e-prescribing system currently used in social security system. There is no connection between them, at least in the sense of report codes. We face diagnosis that has no relevanve with the ICD. Although we have been involved in this system for 10-15 years we are quite far away from the applications of the Ministry of Health. As we understand from the feedbacks we have got from the hospitals, the hospitals have not even comprehended yet the existing reporting formats in the same way. We are often confronted with deficiencies and data failures. Is it possible to specify a date for a unique system to be used by all the related institutions? Thank you.

Dr. NİHAT YURT- Thanks. You have in fact talked about the application of Social Security Institutiton. Social Security Institution carries out the medicine control but not our ministry. This issue is not a part of the e-health. The

transformation is like this: A patient applies to a hospital and gets a follow up number. Afterwards, an online provision is given to the patient with that follow up number according to her social security protection. The patient is accepted, treated and given her medicine. The codes for the medicine prescribed should be consistent with the ICD. If it is inconsistent the hospital corrects and sends it again.

There is such an integration: Social Security Institution deals with the data related to payment. The Ministry of Health is concerned with all the data of the health sector. Naturally, they have several intersection points. When the Health-Net goes into operation, we will continue to work on it throughout 2009. 50 percent of the components will be integrated in the first six months. When it reaches 70-80 percent and works in full performance we will be able to make Social Security Institution to conduct the contols over our system. Because, there is information and definitions about medicine in the national health data dictionary. And we will continue to collect information. When an inconsistency is found Social Security Institution does not pay for the medicine. It might be necessary but there is no flexibility in the system so the only thing, that can be done, is smoothing it or following a different medicine procedure to make it as desired. These are the issues that we can solve by a collective work within a reasonable time.

QUESTION- Besides the integration you have mentioned, Social Security Institution has two electronic applications developed within the framework of research projects. One of them is an electronic notification (SUT) and the other is a software of positive list method. I guess these applications will be integrated in your system as well. I do not know about your works about the integration very well but the part of the social security to be integrated will be these applications. I just wanted to give infomation about it.

Dr. NİHAT YURT- Thanks.

Prof. Dr. LEVENT ÜSTÜNES- I am a member of the Central Commission of the TPA. Thank you very much for your enlightening presentation.

First of all, I want to ask whether you see it as a problem that Social Security Institution and the Ministry of Health carry out this process individually. Because I think it is a problem and should have been planned together. Secondly, family medicine practice existed all over the world. You allocated an extensive place for the family medicine in the Ministry of Health and a pilot project is being carried out at the moment within the framework of Transformation in Health in Turkey. When we look from this window, drug treatment is very important. This is the first step health service and the pharmacies are not integrated in the system of family medicine in the Ministry of Health. Social Security Institution focuses just on the payment side of the issue in our country. Why did not you integrate the pharmacists in the system? Pharmacists are the indispensable elements of the first step health service, and family medicine should include the pharmacists. Why did not you consider this fact in your project? I want to put clearly that we started to get anxious that the pharmacists are not seen as a part of the health system. It means to deprive the Turkish society from modern pharmaceutical services. I just wanted to give a criticism and bring a proposal. And, I would like to know more about it. Thank you very much.

Dr. NİHAT YURT- Thank you very much for the questions. Your first question is whether we should have worked together with the Social Security Institution in the beginning. Actually we worked together with the Social Security Institution in the very beginning but our constraints were the enormous increase in medical expenditures and repeatedly entered registries. Because, before the unification of the insurance system under General Health Insurance there were the records of Social Insurance Institution, Bağ-Kur (the social security organization for artisans and craftsmen) Retirement Fund of Civil Servants. Those records had to be eliminated and thus a checking system had to be established. This is an urgent necessity for them because of the enormous expenditure as you know. For example, Retirement Fund of Civil Servants effectuated the Drug Track System in 2002 for the first time, which brought a grand savings. Because, sometimes one person had 4 or 5 health cards and had several physicians write presciptions within few days. It had to bring them under control. They did not have the luxury to wait for us. Besides, we have had to collect data concerning all the health system so we did not have the luxury to wait for them as well. We

could not say "stop and let us do it". We wanted them to start e-invoice application by Medula on their side while we were collecting health data and proposed them to share the information we gathered concerning payments through our newly established infrastructure. I hope these two applications will be integrated in the near future. This is of course an optimistic approach.

