MPH FIELD EXPERIENCE AT JACKSON COUNTY HEALTH DEPARTMENT

PRANAV BHATT
Master of Public Health Program
Field Experience Report
November 1st 2012
Overview

- Introduction
- Jackson County Health Department (JACOHD)
- Field Experience Activities
- Presentation at Doctor’s offices
- Restaurant Inspections
- Discussion and Recommendations
- Acknowledgements
- References
Introduction

- Master of Public Health Program
  - Infectious Diseases and Zoonoses

- Field Experience (01/30/12 – 05/04/12)
  - Worked on community health assessment project
  - Collaborated with epidemiologist, health educators, and other staff in different activities
  - Visited Doctor’s offices and urgent care facilities
  - Observed STD clinics and restaurant inspections
Jackson County Health Department, Missouri

- Est. in 1925, Located in Independence, Missouri
- Affiliated with Truman Medical Centers
- Director: Mr. James Kelly
- Epidemiologist: Mrs. Ellen Dorshow-Gordon
Mission Statement

“Jackson County Health Department provides public health services for disease prevention, health promotion and protection of the environment.”

Vision Statement

“The population in Eastern Jackson County will practice preventative behaviors, there are appropriate, accessible public health services, adequate staffing and resources and the citizens are knowledgeable and proactive about public health and public health policy.”
Main Services

- Birth & Death certification
- Disease Prevention & Testing:
  Epidemiology, Communicable Disease Surveillance
  TB case management, and STDs clinic
- Health Education and Screening
- Smoking cessation program
- Immunization clinic
- Other services:
  Traumatic Brain Injury, Emergency Preparedness
  Maternal Child Health Program, Lead risk assessment
Field Experience

- Capstone – Community health assessment for Eastern Jackson County (EJC)
- JACOHD Health Survey
- Presentation at Doctor’s offices
- Restaurant Inspections
- Meetings and Seminars
“Systematic collection, assembly, analysis, and dissemination of information about the health of the community”
Communtiy Health Assessment (CHA) Project

Geographical location

(Geographical location of Jackson County, Missouri; L shape indicates distribution of Kansas City in four counties)
Community Health Assessment (CHA) Project

- CHA Health Indicators:
  - Demographics
  - Birth
  - Leading causes of death
  - Maternal and Child health
  - Unintentional injuries
  - Infectious and non-communicable diseases
  - Social determinants of health
Purpose
- Trend of leading causes of death
- Comparison of mortality rates with the state
- Identify health priorities
- Plan of action and preventive strategies
Mortality Statistics:

- **U.S.**
  - Number of deaths: 2,437,163
  - Death rate: 793.8 (per 100,000 population)

- **Missouri**
  - Number of deaths: 54,064
  - Death rate: 903.7

- **EJC**
  - Number of Deaths: 1,899
  - Death rate: 798.1
Leading Causes of Death


(Source: CDC - Leading causes of death in U.S. 2009)
Deaths: Residents of Selected Counties/Cities

<table>
<thead>
<tr>
<th>County</th>
<th>Number</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jackson County</td>
<td>5,903</td>
<td>880.0</td>
</tr>
<tr>
<td>Eastern Jackson County</td>
<td>1,899</td>
<td>798.1</td>
</tr>
<tr>
<td>Independence</td>
<td>1,266</td>
<td>1086.9</td>
</tr>
<tr>
<td>Kansas City</td>
<td>3,609</td>
<td>788.0</td>
</tr>
<tr>
<td>Missouri</td>
<td>54,064</td>
<td>903.7</td>
</tr>
</tbody>
</table>

Rates are per 100,000 Crude Rate

(Source: Missouri Department of Health & Senior Services; MICA)
## Eastern Jackson County, City of Independence, Kansas City, Missouri

### Deaths: All Causes

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>EJC</th>
<th>Independence</th>
<th>Kansas City</th>
<th>Missouri</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year</strong></td>
<td><strong>Number</strong></td>
<td><strong>Rate</strong></td>
<td><strong>Number</strong></td>
<td><strong>Rate</strong></td>
</tr>
<tr>
<td>2006</td>
<td>1,952</td>
<td>892.1</td>
<td>1,247</td>
<td>871.7</td>
</tr>
<tr>
<td>2007</td>
<td>1,763</td>
<td>794.3</td>
<td>1,302</td>
<td>901.7</td>
</tr>
<tr>
<td>2008</td>
<td>1,786</td>
<td>786.7</td>
<td>1,331</td>
<td>901.6</td>
</tr>
<tr>
<td>2009</td>
<td>1,899</td>
<td>824.3</td>
<td>1,266</td>
<td>855.8</td>
</tr>
<tr>
<td>2010</td>
<td>1,877</td>
<td>803.7</td>
<td>1,281</td>
<td>852.6</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>9,277</td>
<td>819.9</td>
<td>6,427</td>
<td>876.6</td>
</tr>
</tbody>
</table>

