Excuse Me, Sir, But I Think You Dropped Pixie Dust On My Hamburger

(A Public Health Response to Pixie Dust Disease in a Food Handler in Lee County)

Mid-America Regional Public Health Institute Year 13

Pam's Yellow-Bellied Posse

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Excuse Me, Sir, But I Think You Dropped Pixie Dust On My Hamburger –
A Public Health Response to Pixie Dust Disease in a Food Handler in Lee County

In August, Lee County Health Department receives a report from Tarleton General Hospital informing the health department staff that an area food handler has been diagnosed with the highly infectious illness, Pixie Dust Disease. Over the course of the following week, more than 200 people are involved in the response and over $200,000 was spent on a mass prophylaxis effort to prevent spread of the disease. This case study describes the events that occured at local and state levels following the initial report. The case study follows the outbreak through the investigation of the report and the decision to conduct a mass prophylaxis clinic. Logistical considerations, legal concerns, and management structure are examined including volunteer issues and credentialing. Staff education and training as well as clinic set up and design are explored. While the case study primarily addresses the core function of assurance, some aspects of policy development and assessment are included. The study addresses the four organizational practices associated with the core function of assurance: management of resources and development of an organizational infrastructure, plan implementation, evaluation of program activities, and provision of public health information to the community. Lessons learned during this experience include the importance of reviewing reporting procedures with hospital and laboratory staff, exercising the mass prophylaxis plan regularly, and having a mechanism for volunteer recruitment.

Learning Objectives:

After completing the case study, the reader should be able to:

1. describe the signs, symptoms, means of diagnosis and control of a foodborne disease
2. describe the best type of surveillance system to identify and monitor a foodborne outbreak
3. report and communicate information on an outbreak investigation and write a press release
4. describe the role of the laboratory in the detection of a foodborne disease outbreak
5. develop a questionnaire to identify exposure to a foodborne disease
6. incorporate lessons learned in the modification of emergency response plans
7. recognize risk communication strategies to be implemented during a community outbreak
8. identify information needed by community residents to facilitate requested public health action

Lee County is a quiet community of 50,000 citizens, nestled in the heart of the State of Gettys. Tarleton, Lee County's largest city, is like many other small towns across Middle America. The economy of Lee County depends on its major industry, pork production. As part of the county emergency preparedness plan, the Lee County Health Department (LCHD) has just completed its mass prophylaxis clinic procedures. Untested, this plan forms the basis of a response to a communicable disease outbreak.

Libby Tone, nurse manager at the LCHD, answers the telephone at 10:30 AM on a beautiful summer Tuesday morning. It is the laboratory director at Tarleton General Hospital, calling to

report a confirmed case of Pixie Dust Disease in Wendy Grimes, an employee at Abby's, a local fast food restaurant. Due to the known communicability of Pixie Dust Disease through contaminated food and water, Ms. Tone realizes that this requires immediate action. She immediately notifies Lee County Health Department administrator, Lucy Tine. Ms. Tine immediately calls P.P.Time, District Field Epidemiologist for the Gettys State Department of Health (GSDH) to report the case of Pixie Dust Disease. Mr. Time immediately calls his supervisor at GSDH to report the information. The supervisor calls the Lee County Health Department and requests it initiate follow-up on the reported case. Further investigation by Ms. Tone reveals that although Ms. Grimes is considered by the restaurant manager to be a cashier, she is, in fact, responsible for dispensing ice, carbonated beverages, and water to customers. Due to these additional duties, Ms. Grimes is clearly a food handler under Gettys Administrative Code.

Ms. Tone calls the Infection Control Nurse at Tarleton General Hospital to obtain further information about Ms. Grimes' illness. The nurse states that Ms. Grimes was seen a week earlier, on August 20, in the Emergency Room jaundiced and complaining of diarrhea for approximately seven to ten days. The ER physician ordered a Pixie Dust Disease test. Due to the inability of the hospital lab to perform this test onsite, the specimen was sent to an out-of-state reference lab. The test results were reported to the attending physician within forty-eight hours. However, the results languished on the attending physician's desk because he was out of the office for four days.

Early Tuesday afternoon, GSDH staff meets with Thomas Andrews, Gettys State Epidemiology Director, regarding the health threat in Lee County. GSDH determines Ms. Grimes met the food handler criteria and worked while symptomatic. After consultation with the Centers for Disease Control and Prevention, GSDH determines a mass prophylaxis clinic is necessary. Several members of the GSDH team are dispatched to Lee County. Due to local familiarity and adequate parking availability, Lucy Tine negotiates the use of the Swine Club Building at the Lee County Fairgrounds for the clinic.

