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EUROPEAN PUBLIC HEALTH INFORMATION NETWORK FOR EASTERN EUROPE (EUPHIN- EAST)

Report on a WHO Meeting

Rome, Italy
11–13 October 1998

EUROPEAN HEALTH21 TARGET 19

RESEARCH AND KNOWLEDGE FOR HEALTH

By the year 2005, all Member States should have health research, information and communication systems that better support the acquisition, effective utilization, and dissemination of knowledge to support health for all

(Adopted by the WHO Regional Committee for Europe at its forty-eighth session, Copenhagen, September 1998)

ABSTRACT

In 1996, the European Commission and the WHO Regional Office for Europe began a two-year project to develop a European public health information network for eastern Europe (EUPHIN-EAST). This concerted action by 23 countries – 11 countries of central and eastern Europe and 12 newly independent states of the former USSR – is investigating the feasibility and applicability of a telecommunications network, which would link national health databases and make the data easily accessible to national and international users. The main objectives of the fourth EUPHIN-EAST meeting were: to provide participants with progress and management reports on the project; to evaluate progress in countries with regard to developing national health indicator databases (based on DPS software), their use and related training; to make final arrangements to distribute the EUPHIN-EAST servers to countries and to complete evaluation of the pilot network; to discuss issues related to the implementation plan and final report; and to discuss and plan further joint activities for continuation of the project.

Keywords

PUBLIC HEALTH
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Note: this report follows the order of the provisional agenda (INFO 02 05 01 1998/3), and not the chronological order of business at the meeting

Opening

Welcome

Mr A. Nanda opened the meeting and thanked the local organizers for the tremendous amount of work they had done. He also thanked Dr Iakovidis of the European Commission for participating in the meeting. Professor V. Egidi, Italian Statistical Institute (ISTAT), added her welcome and emphasized the importance of such meetings and of participation by countries in international collaborative work.

Election of chairperson and rapporteur

Mr Nanda was appointed chairperson, and Mr J. Halsall and Mr B. Loewe Nielsen joint rapporteurs.

Adoption of agenda and programme

The meeting adopted the provisional programme. Mr Nanda added that it was flexible, and could be changed over the course of the meeting to meet the needs of participants and the availability of speakers.

Progress report from management team

Mr Nanda briefly described the EUPHIN-EAST project with an explanation of its rationale and history. He encouraged participants to establish their own health information systems based on the concept of national integrated health information databases and said that complex state-of-the-art systems were not the only solution. The main thing is to develop working systems capable to ensure requirements for data collection, access and analysis. Finally, Mr Nanda summarized overall progress so far.

Dr Prokhorskas went through work packages 4 (National health indicator databases with software) and 5 (Database specifications for national servers), tracking progress and identifying problems.

Mr Loewe Nielsen briefly presented progress with work package 6 (building a pilot EUPHIN-EAST). He explained that technical problems had delayed this work package, but he hoped that in spite of this, it would be finished this year.

Mr Nanda described progress with the other work packages. Finally, he presented an overview of project finances to the meeting. Overall, there were no problems, and it was hoped to support training workshops. Money earmarked for support services would be spent implementing the pilot network.

Progress reports from countries

Participants summarized progress in their countries since the meeting in Kiev. A summary table outlining the main points of the country reports is in Annex 1.

In all participating countries national health service indicator (HSI) packages based on the HFA data presentation system (DPS) are available, although the extent of their distribution and use varies. Several participants demonstrated their countries' information systems to the meeting, including their most recent national health service indicator packages and national health databases.

In general, the HSI packages are widely disseminated and used in most of the 11 countries of central and eastern Europe (CCEE) which participated in the COPERNICUS Project. The HSI packages have been distributed or demonstrated to some extent in most of the newly independent states (NIS), often among potential users in the ministries of health and other national agencies.

A number of countries annually update and distribute their national DPS-based HSI packages, via the Internet.

Situation in the countries of central and eastern Europe (CCEE)

All countries are actively using national HSI packages with district division, and three countries are developing a version at the level of hospitals (Bulgaria, Lithuania and Romania).

New indicators have been added in four countries.

Lists of definitions of indicators had been prepared in five countries.

The national HSI packages have been translated into national languages. Complete translations are available in six countries and partial translations (titles of indicators and districts) in the remaining five countries.

Over 40 training seminars for users at various levels have been held in all CCEE. Other opportunities to demonstrate and publicize the HSIs have been taken or are planned, for example as part of the normal training of doctors, managers and nurses.

Several countries were working to update their HSI system to reflect changed or changing administrative boundaries.

Situation in the newly independent states (NIS)

The progress reports from the NIS showed that national DPS-based HSI demonstration versions at the *oblast* level were available in seven countries.

Countries of central Asia use a special WINDOWS version, partly in Russian. Other countries use a DOS version of DPS in Russian (the Republic of Moldova uses one in Romanian).

In the majority of these countries national HSI are only available in ministries of health, and have been demonstrated to national health authorities in the ministries and to national statistical agencies.

The DPS system could be more user-friendly for some tasks, for example some countries (particularly those with frequent administrative changes) experience difficulties when updating boundaries and incorporating them into a package of maps.

National training seminars for users had been planned for the last quarter of 1998 and the first half of 1999. All countries need financial support for such seminars and training materials in Russian or national languages.

