

LRC Highlights July - September 2001

- Applications of Evidence-Based Practice
- LRC Outreach Into the Community
- LRCs as Health Promotion Centers
- Promoting LRC / Partner Sustainability
- Internet Consultations
- Communications And Information Exchange
- Application of Information Technology, Telemedicine, and Databases

Applications of Evidence-Based Practice

In June and July, an outbreak of Congo Crimean hemorrhagic fever occurred in the northern regions of Albania. A total of 8 cases were identified, with one of the patients being admitted to the Infections Disease Department of the University Hospital Center in Tirana, Albania. In order to have a wider view of the epidemiological situation in the region, the Hospital Center LRC conducted a search through the CDC and WHO weekly epidemiological update Web sites. Through these sites the staff learned that the outbreak was occurring on a larger scale, over 80 cases, in neighboring Kosovo. The LRC also conducted a literature review on Congo Crimean hemorrhagic fever to help in the treatment of the patient. The findings of this research as well as data drawn from the patient's clinical chart are being used to write a paper that will be presented at the Annual National Conference, which will be held in Tirana in October.

Beginning in February 2001, the Aerospace University Clinic in Kharkiv, Ukraine adopted diagnostic and treatment guidelines for acute bronchitis that were developed through the LRC at the Kharkiv Oblast Student Hospital. Since that time, the clinic staff observed positive results in the treatment of patients with acute bronchitis. Prior to the implementation of the new guidelines, physicians prescribed antibiotic therapy to 87.2% of patients diagnosed with acute bronchitis. Overall, 8.8% of all diagnosed patients were hospitalized, 84.6% of which were hospitalized unnecessarily. Based on the results of an expert evaluation of patient records six months later, physicians prescribed antibiotic therapy in 0.6% of cases, only when purulent sputum was present. There were no hospitalizations.

A Practice Standard Review on pharmacotherapy in smoking cessation, developed by the information coordinator and his colleagues at the Jessenius Faculty of Medicine, Comenius University in Martin, Slovakia, was published by the Bratislava Medical Journal (BMJ). BMJ is the oldest Slovak medical scientific journal, which is abstracted in the MEDLINE and PubMed databases. The article "Nicotine Replacement Therapy in Smoking Cessation" is available on the EurasiaHealth Web site at www.eurasiahealth.org/english/library/fullinfo.cfm?mdIID=1383

Staff at Central City Hospital in Dubna, Russia, developed a drug formulary based on evidence-based resources provided by the LRC at the Dubna Health Care Department. Since the formulary has been in use at the hospital, the administration has noted significant savings in its overall spending on medications. Use of the formulary has also enabled the hospital to provide more expensive medications for patients requiring them.

Following the completion of a Practice Standard Review on bacterial vaginosis, Schuche Rayon Hospital in Russia began to implement newly researched diagnostic methods into practice. The

hospital gynecologists have been following new treatment protocols as well. The hospital has strengthened its emphasis on preventive care, working with both healthy and affected patients.

Vladivostok Hospital #2 in Russia is introducing a new evidence-based practice to quickly identify myocardial infarction cases. According to a new study conducted at the Veterans Administration Health Care System in San Diego, California, nearly all myocardial infarctions can be rapidly identified within 90 minutes by serially measuring the serum concentrations of three cardiac proteins (American Journal of Cardiology 2001; 88:611-7). Current chest pain protocols generally rely on one or two markers, and it takes 8-12 hours until a heart attack is ruled out. The study researchers claim that the new strategy offers an efficient, cost effective method of evaluating chest pain and saves on health care costs.

The staff of the women's consultation clinic in Tomsk, Russia used the Internet at the Central Regional Hospital LRC to find resources on postpartum depression. The materials found on-line will be used to develop a questionnaire to reveal hidden postpartum depression among women who recently gave birth.

The LRC at the Dubna Health Care Department in Russia researched Russian-language materials for the city Home Care and Hospice programs. The materials included information about work with volunteers, cancer statistical data, nursing resources and patient education information. These materials were used for developing a policy on working with volunteers as well as for general educational purposes.

Obstetricians and gynecologists at the Riga City Maternity Hospital in Latvia are routinely applying evidence-based protocols made available through the LRC. For instance, when the physicians see green amniotic fluids, they begin suction directly from the head of the baby. This practice has improved overall hospital statistics, significantly reducing the number of severe cases of meconium aspirations.