Prof. Dr. LEVENT ÜSTÜNES- Excuse me, how long...? And, should the pharmacy software be in accord with the HL7 standarts? It is a very clear and technical question.

Dr. NİHAT YURT- It can be integrated to HL7 software.

Prof. Dr. LEVENT ÜSTÜNES- Can it be or should it be?

Dr. NİHAT YURT- It should be but we had such a system: First, family medicine information system uses HL7 version 3 for data exchange at the moment. Second, hospitals use HL7 version 3 too. There are very few countries in Europe using HL7 version 3. They generally use version 2 or 2,5. The restraint here is that the program is not customized as wanted. The EU initiated a project that ensures working together but it has not been put into practice and just stayed as a political discourse. For example, each Germany, France or Great Britain has different HL7 versions, so they cannot exhange data or communicate. Our system is ready to share information with Europe. We are assertive about it, I am frankly speaking.

I would like to answer the question of how long does the integration take as follows: our system in 2009 and 2010 and the family medicine in 2010 will become widespread throughout the country. Family medicine is being integrated into the Health-Net at the moment. When our system starts operating completely we can realize the integration. However, we have one or two years for it at best.

You asked whether you are out of the system. Absolutely no. It sounds like a political answer but you are not outside the system as a matter of fact. Actually there is a pharmacy or drug software in the family medicine system. The system

involves you in the pilot application carried out in Bolu. There is such as a scenario going on in Bolu at the moment: After getting her chip card a citizen goes to an health center where she gets a provision from Social Security Institution first. This service in fact is called determination of right holder process. When it comes to the prescription stage the physician starts using her card reader. The physician first mounts her card and then the patients card before writing the prescription. There is another slot: a three slot card reader. The physician mounts the electronic signature card to the other slot. With physicians's signing, the prescription is sent to the pharmacy. When the patient goes to the pharmacy with her card, the pharmacist starts using her card reader. When the patient is identified by the system the pharmacist appends her signature and gives the drugs to the patient. You are directly involved in the process.

Prof. Dr. LEVENT ÜSTÜNES- I have a request from the Ministry of Health. This is a very important subject: Pharmaceutical care, or let's call it contemporary pharmaceutical sevice. We are educated for this purpose and educate our students for it. As you know, within the EU accession process the years of education increased to five years and pharmaceutical care became a compulsary course in our curriculum, as well as in our training programme. Thus, newly graduate pharmacists will put into practice in their pharmacies what they learn in that course from next year forth. This also needs certain softwares. When I was talking about the relationship between family physician and pharmacist I said that we should protect the patient as her confirmation is necessary. This process should be carried out together by family physicians and pharmacists. They need some softwares. I think we should expect you to define the standarts of the softwares to be used by the pharmacists at this stage. We are ready to produce these softwares. Please fix the standarts of the pharmacy softwares as you did for the hospitals. I asked the question about HL7 in connection with this point. This is a great deficiency because we will not be ready in 2011 when you get ready.

Dr. NİHAT YURT- You are right. You are here tomorrow, aren't you?

Prof. Dr. LEVENT ÜSTÜNES- Yes, I am.

Dr. NİHAT YURT- Mr. Sami is going to mention these points in his speech. Mr. Sami was the Head of the Department of Information Processing in the Retirement Fund for Civil Servants. He was the head of the team that realized the prescription control system for the first time in 2002. He works for the Social Security Institution now. He can tell the applications in both institutions. We are working together with him. We will consider what you have said.

Prof. Dr. LEVENT ÜSTÜNES- Thank you very much.

Dr. NİHAT YURT- Thank you very much. There is another question there.

Pharm. MEHMET SAYDAN- I am a community pharmacist. In fact, the inharmonious relationship between the Social Security Institution and the Ministry of Health effects us more than anyone else. Actually, my questions are very similar to the ones of my colleguages. There is an interesting situation. There are special conditions imposed by the Social Security institution in terms of writing out a prescription, particularly for some drugs. Of course a data collecting database is a very important tool, for which you have worked too much. Accuracy of statistical data will gain importance in policy making. For instance, if a physician does not prescribe a stomach drug with the diagnosis of ulcer, the Social Security Institution does not pay for it. They suppose that a physician does not prescribe this drug if the patient does not suffer from that disease. However, it is not always the case. The physicians writes down that disease as if the patient does not suffer from that disease, so naturally that disease is recored in the database. We face strange cases sometimes. For instance, a drug which is paid with any diagnosis may not be paid next day as it needs a specific diagnosis from then on. So, it seems as if the disease of the duodenal ulcer has exploded suddenly in Turkey. I believe that the Social Security Institution precludes such limitations in order to ensure the Ministry of Health to get a favourable result from its database initiation. If the physician decides to prescribe a certain drug the Social Security Institution should pay for it unconditionally. Do you have any preparations, endeavor concerning this problem?