Assessment of progress in developing national health information databases in NIS

Dr Prokhorskas summarized progress with EUPHIN-EAST in the NIS. He said that progress had been generally good, with the exception of one or two countries, but wanted to see further progress in the Russian Federation. He emphasized that further progress would require that participants ensure that within their routine budget allocations there was also an allocation for EUPHIN-EAST to sustain the work.

Dr Prokhorskas distributed teaching material written in Russian which had been developed by the Lithuanian Health Information Centre. NIS participants were asked for any further comments or suggestions which would be used to improve the documents before distributing the documents to NIS participants to use in training courses domestically.

Demonstration of EUPHIN-EAST pilot network

Mr Nanda introduced the demonstration of the presentation element of the pilot network. Mr Loewe Nielsen showed how to access the pilot network and how to use the various display options. The map, bar chart (nine countries) and time trend (five countries) options were demonstrated using the life expectancy indicator. By checking the "data source" box on the menu, the system could be asked to check remote national servers for more recent information.

Regarding the speed of the system, Mr Nanda explained that when the six servers are relocated to the countries implementing the complex solution, the system response time might be slower. However, the demonstration in Kiev had shown that response times from remote countries could still be quite fast. Mr Loewe Nielsen added that the first time it is used, the system takes longer while it downloads software; the second time is therefore quicker.

Mr Nanda explained that owing to illness, Mr Ib Vinther-Jorgensen (WHO Regional Adviser on Informatics Support) could not be present. Using Mr Jorgensen's slides, Mr Nanda presented the thinking behind the design of EUPHIN-EAST and its content. EUPHIN-EAST was designed to harness both the Internet and also national country-internets. An international server would be linked to national servers. All servers would be ODBC-compliant so as not to depend on particular application software. The international WHO server would contain a copy of national data. There was also scope for future developments: many of these products could be adapted for national use, so that regional or sectoral databases could feed a national database. Mr Nanda concluded that EUPHIN-EAST was based on a rational concept for Member State reporting; it is implementing a system based on distributed databases; it automates data replication at an international level and gives transparent access to data; and finally – and perhaps most importantly – it is modular and scalable and strengthens local responsibility and delegation of authority.

Responding to a question, Mr Loewe Nielsen explained that in the pilot phase, data will be automatically collected from each country server by WHO. Hereafter data will be validated manually and then the data (the complete database) will be replicated from the WHO server to

each country server. In a later phase it will also be possible to replicate data from country servers to the WHO server. This will be done together with automatic validation of data. Automatic validation will not be implemented without a period of both manual and automatic validation being carried out in parallel to ensure smooth and accurate operations. Both now and in future users will be able to access data and make simple queries from the EUPHIN-EAST website in Copenhagen. Furthermore, those countries with a country server have the possibility to access the complete database located on the country server and make complex queries.

Initial results of testing and evaluation of pilot network and planning of the final evaluation

Mr Loewe Nielsen described progress, explaining that technical problems had delayed some tasks including the finalization of the website design and the import module. The website has now been finalized. Also the import module converts ASCII files to SQL, performs simple validation checks, including format, and calculates some indicators. It was hoped to resolve bugs in the import module by the end of the month. Testing the software and the Internet connection had taken longer than expected, and there had been some delays by participants in supplying IP addresses. Mr Loewe Nielsen outlined the timetable for the remaining work.

The evaluation is in two parts: a user evaluation (the questionnaire had been sent out with the invitation to the meeting), and a pilot evaluation, which would be completed by the database managers in those countries taking part in the full pilot (implementing the “complex solution”). The pilot evaluation would cover installation and maintenance after one month.

Participants discussed the user evaluation. In one country several colleagues had already tested the website. Some of the questions on the evaluation questionnaire seemed to assume previous knowledge and use of the website, and it was agreed that Mr Loewe Nielsen would re-check the questionnaire for this, then e-mail it back to participants. It was agreed that the WHO team would make the questionnaire available on the website. Mr Nanda explained that the results of the user evaluation were needed to feed into the implementation plan, and participants were asked to complete the final version of the questionnaire and return it to Mr Loewe Nielsen by 27 October.

Planning the distribution of the six available servers to selected countries

Assessment of technical requirements in countries

Mr Loewe Nielsen described the technical requirements for countries participating “live” (i.e. implementing the full complex solution). The three requirements were: an efficient Internet connection; a server (either locally owned or one provided by the project); and a database manager.

So far, 11 countries had volunteered to implement the complex solution, which is participating live using a local EUPHIN-EAST server. Of these, eight countries had sent technical information in time to allow testing before the meeting. Mr Loewe Nielsen went on to describe the testing of the Internet connections. This consisted of a “ping” test for stability and speed, and a “trace” test to identify the pathway of the Internet connection. Two countries could provide their own local server for the EUPHIN-EAST pilot (Hungary and Poland). So far, eight countries met the

technical requirements for the complex solution (Azerbaijan, Czech Republic, Hungary, Poland, Russian Federation, Slovakia, Slovenia and Ukraine). Internet connection had been established recently in Kazakhstan but not tested. The list of countries implementing the complex solution was not closed. The WHO team would try to find solutions to the above problems for as many countries as possible so that the maximum number of countries could pilot local national servers and thus participate in the complex solution.

Training national staff to set up EUPHIN-EAST servers

The two remaining technical issues were server training and software. WHO proposed to hold a training session for database managers for two days or so in Copenhagen, possibly at the end of November, after the import module software was working properly. To understand the course, database managers would need a minimum understanding of English.

Before the workshop, WHO's role would be to get the software to work, and participants would need to find out detailed information about their server set-up.

