

Critique of the "Nariño Health Report": Health Effects of Spray Campaigns in Colombia

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In September, 2001, the U.S. Embassy in Bogotá released a report on human health effects of herbicide spray campaigns carried out in the Department of Nariño.ⁱ Commissioned by the Embassy and conducted by Colombian toxicologist Camilo Uribe and colleagues, the report focuses on the community of Aponte, a village within the Municipality of El Tablón de Gómez. This report has been distributed and cited as evidence that herbicide spray campaigns have not caused adverse human health effects. The report, however, does not actually show a lack of adverse human health effects. This memo outlines principal areas of concern about the report, including small sample size, unclear methodology for sample selection, lack of relationship between the data presented and the conclusions drawn in the report, and lack of contact between the report's authors and the physician who collected the data they analyze.

Background

According to the report, herbicide spray campaigns were carried out in Aponte between July 30 and November 17, 2000, with the purpose of eradicating opium poppy crops. It is worth noting that eradication of opium poppy requires significantly lower herbicide applications than those required to kill coca cropsⁱⁱ, so exposures in Aponte are likely to have been lower than exposures in coca-growing areas.

The centerpiece of the report is an examination of 21 medical records on file at the Aponte Health Center. These records were created by Dr. Jose Vicente Tordecilla, who worked at the Aponte Health Center during a period of approximately eight months, and are all for medical visits related to skin problems. The report refers to a sample of 29 medical records, only 21 of which were available. It does not explain how the sample of either 29 or 21 was selected for review, and does not include any information on total number of patients seen at the clinic during this time period.

Sample selection and size

Epidemiological studies generally contain information on study design, including description of the population studied and an explanation of how the study sample was selected. The validity of an epidemiological study depends in part on the type and size of the study sample.

According to the report, the village of Aponte has an estimated population of 5,000 to 8,000 inhabitants. According to the report, Dr. José Vicente Tordecilla was employed at the Aponte Health Center "during the approximate period July 2000 - February 2001." [Section 2] However, the report considers just 21 medical records, supplemented by two additional records for patients who "sought attention for skin lesions but whose records did not reflect visits for skin conditions," for a total of 23. Uribe's report provides no information on total number of patients

seen at the Aponte Health Center during study period, and does not explain how the study subjects were selected. Crucial questions include: What is the sample of 29 medical records to which the report refers? Why were eight of these 29 records (about 28% of the total) unavailable for review? It is also not clear why the medical records reviewed in the report were all created between September 2000 and January 2001, although spraying began at the end of June 2000. Without this information, it is impossible to draw meaningful conclusions from the data.

Loss of contact with principal informant

The report suggests that important information may have been lost or suppressed due to the researchers' loss of contact with Dr. Jose Vicente Tordecilla. The researchers spoke by telephone with Dr. Tordecilla on May 4, 2001, at which point he was employed at a rural health center in Planeta Rica, Department of Cordoba. During this conversation, the report says, Dr. Tordecilla promised to follow up with a written report of his observations. This report apparently never arrived. On May 11, 2001, the researchers telephoned the health center where they had reached Dr. Tordecilla a week before, and were told "that Dr. Tordecilla no longer worked there and that the center had no contact information for him." [Section 2.1] Thus Dr. Uribe's report on the data Dr. Tordecilla collected was completed without benefit of any direct written communication from Dr. Tordecilla, and without any conversation beyond an initial telephone interview.

Study results

The executive summary of the report concludes that "in the vast majority of cases, reported health problems are not caused by aerial spraying." This statement is an inaccurate representation of the information presented in the text of the study. Of the 21 cases considered in detail, the authors note that chemical exposure cannot be ruled out as a possible cause of four cases (just under 20% of the total).

Summary

Dr. Uribe's examination of medical records from the Aponte Health Center was intended to verify whether adverse human health effects had resulted from the spray campaigns carried out in that community between June and November, 2000. Dr. Uribe examined a total of 23 medical records. His report does not specify the number of patients seen at the clinic during this time period, the total number of records that existed, or the methodology through which the sample of 23 was selected. Therefore, none of the analysis presented in the report can be evaluated for statistical validity. Furthermore, even within the sample considered, chemical exposure is considered a possible explanation for several cases. Given this finding, the executive summary is misleading. Finally, Dr. Uribe inexplicably lost contact with the physician who created the medical records on which his report is based, raising further questions about the completeness of the information he used in his analysis.

ⁱ Camilo Uribe, "A Study of the Health Complaints Related to Aerial Eradication in Colombia: Department of Nariño, Municipality of El Tablón de Gómez," September, 2001. Study commissioned by the United States Embassy in Bogotá, Narcotics Affairs Section.

ⁱⁱ National Police of Colombia Antinarcotics Directorate, "Application Dose and Composition of the Mixture Used According to Type of Plant," and "Technical Parameters of Eradication Via Aerial Aspersion."