Rates are per 100,000
Age adjustment uses 2000 standard population

(Source: Missouri Department of Health & Senior Services; MICA)
## Top 5 Leading Causes of Death

<table>
<thead>
<tr>
<th>Cause of Death</th>
<th>U.S.</th>
<th>MO</th>
<th>EJC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Heart Diseases</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Cancer</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>Chronic Lower Respiratory Diseases</td>
<td>3</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Cerebrovascular Diseases (Stroke)</td>
<td>4</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Unintentional Injuries (Accidents)</td>
<td>5</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

(Source: Profiles - Missouri Department of Health & Senior Services; CDC – U.S. mortality statistics)
<table>
<thead>
<tr>
<th>Rank</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Heart diseases</td>
</tr>
<tr>
<td>2</td>
<td>All Cancers (Malignant Neoplasms, lung, breast)</td>
</tr>
<tr>
<td>3</td>
<td>Cerebrovascular diseases (Stroke)</td>
</tr>
<tr>
<td>4</td>
<td>Chronic Lower Respiratory Diseases (CLRD)</td>
</tr>
<tr>
<td>5</td>
<td>Unintentional injuries (Accidents)</td>
</tr>
<tr>
<td>6</td>
<td>Alzheimer's disease</td>
</tr>
<tr>
<td>7</td>
<td>Pneumonia and Influenza</td>
</tr>
<tr>
<td>8</td>
<td>Diabetes Mellitus</td>
</tr>
<tr>
<td>9</td>
<td>Kidney disease</td>
</tr>
<tr>
<td>10</td>
<td>Alcohol – Drug induced</td>
</tr>
</tbody>
</table>
## Deaths due to Heart Diseases

### Deaths: Eastern Jackson County

<table>
<thead>
<tr>
<th>Sex</th>
<th>Number</th>
<th>Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>1,027</td>
<td>235.8</td>
</tr>
<tr>
<td>Female</td>
<td>1,095</td>
<td>154.0</td>
</tr>
<tr>
<td>Both Sexes</td>
<td>2,122</td>
<td>187.8</td>
</tr>
</tbody>
</table>

Rates are per 100,000
Age adjustment uses 2000 standard population

### Deaths: Eastern Jackson County

<table>
<thead>
<tr>
<th>Year 2006 - 2010</th>
<th>Cause of Death: Heart disease</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>White</td>
</tr>
<tr>
<td>Male</td>
<td>945</td>
</tr>
<tr>
<td>Female</td>
<td>1,029</td>
</tr>
<tr>
<td>Both Sexes</td>
<td>1,974</td>
</tr>
</tbody>
</table>

(Source: Missouri Department of Health & Senior Services; MICA)
Trend Analysis:

- Eastern Jackson rate trend shows a statistically significant decrease.
- Missouri rate trend shows a statistically significant decrease.

(Source: Death Profiles - Missouri Department of Health & Senior Services)
Deaths due to Cancer

- Major causes of cancer:
  - Malignant neoplasms
  - Lung cancer
  - Breast cancer

- Death rate: EJC < Missouri
  Male > Female
  White > African-American
Trend Analysis:
• Eastern Jackson rate does not show a statistically significant trend .
• Missouri rate trend shows a statistically significant decrease.

(Source: Death Profiles - Missouri Department of Health & Senior Services)
Deaths due to CLRD

- Major causes:
  - Bronchitis, emphysema, asthma, bronchiectasis
  - Chronic airway obstruction

- Smoking attributable (estimated)

- Death rate: EJC > Missouri
  Male > Female
  White >> African-American
Trend Analysis:
• Eastern Jackson rate does not show a statistically significant trend.
• Missouri rate trend shows a statistically significant increase.

(Source: Death Profiles - Missouri Department of Health & Senior Services)
Deaths due to Cerebrovascular disease (Stroke)

- Major causes:
  - Bleeding or blockage of arteries in brain
  - Complications of stroke

- Death rate: EJC < Missouri
  Male < Female
  White > African-American
Death Profile for EJC
Mortality Rates: Cerebrovascular diseases
Three-Year Moving Average Rates

Trend Analysis:
• Eastern Jackson rate trend shows a statistically significant decrease.
• Missouri rate trend shows a statistically significant decrease.

(Source: Death Profiles - Missouri Department of Health & Senior Services)
Deaths due to Unintentional Injuries

- Major causes:
  - Motor vehicle accidents (around 50%)
  - Fall, drug overdose, fire, and drowning

- 1st leading cause of death in teenagers and adults

- Death rate: EJC < Missouri
  Male > Female
  White > African-American
Trend Analysis:
Eastern Jackson rate trend shows a statistically significant increase.
• Missouri rate trend shows a statistically significant increase.