Physicians from the University Hospital for Infectious Diseases in Zagreb, Croatia are developing guidelines for primary health care physicians. They hope to rationalize the amount of tests performed by microbiology laboratories and, subsequently, the amount of antibiotics prescribed to children suffering from various infectious diseases. These guidelines include a list of indications that warrant bacteriological analysis of pharyngeal or nasopharyngeal swab specimens, consequently reducing the number of lab tests performed unnecessarily.

Using the latest issue of the Cochrane Library CD-ROM, the LRC at the Odessa State Medical University in Ukraine translated abstracts from several reviews and made them available to the faculty and students in print and electronic formats. The LRC also prepared a brief manual on statistical methods most frequently used in scientific research.

The head of children's department at Schuche Rayon Hospital in Russia found an article on the Consilium Medicum Web site about the costs and effectiveness of available medications for iron deficiency among children. She was glad to receive information on dosages, iron content in various medications and gastrointestinal absorption locations, which would help department physicians to prescribe the most effective low-cost medications.

LRC Outreach Into the Community

The LRC at the Mir Kasimov Republican Hospital in Baku, Azerbaijan has implemented an effective model for outreach and the internal division of responsibilities. The partnership has set up a satellite LRC in the Sabirabad district to work with the refugee population. The Sabirabad LRC assigned an information coordinator, who has gone through training at the main LRC and now stays in contact through an e-mail connection. Within the main LRC at the Mir Kasimov Hospital, information coordinator responsibilities were divided among three people. One person works with medical resources and information requests, one conducts training and develops educational resources, and one coordinates all LRC activities and does reporting.

The Kyrgyz State Medical Academy in Bishkek, Kyrgyzstan, held an "Internet Day" for the students, which was organized and held at the LRC. The topic was "Your Personal Web Page." A week prior to the event, the LRC staff distributed a five-question survey on the topic of Web design. During the Internet Day, the information coordinator and her assistant discussed the survey answers, explained the basic concepts of Web design, and two students who have already developed sophisticated Web sites shared their experience and knowledge. The LRC staff is planning to organize future Internet Days focusing on CD-ROMs, Microsoft Power Point and Adobe PhotoShop.

In August, the Kazakh monthly journal "Densaulyk" (health) published an article about the LRC at the Almaty Medical College. Entitled "The Future in Computer Education," the article discussed the importance of information technologies in the professional training of nurses and talked about electronic textbooks on pedagogy, surgery and anatomy that were developed at the LRC.

The Municipal Government Office in Banska Bystrica, Slovakia is establishing a partnership with a local private hospital NOVAMED. The LRC at the Municipal Government Office will offer the hospital staff access to OVID as well as CD-ROM resources available at the center. Future plans also include computer and Internet training for the interested hospital staff. As a result of this collaboration, both institutions hope to develop and implement an Electronic Medical Record system.

LRCs as Health Promotion Centers

The LRC at the Mir Kasimov Republican Hospital in Baku, Azerbaijan, served as a resource for a group of hospital nurses who were planning to visit refugee camps in the Sadirabad region of Azerbaijan in an effort educate pregnant refugee women on healthy pregnancy and other preventive care measures. Using the Internet, the information coordinator helped the nurses to obtain and produce copies of several educational brochures on hypoglycemia, hyperglycemia, breastfeeding and mother's milk. Upon visiting the refugee camps, the nurses distributed the brochures as part of their health education programs.

Responding to a request for health promotion information, Natalia Puchkina, information coordinator from the Stavropol Krai Clinical Hospital in Russia found recently developed educational materials on viral hepatitis, Crimean hemorrhagic fever, botulism and rabies. These materials were adapted into wall posters, which patients can now read while waiting for their physician visits.

To reach the patients and the public outside the walls of her own institution, Tatyana Chernysheva, information coordinator at the Schuche Rayon Hospital in Russia came to an agreement with the editor of the local newspaper "Star" to collaborate in the area of health

promotion. The LRC will now have a regular column, through which the local population will learn about preventive health issues and about opportunities to find more health information at the Rayon Hospital LRC.

