For a long time, health issues were ignored in the Soviet Union, since it was a planned economy in which production was emphasized before everything regardless of cost, whether it be cost of inputs, cost of manpower, or the cost of the health of the population. Now, however, the gravity of the situation has forced itself on the attention of the Soviet leadership to such a degree that they are beginning to address the issue in a very serious way.

In 1987, two years after Gorbachev became General Secretary, he dismissed the minister of health and appointed Yevgeny Chazov, who had been Co-Nobel Laureate with Bernard Lown, to replace him. Chazov fired two deputy ministers of health, fired the head of the chief administration of maternal and child health care, reviewed the qualifications of 350,000 of the million or so physicians in the country, fired 1,000 immediately, and gave ten percent of the remainder only temporary certificates, based upon an easy test. Then he addressed the issue of the quality of the training of physicians, among the many other issues which he began to address. One of the earliest problems he focused on, of course to gain public attention for the issue, was that of the ability of physicians to read a cardiogram — not an idle issue. Chazov stated that forty percent of brand new medical school graduates could not even read a cardiogram. According to published surveys, ten percent of Soviet physicians do not even know that cancer is treatable, and eight percent do not know that cardiac problems are treatable.

In order to improve the qualifications of physicians, Chazov had to throw out the entire medical school curriculum in the Soviet Union, and in September 1988, they introduced not only an additional year of training, but finally some hands-on clinical training which they had never had before. Previously they had purely blackboard training, so that there are problems
with giving shots, taking blood pressure, etc. It is perhaps "not accidental" that the new Minister of Health, Igor Denisov, who recently succeeded Chazov, is a former rector of a medical institute. In one of his first interviews, Denisov did not dispute the interviewer's assertion that, "honestly speaking, too many among them [Soviet physicians] are simply illiterate and irresponsible" (Pravitel'stvenny Vestnik, no. 19 [May 1990]:8). At the Tashkent Medical Institute the returns to a physician from corruption and bribery were so high that would-be physicians were able to give an advance that was the equivalent of fifteen years' official annual salary—i.e., 30,000 Rubles at a time when the annual salary was around 2,000. In Georgia, it is reported that it now costs 150,000 rubles to get the position that you want. One wonders where people get 150,000 rubles from, when the official annual salary is only roughly 3,000 rubles for surgeons, even after a recent 40 percent increase in their salaries. Somehow this kind of money is available to them, and somehow they manage to pay it.

Given such a situation, the question naturally arises of the capabilities of these physicians, the "B" physicians. The latest horror story -- for it is a horror story -- is about an "injection epidemic." This is the term that is now being used in Russian. It refers to the experience of a child in its first year of life in one central Asian republic, unidentified, but very likely either Turkmenistan or Tadzhikistan. These children receive not four or five shots, but two hundred to four hundred. Let us take the average of those two figures, i.e., three hundred injections in the first year of life. If you deduct Saturdays and Sundays, there are only about 250 days left, which means that the child has more than one shot per day. Just think of the trauma when they go to the doctor and get 14 shots in one visit for an illness, as occurred in certain cases, according to the sources. This tells us that the doctors do not know what to do and they give every medicine they have in the cabinet and just "shoot them up." There is also the problem of the enormous shortage of syringes and needles in the country. The demand for one-time use syringes in the country has been determined as 3.5 billion syringes. In 1987, Gosplan in its wisdom or otherwise planned domestic production, excluding a small amount of imports, of 100 million syringes. The actual production in 1987 was 7.8 million, so that there
was a definite gap. The next year, 1988, the demand level was around the same, i.e., 3.5 billion. the actual production in the country was around 200 million, and about 200 million syringes were imported. That still left a major gap in demand, so that if you give 38 shots for an uncomplicated respiratory illness, presumably flu, or something like that, rather than any kind of liquid or a crushed tablet, then you have a problem in terms of potential hepatitis, let alone AIDS.

The Soviet Union has never addressed the health problems which arise with an increase in the urban population. The approach was curative, rather than preventive, and there was a preoccupation with epidemiology. One major problem is crowded living conditions. Forty-five years after the end of the second world war, 15 percent of the urban population are still living in shared housing, i.e., communal apartments. In these conditions it is possible for illnesses to spread very rapidly. The inadequate training of the physicians is another major problem that we already discussed. The nurses are also totally undertrained. Their quality is very low. They are paid only eighty rubles per month, two rubles more than the Soviet official poverty line as defined by Goskomstat. Nurses receive only eighteen to twenty-four months of training after high school. Until recently, all the health authorities cared about was the number of beds and the number of doctors per ten thousand population. So they had 47 doctors per ten thousand population, twice as much as the United States. The problem was the quality. The number of beds was twice as much as in the United States, 3.6 million to around 2 million. At the same time, the Soviet norm is (only) seven square meters around the bed. However, the actual average is 4.2, and in places like Georgia it is a mere two square meters.