The two locally-owned servers did not necessarily have the same software as the WHO servers and therefore the appropriate software would need to be provided by EUPHIN-EAST.

Distributing the available servers to selected countries

There was some discussion of how to transport the WHO servers to participating countries. It was proposed that the best way would be for the servers to travel with the database managers on their way home after the course. This approach had worked well in the past, but the WHO team should investigate other options as well.

Implementation plan for EUPHIN-EAST

Mr Nanda and Mr Halsall described the tasks for work-package 7, including the development of an implementation plan for realization of a common EUPHIN-EAST network which they presented to the meeting. The implementation plan is in five parts: political; resources; technical; use; and data.

Under *politics*, four areas of action were in the plan: to maintain ministerial support through briefing and assembling success stories; to overcome the problem of frequent staff changes among potential users through continuous publicity and training; to retain access to data sources by maintaining contact with the data suppliers and by having written agreements with them; and to promote evidence-based practice at both national and local levels.

The second part of the draft implementation plan was *resources*. The first part was to develop infrastructure through cooperation, by seeking funds for a permanent internet connection, and by sharing computer hardware. The other two parts were to seek funds to recruit and retain skilled staff, and to reduce the amount and level of technical support needed.

It was proposed that the *technical* aspects of the plan would be: to record and report problems to WHO; to fix the problems identified; to coordinate the merger of EUPHIN-EAST with the IDA HIEMS network; and eventually to replace the software when it becomes outdated.

Under *use*, the draft plan was to increase the number of people using EUPHIN-EAST, DPS, HFA, and indicators through promotion, publicity and training. Finally, the parts of the plan dealing with data were: to improve data quality by automating data processing and validation; to update data at least once every year; to keep data up to date; to update indicators to cover new developments (at international meetings); and to update maps to show the latest geographical boundaries.

Participants were asked how the plan could be made more useful to them, to help them to consult colleagues and data suppliers, and to try to get extra funds. The actions in the plan for participating countries were summarized as: to promote evidence-based practice; to promote and publicize DPS (to ministers, users and staff); to maintain good relations with data suppliers; to obtain a permanent internet link and a shared server; and to update data each year and distribute them to users.

Participants agreed to add an introduction to the implementation plan explaining the rationale for EUPHIN-EAST.

Final report and other aspects of the formal completion of the project

The project management team would write the final report of the project. Mr Nanda would approach the European Commission to ask for an extension to the EUPHIN-EAST project of six months to allow more time for the successful roll-out of the pilot network and its evaluation.

Modalities of further work and collaboration of project participants

Health telematics in Europe: prospects and challenges

Dr Iakovidis congratulated participants on the progress made during the project. In his presentation he aimed to explain the European Commission's work on health information and its plans for the next five years.

Health care everywhere is becoming more expensive. At the same time those who pay for it want costs to be controlled and reduced. The way to achieve this is by good management of health care which needs good information. Therefore there is a need for friendly, fast, inexpensive management information systems. He noted that the EUPHIN-EAST project fits closely into this strategy.

Over the next five years the information systems of health care institutions would be more coordinated and connected. The vision was of continuity of care across institutions and over the whole life of each person. At present, most people have one medical record with their family doctor, another at the hospital, and others in the minds of their relatives. The vision for the future is the individual person in the middle with health care institutions having access to that person's information if they give permission; that is, a distributed network. Therefore, EUPHIN-EAST was entirely in line with this strategy.

Very little is currently spent on health informatics in the European Union compared to the amount spent on health care. In developed countries, around 1% of health spending is on informatics, while banks in those countries spend ten times more than this on their information systems. The picture is changing, however, as spending on health care information systems is growing at 15% each year.

Dr Iakovidis outlined obstacles to the use and implementation of information technology. These are: technological; industrial (companies do not help to standardize classifications or formats); legal, especially the confidentiality and security of data (he noted the forthcoming EC directive on the protection of personal data); organizational and cultural, including the problem of repeated tests (doctors are penalized for trusting other doctors' test results) and loss of information; user acceptance – many hospitals have several separate information systems (often with different software in each), for example separate administration, insurance, and clinical systems; and lack of national and regional strategies. Dr Iakovidis cited a national strategy in Germany, whereby everyone will have a smart card containing information about their health insurance, as an example of a helpful national strategy.

Over the next five years, the Commission's current projects on health telematics and information technology will be brought together under a single umbrella called Information Society Technologies in the field of Health. Work will focus in 1999 on three areas: (i) personal health systems, targeting systems for citizens, (ii) systems for health professionals – advance diagnostic and educational systems as well as integrated electronic health record systems, and (iii) advance telemedicine systems – targeting special systems and protocols to provide access to care to point of need. This would be achieved by monitoring patients at home and by advising them how to live at home, for example through interactive TV and video-telephony. Three Directorates-General (DG) at the European Commission are involved in work on informatics for health care: DG13 (Telecoms and Exploitation of Research); DG5 (Social Affairs, including public health); DG3 (Industry, which includes the IDA office).

Dr Iakovidis summarized his remarks by saying that the EUPHIN-EAST project is in concept one of the best examples of what the EC wants to do in future, especially in the use of distributed databases. It is the only project with so many partners, and it is crucial that the project shows results now, especially in the NIS who will need to argue for more resources country by country. Some countries in EUPHIN-EAST will join the European Union at some time in the future, so good results in EUPHIN-EAST will give those countries a head-start in IDA. This fact can be used to argue for resources to support further work.