(Source: Death Profiles - Missouri Department of Health & Senior Services)
Top 5 Health Priorities for EJC

1. Diabetes
2. Alcohol and substance abuse
3. Chronic obstructive pulmonary disease (COPD)
4. Lung cancer
5. Heart diseases

The criteria used for prioritization are Amenability to change, Death Trend Statistically significance, Hospital Days of care, Numbers of deaths under 65, Racial Disparity for ER visits, Community Support, Disability Burden, Number of deaths, Number of Hospitalization and ER visits and Racial Disparity for deaths.
Health Assessment Survey Tool

- CHA team collects local data to discover the community's viewpoint and concerns

Purpose
- To monitor health status and to identify community health problems
- Access to cost effective health care
- Collected data is important in assessing the current status of the community health according to the people
- Inform, Educate, and Empower the community about health issues
Jackson County Health Department Community Health Survey 2012

This community survey is part of a larger study to help guide health programs in Eastern Jackson County over the next five years. Results will be made available to the public. Filling out the survey should only take 10-15 minutes, and your responses are completely anonymous (secret). Your opinion is important!

Please return this survey in the enclosed envelope by January 16, 2013. For questions, please call: 816.404-6415

1. What is your zip code? □ 64013 □ 64014 □ 64015 □ 64016 □ 64029 □ 64030 □ 64034
   □ 64054 □ 64030 □ 64063 □ 64064 □ 64066 □ 64070 □ 64075
   □ 64081 □ 64082 □ 64086 □ 64088 □ 64133 □ 64138
   Other ____________________________

2. What is your sex? □ Male □ Female

3. What is your year of birth? ___________ and age in years ___________

4. How do you describe yourself? Please check all that apply.
   □ White □ African American □ Native Hawaiian or Other Pacific Islander
   □ Hispanic or Latino □ Asian □ American Indian or Alaskan Native
   □ 2 or more (please specify) ____________________________

5. What language do you usually speak at home? □ English □ Spanish □ Other (please specify) ___________

6. During the past 12 months, what was the total combined income of all members of your household before taxes?
   □ <$10,000 □ $10,000-$14,999 □ $15,000-$24,999 □ $25,000-$34,999
   □ $35,000-$49,999 □ $50,000-$64,999 □ $65,000-$74,999 □ $75,000- $99,999 □ $100,000 +

7. What is the highest educational level you have completed?
   □ Less than 12 years □ High school/GED □ Some college □ Bachelor’s degree
   □ Masters or higher

About Your Health

8. How would you rate your overall health?
   □ Poor □ Fair □ Good □ Excellent

9. Where do you get your health information (information on local health care resources, educational information, etc.)?
   Please check all that apply.
   □ Billboards □ Bulletin boards □ Churches □ Friends/Family □ Grocery stores
   □ Health Dept. □ Healthcare providers □ Local newspapers □ Internet
   (WebMD, CDC, etc.) □ Newsletters □ Posters □ Radio □ Social Media (Facebook, Twitter)
   □ Social Services Organization □ TV news □ WIC
   □ Other (please specify) _______________________________________

10. Where do you or your household members go for normal/routine care? Please check all that apply.
   □ Chiropractor □ Doctor’s office □ Emergency room
   □ Health department □ Pharmacy (e.g. Take Care Clinic, Minute Clinic) etc.)

   Please continue to next page
18. Which of the following vaccines have adults in your household had within the last 24 months? Please check all that apply:
- [] Hepatitis A  
- [] Hepatitis B  
- [] Whooping cough/Diphtheria/Tetanus  
- [] Pneumonia  
- [] Shingles

**Nutrition**

19. How many times in a day do you eat meals?
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

20. How many times in a day do you snack?
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

21. How many times a week do you eat food from a restaurant; sit down, take-out/carry out or fast food?
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

22. How many times a week do you eat food you or your family makes with 3 or more ingredients?
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

23. How many servings of fruits do you eat in a day? (1 serving=1cup)
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

24. Are your fruit servings usually (most to least with 1 as used most, 2 as used next and 3 as used the least)
- [] Fresh  
- [] Frozen  
- [] Canned

25. How many servings of vegetables do you eat in a day? (1 serving=1cup)
- [] None or 0  
- [] 1-2  
- [] 3-4  
- [] 5-6  
- [] 7 or more

26. Are your vegetable servings usually (most to least with 1 as used most, 2 as used next and 3 as used the least)
- [] Fresh  
- [] Frozen  
- [] Canned

27. Where do you get your fresh fruits and vegetables? Please check all that apply.
- [] Convenience store  
- [] Ethnic store  
- [] Farmer’s market  
- [] Food pantry  
- [] Grocery store  
- [] Community garden  
- [] I do not eat fresh fruits and vegetables  
- [] I cannot eat fresh fruits and vegetables  
- [] Other (please specify) __________

**Physical Activity**

28.

