

death, environmental pollution features prominently in many parts of Russia. For example, in 1991 high levels of atmospheric pollution were recorded in the cities of Arkhangelsk, Amursk, Volgograd, Norilsk, Saratov, Gubakha, Bratsk, Volzhskii and Ust-Ilimsk, mainly due to the metallurgical, petrochemical, and woodworking industries.

The Soviet state has also left the terrifying legacy of contamination by radioactivity. In January 1992 it was officially stated that over 120 nuclear explosions had been conducted for so called peaceful purposes; over 20 occurred in the Volga basin and 12 in Yakutiya. The statement admitted that only fragmentary information exists about the serious radioactive contamination resulting from production of nuclear weapons in the "closed" cities of Chelyabinsk, Arzamas, Krasnoyarsk and Tomsk. Furthermore, it admitted ignorance about what is happening in the shallow waters of the Kara Sea, where the nuclear reactor of the vessel Lenin lies buried, and about other sites where nuclear waste was deposited.

The emerging trends in public health also seem frightening. For example, diseases linked to inadequate diet are increasing among children in the first year of life. The most widespread are those which were common during the war and immediately afterwards—serious rickets, diathesis and allergic dermatoses, stunted growth, functional disorders of the gastrointestinal system, and obesity. Even according to the official statistics, which ignore many symptoms previously categorised as diseases, only about one third of all infants remain healthy throughout their first year. In January 1992 the death rate for children under the age of 1 year was 9% higher than the figure for a year earlier. Neonatal mortality apparently started to rise from 1989.

As for disease-specific death rates, during 1980-90

mortality from malignant neoplasms rose from 163.5 to 191.8 per 100 000 population. Diseases of the circulatory system remain by far the largest cause of death and also help to explain the rising mortality. In 1980 they accounted for 579.5 deaths per 100 000 population but by 1990 the corresponding figure had jumped to 617.4.⁴

Immediate menace

It is the threat of major epidemics, however, that is likely to demand the most urgent response from the new minister. An outbreak of polio seems just waiting to happen. *Izvestiya* recently reported that in Moscow only 31% of children under 1 year had been immunised—and a case of the paralytic form had already been notified.

The advance of diphtheria is already alarming. In the first 10 months of 1992, 732 cases were reported in Moscow (twice as many as in the previous year). During that period diphtheria claimed the lives of 20 Muscovites, five of whom were children. In Vladivostok, at the other end of the country, 40 cases had been recorded since the start of the year—twice as many as in 1991. In Russia as a whole, there were 2717 cases and 77 deaths, almost half the dead being children.⁵ An appropriate conclusion would be that health ministers in the affluent West can and should give tangible help now.

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Lessons from Lithuania: rethinking public health training

Lucy Moore, Jennifer Dixon

Lithuania faces stark problems that are familiar to most countries in the former Soviet Union: high morbidity and mortality rates, pollution, an unstable economy, and rapid changes in the financing and organisation of health care. In this environment Moore and Dixon visited Kaunas Medical Academy to help identify how training in public health medicine could contribute towards improving the health of the population. Although over 200 hours are devoted to public health training for medical undergraduates, teaching is unfocused, fragmented, and includes little epidemiology—the core subject for public health physicians. Teaching is mainly through long lectures with few group discussions. Student participation and motivation are low. As well as recommending redesign of the curriculum, Moore and Dixon suggested training in teaching methods for teachers. They also suggested that postgraduate training in public health should begin and should be targeted at hospital managers, teaching staff, and existing public health physicians.

As the tiny Baltic state of Lithuania enters a third year of independence from the former Soviet Union its population faces overwhelming public health problems which are the legacy of the previous regime. As in western Europe, the major causes of mortality in Lithuania are cardiovascular disease, cancers, injuries, and poisonings.¹ But the prevalence of associated risk

factors and the incidence of premature death from these conditions are all much higher.

Lithuanians smoke more, drink more alcohol, eat a less balanced diet, and exercise less than their western European neighbours.¹ Pollution of air, soil, and water is greater, and an estimated 30% of the population are working in hazardous conditions.¹ Lithuania spends only 3.75% of its gross national product on health care per year (about 300 roubles, or £1, per head),² and despite the potential for primary care to control the demand for hospital services almost 75% of this budget is spent on inpatient care³ and less than 5% on preventative programmes.

More recently the devaluation of the rouble has led to sharply rising prices, increasing the costs of drugs and equipment, triggering staff demands for higher pay, and causing hospitals to run out of money. Policies introducing market forces into the health care system have caused further organisational turbulence. There are few people with the skills to manage such huge changes or to develop strategies to improve the health of the population.