Dr Iakovidis urged participants to start disseminating their work now in their own countries, and to market it to their regions and hospitals.

During the following discussion, Dr Iakovidis went on to explain that in his view, to get the best results hospital information systems need to deal with clinical information as well. So far only a few hospitals have achieved this, and its impact has not yet been evaluated. This type of system takes between six and ten years to implement. The meeting discussed the feasibility of a phased approach to developing such systems: Dr Iakovidis suggested that a good place to start is to implement information systems for laboratory data and drugs.

Modalities of further work and collaboration of project participants

Dr Prokhorskas opened the discussion by proposing that future work should be organized in sub-groups. This would overcome two problems: the inefficiency of big meetings, and differences between countries in their stage of development and main concerns. He suggested that this meeting should identify tasks and form sub-groups.

Tasks proposed by participants were: international subnational comparisons, especially comparing adjacent districts across international borders; ICD10; a technical group to work on the software; further work to develop national health databases; and work to use the DPS to

compare hospitals. Participants said that they had found discussions at international meetings very helpful in their work, through sharing views and experiences.

There was a call for technical advice from WHO about issues like small numbers and standardization. Dr Prokhorskas said that if there was a consensus on the need for meetings of this type funds and if were available, WHO could organize them.

ICD10 is outside the scope of EUPHIN-EAST. There were plans for an ICD10 course in the future similar to the one held in Moscow in November 1997.

Mr Nanda said it is very important to ensure that the DPS is used, especially in the NIS. There are many opportunities to promote the DPS, for example by showing it at meetings of regions and doctors. The way to do this is to approach the organizers and ask for the opportunity to give a demonstration. Mr Nanda described how he and his team demonstrate participants' versions of the DPS to health ministers from participating countries when they visit the WHO office in Copenhagen. The ministers are urged during this demonstration to have the national DPS on their desk, and to ask for a presentation from the national teams on return to their countries.

He emphasized that all countries are in the project, and that there was still the opportunity to join the pilot network when each country was ready. He suggested that work on subnational international comparisons was best for neighbouring countries who want to do this, and he referred to work of his kind which had been done by the central Asian republics.

There was no immediate prospect of funds to continue this project. Participants could perhaps obtain funds locally for their own country, for example through PHARE. WHO would be happy to help them to do this, but it was up to participants to approach potential sponsors to begin with. Joint proposals by several countries were also feasible.

Mr Nanda summarized his comments by saying that the intention was not to stop bigger meetings, but only to have them less often and in future to do detailed work in smaller groups.

Presentation of EUPHIN-EAST in the joint ECE/WHO meeting on health statistics

The presentation and demonstration described above were to be repeated at the joint ECE/WHO meeting on health statistics later in the week. Mr Nanda asked participants for feedback about how to refine the presentation and demonstration.

Conclusion and immediate tasks

Immediate tasks

Mr Nanda summarized the immediate tasks. By 27 October all participating countries should:

- return the completed user evaluation questionnaire to Mr Loewe Nielsen;
- send suggestions on the implementation plan to Mr Nanda;
- review the DPS training material written in Russian and send any comments to Dr Prokhorskas.

By December they should:

- develop a usable version of the national DPS;
- prepare extra material for training seminars of local managers;
- translate material into the national language, if necessary;
- plan and run the first training seminar, and inform WHO of the date (money is set aside for this in participants' budgets);
- send any DPS success stories to Dr Prokhorskas.

Volunteers for the complex solution should:

- send the name and contact address of their database manager to Mr Loewe Nielsen by 27 October;
- send details of their server environment to Mr Loewe Nielsen.

The WHO project support team should:

- revise the website evaluation survey and e-mail it to participants;
- add the user evaluation form to the website;
- circulate the presentation slides to participants in powerpoint format;
- arrange a workshop for database managers;
- decide how to transport servers to countries in the complex solution;
- ask the EC for an extension to the project and, if it is granted, check when money needs to be spent by;
- write and circulate a report of the meeting;
- write the implementation plan on the basis of the evaluation and participants' comments;
- circulate financial statements to participants;
- write the final project report and submit it to the EC;
- produce a final cost statement.

Closure of the meeting

Dr Asvall, WHO Regional Director for Europe, addressed the meeting. He noted that this important project was now finishing and hoped that the work would continue. In the next century the emphasis will be on human development, both quality of life and a civilized society, so health and wealth will be high on the agenda. Information is an indispensable resource for improving health. Our work is to steadily improve information for politicians, managers and individuals. It will also be important to help users to understand data and the messages in them and what action to take.

Dr Asvall pointed out that when the HFA targets were first presented, there had not been an immediate consensus. Today the situation is different. Three weeks previously, 51 Member States had adopted an update of the European Health For All policy. This is not a one-off but a dynamic, living and continuously updated policy to help Member States formulate their own HFA policies – the next update will be in 2005. Health For All is based on scientific evidence of problems and strategies. Targets and indicators are used to measure progress, and evaluations to

check progress and learn lessons. Participants in the EUPHIN-EAST project are key people to help their countries to access the European knowledge base. Health information systems needed to be improved in all countries and Dr Asvall was pleased that with the EU, WHO had started a project on European standards for health interview surveys. This will support systematic data collection and comparisons.

Dr Asvall had just come from Munich, where WHO, the EC and the European Science Foundation had met for the first time to improve health research in Europe. An expert group had been set up for three years. In 1999 there would be a cross-sectoral conference in London for ministers about how to improve environmental health in Europe over the next five years.