Dr. NİHAT YURT- You are right. We have already been thinking about it. The Medula application is in fact an e-invoice application but at the same time it

tries to collect the treatment information to reveal whether the the right drug or treatment was supplied to the patient. However, it is not possible to make an analysis on the basis of that treatment. If an analysis is conducted on the basis of treatment you get a wrong result like ulcer explosion. These are very exceptional cases, I am exaggerating it now. But such abnormal cases might break out. On the other hand, the data directly arrives in our system but not after the payment control. It comes directly from hospitals. Your question is about the Medula that collects the invoice information. Thank you very much.

PRESENTER- We thank Nihat Yurt for his valuable presentation. Helene Richardson, Chair for E-Health User Stakeholder Group, is going to describe the general framework of e-health applications in e-health applications.

HELENE RICHARDSSON (E Chair for E-Health User Stakeholder Group)

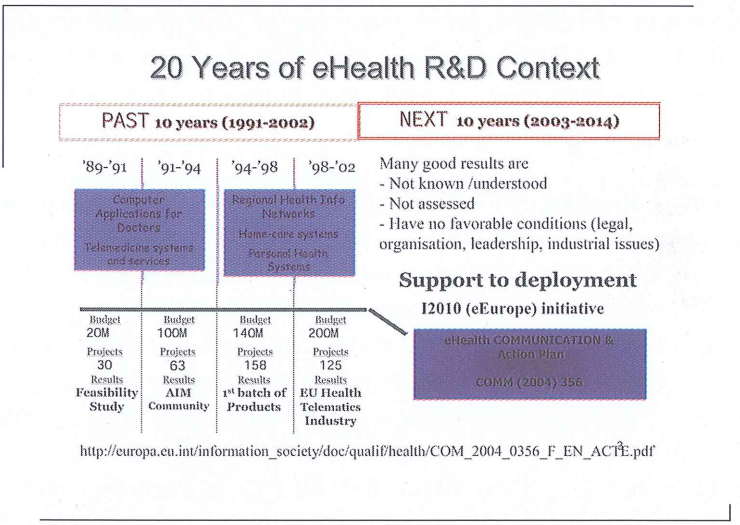
Hello everybody. Thank you for inviting me. I feel at home as it is snowing outside. It is snowing and very cold in Sweden now. I am proud of being invited here. I will try to tell about Europe, what is going on there.

I am an information communication technologies strategist and working for Swedish Association of Local Authorities and Regions. This associaton works under the government. We are responsible for the health services in Sweden. I will give details later. At the same time, I am the Chair for E-Health User Stakeholder Group. Ivana told about it but I will also give a detailed information.

I hope the agenda I prepared will be beneficial for you. I will talk about history: where we are at the moment, the steps we have taken. As you know, there will be lessons to be taken here. I will also talk about the E-Health Action Plan that was brought into force in 2004. We will look at the examples, stakeholder group and grand projects carried out in Europe. Afterwards, I will try to explain how the strategy of infomation technologies in e-health has developed in Europe. I brought the copies of the strategy with me but, unfortunately, it is in English,

not in Turkish. I hope you can understand it. It has several copies that you can get if you are interested in. Please tell me to change the subject if you are not content with it; but I think it will appeal you.

This is a very complicated picture. I borrowed it from the European Commission. This subject shows how the subject researches are conducted in the European Commission.



Physicians had computers when we started in 1990. But they did not have communication with the other physicians, departments or hospitals. They had their own systems but information sharing was not possible.