Having noticed an increase in intestinal infections among newborns, the staff at the Donetsk Hospital #25 in Ukraine turned to the LRC for an answer. An Internet search found a Web site, mama.ru, that featured journal articles on this topic. According to these sources, an increase in intestinal infections among newborns is explained by a premature switch from breastfeeding to baby formula. To deal with this problem at the hospital, the staff have organized two-hour training sessions, which are held once a week, for pregnant women on the issues of breastfeeding and the consequences of early switch to baby formula.

The LRC at the Municipal Government Office in Banska Bystica, Slovakia is cooperating with the Slovak Humanitarian Council on developing online and offline (CD-ROM) databases for the disabled called REHIS - Rehabilitation Information System. This system, which will cover all of Slovakia, will include databases of compensation equipment, law statutes, information on institutions working with the disabled and educational materials.

Promoting LRC / Partner Sustainability

The information coordinator from the Turkmen Regional Emergency Medical Services Center in Ashgabat developed a business plan for his institution that would make it self-sustainable. Among other provisions, the business plan argued that already existing LRC equipment, such as the computer, printer, copy and fax machines, is a valuable asset which would contribute to sustainability and reduce initial start-up costs for office equipment. In July, the Ashgabat City Health Department accepted this draft version of the statute, making the EMS center an autonomous financial institution affiliated with Tiz Komek Medical Center. According to the new provisions, the LRC will play an important role by developing, publishing and disseminating training manuals and educational brochures on EMS-related topics, which would be provided together with paid (or discounted) pre-hospital EMS training services to police, firefighters, flight attendants, emergency staff of energy and gas companies, etc. The LRC would also offer paid services for information searches, computer and Internet training, banner ads on the center's Web site and the development of information resources for other Web sites.

In July, an information services department was established at the Tallinn Central Hospital in Estonia. The hospital chief physician appointed seven staff to serve as information coordinators covering all hospital clinics and departments. Their duties are to work with staff on information requests and to monitor and update the hospital Web site. Department information coordinators also submit quarterly reports to the hospital information coordinator about their information and communication technology activities.

To provide greater access to the LRC's electronic resources, the information coordinator at the Central Medical Unit #15 in Snezhinsk, Russia created an LRC Library on the Unit's local area network. The Library includes articles, Internet bookmarks and other useful information-in "Read Only" format-that all medical staff at the institution can access. In addition to improving access to information resources, the creation of the Library on the LAN has helped to reduce the costs for Internet traffic. The LRC Library also includes a bulletin board with suggestions for physicians as well as comment forms for staff to make recommendations or contact the information coordinator.

The LRC at the Tbilisi State Medical University in Georgia is publishing the journal "Annals of Biomedical Research and Education". This officially registered publication is the main financial sustainability source for the LRC.

The LRC at the Joint City Hospital #6 in Baku, Azerbaijan offered paid Internet services to two individuals outside the hospital. The proceeds from these services were used to purchase CD-ROMs for the LRC.

Internet Consultations

Having heard about the LRC at the Astana Family Medicine Center "Demeu" in Kazakstan, a patient came to the center to help find treatment for her persistent health problems. The patient was complaining of poor appetite, nausea, lactose intolerance, dry mouth, headaches and stomachaches. This patient was consulted by a variety of health specialists in Astana who diagnosed her with acute gastritis. However, none of the prescribed treatment resulted in health improvement. When the patient, together with her primary health care physician, conducted an Internet search at the LRC, they found a gastroenterology specialist in Russia, who was available for teleconsultations. He responded to their information request the following day, suggesting that the patient might have functional dumping syndrome. After conducting additional tests, the suggested diagnosis was confirmed, and the patient was prescribed appropriate treatment for her condition.

Using the Internet, staff at the Donetsk Oblast Trauma Hospital in Ukraine conducted a teleconsultation for an occupational trauma case with colleagues from the Central Clinical Hospital in Yevpatoria, Ukraine. Clinical information and electronic versions of x-ray images were reviewed by the staff of the multiple trauma clinic, who diagnosed the patient with subcutaneous fracture and slight dislocation of the tibia. Staff also provided treatment recommendations for this patient, which helped reduce his hospital stay and rehabilitation period.

