

Pustules Proliferate in Dairycour County

**A Local Public Health Response to a Smallpox Outbreak
A Case Study in Assurance**

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Wis-Kids

**Sue Becker
Kurt Eggebrecht
Sherry Gehl
Sue Kunferman
Jody Langfeldt
Cheryl Mazmanian
Lora Taylor
Larry Gilbertson (Mentor)**

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ABSTRACT

Smallpox, one of the deadliest and most contagious diseases known to man, was eliminated worldwide in the late 1970's. Recently, the fear that terrorists might access remaining stocks of the virus and use it as a biological weapon has led to a national movement to develop and implement a protocol for emergency planning and response. Public Health's commitment to assure and protect the health of the community has positioned it strategically in the forefront of this national movement.

Faced with a smallpox outbreak, this case of Dairyr County, a small rural community, reveals the significance of a coordinated identification and communication system that can provide timely, authoritative, secure and meaningful communication between public health authorities, health care providers and the public. In this case, conflicting information, rumors, media misinformation and the inability to contact isolated populations led to public fear and distrust.

OPENING/INTRODUCTION

The risk of smallpox being used by terrorists as a bio-weapon is becoming a viable threat to citizens of the United States. In the event of a smallpox outbreak, health care providers, emergency service personnel, state and local governments are going to be working in a crisis mode to not only treat the victims, but to contain the outbreak and begin mass vaccination.

Communities and especially individual neighborhoods may be initially left to fend for themselves during the onset of the crisis.

Assuring that the health needs of the citizens of Dairyair County are met is the responsibility of Jo Jersey, the Director/Health Officer of the Dairyair County Health Department. Jo is a member of Dairyair County's community response team and has been trained in the Incident Command System.

Dairyair County is located in north central Wisconsin. It has a population of 100,000 people. Farming is the main industry of the County, with eight migrant farms supplying the majority of the workforce. A number of smaller factories are located in the County, the largest of which is the Cow Pie Factory, employing 3,000 workers. The median annual income in this county is \$29,000. The largest municipality in this county is the small urban center, Lodge City (40,000 population), with other surrounding rural communities making up the rest of the population. A rural newspaper, the Dairyair Daily, provides a daily newspaper to most of the residents of Lodge City, with limited circulation to the rest of Dairyair County. Two local radio stations, WSPOX and WPUS are both linked to the County emergency broadcast system.

CASE BODY

The County Executive, Wanda Windbag, has just been notified of a \$400,000 Community Preparedness Grant that has been awarded to the County to be used for bioterrorism preparedness. She is soliciting input from community leaders on how these dollars should be spent to prepare the county to respond to a bioterrorist attack. The perception of a bioterrorism event occurring in Dairyair County is believed to be so remote that most residents and local officials gave little weight to the warnings and

preparations going on about them. For example, Fire Chief Blaze Arson was skeptical of the likelihood of a biological attack. He is convinced, and is working to influence County Supervisors to agree, that the County's limited resources should be devoted to personal protective equipment and training for fire fighters. Sheriff Sly Straightshooter believes, as a result of the training he received from the FBI, that the likely scenario will be a car bomb at the Dairyair administration building. He is advocating for security badges for all County employees and that bomb reduction film be placed on the windows of the administration building. The executive of General Hospital, Mavis Money Penny has contacted the Governor expressing concerns regarding the hospital's lack of sufficient decontamination equipment and negative pressure rooms and is advocating for funding to improve the situation. Although supportive of the local health department's planning effort, the hospital's lack of resources makes them incapable of fulfilling their role. Cricket Copyright, the aggressive reporter of the Dairyair Daily, is pressuring County Executive Windbag to disclose how these limited resources will be used.