After a while, a representative from the Ministry introduced the Baltic health model. We initiated the infrastructure project named SUNET in Sweden and afterwards we connected the computers to each other and enabled data transmission. As you see, it was a large investment and allocated a gross budget. The Commission said the followings: The results are perfect but we do not

understand them. How can we use these results, how can we benefit from them? I saw these problems in Turkey, in Sweden, in everywhere. We have legal problems. How would we ensure data sharing? Is it legal to do that? What do patients and physicians think about it? We have to solve this problem. European Commission offered to find a solution. So, what happened after that? The E-Health Action Plan was prepared and adopted in 2004. We started to write the 2010 report immediately. We are almost in 2009 and experienced all these things.

Let us look at what happened until now and the point we reached. They said the followings in the E-Health Action Plan: Yes, we have to asses what we have done in the European Commission. We should not do the same things over and over again. We should save the taxpayers' money by using the established systems.

All the member countries of the European Commission and Turkey as a candidate country determined their IT strategies. I was working for the Commission at that time and offered to build a structure and show the countries how to do it. The Commission denied to orient the countries and decided to leave countries free to determine their IT strategies. It was done in 2005, the year when you achieved as well. However, Sweden could not achieve it and was a little bit late. When we submitted our report in 2006 you were already more advanced than us.

Another important issue is the patient identifier. This is a very important subject in Europe that we have to solve. The other one are the standards for interoperability. Together with the above issues, we handled the problem of information sharing between different systems until 2004.

I would like to tell how that was organized in the Commission. I am here as a representative. There were so many people and so many groups. But two of the groups were more important. One of them was Sanko Directorate General that was responsible for the health issues in all over Europe. The other one was Info Directorate General that undertook all the IT services. It organised several conferences on e-health. There was a group of ministries and on the other hand there were groups of Sanko and Info directorates working on e-health. These

groups decided to work together and formed the group named 2010 Sub-Group of E-Health. There were representatives from all the member countries besides the representatives from the ministries of several counties. There were people from the industry. In sum, it was a mixture. In parallel to the elections in the countries, the representatives in the group have changed.

It was decided to find experts to solve the problems concerning patient identifier and operability. After a while a stakeholders group that involves people form several projects carried out in Europe and people from the industry was established. Afterwards, the group was divided into to sub-groups. I would like to tell you about the members of my group. There are two persons here from user stakeholder group. Dr. Stephan Shug is one of them. In order to be a participant of this group you have to work on the European level. You cannot participate whenever you want. You have to work at a European level position. We want influential people in the group. What we say should have an effect. The organisations such as of physicians, nurses and patients are among the participating organisations. All the representative except of the industry are in this group of that I am the chair. I have been working at this position for two years. I do not know whether I will continue or not, we have elections soon.

What have we done, what are our contributions? We had long negatiotions with the Commission. We carried out vey big projects. We gave advises on how to carry out those projects. As soon as the document titled Lead Market Initiative for Europe[1] was issued so many developments occurred. The experts working in this field were employed. Afterwards, we worked on the document on Article 29. We provided support to the government about electronic health records. We have always had an approch that puts the patient in the center. We gave importance to the improvement of patient's decision power. I hope it is not very boring. I am sorry if it is boring.

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1 The Lead Market Initiative for Europe is a project aims to empower the leading sectors having high economic ans social values. Six sectors are supported in this project: e-health, sustanable construction, Technical textiles for intelligent personal protective clothing and equipment, bio-based products, recycling, renewable energy. They are highly innovative and able to meet the needs of customers. They have strong industrial and technological infrastructures in Europe. They need public measurements more than any other sectors. Action plans for the next 3 to 5 years was prepared for each sector. The European citizens will benefit both from the positive impact on growth and employment (the identified areas could represent three million jobs and 300 billion EUR by 2020) and from the access to enhanced goods and services of high societal value. For a detailed information see: http://ec.europa.eu/enterprise/leadmarket/leadmarket.htm

It is very difficult if the patient does not want to be recorded. If you apply to get a licence, this is very important. Therefore, the content of the information in the electronic health records is very important. The subject of interoperability is very important as well. We should not only consider the big companies working in this field but also the small ones.

You might have seen this logo before. Its old name was SOS. However, it was like referring to aid call and changed to EPSOS[2] that is European Patients - Smart Open Services. It is one of the biggest projects on patients summary and electronic prescription. They do not start from the very beginning. They work with the experienced European countries. They take the best countries in terms of electronic prescription and try to apply them on the European level. It should be done in this way to speed up the works. We should not start everything fom the beginning. 27 organisations take place in this project. These are political projects at the same time. There are 9 ministries of health and they want to be successful. It is carried out under the administration of the German company Emprica.

