APPLYING PUBLIC HEALTH EDUCATION AT RILEY COUNTY HEALTH DEPARTMENT: A FIELD EXPIERENCE REPORT

Makenzie Simpson

Field Experience

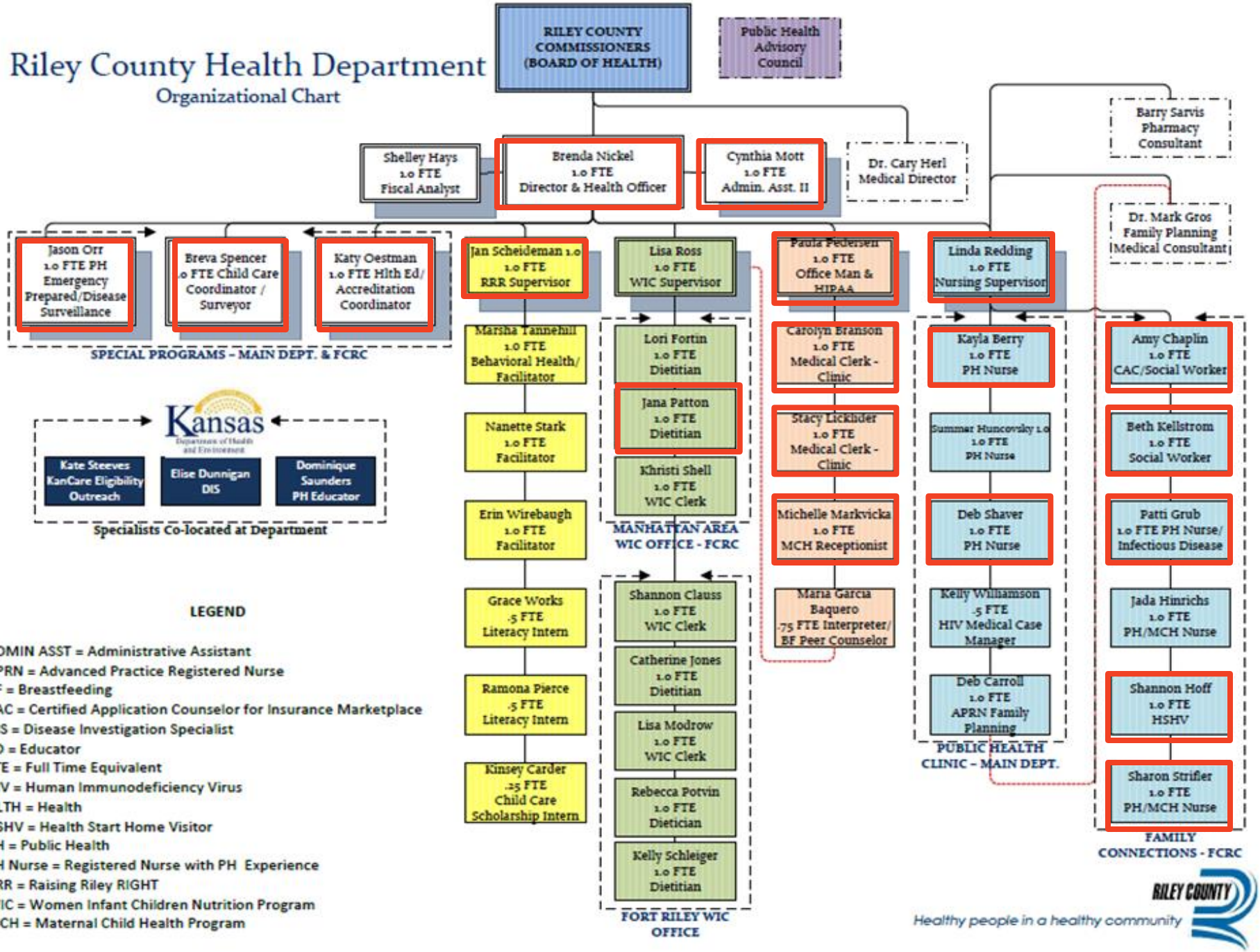
at Riley County Health Department

Background Information

- Started as a city-county Health Department in 1952
- “Healthy people in a health community”
- Departmental turnovers and changes
- 40 employees