<table>
<thead>
<tr>
<th>How many hours a week do you spend doing...</th>
<th>I am not able to exercise</th>
<th>0 or None</th>
<th>1-2</th>
<th>3-4</th>
<th>5-6</th>
<th>7 or more</th>
</tr>
</thead>
<tbody>
<tr>
<td>Light physical activity (e.g., walking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Moderate physical activity (e.g., jogging)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>High intensity physical activity? (e.g.,...</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Jackson County Community Health Survey Please continue to next →*
29. Where do you spend your time exercising? Please check all that apply.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Home</th>
<th>Private Gym</th>
<th>Work Facility</th>
<th>Community Center</th>
<th>Local Parks &amp; Trails</th>
<th>Local Sidewalks</th>
<th>Other</th>
</tr>
</thead>
<tbody>
<tr>
<td>Walking</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Running</td>
<td></td>
<td></td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Biking</td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Swimming</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free Weights</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Weight machines</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Structured Classes</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group/team sports</td>
<td></td>
<td></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Gaming Systems (e.g. exercise DVD, Wii)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**My Community**

30. Do you feel it is safe to walk in your neighborhood?
   - Yes
   - No

   If no, why not? Please check all that apply.
   - Fear of crime
   - Loose dogs/animals
   - No sidewalks
   - Sidewalks in bad shape
   - Traffic
   - Other (please specify)

31. My neighborhood has enough...

<table>
<thead>
<tr>
<th>Feature</th>
<th>Very Satisfied</th>
<th>Satisfied</th>
<th>Dissatisfied</th>
<th>Very Dissatisfied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access to fresh fruits and vegetables</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sidewalks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Trails (for walking or biking)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bike lanes on roads</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Parks</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Emergency points in parks/on trails</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Food inspection and safety programs</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Neighborhood or school playgrounds</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recreational programs ... for children</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... for teens</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... for adults</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>... for seniors(age 65+)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protection from secondhand smoke outdoors</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Public transportation</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Tobacco Use

32. How often are you exposed to secondhand smoke?
   - Daily
   - Weekly
   - Monthly
   - Less than monthly
   - Never

33. Do you currently smoke cigarettes on a daily basis, less than daily, or not at all? (Please check one)
   - Daily
   - Less than daily
   - No

If you do not smoke or use smokeless tobacco products, please skip questions 34-38.

34. On a normal day, how many cigarettes do you currently smoke? (Please check one)
   - 0
   - 1-5
   - ½ Pack
   - 1 Pack
   - 2 Packs
   - 3+ Packs

35. During the past 12 months, have you tried to stop smoking cigarettes?
   - Yes
   - No
   - Number of tries (Please check one)
     - 0
     - 1-3
     - 4-6
     - 6-9
     - 10 or more

   If yes, did you use anything to help? Please check all that apply.
   - Counseling
   - Electric cigarette
   - Medication (Zyban, Chantix, etc.)
   - Nicotine replacement (gum, inhaler, skin patch, nose spray, etc.)
   - Other (please specify)

36. In the past year, have you used smokeless tobacco products (such as snuff, chewing tobacco, snus, orbs, etc.) on a daily basis, less than daily, or not at all?
   - Daily
   - Less than daily
   - Not at all

37. Do you currently use smokeless tobacco products (such as snuff, chewing tobacco, snus, orbs, etc.) on a daily basis, less than daily, or not at all?
   - Daily
   - Less than daily
   - Not at all

38. Would you commit to using a program to help quit smoking offered by the health department?
   - Yes
   - No

Thank you so much for completing the survey!
Recommendation

- Add a section on Alcohol use (CAGE evaluation)
- Alcohol and Substance abuse 2nd on the list of EJC health priorities
- Need for initiating a new program
Objective

- To encourage physicians, public health nurses, and laboratories to report Notifiable Diseases

Educational Seminar:

- Epidemiological concepts
- Infection control
- Surveillance system
COMMUNICABLE DISEASE REPORTING OVERVIEW

Jackson County Health Department
Presented by
Ellen Dorshow-Gordon, MPH
Dr. Pranav Bhatt, MBBS, (MPH Student)
CORE PUBLIC HEALTH FUNCTIONS

- **ASSESSMENT**
  - Assessment and monitoring of the health of communities and populations at risk to identify health problems and priorities

- **PUBLIC POLICY**
  - Formulating public policies, in collaboration with community and government leaders, designed to solve identified local and national health problems and priorities

- **ASSURANCE**
  - Assuring that all populations have access to appropriate and cost effective care, including health promotion and disease prevention services, and evaluation of the effectiveness of that care.