We have another project called CALLIOPE[3] that is the call for interoperability. When we started this project several countries participated in it but there were many countries that did not participate but wanted to learn about it. As you see, there were many ministries, regional competence centers and 11 professional organisations in the beginning. We wanted the physicians, nurses, pharmacists to trust this project. We cannot be contented with politicial structures and technical solutions. In order to be successful, the people that will work with this system should have trust in the system. CALLIOPE can be defined as a support programme for EPSOS.

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2 EPSOS (European Patients Smart Open Services) is Avrupa is an E-Health project in Europe. For detailed information see: http://www.epsos.eu.

3 CALLIOPE (Call for Interoperability) is a thematic network co-financed by the European Commission. This network is directed by 11 organisations representing physicians, pharmacists, patients, industry, health insurance companies. It provides a platform for open dialogue and strategic collaborations with relevant stakeholders to further advance the development of interoperable eHealth services and facilitate their adoption. For detailed information see: http://www.calliope-network.eu.

The interesting thing with the CALLIOPE is as follows: We gather people from various groups. European Union represents the EPSOS. National authorities, stakeholders like you and experts are also included. You can write us to be a part of it. I should also add the industry. We tried to reach a compromise which we believe is the right way. Many people like the Mr., who spoke just before me, thinks that it will be realized within two years, but I believe it will take 5 or even 10 years to get a success in all over Europe.

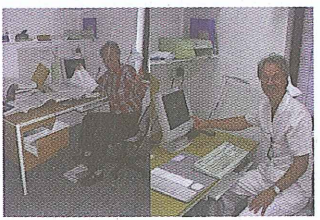
I have talked about the documents and historical process in Europe. I was an IT director for a regional council in Sweden before working for the Gen Organisation as an ICT strategist. I would like to talk about how that IT policy is carried out. This was the symbol of my region. You see Sweden is a big country but its population is not as much as Turkey. It is more than 9 million. It has a linear shape in north-south direction and it is as big as Spain. It is seperated into 21 regions. Gothenborg and Stockholm are the biggest cities. The rest of the population is spread over the rest of the country. Why am I telling these? Because, we have three democratic levels and different elections are held in three different levels. Parliament is the highest political body in Sweden. Secondly, there are regional councils whose main task is healthcare. Finally, there are local administrations. Seperate elections are held on every different level. Municipalities concern with homecare. After they are elected, they decide freely on what to do in this field. It is similar for the regional councils. There are small parliaments in all 21 regions in which the elections are held once in four years. They are not obliged to obey the decions of the national government.

Do you have a similar structure in Turkey? No. Then, I stop here. I brought a picture that I shot in order to wake you up. I knew that I would talk after lunch. This is a reindeer. You can see reindeers outside of Stockholm. Regional councils are responsible for healthcare that should be provided equally to everyone. Every person has the right to benefit from healthcare services equally no matter whether she lives in a rural area with reindeers or in the center of Stockholm.

There are 1000 local medical centers, more than 70 hospitals and 9 university hospitals in Sweden. In the primary care, at least 99 percent of the physicians use electronic health records. It is different in hospitals. Everyone uses it for documentation but it is still not hundred percent in the labs. It is a hard task and takes time. I can say that Sweden is very good at e-prescribing. When you listen to the Minister of Health it sounds very good. When I was an IT director the pharmaceutical companies were very eager for the system. We told them to pay money for the system. This system is good for more than one person. We have not talked about money today but we should also think about the sources of money. The regional council paid for our system but the beneficiary was the other party. This is a difficult problem.

Tele-medicine is an important subject. I am coming from a place where skiing is very common. Many tourists are coming, they break their legs and then go to hospital. There are mobile radiology equipments. We send the x-ray of the leg to hospital. The hospital decides whether she has to go to a hospital. They decide whether she has to go to hospital or needs rest. This is important for you as well. You have a big country and there are many hilly areas.

Many speakers today talked about the importance of the e-health. Why is it important, for whom is it important? Of course, for the citizens. The quality of access to the health services for the citizens is very important. It is also important for the healthy citizens because they might get ill. It is important for the persons who want to help their mothers, fathers, children or spouses. As health professionals we need the correct information. Of course, there is no need to say it to you, the pharmacists. You know it better. We need this in the regional councils and regional parliaments. Governmental institutions need these e-health services in order to be able to make social planings.