Riley County Health Department

Organizational Chart



LEGEND

ADMIN ASST = Administrative Assistant
APRN = Advanced Practice Registered Nurse
BF = Breastfeeding
CAC = Certified Application Counselor for Insurance Marketplace
DIS = Disease Investigation Specialist
ED = Educator
FTE = Full Time Equivalent
HIV = Human Immunodeficiency Virus
HLTH = Health
HSHV = Health Start Home Visitor
PH = Public Health
PH Nurse = Registered Nurse with PH Experience
RRR = Raising Riley RIGHT
WIC = Women Infant Children Nutrition Program
MCH = Maternal Child Health Program

RILEY COUNTY
Healthy people in a healthy community

10 Essential Public Health Services

1) Monitor health status to identify and solve community health problems.
2) Diagnose and investigate health problems and health hazards in the community.
3) Inform, educate, and empower people about health issues.
4) Mobilize community partnerships and action to identify and solve health problems.
5) Develop policies and plans that support individual and community health efforts.

10 Essential Public Health Services

6) Enforce laws and regulations that protect health and ensure safety.
7) Link people to needed personal health services and assure the provision of health care when otherwise unavailable.
8) Assure competent public and personal health care workforce.
9) Evaluate effectiveness, accessibility, and quality of personal and population-based health services.
10) Research for new insights and innovative solutions to health problems.

Child Care Assistance & Licensing

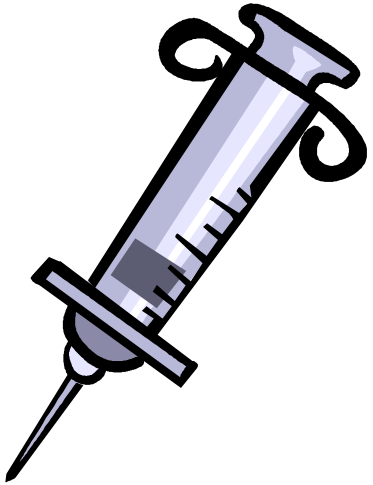
- Goal is to protect children from safety risks or other predictable health risks by reducing these risks in child care facilities
- 132 child care facilities in Riley County
- Lexie's Law
- Raising Riley Right

Raising Riley

'Riley County, Children, Youth & Families Planning Team'

Childhood Immunizations & Travel Vaccinations

- Guidelines set by the state and nation regarding the schedules of childhood immunizations
- Kansas Immunization Registry
- Vaccines for Children
- Travel immunizations available



Communicable Disease

- Communicable nurse conducts investigations of reported disease
- EpiTrax, an electronic disease surveillance system
- Certain diseases are required to be reported to KDHE within a certain period of time

Community Health Resources

- Health educator collaborates with community partners and programs to promote community wellness and to connect people to the resources needed to live a healthier life
- Examples of community involvement include bicycle safety training during bike month, promoting Walk Kansas, supporting the Flint Hills Wellness Coalition, providing cooking demonstrations, participating in Purple Power Play on Poyntz, assisting with the Riley County Health Fair, and providing advertisements for the local farmer's markets

Emergency Response Planning

- The emergency preparedness coordinator is responsible for keeping the staff prepared for a public health emergency
- Role in an emergency response and recovery is defined clearly
- RCHD actively participates in drills, exercises, and training on a regular basis

Family Connections

- RCHD provides services to expecting as well as new mothers and families
- Goal of improving early childhood and perinatal health
- 3 different types of programs offered to pregnant or new mothers including:
  - Mother & Infant Health Program
  - Healthy Start Home Visitor Program
  - Home Visiting Program

Reproductive Health Services

- Works to decrease the number of unintended pregnancies and to increase screenings to detect diseases earlier
- Does this by providing preventative services and promoting health by offering services such as STD testing, annual well women exams, pregnancy tests, birth control, health education, Pap smear tests, and pelvic exams
- Services are offered for free or at reduced cost at the clinic by using a sliding scale based on income and the size of the family

