

Integrated Public Health Approach to Prevent Diseases and Promote Health of Farm Workers

Emergency room physicians at a regional medical center in rural Nevada notified the State Division of Public and Behavioral Health (DPBH) that 126 migrant farm workers were being evaluated and treated.



The Challenge

The farm workers were severely ill, exhibiting extensive skin rash, various degrees of respiratory and gastrointestinal distress, generalized edema, and unspecified neurological manifestations. Skin lesions varied in size and form ranging from macular to papular and vesicular rash with blisters and remarkable edema that mainly covered arms, legs, and chest. According to both the farm workers and owners, the migrant workers appeared to be in healthy when they arrived to the farm a few days before the start of the outbreak. All cases were foreign nationals, and almost all of them lived in dormitory-style sheds on the farm. Except for infrequent use of work gloves, none of the cases wore any personal protective equipment (PPE) during farming activities.

The Response

The State Epidemiology Team was immediately deployed to the outbreak site, and the Rocky Mountain Poison Control Center was consulted regarding treatment plans. Spanish-speaking disease investigators used electronic tablets to generate a survey in Epi-Info, interview workers, and analyse data. Based on survey results and medical records review it was determined that all cases were unintentionally exposed to Chloropicrin and other pesticides, which had been deployed on the farm less than a week before their arrival. The Department of Agriculture concluded that farm workers were not adequately informed that it was unsafe to work in recently treated fields. State Environmental Health (SEH) inspections of the labor sheds on the farm revealed unhealthy living conditions, including overcrowding; poor hygiene, and poorly equipped/supplied sanitary facilities. Additionally, most workers were not up-to-date on their immunizations.

The Impact

All cases received proper and timely treatment, and in order to prevent any further exposure, the DPBH requested that farm workers not enter recently treated fields until it is safe to do so. This outbreak of acute pesticide poisoning among a large group of migrant farmworkers led to the identification of multiple potential health hazards, including communicable disease risks from unsanitary living conditions and lack of vaccination. As a result the DPBH provided required immunizations to more than 1,327 migrant farm workers in the area, SEH conducted two follow-up inspections and is planning to conduct regular unannounced visits to ensure compliance and sustainability of safe and improved living conditions for migrant workers living on the farm.

For more information, contact Ihsan Azzam, PhD, MD, MPH IAzzam@health.NV.Gov at the Nevada State Office of Public Health Informatics and Epidemiology.