You see my physician Yorgo Lisson in the picture that was taken before e-health was brought into practice. He was struggling with many papers in order to make researches and see the effects of a medicine. It was very difficult for him in the

beginning but now he is a happy man. They are contented with these useful systems.

I feel anxious when I go to conferences on e-health. Everything seems very easy when I listen to the politicians or the representatives of the health ministries. However, we know that there are problems that we have to overcome. Some people think that the problems are all about technology. Some people here talked on the needs of training and recording the correct information to the system. When we look at the IT system used in the health system we see that it is quite related to the human. Physicians stand at the top and they are very important. We should be careful about electronic records and the other support systems. Not only the technology itself but also applying it in the correct way is very important. One of the problems we face in Sweden is related to different systems. We have different systems, different ICT systems that are all good and useful. But if you are a physician and go to another town the system may not recognise you. So, you have to start from the beginning again.

Another problem is about laws. We have been working on this subject for a long time in Sweden. Our laws were amended in July. If you are a patient you have the right to receive your health records on electronic environment. Before, you were allowed to get the paper copies because the laws were very old. Electronic copies of patient records can be sent as well now. In addition, data sharing became much more easy. Data safety and protection is also an important issue.

The physicians you see on the other slide have also patients suffering from AIDS. These patients sometimes go to journeys and it may be better to communicate over e-mail with them. However, the existing laws do not allow such a communication with patients. As Ivana said, people should be brave. It is beneficial for the patients to receive health service via e-mail.

Why do we need cooperation on the national level? You will not have such as problem in Turkey because there is no division, no seperate regional councils. It was very important in Sweden to ensure the development of 21 different councils in the same direction. One of the councils might be communists while

another one is conservative. But they should compromise on a certain direction. When we started this project in 2004 there was a social democratic government in Sweden but now it is different. It is good that they have not changed the e-health strategy that they believe is the right way. We had started with a social democratic government and now we are continuing down the road with another one. That point is important as well. Although the government has not been changed in Turkey this problem is very important for you, too. No stakeholder such as the government or phycian alone can decide on which policies that should be applied. We should sit around a table and be able to decide on our future orientation. This is a fundamental point. It would be true to say that Sweden has been very successful until now. We have faced many problems but overcome them, and we are going on the right way.

You will remember the reindeers even if you forget what I have said completely. But, please also remember the need for cooperation between all stakeholders. We need it immediately. Why do we need cooperation? People make searches, get information over internet. The communication is not same as it was during my grandmother's youth. It is very advanced now, so our systems should be compatible.

You have tourists coming from Europe to spend time on your nice beaches. Swedes comes here as well. You should also concern with this point. World Health Organisation and European Union incites countries to go on this way. We prepared this strategy in Sweden. We had a board whose chairman was the Minister of Health. There were different representatives from different organisations such as the Ministry of Health and Social Affairs, The Swedish Association of Local Authorities and Regions in the board. I was also in the board and trying to bring these issues on the agenda. National Board of Health and Welfare, Medical Products Agency and Apoteket AB were also in the board. All the documents were gathered and only one document was issued after negotiations. We have carried out an open discussion on what should be done. In addition to this group, there was also a reference group including so many physicians, pharmacists and nurses. We did not start from the beginning as in the European project and established the system by using the best applications. This board identified six areas for the upcoming work two years ago:

Identified Areas

1) Bringing laws and regulations in line with an increased use of ICT
2) Common infromation structure
3) Common technical infrasturucture
4) Development of interoperable, supportive IT systems.
5) Access to information across organisational boundries
6) Easily Access to citizens

We have succeeded in the first four areas. We changed the law, we have common information and technical infrastuructures. We have not reachd the fourth item yet and we have things to do for the fifth and sixth areas. Chinese people say that you have to start with small bits if you want to eat well. The same goes for the IT infrastructure: We have to start with small steps.

That is all what I want to say. Do you have any questions?

QUESTION- It is better to ask in English. There is a project on electronic data sharing between Turkey and Europe. As you know, there are Turks living in Sweden, in Stockholm or people coming to Turkey from Sweden. What is the situation at the moment in terms of application?

