It is an open secret that in last decade the development and implementation of IT in our lives increased impressively. The medicine is not an exception. Health information technology (HIT) can be the real power when creating a convenient system that could make doctors work more efficient. But the thing is that even though this gives a chance to get to a new level in health care, the effective use of HIT depends on managing changes as much as it does on information management [1]. And health care has never been a sphere that could accept changes easily. The only way to succeed is to make a well-structured system with the most friendly graphical user interface (GUI) and clear visualization. The first condition is improved with the application of standards (ISO 13606) but the solution for an efficient clear visual layout is still being investigated.

The research deals with a concept of visualizing electronic health records (EHR). EHR is an in-patient card in digital format. EHRs can include a range of data: medical history, medication and allergies, previous visits to the physician, immunization status, laboratory test results, some personal information such as age, weight, billing information and so on. Each patient has its own medical history, each disease has different symptoms, required tests, methods of treatment, time bounds and so on. That is why medical data is quite difficult to visualize and its versatility must be reproduced. Medical data should:

- be well interpreted;
- be structured by standards;
- have clear interconnection.

The idea is to use a sort of mind map as a method of visualization. A mind map is a diagram used to represent words, ideas, tasks or other items linked to and arranged around a central idea. Mind maps are used to generate, visualize, structure and classify ideas, and as an aid to studying and organizing information, making decisions.

Mind map should give an ability to explore information about the patient in the convenient way.

![Fig.1. Mind map concept for HER](image-url)
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The archetype based on visual medical concept in XML format. The designer enables the user to add customization data to the visual concept. The generated view definitions will be stored as separate files allowing to reuse and share visual concepts. The second part creates a presentation layer and displays the data to the user based on the visual structure and on the data from the EHR.

The visual concepts can be combined into users’ profiles – sets of medical concepts with specific purposes (Figure 2). Doctors and patients with different needs will have the possibility to visualize different perspectives on the medical record. The presentation layer for doctor will provide a user-friendly data presentation using summary views and graphical charts.

Fig.2. Hierarchy of medical abstracts

For now this is only a project but prior to start its realization there are some questions that should be answered. First of all, the number of physicians who are ready to use the system should be counted since the realization could be very difficult and unprofitable. We think it is quite difficult to make changes in this sphere. The apparent certainty of the adoption of HIT needs to be constantly reexamined. There are some difficult questions left. One is whether the administration's current decentralized, market-based approach to promoting its spread will prove effectiveness in realizing the promise of HIT. The medicine informatics has actually not been developed yet in Russia. Therefore it is so difficult to talk about the implementation or even creation of this system.

A second question is if this systems aim is simplification and convenience for physician won’t it cause carelessness or light-mindedness. Since there is always a risk that physician seeing all the chronic diseases will have a temptation to relate new symptoms to some already found diseases. But we think that using the mind map could do more good than harm.

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SYSTEM FOR ASSESSING EXTERNAL INFLUENCES ON A HUMAN BODY

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The World Health Organization stresses that health technologies should be thoroughly evaluated prior to their widespread use. That’s why people need a system for assessing the external effects on a human body. For the convenience let’s examine a certain impact, for example, the source of such exposure is considered to be ultrasonic waves. Its negative impact is proven by experiments based on sampling. Our task is to assess ultrasound impact (or any other external impact) with the help of a non-invasive method.

Ultrasonic waves cause not only mechanical distortion of DNA but also field one. This means that the genetic program may be crashed: distorting fields will form damaged tissues so that a healthy body is not able to develop using them. The proposed system would be able to assess and prevent any external impact on a human body.

Although ultrasound is expensive, routine scanning is of doubtful usefulness, and the procedure has not yet been proved to be safe, this technology is widely used, and its use is increasing rapidly without control.

In the living human body the set of the so-called “essential” variables can be specified. They are closely related to each other, so that significant changes in any of them sooner or later lead to significant changes in other variables. They can