



## Digital prescription system in Estonia

# What is Digital Prescription?

One of four national „e-health“ projects.

- Digital health history
- Digital reception
- Digital picture
- Digital prescription

Digital prescription is electronic prescription of medicine, which will be issued by doctor through doctors PC. It will not be printed out on paper but will be sent to prescription center.

Digital prescription is valid maximum 180 days (triple prescription). Standard prescription is valid for 60 days.

- Project was initiated in 2005, when Ministry of Social Affairs created E-health foundation, with a task to create national health IT system. Main partners to develop the system was:
  - E-Health foundation
  - Estonian Health Insurance Fund
  - Hewlett–Packard OY Estonian branch
  - Microlink Estonia
  - Medisoft
- Microlink created IS platform, Medisoft created Digital reception, Hewlett Packard was responsible for Digital health history.
- According to director of Estonian Health Insurance Fund, Hannes Danilov, motivation of developers of the system was extremely hard, as there was significant lack of funds. Cost of the project was about 400 000 EUR which was really a small amount.

- To receive medicine from pharmacy, patient has to present valid document (ID, passport, driving licence..) to the pharmacist. Pharmacist will find necessary information from prescription center via presented ID code.
- To see this information, pharmacist has to be logged on to the system. In Estonia pharmacists ID card will be used to log on . Pharmacist are logged on during whole workday, which means they all have to have also valid ID card to work with prescriptions. Log on can be done through sales software (if its capable) or through “X-tee” web portal.
- Three types of Digital Prescriptions:
  - Private prescription - only patient can use the prescription
  - Delegated prescription – patient and nominated persons can use the prescription
  - Public prescription - anybody who will present valid ID and patients ID code can use the prescription
- So basically to use prescription all you need to know, is ID code of patient. If patient has several prescriptions issued, also some additional detail regarding prescription should be presented.

- What to gain?
  - Data will move fast without mistakes and loss.
  - Document is always readable (we all know handwriting of doctors...)
  - Doctors have access to all patients prescriptions, which will help to give diagnoses and avoid conflicts between different medicines.
  - Work of pharmacist will be simpler. Most of necessary data is already entered to the system – less manual work.
  - Chronically ill can have the prescriptions renewed without actually visiting a doctor. Telephone call will be enough.
- Any problems?
  - If system malfunctions, no drug can be sold. System is depends on internet connection. No connection – no sales. There is operator service through telephone, but when large scale connection problem occurs, those lines cannot service everybody.
  - Peak times, data traffic can be so high that system will be overloaded.
  - Psychologically elderly people do not want any changes, which means more work in the launching phase. (explanations, disputes ...)
  - When not visiting doctors so often anymore, more information has to be given by pharmacists.
  - People could lose track of the medicines that are issued to them, if they don't have physical reminder (paper) with them.

- Project launched 01.01.2010. In first month of the project doctors issued more than 300 000 prescriptions digitally. 70% of all pharmacies processed digital recipe during first month.
- In result the project faced lot of problems. First there was a lot of delays, when system was launched it was not stable. Servers crashed, people could not get their medicines as fast as expected.

According to mr. Danilov (chairman of Health Insurance Fund), prognosed quantities of prescriptions were correct but traffic of all the information was much higher than expected.

In general when doctors supported this project, pharmacists were against. They were afraid that people will not get their medicines on time and it will create problems between pharmacists and patients.

Also in the development phase was overlooked one important issue – service. Negotiations about servicing the system were held during whole 5 years and still continue.

Additional issue that was not solved was the question regarding Media and PR. Who should communicate with Press? In the end Ministry of Social Affairs took this part.