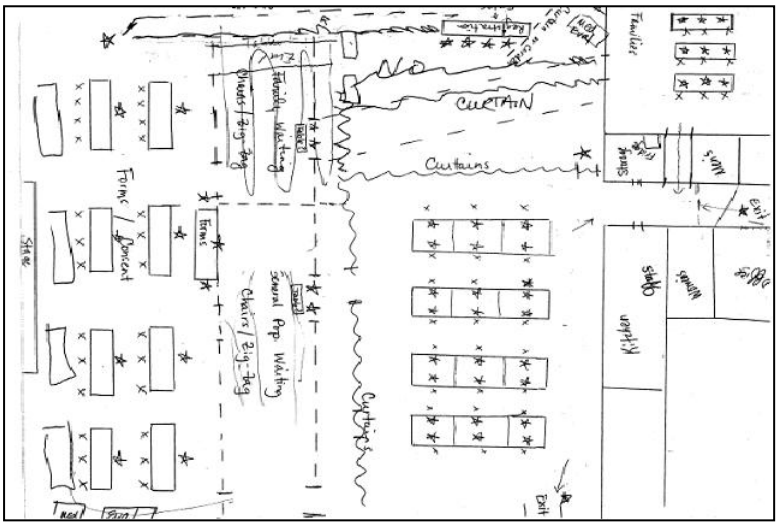
At 4:00 PM Lee County Health Department and GSDH staffs participate in a conference call and decide to proceed with the mass prophylaxis clinic and inform the public of potential exposure to Pixie Dust Disease at Abby's. These decisions are based on recommendations defined in Gettys Communicable Disease Reporting Rule for Physicians, Hospitals and Laboratories.

To estimate exposure, Abby's manager, Anne Hiller, tabulates recent receipts and determines that about 5,000 people per week are served in the Tarleton store, which employs thirty people. GSDH recommends all restaurant staff be tested for Pixie Dust Disease and receive Pixie immune globulin (PIg).

GSDH Public Information Officer, Les Drew, issues a press release on Tuesday evening announcing a mass prophylaxis clinic, but details are not provided.

Wednesday morning GSDH and LCHD staff participate in a conference call with Dr. Matthew Lincoln, Lee County Health Officer. A decision is made to hold the clinic on Thursday from 12:00 PM until 8:00 PM and on Friday from 9:00 AM until 8:00 PM. GSDH dispatches additional field staff to continue epidemiological data collection. LCHD issues a press release announcing clinic location, dates and times. Dr. Lincoln writes a standing order for PIg

administration (Appendix A). Using the LCHD's mass prophylaxis plan, staff develop the clinic site floor plan.



Clinic Floor Plan

At 1:00 PM, GSDH orders 6,000 doses of PIg for delivery early the next day. Orders are placed for medical equipment, including alcohol prep pads, bandages, and gloves. Calls requesting clinic volunteers go out to local health departments and health care facilities.

Abby's corporate management arranges for a local medical clinic to perform Pixie Dust Disease tests and administer PIg to employees. Late in the afternoon, LCHD receives 28 samples. Two employees are not tested. One employee is out of state. Abby's terminates the other for refusing testing and treatment. Later attempts by epidemiological staff to contact this individual are unsuccessful.

At 5:00 PM the day's final conference call is held between LCHD and GSDH to discuss investigation progress and planning for the next day's mass prophylaxis clinic.

With drawn blood in hand, GSDH staff complete Pixie Dust Disease blood sample report forms and match to the blood vial identification labels. GSDH Microbiology Laboratory Manager arranges for after-hours delivery. A LCHD Environmental Health Specialist transports the samples to the GSDH laboratory with police escort.

Clinic day arrives as final preparations continue at the Lee County Fairgrounds, site of the mass prophylaxis clinic. From 8:15 to 9:00 AM, staff receive assignments from Thomas Andrews, clinic manager. Volunteers arrive by 10:00 AM. Local police and county sheriff's deputies provide traffic and crowd control. Reporters from area television, radio and newspaper outlets descend, but are not allowed inside the clinic.

Volunteers Receive Briefing

Les Drew, GSDH Public Information Officer, and Health Officer Matthew Lincoln, provide information to the media. At 11:15 AM, the first shipment of PIg arrives.

Arriving volunteers complete a sign-in form used in tracking and assignment to clinic positions (Appendix B). Volunteer briefing begins at 10:00 AM. Each station leader familiarizes volunteers with overall clinic layout, forms and job action sheets (Appendices C and D). Following the briefing, volunteers prepare for administration of PIg.

People from the community begin arriving before 8:00 AM. Lines extend throughout the fairgrounds by the time the clinic opens at noon. At the first station, clients enter the clinic building and receive a Pixie Dust Disease fact sheet, a PIg information form, and an assessment/consent form from the registration clerk (Appendices E, F, and G). They are directed to tables for form completion. Translators are available to assist Spanish-speaking community members. However, forms are not available in Spanish. Those with completed forms approach the screening tables which creates a bottleneck. Progress is slow while staff review completed forms and weigh clients. Screeners refer clients to medical review when questions arise. Screened clients proceed to the station where PIg is given. As clients exit, all signed forms remain with the nurses.

