Public Health BULLETIN

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IN THIS ISSUE

Public Health
Prevent. Promote. Protect.

HEALTH OFFICER NOTES

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BALANCING INDIVIDUAL RIGHTS AND PUBLIC HEALTH RISK

In 2009, I made the decision to suspend an individual's civil liberties to protect the health and safety of our community. I issued an isolation and quarantine order to have a man with active tuberculosis (TB) detained in the County Jail for the duration of his TB treatment. Six months later and no longer infected with active TB, our patient was released from jail, but it was just recently that we learned of the full effect this civil detention had on his life.

Health Officers are compelled and authorized by legal statutes to respond quickly and effectively when a high-risk communicable disease, such as TB, threatens the public health. The Health and Safety Code grants broad powers to local Health Officers to do what "he or she deems necessary" to prevent the spread of active TB disease within their jurisdiction. This broad authority comes with the responsibility to maintain the public's trust as well as their health. A Health Officer's actions must be strategic, evidence-based and proportionate to the risk. We are physicians as well as government officials who are accountable to the public, and thus, uniquely qualified to balance individual rights against public health risk.

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TB is an airborne, communicable disease that spreads when an infectious person coughs, sneezes, or speaks and a person nearby inhales the TB bacteria. An undiagnosed, untreated person with active pulmonary TB disease can infect an estimated 10-14 people in a year. However, not everyone infected with the TB bacteria becomes sick. Some people develop TB disease within weeks after becoming infected, before their immune system can fight the TB bacteria. Other people may get sick years later, when their immune system becomes weak for another reason. About 5-10 percent of those infected with TB will eventually develop active disease. TB infection can spread easily in congregate living settings, such as homeless shelters, where residents may be at increased risk of progressing to TB due to HIV infection, drug use or poor general health.

TB treatment is not easy or convenient and, in most cases, treatment must also address the physical, emotional, and social needs of the patient. The treatment regimen for active TB takes six months or longer and requires the patient meet with a health care worker every day or several times a week for medications. Some patients face difficulties in complying, especially those dealing with homelessness and substance abuse. Failure of patients to take TB medications as prescribed can result in relapses, drug resistance, further transmission of TB, and death. While we typically employ the carrot rather than the stick to treat non-compliant TB patients, our painstaking efforts to support, entice, and provide less restrictive alternatives are not always successful. Civil detention is considered only after all other less restrictive alternatives have failed.

Such was the case in 2009 when a man with active TB was persistently non-compliant to treatment and isolation orders. Sheriff's deputies eventually located our homeless patient and, acting on my orders, detained him in the County Jail. All detainees have the right of due process, including our TB patient, but he was ultimately sentenced to serve the duration of his six-month treatment in jail. He spent the first two weeks in isolation and then transferred to the general population when he was no longer infectious. While in jail, he received TB treatment and education as well as other medical services, mental health counseling, and substance abuse counseling. This was a difficult six months for our patient and he remained understandably angry and frustrated at a system that could put a person in jail, not because he has committed a crime, but because he has a disease.

Five years after he was released from jail, he spoke with Christine Gaiger, his former TB Case Manager at Public Health, and what he said to Christine surprised us all. He thanked us for putting him in jail! He said we saved his life, and not just from TB, but also from the downward spiral of alcohol abuse and illness that had engulfed him. Our former jailed patient is now thriving in another county and enjoying a healthy life with his new wife and infant son. We are proud of our former patient who found the strength and ability to heal during a difficult situation. I share this feel-good story, not as a testament for harsh enforcement, but as an example of when bad situations eventually turn good—a rare gem these days.

The Yin and Yang of TB Control

TB prevention and control actions can range from a simple TB risk assessment questionnaire to civil detention in the County Jail. At times, control of this high-risk disease deserves an aggressive response, such as mandatory quarantine or isolation; however, its low prevalence in the U.S. and our county (SLO County reported 4 TB cases in 2013) supports a less aggressive, or flexible, approach when screening for the disease.

For example, starting this year, school employees in California are no longer required to get tested for TB unless a healthcare professional identifies risk factors during screening using a standardized risk assessment questionnaire. State officials updated the school testing requirements to reflect the CDC's targeted testing recommendations, which are based on the evidence that it is neither necessary nor cost-effective to test individuals for TB without risk factors present.

Health Officers have the responsibility, knowledge and authority to implement risk-based communicable disease prevention and control measures, be they delicate and flexible or aggressive and harsh, to protect the health and safety of community we serve.

Thank you for your attention,

Photo: Getty Images/Nicolas McComber

E-CIGARETTES AND CHILD NICOTINE POISONING

E-cigarettes have been gaining in popularity in recent years and some experts fear that their presence in the marketplace threatens to reverse some of the hard-fought progress in the war against tobacco. The rise of e-cigarettes and "vaping" (the Oxford dictionaries word of the year for 2014) has also meant a rise in the purchase of liquid nicotine. In colorful packaging and coming in flavors like cotton candy or gummy bear, the liquid appeals to teenagers and young children. Calls to poison control centers (PCC) for e-cigarette and liquid nicotine exposure have increased from 31 in 2010 to 3,353 by October 2014. Exposure occurs via ingestion, inhalation or absorption through the skin or eyes. The most common reports of adverse health effects included vomiting, nausea and eye irritation.