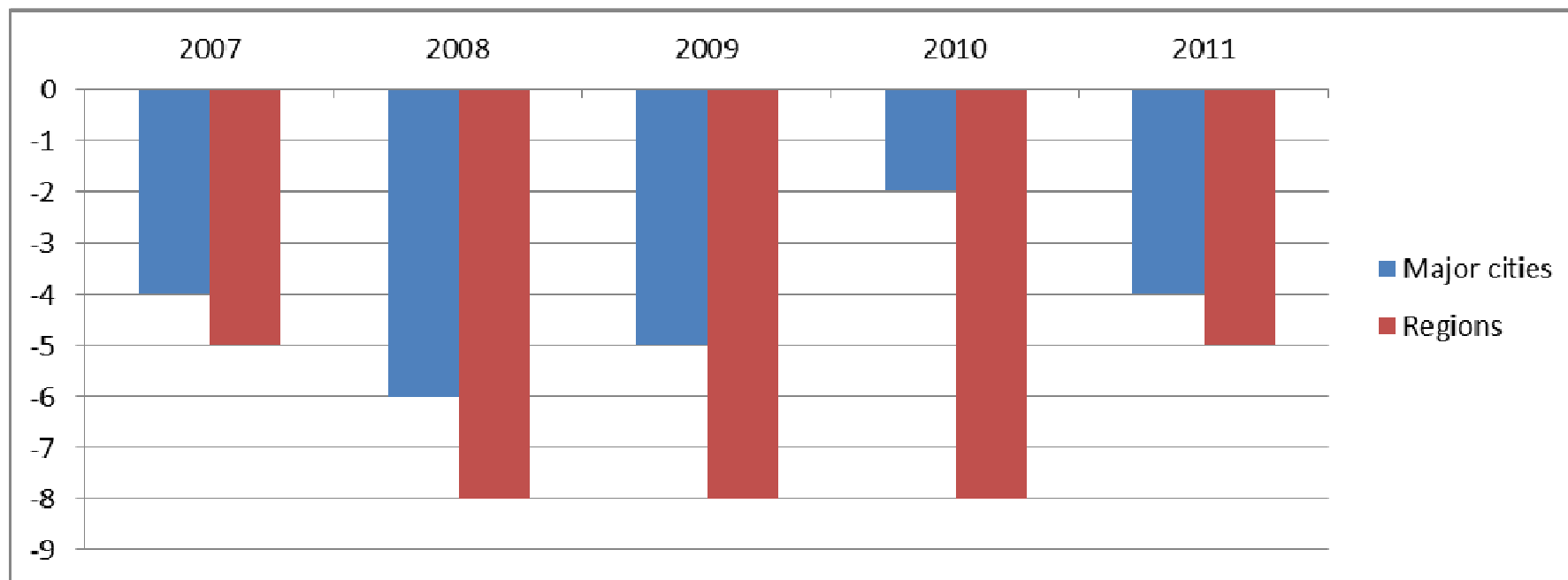
Every pharmacy in Estonia have a Internet connection. This is must. According to “State agency of Medicines” no pharmacies were closed due “Digirecipe project” .

# Pharmacies qty in Estonia 2006-2011

Reg Pharmacies qty	2006	2007	2008	2009	2010	2011
Tallinn	139	133	127	126	126	124
Tartu	51	51	50	46	44	43
Narva	17	19	20	20	20	19
Pärnumaa	41	40	39	38	38	39
Harjumaa	35	35	34	34	34	36
Ida-Virumaa	38	39	38	37	37	36
Viljandimaa	32	28	27	24	23	23
Tartumaa	24	24	24	25	25	25
Lääne-Virumaa	22	22	23	24	24	24
Võrumaa	20	20	19	17	16	14
Raplamaa	17	17	17	17	17	16
Saaremaa	16	16	16	15	15	14
Valgamaa	16	16	15	15	12	13
Jõgevamaa	14	13	12	12	12	12
Järvamaa	15	15	15	12	12	10
Läänemaa	15	16	13	13	11	10
Põlvamaa	14	13	14	14	13	12
Hiiumaa	6	6	6	7	7	7
<b>Reg Pharmacies</b>	<b>532</b>	<b>523</b>	<b>509</b>	<b>496</b>	<b>486</b>	<b>477</b>
	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>
<b>Reg. Pharmacies</b>	532	523	509	496	486	477
<b>Hospital Pharmacies</b>	29	29	29	28	26	26
<b>Veterinary Pharmacies</b>	11	10	8	7	7	7
<b>Total</b>	572	562	546	531	519	510
		-10	-16	-15	-12	-9