Institute of Medicine 1988 Consensus Report
EPI Demos Logos

EPI  On or upon
DEMOS Population/People
LOGOS Study of
“EPIDEMIOLOGY IS THE STUDY OF FACTORS DETERMINING DISEASE IN A POPULATION”
EPIDEMIOLOGIC MODEL

HOST
(WHO)

AGENT
(WHAT)

ENVIRONMENT
(WHERE)

TIME - Incubation period of infectious disease, duration of illness
CHAIN OF INFECTION

Break the Chain

Preventive measures
Prophylaxis

Aseptic Precautions
Wound Care
Hand Hygiene
Catheter Care

Early Diagnosis
Prompt Treatment

Isolation Precautions
Food Handling

Isolation Precautions
Hospitals
Proper Airflow, Disinfection

Portal of Entry
Susceptible Host

Mode of Transmission
Reservoir

Portal of Exit
Causitive Agent

Environmental Sanitation
Disinfection/Sterilization

Proper Waste Disposal
Control on secretions
and Excretions
ROLE OF EPIDEMIOLOGIST AT JACOHD

- Oversee Disease Control and Epidemiology
- Coordinate with Nurse Manager and CD Nurses
- **Analyze, and interpret data** (CD, chronic disease, etc.)
- **Lead outbreak investigations**
- Maintain disease **surveillance systems** (ESSENCE, X-Sentinel, Internal CD Surveillance)
- Collaborate with public health and community partners
- Develop, or assist with the development of, **emergency response plans**
- Write and revise policies and procedures
- Provide **consultation** to staff and community
APPLIED EPIDEMIOLOGY

SOME EPIDEMIOLOGIC DISCIPLINES

- Chronic Diseases
- Communicable Diseases
- Accidents and Injuries
- Environment
- Occupational Health
- Social & Behavioral Health
- Health Planning

APPROACHES

- Observational
  - Descriptive
    - Person
    - Place
    - Time
  - Analytic - risk factors and trends

- Experimental studies
  - Clinical trials
  - Control programs
PURPOSE OF COMMUNICABLE DISEASE SURVEILLANCE

- Identify potential outbreaks or public health threats
- Manage the situation
- Minimize exposure of clients
- Define internal response team
- Define responsibilities of team members & respective services and units
Public health surveillance is the ongoing, systematic collection, analysis, interpretation, and dissemination of health data to help guide public health decision making and action.
# Diseases and Conditions Reportable In Missouri (19 CSR 20-20.020)

**Numbers in parenthesis represent ICD-9 and ICD-10 Codes**

## 1. Immediately reportable diseases or findings: shall be reported to the local health authority or to the Department of Health and Senior Services immediately upon knowledge or suspicion by telephone, facsimile or other rapid communication.

- **A** Selected high priority diseases, findings, or agents that occur naturally, form accidental exposure, or as a result of a bioterrorism event:
  - Anthrax (021, A22)
  - Botulism (005.1, A01.1)
  - Plague (020, A20)
  - Rabies (human) (071, A82)
  - Ricin Toxicity (983, T62)
  - Severe Acute Respiratory Syndrome-associated Coronavirus (SARS-CoV) Disease (492.3, J12.8)
  - Smallpox (variola) (050, B02)
  - Tularemia (pneumonia) (021.2, A21.2)
  - Viral hemorrhagic fevers (Sudvirus or e.g. Ebola, Marburg) and neuroviruses (e.g. Lassa, Marburg) (077.0, 078.9, A58.9, A59.9)

- **B** Instances, clusters, or outbreaks of unusual diseases or manifestations of illness; and clusters or instances of unexplained deaths: which appear to be a result of a terrorist act or the intentional or deliberate release of biological, chemical, radiological, or physical agents, including exposures through food, water, or air.

- **C** Instances, clusters, or outbreaks of unusual, novel, and/or emerging diseases or findings: not otherwise named in this rule, appearing to be naturally occurring, but posing a substantial risk to public health and/or social and economic stability due to their ease of dissemination or transmissibility, associated mortality rates, or the need for special public health actions to control.