By early afternoon, long, curly lines prompt changes to clinic flow. Families with young children are now directed to a separate area for PIg administration. Additional scales and screeners improve clinic flow. In response to volunteer requests, fans are purchased to increase air circulation within the building.

Long Curly Lines

Dorothy Toto, a citizen near the back of the line, approaches one of the deputies monitoring crowd control. "Are you aware that the bathrooms smell and have lines almost as long as this one? If we have to wait so long, something needs to be done!" LCHD contacts RJ Reynolds, Director of Emergency Management, who arranges for portable restrooms. Delivery and installation occurs within two hours.

Clients wait an average of two hours throughout the day. No arrangements have been made for staff lunches.

Volunteers are dispatched to bring a late lunch for staff. At 6:00 PM, Mr. Andrews closes the clinic to new clients because of the 2-hour wait. By 8:00 PM, 2400 doses of PIg have been

administered. At the end of the day, staff reviews clinic flow and operation. Based on staff recommendations, the PIg administration area is enlarged for the next day.

Staff briefing begins at 8:00 AM the following morning. Because of rain, the waiting line is rerouted through a large tent just outside the clinic entrance. To improve clinic flow, a separate line for the physically disabled is added. In an effort to provide comfort to children receiving an injection, each receives a stuffed pig, provided by the Sisters of the Porcine, a local volunteer agency.

Additional PIg arrives early, including one container not refrigerated upon arrival which must be discarded when it is found 8 hours later. At the end of the second clinic day, an additional 3,000 persons have received Pixie Dust Disease prophylaxis.

The Lee County Pixie Dust Clinic ends at 8:00 PM on the second day with 5,400 clients prophylaxed. A palpable sigh of relief could be felt from staff and volunteers as the doors close following two long days of hard work and dedication in serving the community.

Clinic Operations

Now that the Clinic has closed, a number of decisions need to be made.

Where to store the remaining PIg?
Where to store extra supplies?
Who was staying to help clean up?

Because the hall is reserved the next day for the play "Peter Pan", clean-up must be accomplished before the staff leave. Most volunteers from outside Lee County left at clinic closing, but a few remained to assist local staff. By 9:30 PM clean up is completed and the remaining PIg is moved to refrigerated storage at the Lee County Health Department. Local hospital maintenance staff arrives to tear down the temporary curtains setup at the beginning of the clinic. GSDH loads supplies and leaves the clinic by 8:30 PM. After returning the keys to the building owner, the remaining Lee County staff leave at 10:00 PM.

Three hundred additional persons receive prophylaxis at the Lee County Health Department due to a miscommunication with a local radio station. The station had reported that PIg would be available at the health department at the beginning of the next week.

The following week, clinic station leaders meet with Thomas Andrews, clinic manager, Lucy Tine, LCHD administrator, Libby Tone, LCHD nursing manager, RJ Reynolds, Director of

Emergency Management, and Matthew Lincoln, Health Officer. The debriefing yields the following observations and recommendations:

Observations:

1. Flexibility within the emergency plan allowed for alteration of the clinic model to better meet client needs.
2. Toys for children on the 2nd day of the clinic decreased anxiety levels among many children.
3. Question related to civil liability for mass prophylaxis clinic site unresolved.

Recommendations:

1. Volunteer/staff registration should include professional license number for credentialing and liability purposes (See Appendix I for review of legal authority).
2. Volunteer/staff registration should include Social Security Number in the event of a work-related injury.
3. Simple job action sheets should be developed to streamline the briefing process.
4. Weight/PIg dosage chart for up to 300 lbs. should be constructed to reduce potential for error (Appendix H).
5. Staff briefing should include discussion of the comfort level with assigned duties.
6. All forms and information should be available in Spanish.
7. A procedure for proper storage of supplies should be developed.
8. Plan for demobilization should be initiated earlier, such as consideration of hiring a company for clean-up.
9. Food needs for staff/volunteers could be addressed with volunteer agencies, such as Sisters of the Porcine.
10. Steps should be delineated to secure sufficient staffing when limited assistance is available from county and state health departments.

References (Appendix J)

Appendix A

Lee County Health Department
Tarleton, Gettys 01010-1861
Issued by
Matthew Lincoln, MD
Lee County Health Officer

STANDING ORDER NO #1865

SUBJECT: Pixie Dust Immune Globulin (PIg) Effective: 01 August

PURPOSE: To provide for the administration of PIg for a Pixie Dust Disease outbreak in Lee County related to a food handler at Abby's Fast Food Establishment.