vs LY	2007	2008	2009	2010	2011
Tallinn	-6	-6	-1	0	-2
Tartu	0	-1	-4	-2	-1
Narva	2	1	0	0	-1
Pärnumaa	-1	-1	-1	0	1
Harjumaa	0	-1	0	0	2
Ida-Virumaa	1	-1	-1	0	-1
Viljandimaa	-4	-1	-3	-1	0
Tartumaa	0	0	1	0	0
Lääne-Virumaa	0	1	1	0	0
Võrumaa	0	-1	-2	-1	-2
Raplamaa	0	0	0	0	-1
Saaremaa	0	0	-1	0	-1
Valgamaa	0	-1	0	-3	1
Jõgevamaa	-1	-1	0	0	0
Järvamaa	0	0	-3	0	-2
Läänemaa	1	-3	0	-2	-1
Põlvamaa	-1	1	0	-1	-1
Hiiumaa	0	0	1	0	0
	<b>-9</b>	<b>-14</b>	<b>-13</b>	<b>-10</b>	<b>-9</b>
Major cities	-4	-6	-5	-2	-4
Regions	-5	-8	-8	-8	-5

# Change of pharmacies qty in Estonia



# Digital prescription is a disappointment!

On April 2010 , Estonian Prime minister Andrus Ansip announced that this project is a disappointment and accused that even funds might been used not accordingly...

He told: “For me the digital prescription is a big disappointment”, in the same time, he noticed that, yes the idea of the system is very good and helps patients.

Basically he told that system is good, but execution is poor.

“...If we start to punish people during launch of new systems, for the fact that launched systems will not work as good as expected, we will destroy willingness to develop”.

“... if there would be a possibility to create IT solution that will work from day one, I think whole world would order IT solutions from Estonia only...”

“it is very good idea, executed poorly, and we reached stage where partners point to each other for blame”.

On April 2010 also, Estonian IT and Telecommunication union gave out “prestigious award” “brake pedal of the year” – digital recipe did not win this “award”, but came really close.

## Pharmacists comments:

- Rushing: software was ready for testing only two months before launch.
- Lack of training. Pharmacies got only instructions in paper (5 sheets on paper)
- Connection problems
- Phone operator service cannot be reached.
- Problems with database, cant find reimbursed medicines

## Health Insurance Fund comments:

- Many different parties – different software creates smaller problems
- Low quality of registries – prices, codes, compensations
- Slow reaction from doctors and pharmacists – learning of the software started only after testperiod
- Insufficient information to public – people do not know that they need ID with photograph to get medicine.

On February 2011 best E-services of Estonia were selected. In “Health” category digital prescription system won.

Competition “Best E-service” is held according to European Union program “Acknowledgment of Informational Society” and is funded by European Regional Development Fund.

