



eListe čekanja

eNaručivanje

eUgovaranje

eBI-Lijekovi

# eWaiting Lists

Reduce of waiting for health service is one of the greatest challenges in today's public health system. Almost daily progress in medicine and medical procedures remains unused if there is no systematic referral to the first available medical facility and to the appropriate medical specialists. eWaiting Lists is the information system that in real time connects the health system at the national level and provides an overview of available dates for procedures in hospitals.

System eWaiting Lists enables collecting and publication of the first available dates by all ordering procedure, as well as retrieval and analysis of all existing orders in health facilities. Overview of available dates in health facilities is publicly available on the website of Croatian Health Insurance Fund (HZZO) (<http://www.hzzo.hr>) and the Ministry of Health (<http://www.zdravlje.hr>). The basis for collecting data is the national catalogue of ordering procedures with a list of procedures which certain health facility is providing.

## Benefits of eWaiting Lists in the process of ordering for medical procedures:

### 1. Process of ordering for medical procedures is shorter - all information are available on one place

The patient has overview of the first available dates of the certain procedure on one place and the possibility to compare it with available dates from other hospitals in the region/county. This enables the redistribution of patients and optimum utilization of hospital resources. Along with the information of the exact date and time of the available dates, other information of healthcare facilities such as contacts, opening hours, exact location and similar useful information are also published.

### 2. Aktivni nadzor i analiza događanja u zdravstvenom sustavu

eWaiting Lists enable the systematic collection and publication of all existing orders in healthcare facilities and prompt follow-up of the length of waiting for each procedure. Healthcare facilities have dynamics in collecting orders once a day, thus creating a database for business intelligence system as a base for analysis and keeping trends of ordering as well as carrying out preventive/corrective actions in health care facilities.

The base for collecting data is national catalogue of ordering procedures that contains all procedures the healthcare institutions are currently using. With the application of catalogue which currently contains more than 440 procedures and with its connection to the existing hospital ordering system, the existing organization of hospital systems remains preserved.

## Technology

eWaiting Lists were developed with the use of Microsoft development tools, while ensuring that data section can be implemented on different databases. Technical connection of central system and hospital ordering system is fully automated through web services and HL7 data communication.

## Award

For eWaiting Lists and e-MD Appointments in March 2013 IN2 Group received the European IT & Software Excellence Award in the category - solution of the year for the public sector and in May 2013 global award - Microsoft Partner of the Year Award in the category of Public Sector, Health. The leading criteria for obtaining global Microsoft award, in addition to technical quality, was their contribution, as a technologically advanced solutions, in the modernization of healthcare systems and changes in delivering the health services. It was pointed out that e-Waiting lists and e-MD Appointments are an example of the positive impact of technology on the community quality of life. It is the first time that the Croatian company won in one of the category, for which applied more than 3,000 applicants from 106 countries.

### Benefits of eWaiting Lists:

- information about the first available date in the nearest hospital
- monitoring of the length of waiting

### Technology:

- Microsoft development tools
- HL7 standard
- web services

HRVATSKI ZAVOD ZA ZDRAVSTVENO OSIGURANJE CROATIAN INSTITUTE FOR HEALTH INSURANCE

### LISTE ČEKANJA

**Postupak**  
\* Odaberite postupak

**Županija**  
Sve županije

PROVJERITE

**Postupak** Dermatologija - prvi pregled

**Zdravstvena ustanova** OPĆA BOLNIČKA KUĆA LJUDEVITAC  
**Adresa** naručiva  
**e-mail**  
**Telefon** +385 3  
**Telefaks**  
**Radno vrijeme** Ponedjeljak  
**Prvi slobodni termin** 18.03.2013  
**Broj dana čekanja** 2  
**Vrijeme ažuriranja liste** 16.3.2013

\* Odaberite postupak

- Alergologija i klinička imunologija - prvi pregled
- Alergologija i klinička imunologija - kontrolni pregled
- Alergotest na alimentarne alergene
- Alergotest na inhalatorne alergene
- Alergologija - prvi pregled
- Alergologija - kontrolni pregled
- Andrologija - prvi pregled
- Andrologija - kontrolni pregled
- Anesteziologija - prvi pregled
- Anesteziologija - kontrolni pregled
- Angiolog - prvi pregled
- Angiolog - kontrolni pregled
- Aortokoronarna venska premostica
- Audiologija - prvi pregled
- Audiologija - kontrolni pregled
- CT mozga
- Dentalna patologija i endodoncija - prvi pregled
- Dentalna patologija i endodoncija - kontrolni pregled
- Dermatologija - prvi pregled

natrag

# e-MD Appointments

e-MD Appointments is a system for Online ordering to the procedures in healthcare facilities directly from the practice of the primary care physicians. By redirection of orders, patients can make faster appointments to the procedures, unloading the counters and providing optimum use of hospital resources.

e-MD Appointments is designed as a communication node between the existing systems of the primary health care and the hospital ordering systems. In the system design, special emphasis was on simplicity and intuitiveness of use. The connection to the primary health care system is realized as a web application that can be installed into existing applications or used in a separate Internet browser.