Public health skills

In the United Kingdom concern about the management of public health problems led to the report by the Acheson committee in 1988.⁴ This report highlighted the importance of public health skills and set out

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BMJ 1993;306:911-4

recommendations to ensure that the future planning of health services was based on a population perspective. The essential public health skills identified by the committee included surveying the health of the population; developing and carrying out policies to promote and maintain health; evaluating health services; and managing resources effectively. Lithuanians recognise that these skills are needed urgently and that existing courses in public health are inadequate.

We were invited to Lithuania to identify how training in public health could be upgraded in Lithuania's two medical teaching institutions in Kaunas and Vilnius and to apply for the necessary funding from the European Community's TEMPUS programme (Trans-European Scheme for University Studies, a programme that provides aid to restructure higher education within eastern and central Europe).³ This paper outlines what we saw on our visit to Kaunas, the recommendations for change that we developed with staff from the medical academy, and our reflections on how this change can be achieved in a country undergoing such widespread upheaval.

The visit

Together with a colleague from the Netherlands, we visited Kaunas Medical Academy for five days in October 1992 and interviewed academic staff, observed teaching sessions, met students, and discussed our conclusions with staff. We also visited hospital managers at the 2500 bed teaching hospital in Kaunas. Although we did not visit the medical school in Vilnius, the training programme in public health is similar in both institutions.

Most doctors in Lithuania work in hospital clinical medicine with only a few in primary care, environmental health, and preventive programmes such as immunisation. Jobs with a public health focus are few, and, in contrast to clinical medicine, there is no defined path for those who want to pursue a career in public health. The practice of epidemiology is confined to the medical school, where the links between epidemiological research, health policy, and teaching programmes are tenuous. As a result, medical students have little opportunity to observe the application of public health skills in a practical or academic context and there are few incentives to consider a career in this specialty. Training in public health therefore has a low priority compared with clinical medicine, and the courses for undergraduate students of medicine, pharmacy, dentistry, and nursing do not inspire enthusiasm. There is no postgraduate training in these subjects.

Undergraduate teaching in public health

As in the United Kingdom, public health subjects are taught as part of the core undergraduate curriculum. Classes take place during the fourth and fifth years of the six year course in medicine. The public health course totals 200 hours of class work compared with less than 100 hours in the United Kingdom.

Although the broad content of the course is defined by the Lithuanian Ministry of Health, specific aims and objectives are not clearly defined to students or teachers. Three departments are responsible for teaching public health. The department of social medicine teaches the history of medicine; the organisation, financing, and management of health services; statistics; and health promotion. The department of hygiene covers environmental health and domestic hygiene. The clinical research centre teaches some epidemiology but has only a small share of the teaching hours available.

There are similarities in the content of the curriculum with public health courses for medical students in the United Kingdom, but there are some striking differences. The course emphasises the microbiological aspects of food hygiene, and more than 35 hours are spent teaching the history of medicine. In contrast, there is minimal teaching of epidemiology—identified by Acheson as the cornerstone of public health.⁴ There is also no teaching of medical sociology or the principles of evaluating health services and managing resources effectively. The curriculum also contains many seemingly disconnected topics, some being of questionable value both to us and members of staff. For example, the hygiene course teaches about appropriate levels of lighting at home and at work and the suitable design of chairs in schools. We observed one practical session where the students spent an afternoon learning how to fill in a sick leave certificate and another where students measured the nutritional content of meat and fish. Not surprisingly, no student told us they were considering a career in what they perceived as public health.

There is also considerable overlap within the course, possibly due to the limited contact between staff from different departments. For example, health promotion and disease prevention are both taught by two departments. There are no joint posts or rotations between departments and no evidence of collaborative work. Similarly, there is no integration of public health teaching with clinical subjects, despite the relative popularity of clinical medicine compared with public health.

Teaching methods—The aim of teaching seems to be to impart as much factual information as possible to students. Lectures are two hours long, and, even in the practical sessions we observed, students work alone and have little opportunity to discuss topics among themselves or present work to the class. The emphasis is on acquiring knowledge by absorbing facts rather than understanding principles. Part of this may be due to the lack of basic teaching aids. For example, textbooks and academic journals are scarce, out of date, and have to be shared among many. Photocopying facilities and overhead projectors are largely absent, and there is little or no access to computing facilities, including electronic search facilities such as bibliography databases on CD-ROM. Students therefore depend on the oral information given by teachers, and there is limited opportunity to develop an interest in a topic outside a taught course.