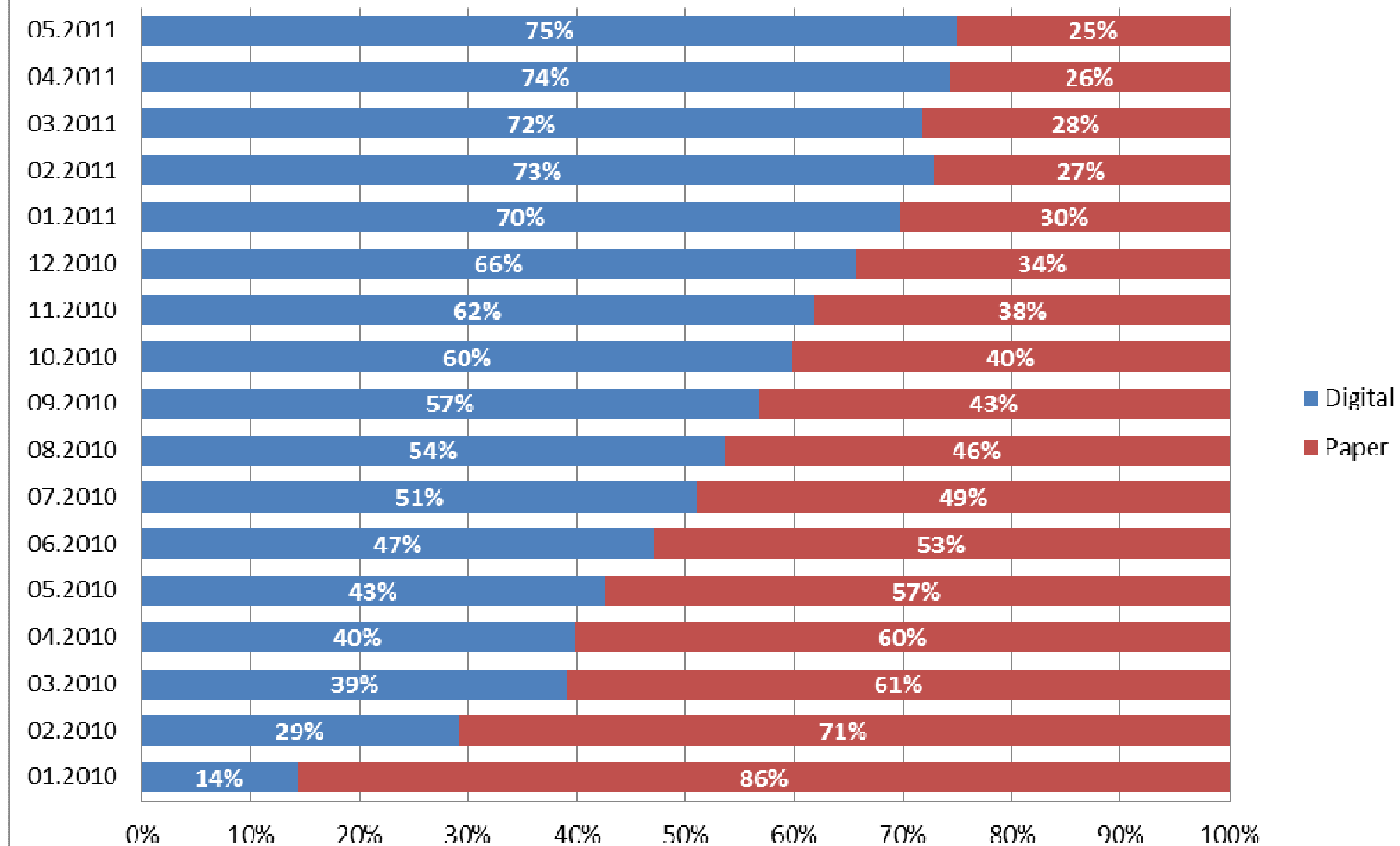
“Despite problems during launch, this e-service made patients and doctors life easier, and change fundamentally Estonian healthcare environment.” – Margus Püüa (Ministry of Economic Affairs and Communications).

“Digital recipe has changed life more comfortable and easier. Quick phone call to the doctor to renew prescription help save time of both (doctor and patient). Doctors have better overview, did patient really used the prescription that was issued. In summary this system helps to improve nations health”. - Hanno Pevkur. (Minister of Social affairs)

- Beginning was slow. We were lucky it happened in January, as January is one of the lowest months after December.
- System crashed almost every second day. Most definitely crash occurred on pension day. In pension day average sales is about 60% higher than in normal day. So about 11 o'clock system crashed. There was even public request not to buy prescription drugs necessary in the pension day.
- Pharmacists were kept in the dark. Nobody knew if the system is down or is it pharmacy programs fault. Helpline told that system is up... our IT director contacted HK IT director directly to find out what is going on. ...
- When digicenter is down there is a possibility to reserve prescription.
- Reimburse amount will be picked automatically according to drug, diagnose, and personal data (id code).