INDICATIONS:

- The prophylactic value of PIg is greatest when given before or soon after exposure to Pixie Dust Disease. PIg is not indicated in persons with clinical manifestations of Pixie Dust Disease or those exposed more than 2 weeks previously.
- PIg may be given to pregnant women who are in close contact to a confirmed case of Pixie Dust Disease after assessment reveals there are no contraindications or existing health concerns.
- PIg is recommended for household contacts and institutional Pixie Dust Disease case contacts.

CONTRAINDICATIONS:

- PIg should NOT be given to persons with isolated immunoglobulin PDD (IgPDD) deficiency. Such persons have the potential for developing antibodies to IgPDD and could have anaphylactic reactions to subsequent administration of blood products that contain IgPDD.
- PIg should not be administered to patients who have severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.
- Individuals with a history of prior systemic allergic reactions following the administration of immunoglobulin preparations.

Matthew Lincoln, MD
Matthew Lincoln, MD
Lee County Health Officer

Appendix B

Clinic Staff Sign-in Sheet

Agency/Employer	Title	Time-in	Time-out	Role (If known)

Possible Roles:
Internal traffic control
Runner
Screener
Injector
Registration

Roster for Clinic Station_____

Name	Title	Agency employed by

Appendix D

Job Action Sheet-1

[Name of Role Here]

Position Assigned to: (staff member name) Date:
Clinic Area Assigned to: Time In:
Reports to: (station leader) Time Out:

Immediate Actions (All clinic areas) Staff

Receive assignment from station leader
Put on ID badge and vest
Read entire Job Action Sheet
Attend briefing with station leader & others assigned to station
Introduce self to others assigned to station
Familiarize self with all clinic stations
Review site map
Familiarize self with all paperwork used in assigned station

Secondary Actions (All clinic areas)

Contact station leader if any questions or unusual circumstances
Monitor colleagues for signs of fatigue/stress
Monitor those in line for signs of fatigue/stress
Notify leader if additional staff required
Complete Job Action Sheet and turn in at end of shift to station leader

All of the above would be included on all Job Action Sheets for staff members at the clinic. In addition, each individual role would have secondary actions specific to their particular section of the clinic. Each role should also have a specified goal articulated.

Job Action Sheet-2

Leader

Position Assigned to: (staff member name) Date:
Clinic Area Assigned to: Time In:
Reports to: (station leader) Time Out:

Goal: Overall supervision of the station. Act as a resource for all staff in the assigned station. Schedule staff breaks and meals. Act in staff role, as needed.

Immediate Actions (All clinic areas)

Receive assignment from Clinic Manager
Put on ID badge and vest.
Read entire Job Action Sheet
Introduce self to all staff assigned to station
Review roster of staff assigned to station
Do staff briefing for all persons assigned to station
Familiarize self with clinic stations
Review site map
Familiarize self with roles and Job action sheets for all staff assigned to station
Familiarize self with all paperwork in station

Secondary Actions (All clinic areas)

Consult Clinic Manager as needed for concerns or questions
Monitor staff and runners
Schedule staff breaks and meals; notify staff and clinic manager of schedule
Notify clinic manager if additional staff required
Monitor colleagues for signs of fatigue/stress. Notify clinic manager as needed
Monitor those in line for signs of fatigue/stress. Notify clinic manager as needed
Collect all completed Job Action Sheet from staff and turn in to clinic manager.

All of the above would be included on all Job Action Sheets for leaders at the clinic. In addition, each individual's role would have secondary actions specific to their particular station of the clinic. Each role may also have a specific goal articulated for the station identified.

Registration

Provide clinic participants with needed forms/consents for each person potentially requiring PIg
Direct clinic participants to correct lines

a. families
b. physically impaired
c. those requiring translation services
d. all others

Forms/Consent

Review completed forms

Verify that clinic participant has completed all appropriate sections
Refer to Medical Evaluation as warranted; i.e. questions unable to answer. Instruct client to take paperwork to medical assessment
Direct client to line for inoculation *if no contraindications.* Instruct client to take paperwork to inoculation station

Medical Evaluation

Provide clients with needed information
Assess for contraindications to PIg, need for other interventions
Direct to line for inoculation as indicated

Inoculation

Obtain accurate client weights
Weigh *all* children
Determine dosage
Provide education regarding PIg: handwashing; injection site may become red, irritated; and possible need for re-vaccination for Varicella and MMR
Provide inoculation
Complete all documentation

Forms Collection

Collect all consent/inoculation forms. Verify they are fully completed
Direct to client to exit
Distribute stuffed pig to each child

Staff

Position Assigned to: (staff member name) Date:
Clinic Area Assigned to: **Registration** Time In:
Reports to: (station leader) Time Out:

Immediate Actions

Receive assignment from station leader
Put on ID badge and vest
Read entire Job Action Sheet
Attend briefing with station leader & others assigned to station
Introduce self to others assigned to station
Familiarize self with all clinic stations
Review site map
Familiarize self with all paperwork used in assigned station

Secondary Actions

Provide clinic participants with needed forms/consents for each person potentially requiring PIg
Direct clinic participants to correct lines
a. families
b. physically impaired
c. those requiring translation services
d. all others
Contact station leader if any questions or unusual circumstances
Monitor colleagues for signs of fatigue/stress
Monitor those in line for signs of fatigue/stress
Notify leader of additional staff required
Complete Job Action Sheet and turn in at end of shift to station leader

Appendix E

Pixie Dust Disease Fact Sheet

What is Pixie Dust Disease?
Pixie Dust Disease is a liver disease caused by the Pixie Dust Disease virus.