Women, Infants, & Children (WIC)

- The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a government nutrition program based on income that provides many services
- Goal of the WIC program in Manhattan and the surrounding community is to reach out to those mothers and children that are at nutritional risk and provide them with resources to keep them healthy
- Manhattan WIC serves 1,133 individuals while Fort Riley serves 1,967. Together with Riley and Pottawattamie County, WIC serves 3,515 a month

Other Services Provided

- Breastfeeding peer counseling
- Community clinics
- Medical coverage and assistance

Field Experience Project

Tuberculosis

Background Information

- *Mycobacterium tuberculosis* (TB) was first identified on March 24, 1882 by the German scientist, Robert Koch (Lawn, 2011)
- Tuberculosis is a disease that generally attacks the lungs and is most commonly caused by the bacterium, *Mycobacterium tuberculosis*
- Not limited to the lungs, TB can affect any part of the human body and can be fatal if not treated

Background Information

- Transmission of TB is spread through the air when an infected person speaks, coughs, sneezes, or even sings
- It is not clear exactly when or who spread TB into the United States
- The number of TB cases has decreased over the years due to an increased awareness, increased availability of medicine to people living in TB prevalent areas, and an overall global effort to end TB

Risk Factors

- Individuals who are immunocompromised or have the Human Immunodeficiency Virus (HIV) are placed at a higher risk for contracting TB than people with healthy immune systems
- Individuals that have a substance abuse problem, have other health problems, have been recently diagnosed for TB infection, or those who weren't treated or treated correctly in the past are more likely to develop the active form of TB

Latent Infection

- Latent TB infection is when the bacteria lie dormant in the human body without causing the individual to become ill or feel sick
- Individuals with latent TB cannot spread the disease and are not infectious unless the bacteria become active and start to multiply
- Risk and timing of transmission from the latent to active infection largely depends on the individual's immune system capabilities

Active Infection

- To be considered the active form of TB, the bacterium must be able to overcome the immune system and be able to multiple in the body
- Symptoms of the active form include: chest pains, chills, a cough that lasts for more than 3 weeks, a cough that produces blood or sputum, fatigue, fever, loss of appetite, night sweats, weakness, and weight loss (Small, 2001)

Testing

- TB skin tests, also known as Mantoux tuberculin skin tests, used to be commonly used until tests frequently produced false positives due to vaccination against TB
- The skin test has been replaced by the TB blood test, now considered the gold standard
- Further testing is done to determine the stage of infection including: a radiograph of the chest, sputum tests, and other laboratory tests

Treatment

- Depending on the type of TB infection, different courses and timeframes of medication may be prescribed
- Common medications prescribed include: ethambutol (EMB), isoniazid (INH), pyrazinamide (PZA), rifampin (RIF), and rifapentine (RPT) ("Tuberculosis (TB)", 2012)

Treatment

Drugs	Duration	Interval	Minimum doses
Isoniazid	9 months	Daily	270
		Twice weekly*	76
Isoniazid	6 months	Daily	180
		Twice weekly*	52
Isoniazid and Rifapentine	3 months	Once weekly*	12
Rifampin	4 months	Daily	120

*Use Directly Observed Therapy (DOT)

Table 1 Treatment Options for Latent Infections (CDC, 2012)

Preferred Regimen	Alternative Regimen	Alternative Regimen
Initial Phase Daily INH, RIF, PZA, and EMB* for 56 doses (8 weeks)	Initial Phase Daily INH, RIF, PZA, and EMB* for 14 doses (2 weeks), then twice weekly for 12 doses (6 weeks)	Initial Phase Thrice-weekly INH, RIF, PZA, and EMB* for 24 doses (8 weeks)
Continuation Phase Daily INH and RIF for 126 doses (18 weeks) or Twice-weekly INH and RIF for 36 doses (18 weeks)	Continuation Phase Twice-weekly INH and RIF for 36 doses (18 weeks)	Continuation Phase Thrice-weekly INH and RIF for 54 doses (18 weeks)

*EMB can be discontinued if drug susceptibility studies demonstrate susceptibility to first-line drugs.