- There is a possibility in program, that pharmacist can print out all data of active prescriptions if patient asks. This was added to the program after 6 month operation. Not all pharmacies have this option.
- Paper prescriptions will be digitized in pharmacies from July 1<sup>st</sup>. until this day two kind of information was sent to Health Insurance Fund – directly digital and separate channel for paper data.
- There is no pressure towards doctors to go digital. There should be only certain cases to issue paper and in those cases the reason should be pointed out (as with issuing cheapest medicine)
- If there is a mistake in the prescription (doctors issue), pharmacy have to solve that. With papers, it was issue between HK and Doctor.

**Prescription usage in Euroapteek 01.2010 - 05.2011**



Digital recipe progress depends heavily on doctors. If doctors continue to issue paper recipes, no progress can be made.

Example „Lasnamäe tervisekeskus“ in Tallinn will not give out digital recipes and this will clearly show on our statistics:

	TALLINN																
	Õismäe		Kopli			Other regions				Mustamäe				Lasnamäe			
	Meelesj	Kullerku	Kopli	Sitsi	Telliskivi	Vabadus	Valdeku	Jakobso	Nomme	Liivaku	Siili	Vilde	Tammsa	Priisle	Pae	Ymera	Kotka
01.10	13%	12%				16%	13%	15%	22%	20%	17%	12%	12%	9%	11%	10%	
02.10	30%	30%				44%	23%	30%	34%	35%	30%	27%	28%	17%	22%	18%	
03.10	46%	49%				50%	34%	37%	48%	44%	44%	36%	39%	23%	28%	26%	
04.10	49%	51%				51%	28%	41%	48%	41%	41%	35%	39%	26%	30%	22%	
05.10	56%	56%				51%	32%	44%	48%	39%	43%	36%	43%	27%	32%	26%	24%
06.10	65%	63%				53%	41%	44%	56%	46%	51%	39%	48%	31%	39%	28%	24%
07.10	72%	71%				57%	42%	45%	60%	49%	55%	45%	54%	34%	42%	30%	34%
08.10	73%	76%				59%	45%	52%	63%	52%	55%	50%	57%	34%	42%	35%	38%
09.10	79%	74%			58%	64%	47%	55%	68%	58%	58%	52%	58%	40%	44%	34%	41%
10.10	84%	82%	65%	73%	65%	69%	51%	58%	69%	59%	62%	54%	62%	41%	48%	35%	45%
11.10	85%	81%	79%	77%	69%	70%	54%	56%	71%	60%	66%	56%	69%	42%	49%	39%	38%
12.10	88%	87%	81%	80%	71%	73%	56%	63%	75%	65%	67%	61%	70%	46%	54%	40%	45%
01.11	89%	85%	78%	81%	80%	74%	65%	70%	81%	70%	74%	67%	76%	51%	55%	45%	46%
02.11	90%	90%	84%	84%	83%	79%	71%	69%	81%	73%	75%	70%	78%	53%	58%	50%	57%
03.11	88%	90%	84%	79%	79%	73%	71%	72%	82%	73%	75%	68%	76%	53%	56%	48%	53%
04.11	93%	92%	82%	84%	86%	78%	71%	74%	85%	76%	78%	69%	78%	51%	61%	49%	56%
05.11	94%	91%	86%	87%	82%	79%	77%	76%	84%	78%	75%	74%	79%	52%	62%	49%	52%

What next?

System will be improved (stability, speed)

We should expect paper prescriptions will disappear in 5 years time

All paper prescriptions will be digitized in pharmacy ....

We expect 25% traffic to go up about 20-25% as all prescriptions has to be digitized. Digital Recipe workgroup ensures that servers capability is sufficient

...we all see that after July 1<sup>st</sup>.

- Technological base
- Fear of change
- Cooperation between all parties
- Prepare for communication
- Listen and react (change)
- We all gain – speed, accuracy, etc...

- Bankcards
- Mobile phones
- Internet availability
- ID cards
- E-elections
- Technological evolution