

# Managing Diabetes in Dubna

*By Barbara Ruben*

## Dubna's Diabetes School Teaches Self-Reliance

Blood-glucose monitoring. Insulin injections. Risks to eyesight. Renal and cardiovascular problems. Health care practitioners are well-versed in the day-to-day management of and complications from diabetes.

But to patients who are newly diagnosed, diabetes can present seemingly insurmountable challenges, ones so great that patients may ignore them until they are at great risk for costly and potentially life impairing complications.

To help educate patients, AIHA's partnership program between medical facilities in LaCrosse, WI and Dubna, Russia developed a diabetes school in Dubna in 1993 that is now serving as a model for similar efforts in the Moscow Oblast. Pharmaceutical manufacturer Eli Lilly and Co. has also joined the effort, donating insulin, glucose monitoring strips and office equipment. The Dubna Diabetes Education Center has educated more than 450 patients in diabetes self management using a multi-disciplinary approach.

Three endocrinologists, a pediatrician and an internal medicine physician volunteer part-time on Saturdays at the school. In addition, 60 Dubna nurses have been trained to help identify and refer for treatment the estimated 1,000 residents of Dubna (population 70,000) who are diabetic. The school offers six three-hour sessions for patients and their families on diet, accurate use of glucometers, physical exercise, treatment with insulin, hypoglycemia and hyperglycemia, and podiatric and ophthalmologic problems of diabetes. This holistic approach is the cornerstone of disease management, a strategy that draws together the numerous components of treating a patient. As patients learn to take more responsibility for managing their care, quality should rise and costs fall.

"We've adopted the philosophy that diabetes is not a disease, but a state of life," said Olga Tarasova, MD, chief physician at the Bolshaya Volga Hospital in Dubna. "This kind of shift in understanding cannot be bought with rubles or with dollars."

Community-wide outreach screening programs have grown rapidly over the last year. These include glucose testing for school children and workers in the city. In addition, the recently formed Diabetes Patient Association provides continuing education and psychological support to newly diagnosed diabetic patients and their families.

Since the school's opening, average insulin dose levels have declined 30 percent for Type I (insulin dependent) and 24.4 percent for Type II (non-insulin dependent) patients. The number of patients hospitalized with diabetes decreased by 60 percent, and costs associated with care for diabetic patients have been cut by 40 percent. In addition, the length of stay for those who were hospitalized was reduced from 33 to 23 days.

"The outcomes were so unexpected that everyone was impressed," Tarasova said.

Hospitals and insurance companies are particularly pleased with the reduction in costs due to the shorter time patients spend in the hospital, according to Sergei Ryabov, MD, chief of medical services for the city of Dubna. "But one thing that can't be evaluated by money is that the quality of life for patients went up. Due to education, patients take care of themselves," he said.

Dubna's success comes at a time when the incidence of diabetes is rising not just in Russia, but around the world. About 100 million people suffer from diabetes worldwide, according to the International Diabetes Federation. Nearly 16 million Americans have diabetes, up from 11 million in 1983. The disease rate has tripled in the US since 1958, in part due to the fact that the population is getting older and fatter, according to figures released by the National Institute of Diabetes and Digestive and Kidney Diseases in November 1995.

According to Vasily Donin, MD, chief of specialized care, Russian Ministry of Health in Russia, upwards of eight million people in Russia have been diagnosed with diabetes. But the number may be twice as high since many people with diabetes don't realize they have it as they don't recognize the meaning of such symptoms as unexplained thirst and frequent urination. The rates for diabetics dying of cardiovascular disease in Russia are twice as high as in industrialized nations. The blindness rate is 10 times higher.

Diabetes has been included as a primary area for US-Russian collaboration under the Gore-Chernomyrdin Health Committee, in which US vice president and the Russian prime minister have joined together to address illnesses of highest concern. Areas for cooperation under the program include implementation of sustainable programs in diabetes education and training to address both Type I and Type II diabetes in children and adults.

"Lack of education is as dangerous as the lack of insulin," said Kirsten Johansen, MD, DDS, director of quality of care and technologies with the World Health Organization/Europe. More education about diabetes could prevent 25,000 amputations and 10,000 cases of blindness in Europe annually, she said.

To help stem the growing incidence of diabetes, plans are underway to replicate Dubna's school in five areas within the Moscow region, two within the Moscow city limits and three others within the oblast. Education centers are planned for Balashikha, with a population of 170,000, including 2,550 diabetics; Krasnogorsk, with a population of 141,000, including 1,800 diabetics; and Dmitrov, with 1,400 diabetics and a population of 71,000.

Doctors and nurses at the school, as well as partners from LaCrosse, will train health care practitioners from the new education centers at the Dubna school. Corporate partner Eli Lilly will provide insulin and glucose testing strips to all the centers. Training is slated to start this winter. Partners will also be developing strategies for evaluating the program and outcomes as well as evaluating health educator skills.

In addition, the Russian Ministry of Health is considering setting up 15 similar schools throughout Russia.

"Dubna's school is the best possible model of this type of education," Donin said.