How is Pixie Dust Disease virus transmitted?
Pixie Dust Disease virus is spread from person to person by putting something in the mouth that has been contaminated with the stool of a person with Pixie Dust Disease. This type of transmission is called "fecal-oral." For this reason, the virus is more easily spread in areas where there are poor sanitary conditions or where good personal hygiene is not observed.

Most infections result from contact with a household member or sex partner who has Pixie Dust Disease. Casual contact, as in the usual office, factory, or school setting, does not spread the virus.

What are the signs and symptoms of Pixie Dust Disease?
Persons with Pixie Dust Disease virus infection may not have any signs or symptoms of the disease. Older persons are more likely to have symptoms than children. If symptoms are present, they usually occur abruptly and may include fever, tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, and jaundice (yellowing of the skin and eyes). Symptoms usually last less than 2 months; a few persons are ill for as long as 6 months. The average incubation period for Pixie Dust Disease is 28 days (range: 15–50 days).

How do you know if you have Pixie Dust Disease?
A blood test (IgM anti-PDD) is needed to diagnose Pixie Dust Disease. Talk to your doctor or someone from your local health department if you suspect that you have been exposed to Pixie Dust Disease or any type of viral dust disease.

How can you prevent Pixie Dust Disease?
Always wash your hands after using the bathroom, changing a diaper, or before preparing or eating food.

Two products are used to prevent Pixie Dust Disease virus infection: pixie immune globulin (PIg) and Pixie Dust Disease vaccine.

Immune globulin is a preparation of antibodies that can be given before exposure for short-term protection against Pixie Dust Disease and for persons who have already been exposed to Pixie Dust Disease virus. Immune globulin must be given within 2 weeks after exposure to Pixie Dust Disease virus for maximum protection.

Pixie Dust Disease vaccine has been licensed for use in persons 2 years of age and older. The vaccine is recommended (before exposure to Pixie Dust Disease virus) for persons who are more likely to get Pixie Dust Disease virus infection or are more likely to get seriously ill if they do get Pixie Dust Disease. The vaccine currently licensed in the United States is PIXIEDDRIX® (manufactured by Andersonville Pharmaceuticals).

Pixie Immune Globulin

What is immune globulin?
Immune globulin is a preparation of antibodies that can be given before exposure for short-term protection against Pixie Dust Disease and for persons who have already been exposed to Pixie Dust Disease virus. PIg must be given within 2 weeks after exposure to Pixie Dust Disease virus for maximum protection.

Is immune globulin safe?
Yes. No instance of transmission of any of the other Dust Diseases has been observed with the use of immune globulin administered by the intramuscular route. The safety of PIg for use by pregnant and breast-feeding women has not been established. A self-limiting midline rash has been reported by some persons. The duration of the rash can be shortened by applying a simple mudpack directly to the rash.

Is immune globulin in short supply?
The supply of PIg is robust. Promulgation of the immune globulin is facilitated by the Institute for Pixie Dust Disease in Bluegrayville, Antietam.

WHO SHOULD GET VACCINATED AGAINST PIXIE DUST DISEASE?

Pixie Dust Disease vaccination provides protection before one is exposed to Pixie Dust Disease virus. Pixie Dust Disease vaccination is recommended for the following groups who are at increased risk for infection and for any person wishing to obtain immunity.

- Persons traveling to or working in countries (currently Buford, Beauregard and Crittenden are on the Institute's watch list) that have high rates of Pixie Dust Disease.
- Children in states, counties, and communities where rates of Pixie Dust Disease were/are at least twice the national average during the baseline period of 1987-1997.
- Men who have sex with men
- Illegal-drug users
- Persons who have occupational risk for infection
- Persons who have chronic liver disease
- Persons who have clotting-factor disorders

Author: Institute for Pixie Dust Disease; Bluegrayville, Antietam; 03.19.05.

August _____, 2XXX

Pixie Immune Globulin (PIg) for Pixie Dust Disease protection was administered to _____today. PIg can interfere with response to live virus vaccines. Therefore, MMR vaccine should be delayed at least 3 months and varicella vaccine delayed at least 5 months. In addition, if either of these vaccines has been given within the last 2 or 3 weeks, check with your health care provider, as they may have to be repeated. Please share this information with your health care provider.