HELEN RICHARDSSON- A good way to start this is the new European wide project EPSOS. We need to see what will it bring because the patient data should be investigated here. I do not know about the situation in Turkey but there is too much information in the patient records in Sweden. The medicine list is very important. There should be a summary that saves the physicians to check all health record in order to see the drug interactions. Any other questions?

IVANA SILVA- Can you tell about the standards in Sweden?

HELEN RICHARDSSON- I should have talked about it. A work is being carried out on the Article 403 in Europe. Health System in Sweden decided to use NOMAD that has not been completed yet. We are working on HL-7 standard as well.

QUESTION- I hope I have not missed it. It might be a repetition. What is the situation of the repayment system in your country? Another point I would like to comment on is this: When I meet an expert from Europe I am worried if we will be able to succeed in this system. We have 26 thousand pharmacies in Turkey and so many hospitals as the physicans here told. I am concerned about the success of the system with these so many pharmacies and hospitals?

HELEN RICHARDSSON- Two difficult questions. You asked a question about the repayment for medicine. I am not an expert in this field but there is such a system in Sweden: We pay very high taxes in Sweden. You have to pay 50 percent of your salary for the tax and you receive health services and medicine in return for your tax payment. If I go to a hospital as a patient, there is an upper limit for payment. More than 100 Euros are paid by the social security system. I do not know how the situation is for the pharmacists. You can see the medicine but not the payments. As a patient I cannot go to two different physicians and ask for drugs for depression. The physicians you have gone and the medicine you have got are seen on the system in Sweden. Concerning your second question, I do not know whether it is possible with 26 thousand pharmacists.

Ivana SILVA- I would like to add this: I gave the example of Ms. Karin, if you remember. A pharmacist can see the price of medicine by medicine revision system and tell it to the patient. If the medicine is very expensive they try to find another solution.

HELEN RICHARDSSON- I do not know what the situation is in Turkey. There are several drugs having the same effects. If there is a cheaper drug having the same effect, the physician pays for that. If you want to buy the more expensive one you have to pay for that.

QUESTION- Thank you for your interesting presentation. You touched upon a very interesting point. We got valuable information. I wonder whether private health insurance companies are also stakeholders of this system.

HELEN RICHARDSSON- You are right. We pay very high taxes in Sweden for a good health system. We have very few private health insurance companies.

We rely on public system that includes 97 percent of the society. The private companies are not allowed to access directly to your personal information.

QUESTION- Will they be allowed when they establish their own systems?

HELEN RICHARDSSON- Do you mean a private physician?

QUESTION- No, I mean private insurance companies.

HELEN RICHARDSSON- You pay a premium in certain amount in a year and they determine the amount according to your health history. If you apply for a private health insurance in Sweden you have to prove that you are healthy. I do not have much information.

Dr. NİHAT YURT- I would like to add a comment to your question; you asked whether the private health companies will have the right to access personal information of patients. Similar to Sweden and Finland, it is not possible for private health insurance companies to access health records. There are strict rules for that. Personal data belongs to individuals and the Ministry has responsibility in those services. So, not the private health insurance companies but the Ministry of Health analyze the data. For example, the KTD is an insurance company in Finland. It records and protects the data but they do not have the right to access the data. Only the Ministry of Health has right to access the data. Finland is an ombudsman in this sector, that is why I gave that example. They have laws on e-health and e-prescription. It is one of the most advanced countries in terms of the law on e-health. It gives advices to the European Union. The whole industry asks Finland about the legislation.

QUESTION- I wonder if private health insurance companies will issue and use their own smart cards?

HELEN RICHARDSSON- We do not have such a discussion on that.

Dr. NİHAT YURT- Electronic card is used only for identification in Turkey but not in the areas you mentioned. It is not possible to use another smart card in

Turkey like insurance card. This card is just used to check whether the person is really the one she claims. In order to prevent misuse, there are chips for biometric measurement and your fingerprint. The person in checked with the fingerprint when she goes to hospital. The use of another card in Turkey is not legal in Turkey. In sum, the smart card is only used for identification.

HELEN RICHARDSSON- I would like to make a comment on confidentiality and access to information. We have changed the law on access to electronic health records. You might have very critical information in your record, maybe you got psychiatric treatment in the past or you had an abortion that you do not want to be known. In such cases, you have right to choose. Everything has been thought for the patients sake. Thank you for listening to me.

PRESENTER- We thank to Helene Richardsson for her valuable contributions. Now, we will have a coffee break.