EUPHIN-EAST is another example of cooperation with the EC. Dr Asvall said he knew that the European Commission viewed this project very positively. WHO would take up with the EV how this work could somehow be continued. He looked forward to closer cooperation with the EC in future, especially in this area.

Dr Asvall referred to the appointment of a new Director General of WHO in Geneva. WHO headquarters was being reorganized, and was now working more closely with the Regional Offices. Work was also starting in new directions.

Dr Asvall expressed confidence about the future. He looked forward to increasing cooperation with Member States in among the CCEE and NIS, and more sensible cooperation between major organizations in health.

He finished by saying he was pleased with progress in this project, and thanking participants for their efforts in spite of problems of equipment and money.

Mr Nanda thanked Dr Asvall. He said that the main point is that although this project was ending, the activity would continue.

During questions and discussion, Dr Asvall was asked if WHO could fund future activity, and if he would consider this project alongside other WHO projects. Dr Asvall asked what kinds of activity it would be most useful to continue. He could speak to ministers to help get over specific problems, and was sure that Mr Nanda would explore with the EC whether the project could be continued in another way, perhaps with another emphasis. Other potential sources of funds were PHARE and special funds for accession countries (to the European Union). For specific problems bilateral aid might be an option, especially if it was linked to overall development. WHO funds would depend on details of work and price, and the first stage would be to agree a sensible continuation of activities. Dr Asvall said he could use a meeting on Health For All in Brussels next month to discuss these issues.

Mr Nanda thanked Dr Asvall again and summarized that according to the group's earlier discussions the aim in future (at least for 1999) would be one meeting each year. Sub-groups would develop methods and tools. There would be individual support to some countries, especially on equipment.

Annex 1

SUMMARY TABLE OF NATIONAL HEALTH SERVICE INDICATOR PRESENTATION SOFTWARE SYSTEM

A. COUNTRIES OF CENTRAL AND EASTERN EUROPE (CCEE)

Major points of country reports	Albania	Bulgaria	Czech Republic
Did you have one package or several versions (for regions, for hospitals or other special version of DPS)?	One	Two versions: one for regions and another for central regional hospitals.	One (for district level).
How many indicators are present in national DPS?	116 for 1993 60 for 1994–1997	560 at regional level 340 at hospital level	Over 500
What kind of improvements were made (new indicators added? definitions of indicators prepared?)	No progress has been made due to unstable situation in Albania.	Have prepared a book of health care indicator definitions.	All data in DPS was verified. New indicators were added at request of users, mostly for social care. Definitions of indicators included in national DPS.
For how many of the previous years the data are loaded in DPS?	1993–1994 working on 1995–1997	1989–1997	1970–1997
What version of DPS is used? DOS or WINDOWS? in what language?		Both, in national language.	WINDOWS, in national language.
Did you update data manually or by using automated import from national health database?		Source data are entered manually in EXCEL. Calculation of indicators is automatic, and then indicators are imported into DPS automatically.	Most data are imported. A few indicators are entered manually. Both options use EXCEL as an intermediate software.
How frequently do you update and distribute national health database?		Annually.	Twice a year – in June and October.
How many copies are distributed usually?	Ministry of Health, Centre of Hospitals, Institute of Public Health, INSTAT, insurance institutes, hospital, international agencies	40, regional health centres, medical universities, national health centres, major hospitals.	Ministry of Health, Members of Parliament, hospital directors, medical faculty of universities, individual physicians, available from Ministry Intranet, and Internet.
How many potential users of national DPS?			
National seminars in 1997–1998 years (How many? Dates? Who took part? Were new training materials prepared?)		One, 9–12 Dec. 1997, 75 participants including Representatives of Ministry of Health and two representatives from each region. Next seminar December 1998	Special survey of districts was conducted, seminar for 27 respondents was organized (24.04.1998) and new version of national DPS was distributed. DPS included in many university courses, including postgraduate courses for physicians and health service managers.
The plans for further development, expansion, regular updating and distribution of DPS?	Working to update the DPS to include 1997 data by the end of 1998.	Improvement of the list of indicators; inclusion of definitions of indicators into the package; complete automation of import of the indicators from routine medical statistical reports.	Special version of DPS for Prague (13 districts); two-level national DPS for new administrative division (14 regions and 85 districts in 2000); improvement of presentation of DPS via Internet; development of the list of indicators for intercountry comparisons.
Direct access to Internet? (IP address)		No	Yes, (IP 193.179.152.1).
Do you have hardware and software appropriate for establishing national server?		Server with installed WINDOWS NT 4.0 and Microsoft SQL Server 6.5.	Server COMPAQ Pro Signia 200, OS NetWare, BDS/OS 3.0, Netscape Navigator.
Do you have the qualified personnel?		Yes	Yes