The process of e-MD Appointments starts with a list of available dates for procedures in healthcare facilities in the region to which the patient belongs. At this stage, primary care physician has the possibility to expand the list of free dates on the national level (if the closest facility has no satisfactory date) or to shift an appointment to specific date (if the patient or medical reasons required it).

Process of e-MD Appointments continues with the online contact of the selected health facility. In this step, the physician has pre-booked available appointments for required procedure of each clinic/site on two minutes. In this period he needs to choose an ambulance for the patient's order and if necessary input additional information for a specialist.

The process ends by selecting one of the offered term and printout of e-MD Appointment which contains all the information necessary for the patient: time, procedure, location, instructions for preparation and directions in case of cancellation.

## Technology

Connection with other hospital systems is realized through HL7 standard, enabling direct input of order in existing information system of health care institution and order confirmation.

## Benefits of e-MD Appointments

1. For a patient:
  - faster ordering on the medical procedures
  - creating orders from general practice ambulance
2. For a hospital:
  - unload of the counters
  - faster patients admission
  - maximum utilization of hospital resources
3. Benefits for the insurer:
  - optimal use of hospital resources
  - shorter lists of waiting
  - monitoring and active management of ordering process

Pregled ustanova  
Istarska županija  
Oftalmologija - Prvi pregled

Siniša Koščina  
120319253  
29.10.1974



1 Odaberite ustanovu 2 Odaberite termin 3 Rezultat Ponudi termine nakon: 10 Stu 2012 6 00 Vrijeme?

Prikaži sve regije

Regija	Naziv	Adresa	Telefon	Prvi termin
Zagrebačka županija i grad Zagreb	Klinička bolnica Dubrava	Avenija Opatja Šuška 6	-nema-	13.11.2012.
Karovačka županija	Opća bolnica Ogulin	Bolnička ulica 38, 47300 Ogulin	+385 47 819 788	20.11.2012.
Istarska županija	Opća bolnica Pula	Aldo Negri 6, 52100 Pula	+385 52 376 476	23.1.2013.
Zadarska županija	Opća bolnica Zadar	Bože Peničića 5, 23000 Zadar	+385 23 505 438 +385 23 300 177	1.2.2013.
Brodsko-posavska županija	Opća bolnica "Dr. Josip Benčević" Slavonski Brod	Andrije Štampara 42, 35000 Slavonski Brod	+385 35 201 150	7.2.2013.
Primorsko-goranska županija	Klinički bolnički centar Rijeka	Krešimirova 42, 51000 Rijeka	+385 51 658 880	14.2.2013.
Ličko-senjska županija	Opća bolnica Gospić	Kamlika 111, 53000 Gospić	+385 53 658 531	22.2.2013.
Karovačka županija	Opća bolnica Karlovac	Andrije Štampara 3, 47000 Karlovac	+385 47 608 457	18.3.2013.

Klikom na redak tablice odaberite ustanovu u koju želite naručiti pacijenta...

HZZO eNaručivanje by IN2 | v1.1

in2

Pregled termina  
Klinički bolnički centar Rijeka  
Oftalmologija - Prvi pregled

Siniša Koščina  
120319253  
29.10.1974



1 Odaberite ustanovu 2 Odaberite termin 3 Rezultat Preostalo vrijeme 00:49

Resurs	Opis	Termin
R-O-Opća oftalmološka amb. 2 B1 - Prvi oftalmološki pregled		14.2.2013. 8:20:00
R-O-Opća oftalmološka amb. 1 B - Prvi oftalmološki pregled		14.2.2013. 8:20:00

### Napomena

Poštovani kolega,  
obratite pažnju na nalaze iz lipnja!

Klikom na redak tablice odaberite termin u kojem želite naručiti pacijenta. Po potrebi, unesite napomenu za liječnika...