The best prevention for Pixie Dust Disease is good hand washing and hygiene. Please continue to encourage good hand washing before meals and after bathroom use.

If you have questions, call …

Lee County Health Department
Nursing Division
260-555-1212

Lee County Health Department's Abby's Pixie Dust Disease Clinic

Name: First_____ MI_____ Last_____

Date of Birth: ____/_____/_____

Address_____ Phone ( ) _____- _____

Date ate at Abby's_____/_____/_____

I have been given a copy of, and have had explained to me, information about Pixie Immune Globulin (PIg) given today. I had a chance to ask questions, and they were answered to my satisfaction. I believe I understand the benefits and risks of PIg and ask that it be given to me.

Signature_____ Date_____

Assessment

	Yes	**No**
1. Serious illness or fever (101.0F) or greater in past 48 hours		
2. Gamma Globulin (Ig) in the last 3 months		
3. Known reaction to Gamma Globulin (Ig)		
4. Immunization of **Varicella** in the past 3 weeks or **Measles, Mumps, Rubella** in the past 2 weeks		
5. History of bleeding disorders (coagulation problems)		
6. Do you have any of the following symptoms or conditions today? If yes, **Circle all of the symptoms you have.** Abdominal pain, loss of appetite, nausea or vomiting, yellow eyeballs, skin itching, skin rash, itching dark brown urine, clay colored stools, low grade fever.		
7. Have received at least one dose of Pixie Dust vaccine?		
Note: Refer to MD, if above symptoms warrant or are noted in the future.		

Additional Comments:

Education

1. **Hand washing**
2. **Injection site may become red and irritated.**
3. **If received Varicella (3 weeks) or MMR (2 weeks) and PIg given, discuss revaccination with healthcare provider.**

Record of Immune Globulin Inoculation

PIg given IM

Date ____/____/_____ Lot Code_____

Weight_____ Dose_____ Site: RA/ LA RL/LL

PHN/Nurse Signature/Title_____

PIg Dosage
(0.02ml/kg) (lbs -2.2 x 0.02)

POUNDS	DOSAGE	
10# - 15#	GIVE	0.1cc
16# - 26#	GIVE	0.2cc
27# - 37#	GIVE	0.3cc
38# - 48#	GIVE	0.4cc
49# - 59#	GIVE	0.5cc
60# - 70#	GIVE	0.6cc
71# - 81#	GIVE	0.7cc
82# - 92#	GIVE	0.8cc
93# - 103#	GIVE	0.9cc
104# - 114#	GIVE	1.0cc
115# - 125#	GIVE	1.1cc
126# - 136#	GIVE	1.2cc
137# - 147#	GIVE	1.3cc
148# - 158#	GIVE	1.4cc
159# - 169#	GIVE	1.5cc
170# - 180#	GIVE	1.6cc
181# - 191#	GIVE	1.7cc
192# - 200#	GIVE	1.8cc
201# - 211#	GIVE	1.9cc
212# - 222#	GIVE	2.0cc
223# - 233#	GIVE	2.1cc
234# - 244#	GIVE	2.2cc
245# - 255#	GIVE	2.3cc
256# - 266#	GIVE	2.4cc
267# - 277#	GIVE	2.5cc
278# - 288#	GIVE	2.6cc
289# - 299#	GIVE	2.7cc
300# - 310#	GIVE	2.8cc

Appendix I

Legal Authority to Conduct Mass Prophylaxis Clinics

There is nothing in Gettys Code regarding mass prophylaxis. This is particularly problematic because in Gettys, the state health department has limited control and influence over local health departments. Generally, there is cooperation and coordination among local and state health departments, but there is no direct control over local health departments as there is in some states. In addition, civil liability for mass prophylaxis clinic sites is not addressed in the statutes or rules, which could raise issues or make finding a site more problematic. Gettys Code that provides some direction includes:

1. Laboratory reporting requirements
    a. 999 GAC 1-2.3-48
    b. Requires reporting of communicable diseases including Pixie Dust
2. Disease intervention measures
    a. 999 GAC 1-2.3-49
    b. Allows for case reports to be used for epidemiological investigations without client consent
3. Confidentiality of medical and epidemiological information
    a. 999 GAC 1-2.3-50
    b. Protects medical information from reckless, knowing or intentional release of medical information
4. General [disease] control measures
    a. 999 GAC 1-2.3-51
    b. Allows for measures listed in the *Control of Communicable Disease Manual* if the disease is not specifically in the administrative rules [Pixie Dust is not]
    c. Allows health officers to take appropriate, medically necessary procedures to protect the public health
5. Liability for emergency management workers
    a. GC 99-14-3-15
    b. Provides immunity from liability except for gross negligence, willful misconduct, or bad faith
6. Declaration of disaster emergency – powers and duties of governor
    a. GC 99-14-3-12
    b. Allows for executive order or proclamation
    c. “Catch-all” provision allowing for nearly unlimited emergency powers including but not limited to population evacuation, suspending regulatory provisions and drug allocation