Major points of country reports	Estonia	Hungary
Did you have one package or several versions (for regions, for hospitals or other special version of DPS)?	One version (for district level).	One version (for district level).
How many indicators are present in national DPS?	540	283
What kind of improvements were made (new indicators added? definitions of indicators prepared?)	80 indicators were added, new definitions (physicians, hospitals, etc.) were prepared.	New list of indicators was prepared. Some indicators were added in groups of efficiency and quality of care.
For how many of the previous years the data are loaded in DPS?	1989–1996	1990–1997
What version of DPS is used? DOS or WINDOWS? in what language?	Both. Group titles and indicator titles in national language, other (menu, help, etc.) in English.	WINDOWS, bilingual (national language and English).
Did you update data manually or by using automated import from national health database?	The data are entered manually by using FoxPro. Calculation of indicators is performed with EXCEL and then data are automatically imported into DPS.	Import by using MS EXCEL.
How frequently do you and distribute national health database?	Annually	Annually
How many copies are distributed usually?	400. Always distributed to Heads of district health administrations, staff of Ministry of Social affairs, university & medical colleges, County Physicians. Available via internet.	700, Ministry, Counties, Public Health Office, School of Public Health, Hospital managers, Municipality officials, medical university, available via Internet.
How many potential users of national DPS?	100	500
National seminars in 1997–1998 years (How many? Dates? Who took part? Were new training materials prepared?)	Three: 17–18.04.1997, 80 persons; 29–30.04 1997, 30 persons; 12.09.1997, 80 persons – staff of Ministry of Health, National Statistic Office, chief physicians of regions, scientists from the University of Tartu.	Included in courses at University Medical Schools.
The plans for further development, expansion, regular updating and distribution of DPS?	Difficulty to define future plans due to transfer of the Bureau of Medical Statistics from the Ministry of Health to the Ministry of Social Affairs, and reduction of staff. Want to add financial indicators.	Development of the DPS for regional level with support of World Bank project.
Direct access to Internet? (IP address)	No	Yes, (IP 193.225.15.190); The throughput of the channel is increased up to 128 Kbit.
Do you have hardware and software appropriate for establishing national server?	No	Adequate
Do you have the qualified personnel?		Yes

Major points of country reports	Latvia	Lithuania	Poland
Did you have one package or several versions (for regions, for hospitals or other special version of DPS)?	One	One, for regional level (It is planned to develop the separate version for hospitals).	One, for regional level.
How many indicators in national DPS?	800	1300	313 in eight groups
What kind of improvements were made (new indicators added? Definitions of indicators prepared?)	The drafts of national terminology and definitions of indicators were prepared.	The development of list of indicators for hospitals is in progress.	Detailed manual in national language distributed to users with the system.
For how many of the previous years the data are loaded in DPS?	1989–1997	1981–1997	1988–1996
What version of DPS is used? DOS or WINDOWS? On what language?	WINDOWS, in national language.	Both, DOS & WINDOWS, in national language.	DOS and WINDOWS, in English. Indicators in national language.
Did you update data manually or by using automated import from national health database?	Mixed: information from other sectors is entered manually.	Automated import.	Mostly automatic. Only a few indicators are entered manually.
How frequently do you and distribute national health database?	Annually	Annually, updated version is placed on FTP server.	Annually and upon request.
How many copies are distributed usually?	35. Ministry of Health, Districts, State Sickness Fund, State hospitals, Health Centres.	120 Ministry of Health, local health managers, University medical faculty, Institute of Public Health, students.	107 Chief Physicians, managers, Ministry, Medical Schools, District Medical statisticians.
How many potential users of national DPS?	150	160	
National seminars in 1997–1998 years (How many? Dates? Who took part? Were new training materials prepared?)	May 97 (21 people), Oct 97 (23 people) health managers and information specialists. Nov 1997 (160 persons) Annual meeting of health information specialists. Feb 98, April 98 (15 Medical academy students). Sept 98, Magister of Public Health course, 21 participants.	Three. December 1997 and January 1998: for heads at regional and municipal level (80 persons); for specialists of Public Health (20 persons); April 98 for staff of Ministry of Health (20 persons). New set of examples of the case studies was prepared.	October 1997; annual meeting of the regional medical statisticians. 7 May 1998; 24 persons, regional offices of medical statistics.
The plans for further development, expansion, regular updating and distribution of DPS?	Working with two sickness funds. Expect to add indicators on health finances and economics.	Development of the optimal list of indicators for three levels: national, regional and hospitals. New indicators on the costs of health services and on treatment rates will soon be possible using new finance data.	Development of a special environmental version of DPS and a two-level version in accordance with new regional division. Training seminar in first half of 1999.
Direct access to Internet? (IP address)	Is expected in the fourth quarter of 1998.		Yes, (IP 194.92.32.21).
Do you have hardware and software appropriate for establishing national server?	Yes		Yes for hardware. Not yet for software.
Do you have the qualified personnel?	Yes		Yes

