



DISASTER
RELIEF

CASE REPORT
Yugoslavia — Smallpox Epidemic
March, 1972

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Foreign Disaster Case Reports are publications of the Office of the Foreign Disaster Relief Coordinator, Agency for International Development. This office has responsibility for coordinating U.S. Government foreign disaster relief responses and for the further coordination of such activities with those of the U.S. private and international disaster relief communities.

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YUGOSLAVIA

Smallpox Epidemic

A group of Yugoslav Moslems made a pilgrimage to Mecca and Medina and then visited Baghdad buying gifts for their families before returning to the Serbian Province of Kosovo. Two weeks after their homecoming several of the travelers came down with variola major, the most virulent form of smallpox triggering the largest outbreak of smallpox in the history of Europe since World War II. One hundred seventy four persons were infected and 35 died from the disease.

Value of U.S. Assistance \$ 5,632.02

Each winter over 2,000 Yugoslav Moslems make a pilgrimage to Mecca or Medina, Saudi Arabia. The travelers are asked by the Yugoslav Government authorities to travel by air with special health precautions observed to prevent importation of cholera. Upon their return they must undergo 5 days of intensive observation and take two grams of tetracycline orally. These control measures are circumvented by many pilgrims, however, who use special chartered buses to save money. The first death from smallpox was an unvaccinated young man in his early 20's a visitor from Novi Pazar outside of Kosovo Province. He became ill and consulted a physician on March 7, was given penicillin, and on March 8, went by bus to a hospital in Cacak. His condition worsened and a rash developed. Hospital authorities had the patient transferred by ambulance to Belgrade to a dermatologic hospital. There he was presented to students and staff as a patient with a severe penicillin reaction. Later he was transferred to a surgical and trauma hospital where he later died on March 10, the first fatality of the epidemic. As the dying man was moved from place to place, he infected patients and staff in the hospitals. The body was taken back to Novi Pazar for burial by his brother before a necropsy could be performed. Eight people in Cacak, 29 in Belgrade, and the victim's brother were infected. They in turn infected others with smallpox.

ACTION TAKEN BY THE GOVERNMENT OF YUGOSLAVIA:

On March 16 a Yugoslav medical official informed the U.S. Embassy that nine possible cases of smallpox had been discovered in the Province of Kosovo and he recommended Embassy staff take appropriate precautions. He further stated that while Government of Yugoslavia (GOY) officials were not prepared to make an official announcement until the extent of the outbreak was determined, they believed that smallpox was brought to Kosovo by worshippers from this predominantly Moslem area who made a recent pilgrimage to Mecca. The original diagnosis was made by an infectious disease specialist whose clinical diagnosis was confirmed by individuals with smallpox experience in India. Thirty-two physicians from Belgrade and 38 from other areas were sent to Kosovo Province to investigate and to vaccinate the populace.

Health authorities quickly moved against the spreading epidemic, as smallpox is one of the most easily transmitted of all diseases. They were unprepared for a rapid vaccination campaign, however, and many problems were encountered. There were only 1,000,000 doses of high quality Zagreb lyophilized vaccine on hand of which 100,000 doses were in Serbia at the time of the outbreak. The vaccine in Kosovo during the eight days of vaccination was of low quality and several years old. Vaccinators were not trained for mass vaccinations and there was a shortage of vaccinating instruments. Belgrade radio and the evening press announced that all residents should go to hospitals or health stations for vaccination because of the



Yugoslavians Being Inoculated by 1 of 24 Jet Injector Guns from the United States.

spread of smallpox in Belgrade. House-to-house vaccination was only performed in known infected villages. Nighttime vaccination was not practiced, although many teams arrived so late that scheduled daytime sessions were carried out in the evening. Teams visited schools, vaccinated school children, and then called villagers to the schools to be vaccinated. Persons known to have had contact with smallpox victims were quarantined in complete isolation for 18 days after successful vaccinations or after contact. In Belgrade contacts were incarcerated in a large hotel in Novi Belgrade across the Danube River from the main part of the city, or in an army campsite 20 kilometers from the city. Similar arrangements were made in

hotels and campsites in Cacak, Novi Pazar, and Subotica. In Kosovo a small number of contacts were quarantined in the Prizren hospital. Other Kosovo contacts and the entire village of Morovic in Voivodina were isolated in their home villages. Strict border control of traffic flow in and out of Yugoslavia was enforced.

To reduce the danger of contamination, hospital visiting privileges were suspended in some parts of the country, travel to provinces was forbidden to all who had not been immunized, and virtually all public schools were closed. Other precautions taken included the banning of public gatherings in affected areas.



School Children Waiting to be Vaccinated Against Smallpox.

As the GOY anticipated a countrywide vaccination campaign, health authorities sought help from the World Health Organization (WHO) in Geneva. In the United States, on March 28, the Yugoslav Ambassador through the State Department requested U.S. assistance in providing vaccine to combat the epidemic. Simultaneously the GOY requested vaccine from the U.S.S.R., Federal Republic of Germany, United Kingdom, and France.

ASSISTANCE PROVIDED BY THE U.S. GOVERNMENT:

When asked for assistance, the U.S. Government through its Foreign Disaster Relief Coordinator called on the Department of

Health, Education, and Welfare (HEW). HEW responded immediately through its Smallpox Eradication Program at the Center for Disease Control (CDC) in Atlanta, Georgia. Ambassador Malcolm Toon exercised his disaster relief authority to commit A.I.D. contingency funds and U.S.-owned dinars (local currency). Three million doses of vaccine from the smallpox vaccine reserve and 24 jet injector guns were offered to Yugoslavia. As the vaccine was a type that required administration by jet injection guns and had not previously been used in Yugoslavia, a CDC medical team consisting of six epidemiologists and one "gunsmith," to keep the 24 automatic jet injection guns in working order, were sent to Yugoslavia on March 30.

Their operations began a few hours after arriving in Belgrade. A mass vaccination campaign was first started in Kosovo and the training of Yugoslav physicians and nurses in the use of the injector guns was set in motion in Belgrade. The CDC team's assistance extended throughout many provinces where mass vaccination campaigns were conducted. The total number of vaccinations administered is not known since teams did not keep accurate records, although a total of 3,250,000 doses of vaccine were provided by the U.S. Government.

The Yugoslav Prime Minister Dzemal Bijedic announced on May 10 that the smallpox outbreak had been overcome and that the country was free of the disease. The last new case of smallpox had been reported on April 12. The use of the jet guns so impressed the Yugoslav officials that on June 15 Ambassador Toon presented to the Federal Secretary for Work and Social Policy, six of the instruments as a gift of the U.S. Government. The remaining guns were returned to the CDC in Atlanta.

The Yugoslavs expressed gratitude for the prompt and generous assistance provided by the U.S., which had enabled the effective containment of the epidemic. They were also gratified that there had been no adverse affect on their tourist trade, the nation's largest source of foreign exchange.

Vaccines Acquired From Other Nations and Organizations:

<i>Country</i>	<i>Vaccine doses</i>
Albania	200,000
Bulgaria	600,000
East Germany	
Democratic Republic	60,000
Federal Republic of Germany	125,000
France	225,000
Greece	300,000
Holland	250,000
People's Republic of China	3,500,000
Switzerland	2,325,000
U.S.S.R.	3,000,000
United States	3,250,000
World Health Organization	500,000



U.S. and Yugoslavia Medical Authorities Discuss Plans for Mass Vaccination Campaign.