Jo Jersey, aware of the real risk to the community in the event of a bioterrorism event, particularly a smallpox outbreak, had been working closely with the State and CDC on educating and vaccinating her staff. Plans were being developed to educate the other members of the Incident Command Team and the political leaders regarding the unique issues the community would face in a biological emergency. Tommy Tabletop, the Dairyair County Director of Emergency Management has not embraced the recommendations of Jo Jersey to sponsor a biological incident exercise due to his limited knowledge and lack of understanding regarding bioterrorism issues.

As the discussion and political wrangling continued, on January 1, 2003, a woman from Lodge City walked into the local Emergency Room with a 4-day history of fever, malaise, headache and severe backache. She currently is exhibiting a pustule type rash covering most of her extremities and face. As usual for a holiday, the Emergency Room was very busy, with at least 45 people present. Two days following the woman's presentation in the ER, a family of 4, mom, dad and two children, walked into the local health clinic exhibiting the same symptoms. The clinic was busy with 28 people in the waiting room and a staff of 10. After much testing and significantly more exposure, the tentative diagnosis was Variola Major, better known as smallpox. During the next 48 hours, 10 more people in Dairyair County

were tentatively diagnosed with smallpox. The suspect smallpox patients were either quarantined at home, or for those requiring hospitalization, placed in an isolation area in the local hospital.

The unexpected had occurred. Local health officials began working on a plan to vaccinate all the citizens of Dairycour County. CDC had released the vaccine. With more and more cases of smallpox presenting every day, it was imperative that the entire population be vaccinated. Never had the community faced this type of emergency, a biological one.

Within 48 hours and the diagnosis of 20 cases of smallpox, the community was in a panic. Clinic and hospital staff were afraid to go to work. The school superintendent, following a recommendation from Jo Jersey, closed all schools. Absenteeism in all workplaces was at an all time high. People were isolating themselves and their families. The shelves in the stores were emptying fast. Following the advice of Jo Jersey, Tommy Tabletop activated the Incident Command Center and delegated the leadership role to Jo Jersey. Under Jo's leadership, it became clear that this was a public health emergency that would require a non-traditional approach by the community emergency response team in Dairycour County.

Utilizing the State and the CDC Mass Vaccination Protocols, clinics were established throughout Dairycour County. Jo assigned Tommy Tabletop the task of recruiting and organizing medical and non-medical volunteers to assist with these clinics. Sheriff Straightshooter was assigned the role of Public Information Officer. A community moratorium was ordered on public events. An emergency communications network was established. The CDC website was recommended as the source for information on smallpox. In addition, working with the media partners, municipal leaders assured the community that sufficient vaccine had been acquired to immunize all of the citizens of Dairycour County and it would be made available to residents at multiple immunization clinics throughout the County. Chief Arson was assigned to work with the coroner's office and the hospitals to assure the appropriate handling of the deceased.

Seventy-two hours after the first case of smallpox was diagnosed, the first of many vaccination clinics occurred. Clinics were set up on a daily basis at numerous sites around the County. An exhaustive public awareness campaign on the need to be vaccinated was launched throughout the County. After a ten-day vaccination effort, with no additional residents presenting for

vaccination, it was determined that only 75,000 smallpox vaccinations were provided leaving 25,000 citizens unprotected and unreached by the vaccination efforts.

CASE STUDY QUESTIONS

1. What types of infrastructure elements could have been in place, prior to this emergency, to make things run more smoothly?
2. What strategies could have been utilized to determine who had not been vaccinated and where those people were located?
3. How would one address those people who may have left the area?
4. What barriers might exist to accomplishing near 100% vaccination?
5. How might such barriers be overcome?
6. What can communities do before such an emergency to assure isolated persons are found and taken care of in an emergency?
7. Who is ultimately responsible for assuring people are located and vaccinated?
8. How could the local media have been better utilized during this emergency?
9. How could public panic have been reduced/minimized/avoided?
10. What could have been done to assure public health personnel and partners had adequate training to handle such an emergency?
11. What other recommendations would you have to facilitate a better overall outcome?