Major points of country reports	Romania	Slovakia	Slovenia
Did you have one package or several versions (for regions, for hospitals or other special version of DPS)?	Four versions: one at district level only; the others include more levels: one for district and communes; one for district, hospital, and communes; one for country, district and communes. (3000 communes)	Two versions. One for old regional boundaries (1970–1995) and one for new regional divisions (1996).	One, for regional level.
How many indicators are present in national DPS?	700 for districts 30 for communes	160	176
What kind of improvements were made (new indicators added? definitions of indicators prepared?)	The programme menu and messages, titles of indicators and text of "Help" were translated into national language.	Version for new territorial division was developed. Several new indicators added. Work started on indicator definitions.	The special version for regions and definitions of indicators is planned for the end of 1998.
For how many of the previous years the data are loaded in DPS?	1981–1997	1970–1996	1988–1997
What version of DPS is used? DOS or WINDOWS? On what language?	DOS, in national language.	DOS & WINDOWS, front screen, titles of regions and indicators in national language, other – in English.	WINDOWS. Indicator names and definition in national language, prompts in English.
Did you update data manually or by using automated import from national health database?	Mostly automated import by using FoxPro package. Some manual.	Mixed.	Manually, automated import is being developed.
How frequently do you and distribute national health database?	Annually.	Annually.	Annually.
How many copies are distributed usually?	100 for all districts, Ministry of Health, National Centre of Health Statistics, National Institute of Informatics Research.	187 Ministry of Health, District Chief physicians, Hospital Directors, Outpatient clinics, Insurance companies, local public health institutes, leaders of national health promotion programme.	40 for participants of national seminars (including Regions) and for universities.
How many potential users of national DPS?	200–300	350	
National seminars in 1997–1998 years (How many? Dates? Who took part? Were new training materials prepared?)	12–13 June 1997, 30 representatives of regions, 5 representatives of Ministry of Health, 2 representatives of public health institutes. The DPS user-guide in national language was distributed.	28–29 April 1998, national seminar; 80 persons Regional seminars on 26, 28 May and 3 June 1998.	22. One-day workshops (10–30 people): Ministry of Health (3), Regions (9), Governmental Informational Centre (3), Central Statistical Office (2), Central Insurance Company (2), hospitals (3).
The plans for further development, expansion, regular updating and distribution of DPS?	Adding new indicators (environment and economic and social data); connection to national health database for automated data import; preparing the national definitions for number of indicators; plan to advertise DPS through other means eg national conference in health informatics	Improvement of quality of mortality data by implementation of the new death certificate and transition to ICD-10. Make a definitions file. Putting information about our DPS onto our web-site.	Agreement with Government Information Centre about telecommunication infrastructure; multi-language support (Slovenian, English, Italian and Hungarian). Further dissemination via congresses, meetings, academic courses.
Direct access to Internet? (IP address)	Is planned at end of 1998.	Yes, (IP 195.168.24.34).	Yes, (IP 193.2.236.10).
Do you have hardware and software appropriate for establishing national server?	It is planned to use NT server of National Centre of Health Statistics.	Have NT server and appropriate software.	SUN Sparc server 3000, 4xSMP, Oracle database.
Do you have the qualified personnel?	Yes	Yes	Yes

B. NEWLY INDEPENDENT STATES (NIS)

Major points of country reports	Armenia	Azerbaijan	Belarus	Georgia
How many indicators are present in national DPS?	List of indicators is being updated.	Same as HFA indicators 178	143	264
What are subnational divisions of data; i.e. how many regions/districts are presented?	11 regions and 37 districts.	65 regions and 13 city districts	6 oblasts and 118 regions.	15 regions (72 districts)
For how many of the previous years the data are loaded in DPS?	1996	1995–1997, work is in progress for data back to 1990	1980–1996	1995–1997.
Did you update data manually or by using automated import from national health database?	Manually	Both, manual and automatic import using special program	Automated import.	Automated
What version of DPS is used? DOS or WINDOWS?	DOS and WINDOWS.	DOS and WINDOWS	DOS	DOS and WINDOWS
What language is used (English, Russian or national)?		Preparation of the version in national language is in progress.		English (WINDOWS). National, English, Russian (DOS)
To whom in your country have you demonstrated or delivered DPS?	The chiefs of the Ministry of Health and regions.	Heads of Ministry of Health, Goskomstat, health departments of Baku and regions, etc.	The DPS has not been delivered to other organizations. National system was presented at the regional conferences in the whole country.	WHO Liaison Officer and Director of the National Centre for Disease Control World Bank experts, Department of Public Health
What main problems have you met in adaptation and development of the national version of DPS?	Problem with creation of the map, including regional and district divisions.	At the initial phase some problem with creation of the map with regional and district division.	Some initial problem with data import.	Problems with assessment of the population and preparation of the list of indicators. Problems printing from DOS version of DPS.
The plans for further development, expansion, regular updating and distribution of DPS?	Distribution together with the National Statistical Yearbook on floppy disk; improvement of the medical documentation.	Distribution together with the national Statistical yearbook on diskettes of CD.	Development of two level (region/district) national DPS. Seminars on DPS in the regions.	Implementation of the national DPS in the Ministry of Health and regional offices. Annual updates of DPS.
Provisional date of the first training seminar for the chiefs at national (Ministry of Health) and regional levels?		January 1999		Demonstration and training for regional managers in November.
Needs (training materials, for example, case book with examples in Russian, funding, etc.)?	Funding and training materials in Russian.	Funding and training materials in Russian.		Funding and training materials in Georgian or Russian.
Direct access to Internet? (IP address)	No	Yes, IP = 194.154.92.45	Yes	Yes
Do you have hardware and software appropriate for establishing national server?	No	Technical support desirable	It is planned to acquire this.	Dial lap connection, speed 33600, Netscape 3.0
Do you have the qualified personnel?	Yes	Yes	Yes	Yes