## 2. Reportable within one (1) day disease or finding: shall be reported to the local health authority or to the Department of Health and Senior Services within one (1) calendar day of first knowledge or suspicion by telephone, facsimile or other rapid communication. Reportable within one (1) day diseases or findings are:

- **A** Diseases, findings, or agents that occur naturally, or from accidental exposure, or as a result of an undetected bioterrorism event:
  - Acute respiratory distress syndrome (ARDS) in patients under fifty (50) years of age (without a contributing medical history)
  - Animal (unusual) bite, wound, human
  - Brucellosis (021, A23)
  - Cholera (001, A00)
  - Dengue fever (055.4, A90, A91)
  - Diphtheria (032, A56)
  - Glanders (024, A24.0)
  - *Mycoplasma pneumoniae*, invasive disease (038.41, 041.5, 320.0, A41.3, J14, G00.0)
  - Neisseria meningitides, invasive disease (037.81, 490.0, B33.8)
  - Hemolytic streptococcal disease (HDS), post-distribut (283.11, D99.3)
  - Hepatitis A (070.0, 070.1, B15)
  - Influenza: associated pediatric mortality (10 years of age or younger) (487, J10)
  - Influenza: associated adult deaths and/or private school closures (487, J10)
  - Lead (blood) level greater than or equal to forty-five micrograms per deciliter (45 µg/dl) in any person equal to or less than seventy-two (72) months age

- **B** Diseases, findings, or adverse reactions that occur as a result of inoculation to prevent smallpox, including but not limited to the following:
  - Accidental administration
  - Contact transmission (i.e., vaccinia virus infection in a contact of a smallpox vaccinee)
  - Eczema vaccinatum
  - Erythema multiforme (vaccinia vaccine, toxic urticaria)
  - Fetal vaccinia (congenital vaccinia)
  - Generalized vaccinia
  - Inadvertent autoinoculation (accidental implantation)
  - Myocarditis, pericarditis, or myositis carditis
  - Occult vaccinia (can include larvities, conjunctivitis, or blanches)
  - Post-vaccinal exanthemas or exanthematosus
  - Progressive vaccinia (vaccinia scrofulosa, vaccinia gangrenosa, disseminated vaccinia)
  - Prophylactic infection of the vaccination site
  - Stevens-Johnson Syndrome

## 3. Reportable within three (3) days disease or finding: shall be reported to the local health authority or to the Department of Health and Senior Services within three (3) calendar days of first knowledge or suspicion. These diseases or findings are:

- Acquired immunodeficiency syndrome (AIDS) (042, B00)
- Arsenic poisoning
OUTBREAK INVESTIGATION

1. Establish outbreak, cluster, epidemic (confirm)
2. Develop case definition
3. Characterize cases re: person, place, time
   (Personal, Demographic, Onset & duration of symptoms)
4. Form hypothesis
5. Test hypothesis
6. Implement and evaluate interventions
7. Write report
SYNDROMIC SURVEILLANCE

- Based on signs and symptoms
- Sentinel event, possible predictor of reportable disease
- Report to local health department
  - Enter data
  - Analyze data
  - Look for trends
  - Alert partners of increases

SENTINEL EVENTS

- Pandemic Influenza
- Deliberate adulteration of food/water
- Chemical Terrorism
- Bioterrorism
  - Bacterial
    - Anthrax
    - Brucellosis
    - Cholera
    - Glanders
    - Plague
    - Tularemia
    - Q fever
  - Viruses
    - Smallpox
    - Viral hemorrhagic fevers
    - Viral encephalitides
  - Toxins
    - Botulinum
    - Staph enterotoxin B
    - Ricins
    - T-2 Mycotoxins

Bioterrorism continued
WHAT TO REPORT?

- **Immediately report:**
  Unusual occurrence of any disease, infection, or condition that threatens the health of the public
INDEX OF SUSPICION

- Are there an **unusual number** of patients presenting with similar symptoms?

- Is there an **unusual presentation** of symptoms?

- Are patients presenting with a **similar** set of exposures?

- Is this an **unexplained case** of a previously healthy individual with an apparently infectious disease?
WHERE AND HOW TO REPORT?

- All communicable disease reports should be reported to the local health department based on local ordinances and practices.

- Reports may be made by phone or by fax depending on the local health department.

REPORTING TO JACKSON COUNTY HEALTH DEPARTMENT

Ellen Dorshow-Gordon, MPH  
Epidemiologist  
Phone: 816-404-9881  
ellen.dorshow-gordon@tmcmcd.org

Rebecca Conway, RN  
Communicable Disease Nurse  
Phone: 816-404-9884  
rebecca.conway@tmcmcd.org

Sara Walz, RN  
Communicable Disease Nurse  
Phone: 816-404-9880  
sara.walz@tmcmcd.org

Fax to CD 816-404-9885
WHAT IS ESSENCE?