Internal politics

Some of the findings described above clearly result from lack of money and the longstanding restrictions in communication with countries outside eastern Europe. For similar reasons we found that the academy had internal cultural and organisational characteristics which would slow the pace and alter the nature of change. For example, teachers' and departments' income is related to the hours they teach, rather than quality of teaching, research work, or student satisfaction. This fact helped to explain why staff were anxious not to reduce their teaching hours and why creation of new courses or innovation in established ones had been slow.

Of the three departments responsible for undergraduate training in public health, the newest—the clinical research centre—had not been able to prise away teaching time from the other two departments. Yet the clinical research centre is the only department to undertake research focused on the important epidemiological issues such as cardiovascular disease and the only department participating in international collaborative projects such as MONICA.⁶ The staff in



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Political reform in Lithuania has led to a great enthusiasm for a market economy and the promotion of individualism

the research centre were creative and motivated but felt blocked by the system. This had led to a lack of trust between the three departments and thus a failure to collaborate.

Recommendations

To us and to those teaching public health within the academy it was clear that undergraduate training could be improved within the framework of development suggested by the TEMPUS programme. The particular health problems faced by Lithuanians could be addressed more specifically and the course made more attractive to undergraduates.

We agreed with staff at the academy that a new curriculum needed to be developed with its aims and objectives clearly defined. We suggested that there should be less emphasis on acquiring knowledge and more on understanding the principles and basic skills of public health practice as they apply to the population and health care system in Lithuania. These would include epidemiology, the determinants of health, communicable disease control, and health economics.

Teaching style needs to focus less on lecturing and more on encouraging students to participate and learn in small groups through solving problems and presenting and discussing work with peers. To complement this change in teaching style, we agreed that the basic teaching infrastructure needed to be upgraded with investment in library facilities (including subscriptions to key academic journals) and audiovisual aids, including overhead projectors.

To implement these changes, teachers within the medical academies will need advice on curriculum design and training in teaching methods. We agreed that staff should receive financial support to visit other European countries to experience different teaching methods in practice. Most importantly, the Lithuanians acknowledged that a strong leader would be required to challenge the status quo and support the necessary changes. We recommended that a lead person should be identified who would be responsible for the changes and that he or she must have existing authority in the academy and be respected by the staff of all three teaching departments.

POSTGRADUATE TRAINING

There is an obvious need to develop postgraduate training in public health since none is currently available. Since postgraduate training will use up scarce resources, it will be important to set priorities relating to who should receive training, what should be

taught, and what future employment is required. Without existing guidance from the Ministry of Health along the lines of the Acheson report in the United Kingdom this issue cannot be properly addressed.

For the immediate future, however, we agreed that a series of short courses should be run at the Kaunas Medical Academy specifically designed for doctors already working in areas where public health skills would be useful. Such courses might include epidemiology, health economics, management, and health care evaluation. The three groups of professionals whom we think should receive training as a priority are teaching staff, hospital managers, and doctors working in the community.

Teaching staff—The teaching staff are all medical graduates pursuing an academic career. They have had few opportunities to improve their knowledge of public health and none has received formal training in teaching methods. Staff members recognised the need to update their knowledge through postgraduate training and thought that this would help improve motivation among themselves and the students.

Hospital managers—The senior managers at the huge 2500 bed teaching hospital in Kaunas are all clinicians practising at the hospital. They described the problems facing all hospitals in Lithuania—namely, a sharp decline in income, considerable overstaffing, demands for higher pay from staff, and shortages of essential supplies such as drugs, bed linen, and even cleaning materials. Postgraduate training in public health may seem to be a low priority in the face of such immense and basic problems, but the managers identified an urgent need for training in management, health economics, and medical audit to help address these challenges.

Doctors working in the community—We were not able to visit doctors working in public health posts in the community or at ministry level. These physicians work directly on issues such as communicable disease control, preventive programmes, and national health policy. Their numbers are few, however, and it was not possible for us to identify a coherent group with a clear mission within the rapidly changing health sector. These doctors have an obvious potential to address public health and health policy problems; postgraduate training could help to bring coherence and a mission to this group and raise their status within the medical establishment. We agreed that this group should receive training as a priority.

Reflections

There is much that can be done to improve the health of the people of Lithuania, and the practice of public health medicine will be important in meeting this challenge. Training undergraduate and postgraduate doctors in public health skills will be an important step to make this happen.

Some of the problems in changing medical education and giving public health a higher priority are familiar in the United Kingdom and have been the subject of recent debate.⁷ However, the legacy of the old Soviet system is an environment where change is resisted and where creativity is viewed with suspicion. Unless these forces are overcome change will be slow even by United Kingdom standards.