Table 2 Treatment Options for Active Infections (CDC, 2012)

Prevention and Infection Control

- Wearing a mask and eliminating long exposure to infected individuals are examples of precautionary measures
- There are challenges when trying to prevent the spread of infection

Stigmas Associated with TB

- According to Alterado (2013), stigmas against diseases are highest among individuals with HIV/AIDS and TB
- "Misinformation about what causes TB, how the disease is transmitted and whether it can be cured is linked to the stigmatization of TB and of people with TB" ("A Human Rights Approach to Tuberculosis", 2001)

Tuberculosis in Kansas

- On the national level, Kansas is one of the states with a low prevalence of TB
- According to the KDHE, Kansas averages less than 3 cases per 100,000 people
- In 2012, there were 42 cases of TB reported; with individuals aged 25-64 accounting for 41% of reported cases ("2012 TB Statistical Highlights", n.d.)

Tuberculosis in Kansas

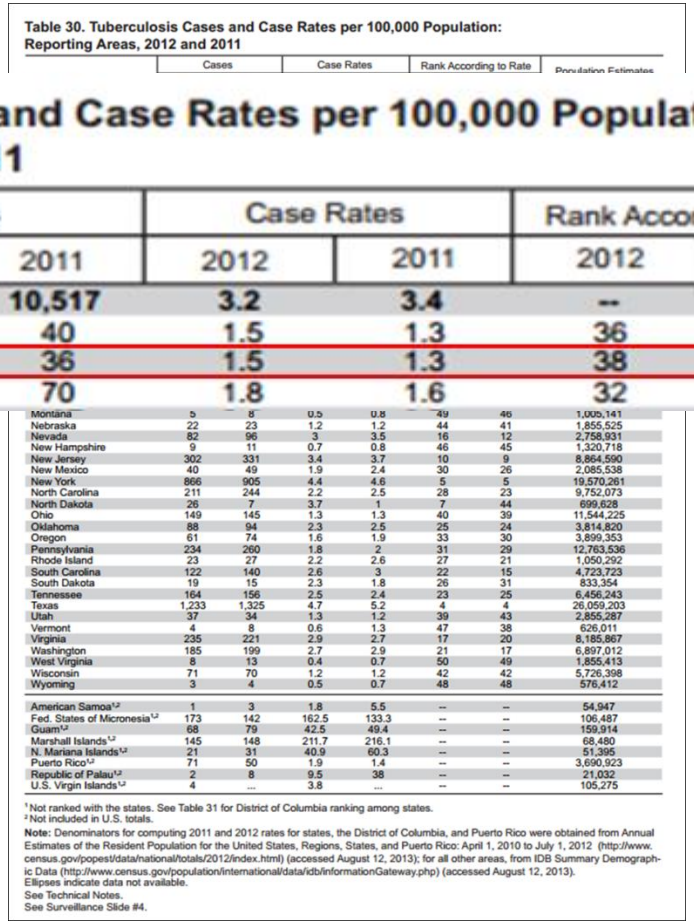


Table 30. Tuberculosis Cases and Case Rates per 100,000 Population: Reporting Areas, 2012 and 2011