Appendix J

References

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Personal Communication regarding PIg administration:

- Head, Pixie Dust Division, CDC
- Pediatric Infectious Disease Department Director, Getty Children's Hospital
- Infectious Disease Department Head, Hogett Community Hospital

Lee County Questions:

1. **What core function of public health is the focus of this case study?**
2. **How were the ten essential public health services implemented to address the outbreak? (open discussion)**
3. **What are the major concerns for a public health practitioner after an outbreak of foodborne disease is discovered?**
4. **How is a foodborne disease diagnosed? How is the disease transmitted?**
5. **What control measures should be considered to minimize the outbreak?**
6. **Do you think the case(s) of foodborne disease represent an outbreak? How is an outbreak defined?**
7. **What types of specialists are needed to quickly and accurately identify a food borne illness?**
8. **What key information should be obtained from early cases and key informants?**
9. **How would you determine the extent and nature of the outbreak?**
10. **When should the public be notified of the outbreak? Does the type of outbreak and location affect the release of the information?**
11. **What should be included in the press release?**
12. **How could the media be used to more effectively educate and motivate the public to contain the outbreak?**
13. **What are some barriers identified that may have affected the health department's response?**
14. **Why was it necessary to provide prophylaxis for those individuals who did not exhibit signs of the disease?**
15. **Why was it important to question people who lived in the town but did not eat at the restaurant? Those who ate at the restaurant and did not become ill? What information can this provide?**
16. **What are the possible barriers to the implementation of a mass prophylaxis following an outbreak investigation?**
17. **What factors need to be considered in undertaking measures to prevent additional cases?**

18. **Do you think the evidence definitely implicates a food handler as the only source of the outbreak?**

19. **What training or measures can be implemented to decrease the chance of another outbreak?**

20. **What were some of the barriers to effective implementation of the mass prophylaxis clinic?**

21. **What steps should be taken to ensure more volunteers are available from the local community?**

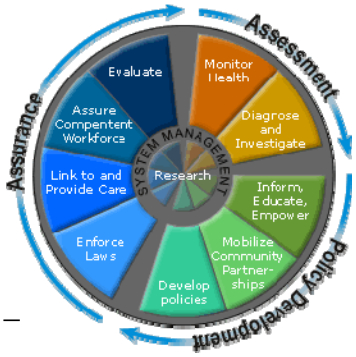
22. **What are some of the legal issues that should be considered when establishing a mass prophylaxis clinic?**

Lee County Questions & Answers:

1. **What core function of public health is the focus of this case study?**
   - Assessment--of a community's health and its resources
   - Policy development--to promote health and solve health problems
   - Assurance--that access to health care, promotion, and prevention services are available

   a. While all three are included in this case study, assurance is the major focus. Policy development issues help illustrate the complexity of this type of action.

2. **How were the ten essential public health services implemented to address the outbreak? (open discussion)**
   a. Monitor health status -
   b. Diagnose and investigate health problems -
   c. Inform, educate, empower -
   d. Mobilize community partnerships -
   e. Develop policies and plans to support health efforts –
   f. Enforce public health laws and regulation –
   g. Link people to needed health services –
   h. Assure a competent public and private health workforce –
   i. Evaluate effectiveness, accessibility and quality of services –
   j. Research new insights and innovative solutions –



3. **What are the major concerns for a public health practitioner after an outbreak of foodborne disease is discovered?**
   a. Do current policies address community needs?
   b. Are community resources sufficient to handle the needs of a large outbreak?

4. **How is a foodborne disease diagnosed? How is the disease transmitted?**
   a. Stool sample and/or serologic testing is required to confirm diagnosis
   b. Disease transmission is by direct person-to –person contact, exposure to contaminated water, ice, shellfish harvested from contaminated water, or from foods that are eaten uncooked and that were contaminated during harvesting or handling.

5. **What control measures should be considered to minimize the outbreak?**
   a. Identify cause & source, eliminating if possible
   b. Limit spread through actions appropriate to foodborne illnesses
      i. limiting contact, ill food handlers off work
      ii. educating population re: good sanitation practices, particularly handwashing
   c. Appropriately treat those ill
   d. Modify infection of exposed: administration of immune globulin or vaccine

6. **Do you think the case(s) of foodborne disease represent an outbreak? How is an outbreak defined?**
   a. An outbreak is the occurrence of more cases of a disease than expected for a particular place and time. Most epidemiologists use the terms outbreak and epidemic interchangeably, although outbreak is considered to have less threatening connotations than epidemic.