Major points of country reports	Kazakhstan	Kyrgyzstan	Republic of Moldova
How many indicators are present in national DPS?	234	Over 400	259 at country level and 73 – at district level.
What are subnational divisions of data; i.e. how many regions/districts are presented?	15 oblasts, Almaty and 157 regions (but data are loaded at oblast level only)	6 oblasts	4 cities and 40 regions. From 1.1.1999 a new administrative division will be established with 9 regions only.
For how many of the previous years the data are loaded in DPS?	1990–1997	1990–1997	1993–1997
Did you update data manually or by using automated import from national health database?	Automated import from the main national database.	Manually, the development of software for automated import is in progress.	Automated import is used for mortality data only.
What version of DPS is used? DOS or WINDOWS?	DOS, adaptation of Windows version in progress	WINDOWS (special version for the Central Asian countries).	DOS – for entering and editing data WINDOWS – for presentation.
What language is used (English, Russian or national)?	Russian	English and Russian	National Romanian
To whom in your country have you demonstrated or delivered DPS?	Staff of the Committee of Health, the Medical Insurance Fund and the Government. Package is placed on the server of Committee and is accessible by all staff.	The Ministry of Health and selected local health managers, National Statistical Office, Interstate (CAR) Committee for Economic cooperation. Surgical centre.	Staff of the Ministry of Health, chiefs of regional statistical offices and hospitals.
What main problems have you met in the adaptation and development of the national version of DPS?	Difficulties with using Russian language with the WINDOWS version of DPS.	Development of the list of indicators for districts.	Require additional capabilities for viewing availability of data.
The plans for further development, expansion, regular updating and distribution of DPS.	Enlargement of the indicators list; regular data updating; delivering DPS to regional offices.	Development of the common shared information system for the Ministry of Health, Social Fund and Medical Insurance Fund. Development of DPS and database for regions in 1999 after the reform of administrative subdivision of country is completed.	Loading data for the new administrative division of country; in-depth analysis of the selected issues, e.g. mortality, morbidity, resources; development of a special DPS adaptation together with Romanian colleagues, covering also neighboring regions in Romania.
Provisional date of the first training seminar for the chiefs at national (Ministry of Health) and regional levels?	First half of 1999. Seminars are planned in two phases – for national and regional administrators correspondingly.	April–May 1999	5 seminars (10–20 persons each) are planned. Funds needed.
Needs (training materials, for example, case book with examples in Russian, funding, etc.)?	Funding and computer equipment for regional offices.	Funding and training materials.	Funding and training materials in national language; Training for 2 staff members in WINDOWS NT and MS SQL Server.
Direct access to Internet? .(IP address)	Yes, since September 1998. Connection via satellite. Provider – REL.COM. IP: 195.82.12.40	No, funding problems.	Presently the Centre has the access to Internet via radiomodem.
Do you have hardware and software appropriate for establishing national server?	Standard computer P-166 and operating system Widows/NT	No	Yes, Pentium II-233 Mhz, RAM 32 Mb, Windows NT.
Do you have the qualified personnel?	Yes	Yes	Training course for 2 specialists is required.

Major points of country reports	Russian Federation	Tajikistan	Turkmenistan	Ukraine	Uzbekistan
How many indicators are present in national DPS?	Approximately 300	214	93	Approximately 700	107
What are subnational divisions of data; i.e. how many regions/districts are presented?	86? 80? 89? subjects of the Federation combined into 12 economic regions.	13 regions and 3 oblasts.	6 (5 oblasts and the capital).	25 oblasts and 2 cities	12 oblasts and Tashkent city.
For how many of the previous years are the data loaded in DPS?	1991–1996 but differs for different indicators.	1990–1996/97 for a part of indicators, rest from 1995.	1992–1996	1990–1997 but not for all indicators	1991–1997, for some indicators from 1980
Did you update data manually or by using automated import from national health database?	Manually or automatic from the main database using special programme.	Manually, development of automated import is in progress.	Manually	Data imported from the file which is prepared manually	Manually – appr.70%, the rest imported.
What version of DPS are used? DOS or WINDOWS?	Both DOS and WINDOWS.	DOS and WINDOWS.	Windows	DOS	WINDOWS (special version for the central Asian countries)
What language is used (English, Russian or national)?	Russian	Russian	Russian	Indicators in Russian	Russian
To whom in your country have you demonstrated or delivered DPS?	Meeting of the Council of Directors of Information Centres of Health Care (Feb. 1998). International Conference on Medical Informatics, Kiev, Jan. 1998. Package distributed to administrations of selected regions.	Staff of the Ministry of Health, specialists of National Statistical Office and Ministry of Environmental Protection, and international agencies.	Staff of Ministry of Health, Central Statistical Office, representatives of international organizations.	Management of the Ministry of Health, distributed to all regional centres of health statistics	Staff of the Ministry of Health, local offices of health statistics, other ministries, the Cabinet of Ministers.
What main problems have you met at adaptation and development of the national version of DPS?	Several minor technical problems. Lack of training materials in Russian to support use and distribution of the package.	Some technical issues are not described in Developer's manual in sufficient detail.	Lack of training in using DPS.	Some technical problems with data import and printing.	Lack of qualified programmers and manuals in Russian. Boundary changes.
The plans for further development, expansion, regular updating and distribution of DPS.	Further elaboration of indicators list. Demonstration and distribution to regions.	Enlargement of the indicator list up to 570, annual updating of main indicators and distribution.	Adding more indicators, distribution to regions.	Annual updating and use via Internet	Further development and updating. A version at region level.
Provisional date of the first training seminar for the chiefs at national (Ministry of Health) and regional levels?	1999	2 nd quarter of 1999.	November 1998.	2 nd quarter of 1999.	November 1998
Needs (training materials, e.g. case book with examples in Russian, funding, etc.)?	Training materials in Russian and financial support are needed.	Funding for seminars and training materials in Russian. Funds for computers.		Technical and financial support	Funding and training materials in Russian.
Direct access to Internet? (IP address)	Yes	No	No	Yes	No
Do you have hardware and software appropriate for establishing national server?		No	No	No	No
Do you have the qualified personnel?		No	No	Yes	No

Annex 2

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