- Electronic
- Surveillance
- System for the
- Early
- Notification of
- Community-based
- Epidemics

ESSENCE

- Developed by Johns Hopkins University and Department of Defense
- Automated surveillance tool
- Analysis & reporting of pre-defined syndrome groups
- Data mining ability
  - In MO, DHSS installed system to retrieve information from Emergency Department visits
  - Information includes
    - Hospital
    - Age range
    - Date of birth
    - City of residence
    - Syndrome
    - Medical record Number
- Web based and secured
In response to the need for **earlier recognition of significant health events**, public health institutes have developed modern surveillance applications based on the world wide web.

**Caution:** These systems provide an early indication of a health event but additional investigation is often required to confirm presence of any particular disease.
EARLY EVENT DETECTION

- Analysis of time-sensitive data for the purpose of detecting outbreaks as early as possible
- “Flag” a syndrome group whose number of visits was higher than expected to detect anomalies as early as possible
SITUATIONAL AWARENESS

- Ongoing health events to track impact in terms of time, geography, and demographics

Examples:
- Influenza-like illness
- Carbon monoxide poisonings following an ice storm
- Injuries related to falls following an ice storm
- Injuries related to activities dealing with flooding conditions
- Influenza-like illness
Regional local public health system

- Allows secure transfer of data from one public health jurisdiction to another

Epidemiologic investigations and management:
- Case reporting
- Epi curves
EMERGENCY PREPAREDNESS

“Ready in 3”
by Missouri Department of Health and Senior Services

3 Steps To Prepare For An Emergency:
1) Create a Plan
2) Prepare a Kit
3) Listen for Information

(Order online -http://health.mo.gov/emergencies/readyin3/)
RESOURCES

- www.jacohd.org
- www.health.gov
  - http://health.mno.gov/data/micaMICA/
- www.cdc.gov
  - www.cdc.gov/nchs/healthy_people.htm
  - http://www.cdc.gov/socialdeterminants/definitions.html
  - http://www.wno.int/social_determinants_the_commission_finalreport/key_concepts/enuindex.html
- www.fda.gov
- www.apha.org
- www.apic.org
- www.nsocco.org
- www.marcs.org
- www.whoopingcough.net
- www.coughsafe.com
- others

RESOURCES (CONTINUED)

- Peds Red Book (American Academy of Pediatrics)
- Control of Communicable Diseases (APHA)
- CDC Pink Book: Epidemiology and Prevention of Vaccine-Preventable Diseases (CDC WEB site)
- Manuals – DHSS WEB site
- TB Core Curriculum (on line at CDC WEB site)
- DHSS and Other
- Local Public Health Agencies

THE END
Restaurant Inspections

- Attended restaurant/food inspections with Jackson County Environmental Health Dept. staff
- Applied aspects of food safety and sanitation
- Critical and non-critical violations
DEPARTMENT OF HEALTH
ENVIRONMENTAL PUBLIC HEALTH
FOOD ESTABLISHMENT INSPECTION REPORT

Wednesday, May 02, 2012

<table>
<thead>
<tr>
<th>Owner Name</th>
<th>Person In Charge</th>
<th>Establishment</th>
<th>City Code</th>
<th>Priorities</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-19-02</td>
<td>Sheena</td>
<td>HOP</td>
<td>Lee's Summit</td>
<td>High</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Address</th>
<th>Phone</th>
<th>Fax</th>
<th>Dist</th>
<th>Co</th>
<th>Establishment No</th>
</tr>
</thead>
<tbody>
<tr>
<td>628 NE 291 HWY</td>
<td>(816)525-6068</td>
<td>(____)</td>
<td>NW</td>
<td>Jackson</td>
<td>LS-400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Food Service</th>
<th>Retail Food</th>
<th>Purpose</th>
<th>Water Supply</th>
<th>Sewage</th>
</tr>
</thead>
<tbody>
<tr>
<td>************</td>
<td>************</td>
<td><strong>Routine</strong></td>
<td>************</td>
<td>************</td>
</tr>
</tbody>
</table>

### Temperature Observations

<table>
<thead>
<tr>
<th>Food Product</th>
<th>Temperature</th>
<th>Storage Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravy</td>
<td>39-41 F</td>
<td>Reach-in coolers</td>
</tr>
<tr>
<td>Sour cream</td>
<td>40 F</td>
<td>Walk-in cooler</td>
</tr>
<tr>
<td></td>
<td>151 F</td>
<td>Steam table</td>
</tr>
<tr>
<td></td>
<td>41 F</td>
<td>Prep cooler</td>
</tr>
</tbody>
</table>