More broadly, the reform of Lithuania's political system and the performance of the economy will play a central role in determining the future of health and health care. Political reform has led to a great enthusiasm for a market economy and the promotion of individualism. These forces may, however, run counter to the principles underlying public health, which may subsequently be a low priority for expendi-

ture in the future. While some of these potential problems have already been highlighted,⁸ the weakening economy is causing a sharp decline in living standards, mass unemployment, and continued dependence on heavily polluting industries. There is no sign that public health problems will decrease. In this environment the need for public health skills has never been greater.

We thank Dr Theo Miltenburg of the Institute of Applied Social Sciences, Nijmegen, Netherlands; all the staff at Kaunas Medical Academy who helped us gather information and ideas; and in particular Dr Zilvinas Padaiga and Professor Grabauskas for organising the trip. We also thank Dr Caroline Collier of the Department of Health for sponsoring the visit, North West Thames Regional Health Authority for its

support, and Drs M McKee and N Black for their comments on previous drafts of the paper.

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Advice to a Moscow children's hospital

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At the request of the largest children's hospital in Moscow, McKenzie and colleagues made recommendations for improving the service. Restrictions on visiting and fears of contracting illness from non-disposable needles have discouraged the local population from using the hospital. Consequently the hospital is underused and overstaffed. Serious shortages of drugs and surgical supplies compromise care. Fundamental changes are needed in nursing and postgraduate education. The authors encouraged their Russian colleagues to address the health care needs of their local population and to develop family centred care, and they offered training in London.

The Russian health care system faces enormous challenges.^{1,2} Although their scale is different, many of these challenges are no different from those confronting the West—identifying resources, collecting accurate data for planning, and training medical and nursing staff. Policy makers in Russia are advocating administrative and financial autonomy for public institutions. To support their application for such autonomy the Tushino Children's Hospital in Moscow had to identify a project which would improve the quality or range of services it has to offer. To help identify such a project the Tushino Hospital Charitable Trust in London invited us to visit Tushino for a week in September 1992.

We describe here the service at Tushino as we found it and explain our recommendations. Other missions to the former Soviet Union and eastern Europe may find our report helpful and those agencies supplying humanitarian aid may find some of our observations relevant. We chose the departments we wanted to visit and felt satisfied that these were representative. We visited them without difficulty.

Observations

Tushino Hospital has 1000 beds and was built on the outskirts of Moscow in the early 1980s. Its budget depends on bed occupancy. As this is only 40% it is an important determinant of the length of each child's stay, and lengths of stay are long. For example, a child with asthma stays on average 13 days.

The range of medical complaints was quite different from that in a children's hospital of comparable size in the West. Most of the patients we saw did not have

acute conditions. Other than the few who needed intensive care, we saw no child receiving oxygen and only one receiving intravenous fluids. During the week we saw only one child with respiratory disease. It was difficult to establish why many children were in hospital and what investigations were planned.

To discover where children with acute medical conditions were we visited a second of the four large Moscow children's hospitals, but only surgery and neonatology were practised there. It was at the local polyclinic that we heard how some of these children were cared for. Parents were unwilling for their children to be admitted to hospital because they would be separated from them and because they feared their children might acquire infections from needles. Thus their children were treated at home, which, the doctors thought, was often dangerous. The doctors at the polyclinic were unanimous that "families being allowed to stay with their children" was the most helpful change their hospital could offer.

Arrangements for families at Tushino

Parents' concern about being separated from their children was intensified by the very restricted arrangements for visiting. Large crowds gathered in the front hall waiting for passes—which could be obtained by bribes—and every day parents would gaze up at the windows of the wards where their children were staying. Moreover, many children in wards for infectious diseases were completely isolated for long periods, and we saw children who were withdrawn and disturbed. Mothers breast feeding infants were among the few parents allowed to stay. Even children in intensive care, who presumably needed extra nursing care, were often totally unattended.

The "medical" reasons given for these restrictions were that parents could bring in or take out infections; that they would not comply with special diets; and by bringing in food parents would undermine doctors' orders (we did notice a full basket being hauled up through a window on a rope and the empty basket being thrown back out). Other reasons were that parents were a nuisance and could be abusive; when they left their child would be upset; and mothers could not stay because they had to work. The hospital staff were also afraid of kidnapping.

There were teachers, and it was clear that high priority was given to continuing education. The play-rooms were very tidy and we did not see them in use.

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BMJ 1993;306:914-6