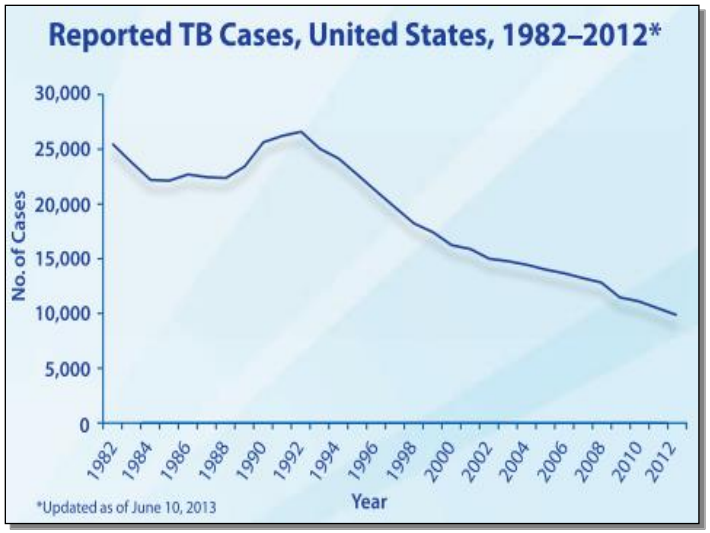
Reporting Area	Cases		Case Rates		Rank According to Rate		Population Estimates July 1, 2012
	2012	2011	2012	2011	2012	2011	
United States	**9,945**	**10,517**	**3.2**	**3.4**	--	--	**313,914,040**
Iowa	46	40	1.5	1.3	36	37	3,074,186
Kansas	42	36	1.5	1.3	38	40	2,885,905
Kentucky	80	70	1.8	1.6	32	34	4,380,415
Montana	5	8	0.5	0.8	49	46	1,005,141
Nebraska	22	23	1.2	1.2	44	41	1,855,525
Nevada	82	96	3	3.5	16	12	2,758,931
New Hampshire	9	11	0.7	0.8	46	45	1,320,718
New Jersey	302	331	3.4	3.7	10	9	8,864,590
New Mexico	40	49	1.9	2.4	30	26	2,085,538
New York	866	905	4.4	4.6	5	5	19,570,261
North Carolina	211	244	2.2	2.5	28	23	9,752,073
North Dakota	26	7	3.7	1	7	44	699,628
Ohio	149	145	1.3	1.3	40	39	11,544,225
Oklahoma	88	94	2.3	2.5	25	24	3,814,820
Oregon	61	74	1.6	1.9	33	30	3,899,353
Pennsylvania	234	260	1.8	2	31	29	12,763,536
Rhode Island	23	27	2.2	2.6	27	21	1,050,292
South Carolina	122	140	2.6	3	22	15	4,723,723
South Dakota	19	15	2.3	1.8	26	31	833,354
Tennessee	164	156	2.5	2.4	23	25	6,456,243
Texas	1,233	1,325	4.7	5.2	4	4	26,059,203
Utah	37	34	1.3	1.2	39	43	2,855,287
Vermont	4	8	0.6	1.3	47	38	626,011
Virginia	235	221	2.9	2.7	17	20	8,185,867
Washington	185	199	2.7	2.9	21	17	6,897,012
West Virginia	8	13	0.4	0.7	50	49	1,855,413
Wisconsin	71	70	1.2	1.2	42	42	5,726,398
Wyoming	3	4	0.5	0.7	48	48	576,412
American Samoa[1,2]	1	3	1.8	5.5	--	--	54,947
Fed. States of Micronesia[1,2]	173	142	162.5	133.3	--	--	106,487
Guam[1,2]	68	79	42.5	49.4	--	--	159,914
Marshall Islands[1,2]	145	148	211.7	216.1	--	--	68,480
N. Mariana Islands[1,2]	21	31	40.9	60.3	--	--	51,395
Puerto Rico[1,2]	71	50	1.9	1.4	--	--	3,690,923
Republic of Palau[1,2]	2	8	9.5	38	--	--	21,032
U.S. Virgin Islands[1,2]	4	...	3.8	...	--	--	105,275

[1] Not ranked with the states. See Table 31 for District of Columbia ranking among states.
[2] Not included in U.S. totals.

Note: Denominators for computing 2011 and 2012 rates for states, the District of Columbia, and Puerto Rico were obtained from Annual Estimates of the Resident Population for the United States, Regions, States, and Puerto Rico: April 1, 2010 to July 1, 2012 (http://www.census.gov/popest/data/national/totals/2012/index.html) (accessed August 12, 2013); for all other areas, from IDB Summary Demographic Data (http://www.census.gov/population/international/data/idb/informationGateway.php) (accessed August 12, 2013).
Ellipses indicate data not available.
See Technical Notes.
See Surveillance Slide #4.