HZZO eNaručivanje by IN2 | v1.1

in2



# eBI-Medications

Even though the trend of reduction of prices of the existing medications is continuous, daily release of new and more expensive medications still makes a significant 17% - 20% of the overall spending in health. Information system is essential for the efficient control of expenditure and the conduction of preventive/corrective actions in case of improper use of funds for medications. eBI-Medications is a system for business analysis and reporting that monitors the consumption of the prescription medications in pharmacies.

The eBI-Medications system analyzes the consumption of prescription medications by different dimensions and more than 60 different financial and natural indicators. Significant dimensions for analyzing data are divided in the following groups:

- Medications (generic/trade name)
- Manufacturers/Distributors
- Physicians/Teams/Practices/Facilities
- Diagnosis/Age groups/Residence

With everyday's collecting and analysis of data by the dimension of time, the system eBI-Medications enable monitoring of trends in the consumption of medications. On the image, which shows the consumption of medications during the season, is evident that the peak consumption is in February and March, while reduced during the summer months. With monitoring change of data in the target period, it is possible to monitor financial effects, as well as health indicators of the general population.

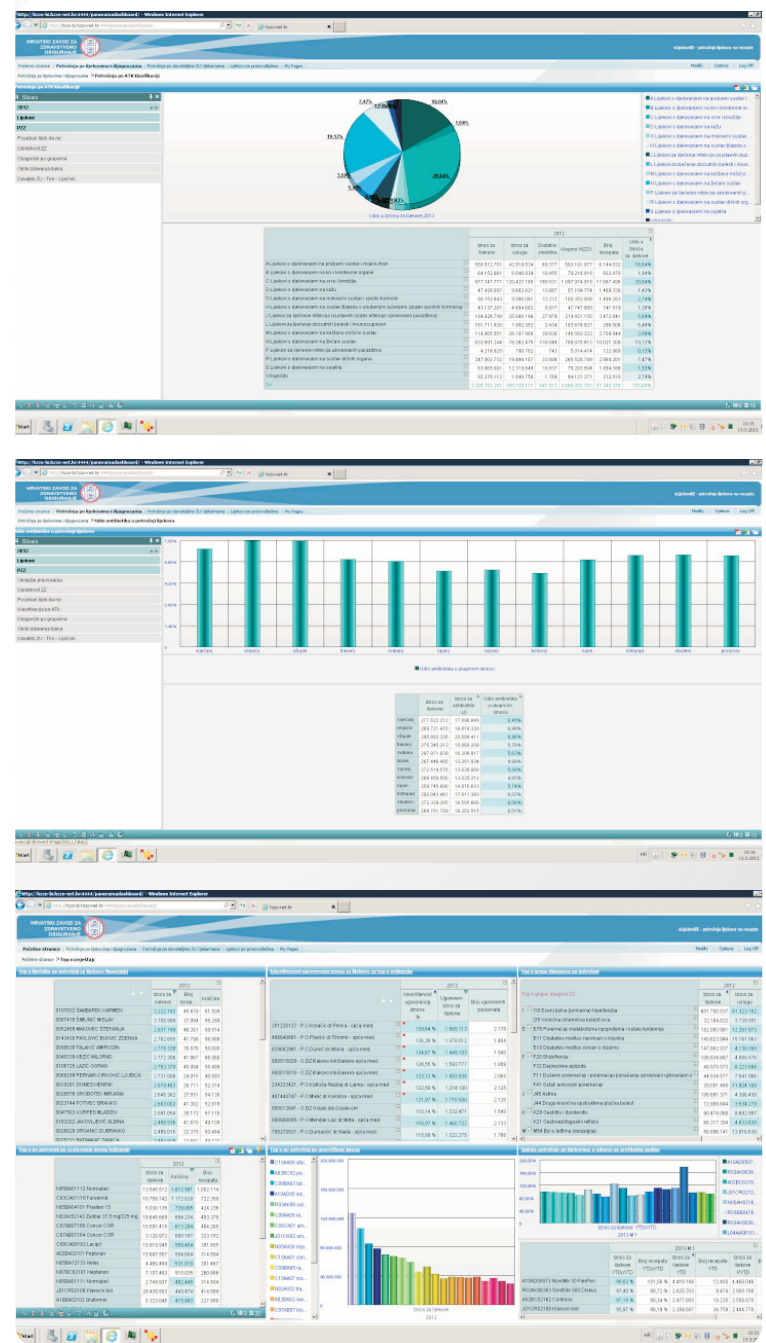
For the purpose of continuous monitoring of key trends is recommended to use a personal dashboard with daily updated reports and a group of key indicators. Each user has the ability to configure own set of key information. When detecting deviation, by selecting elements of a dashboard, opens a certain report with various types of analysis (drill down analyses, cross sections by new dimensions, sorting, labelling of extremes...). Each of the reports can be exported in standard formats (XLS, PDF...) and forwarded with mail to a competent person.

