

Innovative Software “The System of Description, Recommendations and Statistics of Mammography Screening” (SORS-MS).

1. Description and Advantages to use SORS-MS in the Country.

The purpose of the SORS-MS is to improve the mammography screening procedure and improve the quality of diagnostics by processing, transmitting and receiving medical images and conducting telemedicine consultations in the public and private hospitals in the Country .

The System is an integrated platform for diagnostic and screening for Breast Cancer and it includes:

- quality control of diagnostics by introducing second and third independent opinions from other medical centers (Russia, Singapore, Germany, Cyprus etc.);
- educational program for primary care diagnosticians;
- medical decision support system through the introduction of a formalized protocol;
- automated exchange of information using telemedicine;
- standardization and formalization of reports in accordance with the protocol;
- telemedicine and a general data store for all clinics;
- statistical analysis of each workplace;
- educational process for laboratory assistants and radiologists at the workplaces.

Moreover, the formalized protocol ensures the improvement of the quality of the diagnostic service provided and, accordingly, the reputation of the public and private hospitals in the Country (QUICK and HIGH QUALITY) due to:

- 1) **QUICK!** Reducing the time of the description of the results of a diagnostic research. Templates, filling the fields by clicking the mouse - without typing on the keyboard. Due to the reduction of time for preparing a conclusion more attention can be paid to the patients.
- 2) **HIGH QUALITY!** Preparation of the conclusion in accordance with the international standards (a conclusion that is understandable to any qualified doctor and other diagnostician if the consultation is needed).

The Architecture of the SORS-MS consists of a technological core that supports a three-level (district - regional - federal) data exchange structure and access to a distributed research database, which, based on formalized protocols, provides an implementation of a decision support algorithm.

In addition, the System includes not only Mammography Protocol but also Ultrasound Protocol which shows:

- The volume of adipose Issue;
- Characteristics of ferrous compounds;
- The condition of the milky ducts;
- The density of the walls of dunks.

Third Opinion from Russia/Germany/ Singapore/Cyprus

Also, as an option it is available to establish direct connection with the Russian, Singaporean, German or Cypriot medical organization to organize consultations with the leading oncology experts who are dealing with more complex and complicated cases.

By using our software public and private hospitals will provide an independent audit of the services quality, statistical analysis, system automaton of doctor's work. It will allow directors of the public and private hospitals to a certain extent to reduce the risk of being too dependent on local personnel and will help them to gain a competitive advantage at the market of high-tech services provision.

Conclusion

The implementation of the SORS-MS will make it possible to organize screening in accordance with international standards, reduce the total budgetary expenditures of the Country for breast cancer treatment. The system can provide public and private medical organizations of the Country with technologies both for organizing the routine activities of radiologists and for any type of screening and early breast cancer diagnosis. The platform automates the activities of diagnostic specialists in accordance with international standards, transfers medical data from one hospital to another for analysis and storage in the archive and also provides the ability to evaluate the quality of screening at all stages - and all this remotely. The system allows the use of medical personnel (laboratory assistants, mammalogists) who are not highly qualified, as it allows the transfer of mammography images for a remote consultation, primarily to Russia, Germany, Singapore or Cyprus. Moreover, using the SORS-MS System, you can increase the detection rate of breast cancer, as a result of which woman mortality in the Country due to the breast cancer can be substantially reduced.

2. The work process of SORS-MS will be organized as follows:

1. A woman comes to one of the public or private hospitals to conduct a screening or diagnostics of a breast cancer.
2. The lab technician conducts mammography research.
3. The image goes to PACS (Picture Archiving and Communication System).
4. The doctor sees the images on two specialized monitors and he opens SORS-MS on the third medical monitor.
5. After opening SORS-MS he begins to describe the images. The description occurs in such a way that the doctor progressively opens each function tab proposed to him and clicks the mouse only at those points that are needed in this particular case.
6. After filling in all the necessary tabs the System automatically generates a stylistically correct protocol according to the international standard BI-RADS (Breast Imaging-Reporting and Data System). The System automatically gives recommendations for patient routing.
7. After the work on the protocol is completed the doctor sends the protocol and mammography images or some other additional information about the patient for a second opinion to another hospital in Algeria.
8. Another hospital receives a request for a second opinion and the doctors there begin to describe the pictures that were sent to them. After the description is over they send their protocol to the one who requested a second opinion.
9. After the System compares two protocols it shows where there are the discrepancies. In this case the images and two protocols are sent for a third opinion for example to the National Cancer Center named after N.N. Blokhin Russia Federation ore the German Oncology Center in Cyprus.
10. After receiving a third opinion from the National Cancer Center named after N.N. Blokhin Russia Federation or the German Oncology Center in Cyprus the doctor decides to diagnose the patient once again and gives him his opinion and final protocol .