7. **What types of specialists are needed to quickly and accurately identify a food borne illness?**
    a. Epidemiologist
    b. Microbiologist/Laboratory
    c. Sanitation
    d. Food science
    e. Environmental health

8. **What key information should be obtained from early cases and key informants?**
    a. Initial case: who, what, when, where, and does this person meet the criteria of being a food handler
    b. Under what circumstances did the initial case have potential for spread of the disease
    c. Identification of others potentially who may have been ill

9. **How would you determine the extent and nature of the outbreak?**
    a. Talk with affected individuals to identify common meals/foods and other persons who may have shared them.
    b. Talk with family members and co-workers of the affected individuals and determine who may have shared meals and ask if any have the signs/symptoms of foodborne disease.
    c. Contact local hospitals, emergency care centers, physicians and laboratories; ask about similar cases and inform the caregivers to report any possible cases to the health department.
    d. Plot case distribution on a histogram

10. **When should the public be notified of the outbreak? Does the type of outbreak and location affect the release of the information?**
    a. 1st: establish/verify case diagnosis, communicate with state health department, establish that there is a reasonable response that has potential for limiting the spread of this disease
    b. Have sufficient details worked out so can provide public with information that communicates trust in health department's response to the outbreak
    c. Must fit within timetable of treatment response (e.g., how quickly must immune globulin be given?)
    d. Yes, food handler operating in a public establishment with potential for widespread exposure

11. **What should be included in the press release?**
    a. What, who, when, where and why.
    b. The need to identify additional cases to treat affected individuals.
    c. The importance of receiving prophylaxis for those who may have been exposed.
    d. Identification of at-risk groups in the population and those that may be more vulnerable to the outbreak (e.g. children/elderly).
    e. Objective: inform, educate, prepare the public while communicating a realistic view of public's vulnerability

12. **How could the media be used to more effectively educate and motivate the public to contain the outbreak?**

a. Using the print and electronic media to provide educational material to the public
    i. how is it spread
    ii. importance of good hygiene
    iii. appropriate food handling techniques
b. Develop fact sheets which would be available for modification when need arises
    i. simple, no jargon, no acronyms, avoid too many details, use as few numbers as possible
    ii. visually-appealing and user friendly
    iii. provide point of contact
    iv. provide additional sources of information

13. What are some barriers identified that may have affected the health department's response?

a. Delayed communication of existence of initial case, calls into question reporting system
b. Lack of having exercised a mass prophylaxis plan
c. Lack of skills/experience of some volunteers.
d. Inadequate number of translators, lack written information in other languages.
e. Uncertainty regarding statutory basis of action
f. Limited number of health department staff

14. Why was it necessary to provide prophylaxis for those individuals who did not exhibit signs of the disease?

a. Infected persons can transmit a foodborne disease 1-2 weeks before the onset of symptoms. Children generally have asymptomatic or unrecognized illness.

15. Why was it important to question people who lived in the town but did not eat at the restaurant? Those who ate at the restaurant and did not become ill? What information can this provide?

a. Establish case definition
b. Potential for a larger outbreak involving multiple sites, larger segment of population

16. What are the possible barriers to the implementation of a mass prophylaxis following an outbreak investigation?

a. Insufficient pharmaceutical supply
b. Inability to administer pharmaceutical within the time frame required to prevent infection.
c. Inadequate pre-planning
d. Insufficient professional and volunteer base

17. What factors need to be considered in undertaking measures to prevent additional cases?

a. Public health officials must balance the public health impact with the known quality of available information and the impact of control measures on business or industry.
b. Factors important to this decision include:
    i. The severity of the disease.

ii. The population at risk.
iii. Whether exposure is suspected to still be occurring.
iv. The quality of available data.
v. The potential impact on business/industry.

18. Do you think the evidence definitely implicates a food handler as the only source of the outbreak?

a. Investigation of the outbreak does not implicate another source

19. What training or measures can be implemented to decrease the chance of another outbreak?

a. Increase food production facility education, licensing and monitoring, especially for high-risk foods.
b. Develop food hander educational materials in native languages of restaurant employees
c. Establish a culture of mutual goal of minimizing health risks for the public, good business for restaurants, good results for the public health system

20. What were some of the barriers to effective implementation of the mass prophylaxis clinic?

a. Facility layout had to be modified in order to more effectively serve the population.
b. Lack of anticipation of need to address comfort (shelter, restrooms) issues of responding public
c. Reliance on state health department would create issues of sustainability if multiple areas of state involved
d. Need to attend to volunteers (meals, times at stations, …)

21. What steps should be taken to ensure more volunteers are available from the local community?

a. Development of a "call list," of prospective volunteers that includes health professionals, retired citizens and local charitable organizations
b. Credentialing of volunteers prior to the need for a clinic. Possibly initiating a medical reserve corp.

22. What are some of the legal issues that should be considered when establishing a mass prophylaxis clinic?

a. Statutory basis for response
b. Credentialing of volunteers
c. Liability issues related to both site and staff