One must note that because of the very low standards of primary health care, hospitals are used extensively for diagnostics and correction of diagnostics, etc. This results in high hospital bed occupancy figures very unlike the U.S. Twenty-five percent of the Soviet population was hospitalized at one time or another last year (the comparable U.S. figure is 7-8 percent). There is a general tendency to keep patients in the hospital for three weeks, whatever the problem, whether an appendectomy or cardiac treatment, not only because of medical
practice but also to fulfill the plan for patient/bed days as a standard indicator of success for Soviet medical institutions. But long hospital stays compound the problem because of poor hygiene conditions in Soviet hospitals -- secondary infections are rampant.

Health care is supposed to be free, but in fact 74 percent of the population pays bribes in order to obtain medical treatment, according to the Gosplan Economic Research Institute. A large proportion of the better-qualified physicians work in closed institutions which serve only high Party officials (the Nomenklatura). In Moscow, the percentage of doctors who are on the staff of closed institutions is as high as 40 percent. The general public's lack of access to competent medical care is one of the causes of the popularity of faith-healers and shamans. Some of these figures, such as the television personality Anatoly Kashpirovsky, command a wide following among ordinary people desperate for treatment of their medical problems.

In terms of comparative world rankings in health statistics, the former minister of health, Chazov, said that life expectancy in the Soviet Union for males was fiftieth and that infant mortality was about thirty-fifth. These figures were for 1987. After that it improved somewhat, but has now fallen again. Life expectancy in the Soviet Union is now worse than Turkey, and comparable to Paraguay.

The deterioration in general health conditions and the health status of the population is such that many more are being rejected from the military. Partly this is the result of demographic trends in the past, and the incredible differentials in fertility between the Slavic and Baltic north and the central Asian south. In 1980, of all 18-year-old males, 28 percent came from the four central Asian republics and the Transcaucasus. By 1988, that figure had increased to 37 percent. One of the consequences of that is the very low health standard of a high proportion of recruits. From 1986 to September 1989, the conscription law allowed the military to draft the lame, the halt and the blind, and they did. Whether as a consequence of spinal problems or other problems they finally abolished that decree in September 1989, which will lead to a much higher rejection rate for military service. This means that if by the year
2000 Central Asian draftees constitute fifty percent of the total, as demographic projections indicate, they will probably have to go to a professional army in less than five years.

Because of the decline in the working age population, fertility differentials as well as success in getting women into the labor force, higher levels of education, higher urbanization levels, and a variety of other factors, whereas between 1970 and 1985 there was a net increase of thirty million in the working age population twenty to fifty-nine, between 1986 and the year 2000 the working age population will grow by only five million, and almost all of this increase will come from the south. The latest census results for 1989 dramatically confirm this trend. The age group sixteen to fifty-nine of males and females sixteen to fifty-four, i.e., the able-bodied population by the official Soviet definition, grew by a total of seven million between January 1979 and January 1989. Of these seven million, five million came from Central Asia, plus Kazakhstan. So that seventy percent came from that area. However, that is not where most Soviet industry is concentrated. The industry is up north, which means that the health of each individual at the margin becomes much more valuable, and the percentage of individuals with significant health problems is very high.

The Soviet morbidity figures will put this into better context. I challenge my students every year to ask their physician when was the last time he or she saw a case of diphtheria. Finally, after eleven years a student told me that his physician had seen one -- in 1918.... According to the U.S. Center for Disease Control, the U.S. figure is between zero and three per year. The official Soviet figure is 1,000 to 1,500, which I can demonstrate is far too low. Let us take hepatitis. Here the figure is 56,000 cases in the United States, whereas the Soviet figure is 850,000 for a population only fifteen percent larger. For typhoid, we have 100 to 400 cases in the United States, depending upon the number of carriers, whereas the Soviet figure is, 11,000 to 19,000, depending on the year. For measles, a minor problem in the U.S.(20,000 cases last year), the Soviet figure is still 200,000-400,000, depending upon which part of the cycle they have entered. Mumps is rather serious, since in one percent of
cases it leads to encephalitis and meningitis. The U.S. figure here is 5,000-6,000 whereas the most recent Soviet figure is 700,000 - 800,000.