A family physician from the Astana Family Medicine Center "Demeu" in Kazakstan used e-mail at the LRC to help in diagnosing a patient. The physician sent a teleconsultation request to several mailing lists, asking for help with a patient who had been tentatively diagnosed with left lobar pneumonia. This patient had been receiving outpatient care for a long time, but he was not showing any signs of improvement. The physician received several responses from specialists in different countries who recommended additional clinical testing. Based on the results of these tests, the physician diagnosed the patient with lung cancer and chose an appropriate treatment course for this condition.

The Tallinn Central Hospital in Estonia recently admitted a pregnant patient with a very rare condition - hereditary angioneurotic edema. Its allergy-like attacks can result in suffocation and eventual death. Several days prior to this, Ferenc Szirko, gynecologist and information coordinator at the hospital, found a review called "Therapeutic Inhibition on the Complement System. Y2K Update" *Frontiers in Bioscience* 5, e63-81, September 1, 2000, which provides a lot of information about this disease and discusses treatment options. Dr. Szirko contacted the authors of the article at the Amsterdam University to try to find a solution for the treatment of this patient, whose rare condition is complicated by the pregnancy.

The LRC at the Kyrgyz State Medical Academy's Medical Center conducted a teleconsultation for a patient with rib chondrosarcoma and metastatic lesion of lungs and liver. The LRC consulted with specialists from the University of Kansas and staff from the department of bone oncology at

the Donetsk Research Institute of Traumatology and Orthopedics in Ukraine. The latter teleconsultation was organized through the LRC at the Donetsk Oblast Trauma Hospital. Ukrainian specialists recommended radiation therapy while American colleagues advocated surgical treatment. To resolve this case, the US partners from Kansas have sent several journal articles that would help Kyrgyz oncologists make the final decision in the course of treatment for this patient.

Physicians from the University Hospital for Infectious Diseases in Zagreb, Croatia are using the LRC's digital camera and other resources to conduct consultations with specialists from around the world. The physicians regularly save photographs and X-rays of various clinical conditions and use them for teaching purposes. They plan to create an infectious disease atlas and a new textbook on infectious diseases for students.

Communications And Information Exchange

In September, the LRCs at the Kharkiv Oblast Student Hospital in Ukraine and Minsk Polyclinic #36 in Belarus conducted two teleconferences for gynecologists at their institutions. During the first "meeting," specialists from both sides discussed the treatment of sexually transmitted infections, urogenital Chlamydia infection and toxoplasmosis in pregnant women. After exchanging resources on these and other topics through e-mail, the second teleconference focused on miscarriages and cervical erosion treatment, especially among adolescent girls.

The LRC at the L'viv Clinical Railway Hospital in Ukraine produces a "Medical Internet News" bulletin for the medical staff at the institution. The LRC staff research the content for the bulletins on-line and translate English-language materials using the Uaportal.com/Translator Web site. The LRC also helps research and develop presentations, such as immunodeficiency among children and the effect of pharmaceutical substances on biochemical blood content, for hospital-wide medical conferences.

The LRC at the Zadar General Hospital in Croatia helped the hospital neurosurgeon search the Internet and CD-ROMs for patented orthopedic devices. This neurosurgeon had invented a device to treat spinal injuries and conducted this search, which yielded no similar apparatuses, prior to submitting his invention to the patent office.

The staff at the L'viv Clinical Railway Hospital in Ukraine established e-mail contact with the participants of a rheumatology conference that was held in Ryazan, Russia. Several staff members participated in this conference, and following the event, used e-mail to discuss topics raised at the conference with their colleagues in other cities.

A medical equipment engineer at the Stavropol Krai Clinical Hospital in Russia used the LRC to research sterilization and washing equipment for the hospital. She found a Russian-based company that sells such equipment, which quickly and safely processes surgical equipment and laundry, saving the institution time and electricity.

Application of Information Technology, Telemedicine, and Databases

The LRC at the Municipal Government Office in Banska Bystrica, Slovakia developed an Information System for Social Work, ISSP, which includes online (Internet or Intranet) databases of social work records, references, and address books. The system is based on the Apache Web

server with MySQL database and PHP protocol support. Currently, the ISSP is used by ten employees working in the same office connected through a local area network. Future plans include the development of the ISSP in a way that would make all social work-related information and databases accessible to staff working outside the main office. This will coincide with the upcoming changes in the Slovak state public administration, when many social work offices will move down to the municipal level.