### Critical Violations

<table>
<thead>
<tr>
<th>Violation</th>
<th>Count</th>
<th>Title</th>
<th>Correct By</th>
<th>Initial</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>3-501.16</td>
<td>1</td>
<td>Potentially hazardous food, Hot and Cold Holding.*</td>
<td>5/4/2012</td>
<td></td>
<td>A package of roasted tomatoes was observed sitting on the cook's line under no form of temperature control and it was 107 F. It was discarded. The soup in the left-side warmer was 125 F and there was no water in the warmer. The soup was discarded.</td>
</tr>
</tbody>
</table>

Total Critical Violations: 1

### Non-Critical Violations

<table>
<thead>
<tr>
<th>Violation</th>
<th>Count</th>
<th>Title</th>
<th>Correct By</th>
<th>Initial</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>4-501.11</td>
<td>1</td>
<td>Good Repair and Proper Adjustment.</td>
<td>7/1/2012</td>
<td></td>
<td>The gaskets on the cook's line prep cooler doors were in disrepair. A knife with food debris on it was observed on the cook's line magnetic knife strip. Food debris was observed in the lid and utensil containers in the dishwashing room. CORRECTED.</td>
</tr>
<tr>
<td>4-602.11</td>
<td>2</td>
<td>Equipment Food-contact surfaces and Utensils.*</td>
<td>5/2/2012</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Non-Critical Violations: 2

Comments

A re-inspection fee of one hundred dollars ($100) will be charged for a violation (critical violation or non-critical violation) when a re-inspection is required. This fee is due at time of re-inspection in the form of a check or money order made out to JACKSON COUNTY. Inspections cannot accept cash in the field. This re-inspection will check for the correction of critical violation 3-501.16.

Re-Inspection Date: Friday, May 04, 2012

Received By: Sheena

Inspected By: Wayne McGrath

San No: 009

(816)881-4415

Inspection Date: Wednesday, May 02, 2012

Time In: 9:00 AM

Time Out: 10:00 AM

Page 1 of 1
Meetings and Seminars

- Jackson County Health Department (JACOHD) visit and introduction to the staff
- Truman Medical Center HIPPA and SIPS (Security, Infection Prevention, Safety) training at TMC, HH
- APIC seminar & Table Top exercise - Tuberculosis Management Updates, at Johnson County Health Department, Kansas
- MARC (Mid-American Regional Council) Public Health Subcommittee meeting at MARC building, Kansas City, MO
- Emergency Preparedness monthly meetings, Independence, MO
- Clay County Public Health Center (Meeting with Dr. Ximena Somoza)
- Communicable Disease Meeting, The Health Dept. of KCMO
- Cryptosporidium Outbreak Prevention, Lee’s Summit, MO
Recommendations

- Correlation of clinical and public health
- Developing a Community-Wide Antibiogram
- Implementation of new preventive strategies at school level
- Emphasis on social determinants of health
What I Learned?

- Advanced Public Health System
  - Meetings and seminars

- Applied aspects of Epidemiology
  - CHA, Epi. Database (DHSS, CDC)
  - Disease Surveillance

- Skills - as a Public Health professional
  - Time management
  - Leadership
  - Collaboration
  - Organization & Communication
Application of K–State Education

- **Community Health Assessment Project**
  - DMP 754 Introduction to Epidemiology
  - STAT 703 Statistical Methods for Natural Scientists
  - KIN 818 Social and Behavioral Bases of Public Health

- **Restaurant Inspections**
  - DMP 806 Environmental Toxicology
  - FDSCI 730 Multidisciplinary Overview Food Safety & security
  - FDSCI 600 Food Microbiology
Application of K-State Education

- **Preparing a Health Survey Tool**
  - HN 600 Public Health Nutrition
  - KIN 818 Social and Behavioral Bases of Public Health

- **Presentations**
  - DMP 754 Introduction to Epidemiology
  - HMD 720 Administration of Health Care Organizations
  - KIN 818 Social and Behavioral Bases of Public Health
  - STAT 703 Statistical Methods for Natural Scientists
Application of K–State Education

- **Research Project**
  - DMP 880 Problem Course
  - DMP 860 Pathogenic Mechanisms
  - DMP 850 Domestic Animal Immunology
  - BIOL 545 Human Parasitology

- **Personal & Professional Growth**
  - DMP 840 MPH Field Experience
  - DMP 880 Problem Course
  - DMP 815 Multiple Thoughts and Analysis
Acknowledgments

- MPH Supervisory Committee Members
  - Dr. Michael Cates
  - Dr. Carol Wyatt
  - Dr. Sanjeev Narayanan

- Mrs. Barta Stevenson

- MPH Program for Travel Grant

- Jackson County Health Department, MO
  - Mrs. Ellen Dorshow-Gordon
  - Mr. James Kelly
  - Ms. Alisa Smith

- Dr. Ximena Somoza
  (Clay County Health Dept., MO)

- DMP Department and the staff
References


References


Thank You