This situation exists even though the internationally adopted World Health Organization Expanded Program of Immunization is well known to the Soviets. Why don't they apply it? The reasons are lack of syringes, lack of refrigeration, but also sheer indifference, not giving a damn -- and I mean those words. A close friend of mine from the Karolinska Institute in Stockholm observed a pediatric nurse three days in a row take out the whole tray of vaccines from her refrigerator at 8 a.m., put them on top, and then put them back in the refrigerator at four o'clock. One can imagine the effect of those vaccines at the end of three days.

Let me now take AIDS. According to the official Soviet figures they have twenty-three cases of AIDS, and according to two different sources, either 409 or 476 cases of HIV, neither of which I believe. In January I told an interviewer from the Soviet magazine Ogonyok that I think there are at least 2,000 cases of full-blown AIDS and 10,000 - 15,000 cases of HIV. In the U.S. the situation is of course incomparably worse; we have 120,000-odd cases of AIDS, 70,000 of whom have died already. However, I believe that there will be an explosion in the Soviet Union by 1993-94, and I just recently saw a projection of 30,000 cases. Given the shortage of needles and the total lack of sanitation in many Soviet hospitals (sixty-five percent of all rural district hospitals in the Soviet Union do not have hot water, twenty-seven percent do not have sewage, seventeen percent do not have running water), I believe that such an increase in the number of cases is quite probable.

Let us now discuss medical high technology. The United States has 4,800 CAT Scans at an average cost of $600,000 - $800,000. Maybe we have too many for our 250 million population. Japan with a population of 120 million has four thousand. The Soviet Union with its 290 million population has only sixty-two, of which only twenty-five, all imported, are capable of reading the whole body. With respect to fetal monitoring devices, only about eight percent of the demand is met. Moreover, the Soviet devices are good for only 500 uses, whereas U.S. devices are good for 30,000 uses, so that quality also becomes an issue. The
same is true of medication. They are about fifty per cent short in an entire array of medications. I can now document this shortfall for seventeen categories of medication in a number of different areas -- cardiovascular, antibiotic, etc. The quality of most of what they produce is also not very good. They are now finally trying to do something about this situation by doubling the budget in the next five-year plan period. They are starting new polyclinics working under economic accountability (khozraschot). They are also establishing a major program of medical insurance. They are raising money from all kinds of sources, a little bit here and a little bit there, but I think that funding remains totally inadequate to meet the entire array of problems they have and the major regional differentials in public health.

Let us look at infectious and parasitic diseases as a cause of death. Taking the example of zero to one year olds per 10,000 births, the figures are four for Estonia and six for Lithuania, but 125 for Turkmenistan and 146 for Tadzhikistan. These are incredible statistics. The Soviet Union needs only to adopt demonstrably successful programs such as the W.H.O. Expanded Program of Immunization, which are not even particularly costly. If we examine the overall life expectancy statistics for the Soviet Union, we find that in 1985-86 the percentage of twenty-five year old males who can expect to live to age fifty according to the life table was eighty-five to eighty-six percent. In the U.S., the comparable figures in 1985-86 were ninety-three to ninety-four percent for whites, but only eighty-five percent for blacks -- a horribly low figure as bad as the Soviet statistics. The Soviet figures for expectation of life at zero are now 63.8 for males and 73.7 for females for the country as a whole. In the U.S., the comparable figures are seventy-one to seventy-two for males and around eighty for females. In Soviet Central Asia life expectancy is around sixty-five for both males and females.

Let me also mention the figures for infant mortality, which is of course a particularly significant measure. The Soviet figure is twenty-two to twenty-five, whereas the US figure, which we complain about, is 9.8. The worst U.S. figure is for the District of Columbia -- twenty-five to thirty, but in Turkmenistan and Tadzhikistan, the infant mortality rate is over fifty. It was recently revealed that in the area around the Aral Sea infant mortality rate is 111.
Two thirds of the population have typhoid, hepatitis, or cancer of the digestive system. Mothers are not allowed to breast feed their children because without exception they all have chemical pesticides in their breast milk. When I spoke with the head of the Supreme Soviet Committee on Ecology, Kamakimbek Salykov, who had been the Party First Secretary in this area in Karakalpakia, he told me that infant mortality is in fact higher than the official figures. The public health situation in these areas is simply catastrophic. They are now finally addressing these issues, and doing something about it, but the demand level is so high that the funding and equipment available are just totally inadequate to the purpose. Clearly Soviet society will pay a high price in terms of ecology for the preoccupation with production at all cost in the past.