## Technology

Dana Warehouse was built on Microsoft development technology, while for the presentation layer can be used all existing tools for development of business intelligence systems. The image shows solution designed with Panorama systems. Quality analytical results can be also made with the advanced use of Microsoft Excel pivot tables.

**Key benefits:**

- complete control of the consumption of the prescription medications
- monitor of the financial effects, as well as indicators of trends of the general population health



# eContracting

Need for transparent and faster monitoring of contractual relationships between hospitals and insurance companies has resulted with development of eContracting - information system for creating on-line offers for health care. eContracting provides easy preparation and submission of the offers for healthcare facilities and monitoring of contracted health care services for the insurer.

## Contracting process in four steps

Medical facilities create an online offer for the upcoming contracting period and hands it over to the insurance company. The insurance company checks data compliance with the legal framework and evaluates the offer in accordance with its business policy and set objectives. If necessary the insurance company returns it for an update to the health facility. After the process of adjustment and achieving mutually acceptable conditions, the offer is officially submitted and represents the base for an agreement between the healthcare facility and the insurer.

## Detailed definition of the contract - at the level of employee and working hours

The contract between the health care facility and the insurer contains detailed list of health care professionals with the number of hours needed for providing provided service of certain site. The system eContracting controls that the weekly hours fund per worker is within the legally regulated framework. The contract implies so called "perfect week", with the possibility of detailed input of working hours per day and hours of service, provided at a certain site. Some operating schedules remain in the jurisdiction of medical institutions.

## Access to eContracting via Internet

eContracting is developed as a web application of the insurance company to which the health care facilities access through Internet browser, with the use of user name and password or via smart card (if such infrastructure exists). The system has the possibility of inputting list of site/employee/working hours prepared from XLS files for the purpose of verification or creating an appendix to the agreement and data transfer in the core business system after closure of the agreement.

## Key benefits:

- on-line preparation of offer
- offer on the level of healthcare team and working time
- process of preparing the offer is regulated in four steps

The screenshot displays the eContracting web application interface. The top section shows a search bar and navigation options. Below, a table lists offers with columns for 'Prijatelj', 'Svrha', 'Naziv', 'Opis usluge', 'Broj sati', 'Broj sati (dnevno vrijeme)', 'Broj djelatnika u timu', 'Broj bezvremena', and 'Status ponude'. The table contains several rows of data, including offers for 'Rijeka - Centar za hitnu medicinu' and 'Sušak - Centar za hitnu medicinu'. Below the table, there is a 'Početna stranica' (Home page) section with a list of navigation links: 'ePonude - unos u tijeku', 'ePonude - poslane u HZZO', 'ePonude - vraćene u obradu', 'ePonude - odobrene', 'Popis radilišta i djelatnika', 'Radna vremena radilišta', 'Djelatnosti sumarno', and 'Izvjestice po djelatnostima'. To the right of these links is a 'Broj ponuda za trenutnu i sljedeću godinu:' (Number of offers for current and next year) section, which displays statistics for 2013 and 2014 for 'unos u tijeku', 'poslane u HZZO', 'vraćene u obradu', and 'odobrene'.

## IN2 Group in healthcare

In portfolio of IT solutions for business support of health care facilities, IN2 Group has IBIS (Integral Hospital Information System) - complete solution for the informatization of hospital work and LabNet LIS - Laboratory Information System for the support of medical-biochemical laboratories. With IT solutions for the business support of hospitals, IN2 Group covers over 55 percent of healthcare market in Croatia. Solutions also include set of accompanied services necessary for the implementation of information systems in healthcare facilities as a "turnkey" solution: implementation of the system, consulting on business processes, integration, support and maintenance of the system throughout its lifecycle, delivery and installation of equipment.

## IT solutions for the business support of hospitals are:

- **IBIS** (Integral Hospital Information System) - complete solution for the business support of hospitals in all aspects of hospital operations: medical (managing medical documentation), economical (e.g. invoicing of medical services) and business (managing business records, standard ERP functionalities). IBIS represents: „System designed by the experience of the physicians, for the physicians“.
- **BioNET LIS** (Laboratory Information System) - group of applications for business support of medical-biochemical laboratories.

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