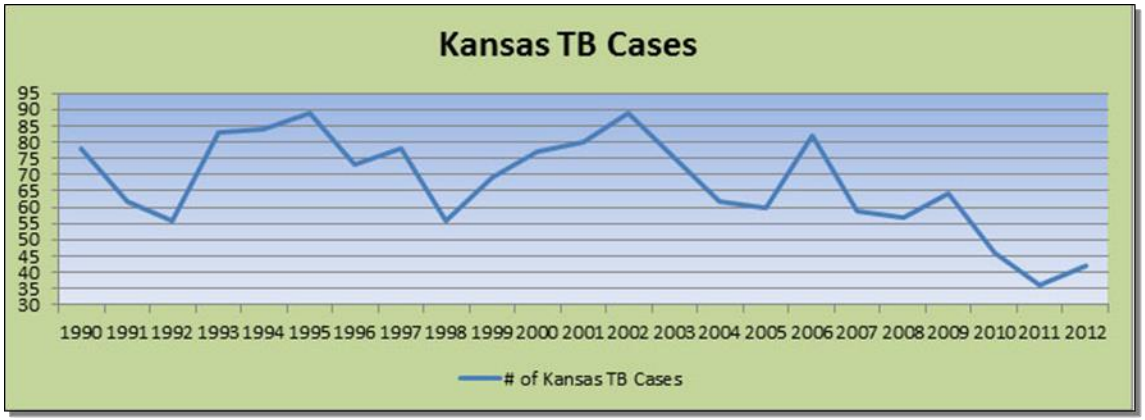
Table 3- Tuberculosis Cases and Case Rates per 100,000 Population: Reporting areas, 2012 and 2011 (United States, 2013)

Tuberculosis in Kansas



Reported TB Cases, United States, 1982-2012 ("Tuberculosis (TB)", 2012)

Kansas TB Cases ("2012 TB Statistical Highlights", n.d.)



Tuberculosis in Manhattan

- Pilot program was started at KU and WSU for international students
- Kansas State University started a similar program

Statute 62-129e

2012 Kansas Statutes

65-129e. Tuberculosis evaluation requirements for certain students; rules and regulations; evaluation criteria; treatment and monitoring of infected persons. (a) The secretary of health and environment is hereby authorized and directed to adopt rules and regulations establishing tuberculosis evaluation requirements for certain students entering classrooms of a postsecondary educational institution in Kansas who are considered as high risk for tuberculosis as defined by the department of health and environment. These rules and regulations shall establish evaluation criteria in compliance with best practice standards as recommended by the division of tuberculosis elimination of the centers for disease control and prevention.

(b) Each postsecondary educational institution shall develop and implement tuberculosis evaluation requirements with assistance of the department of health and environment. Each postsecondary educational institution shall designate a person who is responsible for the oversight and implementation of the requirements. Such person shall maintain the record for at least five years and the department of health and environment shall have the right to review and inspect the records upon request. Such person shall report immediately the positive findings of tuberculosis infection or disease to the department of health and environment.

(c) Each student entering classrooms of a postsecondary educational institution in Kansas shall comply with the tuberculosis evaluation requirements implemented by such institution where the student is enrolled by providing requested information in accordance with a screening and evaluation through an enrollment process. Any student who is not in compliance with the requirements shall not be attending classes or eligible to enroll for a subsequent semester or term or to obtain an official academic transcript or diploma until the student is compliant with the requirements.

(d) Nothing in this section and K.S.A. 2012 Supp. 65-129f, and amendments thereto, shall be construed as applying to individuals who are not attending the classes regularly but participating in the continuing education programs or any other seminar or function at the postsecondary educational institution.

(e) "Postsecondary educational institution" used in this section and K.S.A. 2012 Supp. 65-129f, and amendments thereto, means any public or private university, municipal university, community college or technical college.

(f) All costs associated with the evaluation requirements of the prevention and control plan shall be the responsibility of the student.

(g) Any person found to be infected with tuberculosis infection or tuberculosis disease will be provided treatment and ongoing monitoring in accordance with K.S.A. 65-116a to 65-116m, inclusive, and amendments thereto.

History: L. 2005, ch. 122, § 5; L. 2010, ch. 118, § 3; Apr. 29.