Very little is done about air pollution. There is not a single specialized plant for the production of smokestack scrubbers in the Soviet Union. In Moscow, the bronchial asthma rate around the Garden Ring (Sadovoе Kol'tso) is six to eight times higher than half a mile away because of the trucks as well as the stationary sources of pollution. If we take water pollution, five or six major rivers are considered to be dead because of the levels of pollution with metals and toxic waste. Land pollution is also very serious. The area around the Aral Sea is a famous example of soil ruined by salination. Another major problem is the overuse of pesticides. What is particularly appalling is that pesticides are still used though they are internationally banned. DDT was prohibited in the Soviet Union in 1970, but -- unbelievably -- there is still an official norm of application for it, which in an unspecified recent year was exceeded 2,500 times; in Lithuania I was told that they were still using it there, albeit under a different name.

The case of Chernobyl demonstrates the readiness of the Soviet government to lie to the population about health problems, with the result that the people distrust completely any information they receive from Moscow. It was revealed in March 1989, three years after the event, that the Soviet authorities lied about the exposure of the population to Cesium 137 radionuclides-- the real level is still 40 curies per square kilometer or higher in Belorussia, the
Ukraine and the RSFSR. The Ukrainian diaspora in the U.S. and Canada has just sent in $50 million worth of medical supplies for the Ukrainian area, one-half of which was stolen on its way to the people.

Large areas in Belorussia, the Ukraine and the RSFSR are now finally being evacuated. It turns out that the radiation levels had been inaccurately measured. However, a large number of people --1.5 million in the Ukraine and 2.2 million in Belorussia-- have been living in these areas for three years, subjected to high levels of radiation. I have seen pictures of babies born in the region showing frightening mutations.

A new problem has arisen in connection with the relocation of nuclear weapon testing sites, since the old sites in Kazakhstan are being closed. It is likely that sixteen to eighteen tests per year will be conducted at the new site in Novaya Zemlya in the Arctic. If there are leaks from these underground blasts, they will have serious effects on the radiation level in the region and -- most significantly -- on the world weather cycle and weather generation. We can expect an increase in levels of leukemia and other radiation-induced cancers in Norway and Sweden, as occurred among the Kazakh population around the former nuclear testing sites in Kazakhstan.

The health crisis and the environment have become major political issues with the Popular Front organizations in the national republics as well as with a number of informal public organizations. They were major factors in the creation of Sajudis in Lithuania, and are among the principal concerns of Rukh in the Ukraine and the Popular Fronts of Belorussia, Armenia, and Georgia.

Under Khrushchev there was a deliberate shift in resources from health to other priorities -- notably the building of a blue-water navy. At that time both infant mortality and the crude death rate had fallen significantly, so that the Soviet leadership believed that the apparent enormous success of the medical system would enable them to reallocate resources from health programs. They looked only at the health input figures, and disregarded morbidity. If we look at the GNP statistics, we find that the percentage of GNP devoted to health rose from 5.0
percent in 1950 to 6.6 percent in 1960-65. However, by 1985 it had fallen to around four percent, and in following years actually fell below four percent. Since 1971, both infant mortality and the crude death rate have risen substantially. The reduced share of GNP spent on health is associated with very low capital investment in hospital facilities. The cost of construction and equipment per hospital bed is currently 15,000 to 18,000 rubles. This is an extremely low figure, even compared with Eastern Europe, let alone the West: the comparable figures are 40,000 rubles for the GDR and 80,000 rubles for Czechoslovakia. To return to Khrushchev, in my opinion his ouster represented a major turning point in the Soviet health situation, as in other areas. It was after Khrushchev's removal that the attitudes of many physicians began to deteriorate, and this in turn was reflected in the morbidity and mortality statistics.

As Viktor Korchagin, a leading health economist, told me at the Moscow Public Health Institute, there are now proposals to raise the percentage of GNP spent on health to eight percent by 1995. However, the problem of building adequate production facilities for equipment and medication will remain. Theft throughout the distribution system is also a major problem, with the result that much of what is produced never reaches the hospitals and polyclinics.

The Soviet Union is finally beginning to address the neglect of health care and the environment, and the resulting societal cost in terms of the general health of the population and productivity. After having been ignored during the whole of Soviet history, these problems have now become major issues on the agenda of the Politburo.