Statute 65-129e ("Legislative Resources", 2012)

Tuberculosis in Manhattan

Disease	Jurisdiction	Gender	Count
Tuberculosis, Active	Riley County	Female	3
Tuberculosis, Latent Infection (LTBI)	Riley County	Female	111
		Male	143
		Unknown	4
Tuberculosis, suspect	Riley County	Female	59
		Male	41
		Unknown	6

Table 4- Most Recent Reported Cases of TB in Riley County (RCHD, 2014)

Other Projects

Disease Investigations

- Investigation Procedures
  - Case Investigation
  - Contact Investigation
  - Case Management
  - Contact Management
  - Environmental
  - Education

Monthly Newsletter

- Many other Health Departments around the state send out weekly or monthly epidemiology newsletter updates
- Beneficial for keeping local doctors and clinics aware of current infections happening in the county as well as informing them about the resources available to them and their patients

RILEY COUNTY

Monthly Newsletter

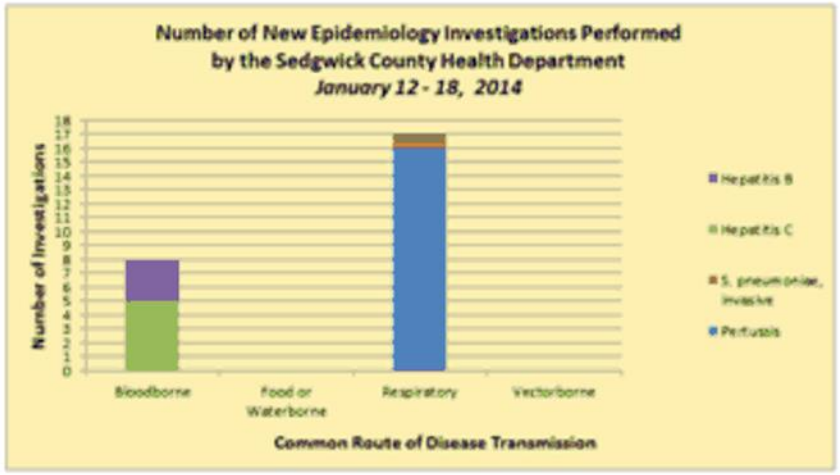
Riley County Health Department

March 2014
Volume 1, Number 1

In This Issue

Everybody Counts

Several members of the health department participated in Everybody Counts on January 29th, 2014 at the First United Methodist church of Manhattan, Ks. The event provided free services and food to Manhattan's vulnerable population. Booths addressing dental care, medical care, car safety and other various organizations were set up around the church.



The Number of Pertussis Investigations Remains High

The Sedgwick County Health Department continues to investigate high numbers of reported pertussis (whooping cough) cases. See graphs showing 2013 and 2014 investigations and confirmed and probable cases. Vaccination is still the best way to prevent pertussis.

Avian Influenza: Information for Health Professionals and Laboratories

From CDC:

"In light of the recent case of human infection with highly pathogenic avian influenza A (H5N1) in North America, CDC is currently updating several of the H5N1 and general avian influenza interim guidance documents. The updated documents will be posted here as they are finalized. In the meantime, please refer to the most recent interim H7N9 and H5N1 documents available."

Going Paperless

RCHD traveled to Johnson County Department of Health and Environment to look at their electronic medical records in Insight. Notes were taken and we are excited about beginning our journey to being "paper free"! According to Johnson County's IT expert, "Your visit gave me the opportunity to see what another health department is interested in doing and I can use that as the starting point to create the training and documentation materials for my backup staff here in Johnson County."

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Phone:
(785) 776-4779
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(785) 565-6566

We're on the Web!
www.rileycountyks.gov

Influenza (Flu) Surveillance

Influenza activity remains high in Kansas and nationwide (see January 23 report). In South Central Kansas, one indicator of influenza activity, selected providers reporting influenza-like symptoms, showed a decrease in cases. However, hospitals in Wichita continue to see many cases of influenza.

The predominant influenza virus continues to be 2009 pH1N1, a subtype of influenza A. Nationwide statistics show this virus is affecting a larger proportion of people aged 18-64 compared to other age groups.

Annual vaccination is the best tool for the prevention of influenza and its complications. The 2009 pH1N1 strain is included in the 2013-14 influenza vaccine. Anyone who is 6 months of age or older can be vaccinated against influenza.

School Surveillance Report: Jan. 15

Among all 21 schools reporting absences on January 15, the mean percentage of students and staff ill was 3.0%, about the same as on December 18 and January 8. Nine schools reported greater than 3% ill (range, 3.14 - 4.9%). Five schools reported greater than 1% of students and staff ill with gastrointestinal symptoms (range, 1.02-2.31%), and three schools reported greater than 1% ill with influenza-like symptoms (range, 1.03-2.35%).

Thank you to the school nurses at the 21 reporting schools. We encourage all school nurses in Sedgwick County to report. Reporting is voluntary and entails tallying absences one day per week - on Wednesday. Reporting symptom information is encouraged, but not required. If you have questions, email us at DiseaseReport@sedgwick.gov.

Quick Links

From CDC:

Emerging Infectious Diseases Journal:

- Investigation of Inhalation Anthrax Case, United States
- CDC Expert Panel Meetings on Prevention and Treatment of Anthrax in Adults
- Special Considerations for Prophylaxis for and Treatment of Anthrax in Pregnant and Postpartum Women
- Congenital Rubella Syndrome in Child of Woman without Known Risk Factors, New Jersey.

Disclaimer

The information provided in this report is compiled by the Sedgwick County Health Department for the purpose of updating community partners. Please consult with Sedgwick County before publishing any of the information contained in this report.

Conclusion

- Overall, the internship at the RCHD was a wonderful experience. It focused on public health from a variety of different standpoints and provided a view on how all the pieces fit together to make a healthy community.

Academic Experiences Applied

Epidemiology

- Epidemiology was used when discussing the risk or rate of a disease in a population and the number of reported cases in EpiTrax.
- The course also helped me understand the amount of people with a disease, if the number is increasing or decreasing, and how it is affecting our community.

Human Parasitology

- The Human Parasitology course and laboratory was useful when talking about certain diseases such as Giardiasis or Cryptosporidiosis, which must be reported to the KDHE.
- I understood how the diseases were spread and how to prevent future transmission of parasitic diseases.

Biology of Disease Vectors

- The course on Biology of Disease Vectors was also applied when discussing certain diseases at the Health Department

Biostatistics

- Useful in the deigning, collecting, and interpretation of data from experiments, surveys, or studies
- Important when discussing missing data, developing new statistical methods, and analyzing data from trials and studies

Environmental Toxicology

- Applied when discussing the harmful effects of blood lead level on the population.

Emerging Diseases

- Emerging diseases was useful due to the increased number of people sick with the Influenza A (H1N1) virus.
- Understanding who the disease infected and how important getting the flu vaccine was forwarded on to patients to keep the number of infections down.

Global Health Issues

- Global Health issues included topics like the lack of access to health care systems.
- Due to the Affordable Care Act, the number of people enrolling in health insurance has increased at RCHD and was discussed daily.

Administration of Health Care Organizations

- The course on Administration of Health Care Organizations was experienced first-hand while working at RCHD.
- Reshaping the organization and management of the Health Department over the past year will be beneficial in improving the quality of care RCHD is able to give to the surrounding community.

Social and Behavioral Bases of Public Health

- Social and Behavioral Bases of Public Health was useful when trying to come up with new ideas on how to promote a higher quality of life in the community, reduce morbidity, and increase a healthier lifestyle in general.
- This is done by understanding the framework of public health problems and developing a strategy on how to overcome them.

Multidisciplinary Thought & Presentation

- This course taught me how to be a better writer and be comfortable when presenting.
- Knowledge is power

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My Mentors

Patti and I

Patti Grub, Communicable Disease Nurse, and Makenzie Simpson, Kansas State University MPH student intern, review a communicable disease report.

Beth and I at Everybody Counts

Last Day at the Health Department