The nicotine levels in the liquid and electronic devices vary widely. Most range in concentrations that can cause sickness, but rarely death. However, higher concentrations are widely available on the Internet. The window between "safe" and "unsafe" exposure is very small. One teaspoon of liquid nicotine could be lethal to a child, and smaller amounts can cause severe illness. PCC's rely on information in product databases to establish thresholds for treatment. This process is difficult because there are no regulations or standards in place for the devices or the liquids used in them.

Young children living with or near nicotine may be at highest risk from e-cigarette poisoning due to their innate curiosity and lagging judgment. The first death related to exposure of liquid nicotine was reported in December 2014 from a 1-year-old child in New York. Officials have been warning of the risks and hope that this tragedy can change political inertia and spur passing of the Child Nicotine Poisoning Prevention Act of 2014, which currently sits in Congress. If you suspect an e-cigarette poisoning has occurred, call the California Poison Control at 1-800-222-1222.

PROVIDERS: RECOMMEND HPV VACCINE AT EVERY OPPORTUNITY

Human papillomavirus (HPV) causes cancer of the cervix, vulva, vagina, penis, anus, and oropharynx. About 79 million Americans are currently infected with HPV. (CDC, Genital HPV Infection – Fact Sheet). About 14 million people become newly infected each year. Every year in the U.S., 27,000 people get cancer caused by HPV - that's one person, every 20 minutes of every day, all year long.

HPV vaccines can prevent common HPV infections. A study published in Journal of Infectious Diseases revealed that vaccine-type HPV prevalence has dropped by 56% among females 14-19 years of age since the HPV vaccine was first introduced in 2006. Post-licensure monitoring since 2006 through March 2014 continues to show that HPV vaccines are safe.

The provider's recommendation to vaccinate is the single most influential factor in a parent's decision to vaccinate a child.

Despite being effective and safe, HPV immunization rates remain suboptimal, leaving adolescents and adults vulnerable to infection. In 2013, 68% of teen girls in California received ≥1 dose of HPV vaccine, but only 46% of them, and only 17% of teen males, had completed the three-dose series. In 2013, vaccination coverage of adolescents reached 91% for one dose of Tdap; rates of HPV vaccination could be equivalent if adolescents received HPV vaccine at every opportunity. Missed vaccinations mean girls and boys will remain vulnerable to potential HPV cancers in the future.

The provider's recommendation to vaccinate is the single most influential factor in a parent's decision to vaccinate a child. Clinicians should provide clear, brief, and strong vaccination recommendations to adolescents and their parents. In your conversations with parents, you can say for example, "Your child needs three shots today: meningococcal, HPV, and Tdap vaccines." When the vaccines are recommended together as a package, the parent perceives them all as routine and equally important. In contrast, suggesting that parents consider HPV vaccine, or mentioning casually that HPV vaccine is available, does not constitute a strong recommendation.

KI TABLETS NOW AVAILABLE

Two doses of Potassium Iodide (KI) tablets are available free of charge for each person who lives or works within a Protective Action Zone (PAZ) surrounding the Diablo Canyon Power Plant. *Previously distributed KI will expire soon.*

The ingestion of KI tablets may be directed as a protective measure in the unlikely event of a nuclear power plant emergency that involves a release of radiation. If taken in an appropriate and timely dosage, KI can block exposure of the thyroid gland to radioactive iodine. However, KI does not protect other parts of the body from exposure to other contaminants released during the nuclear power plant emergency. The use of KI is voluntary.

If you would like to pick up a supply of KI tablets, bring a completed KI voucher to one of the three pre-distribution locations. Vouchers for KI were mailed to all PAZ residents in November and they are also available online at www.slocounty.ca.gov/health. Pre-distribution sites:

- SLO Public Health Department - 2191 Johnson Ave., SLO (805) 781-5500 M-F, 8am to 5pm
- Grover Beach Public Health Department - 286 S. 16th, Grover Beach (805) 473-7050 M-Th 8am - Noon, 1pm - 5pm
- Medicine Shoppe - 1199 Los Osos Valley Rd., Los Osos (805) 528-1447 (call for hours and availability)

In the event of an emergency at Diablo Canyon Power Plant, KI will not be made available to the public at the pre-distribution sites or at evacuee reception centers.

For more information about KI pre-distribution, please visit www.SLOpublichealth.org and click on the link to Potassium Iodide (KI) Information.

PUBLIC HEALTH'S LAW ENFORCEMENT MEDICAL CLINIC

Did you know that in addition to all the great services Public Health provides for San Luis Obispo County residents, we also provide medical services for inmates at the County Jail? A team of about 20 Correctional Nurses, Licensed Vocational Nurses, Mental Health Therapists, administrative staff, and 4 contract physicians provide around-the-clock medical services inside the Jail. All told, the Law Enforcement Medical Clinic (LEMC) serves between 120-145 inmates per day. We treat ailments as simple as headaches and runny noses to chronic or complex health issues like diabetes and cancer. We coordinate additional services inside the Jail, such as X-ray, dental, lab draws, podiatry and women's wellness visits. We also coordinate medical services outside the Jail when we are not able to provide specialized medical care inside.

The number of inmates housed at the County Jail has significantly increased in recent years, from an average population of 500+ to 700+ today. The 2011 passage of Assembly Bill 109 eased the overcrowding problem in California prisons, in part, by transferring some low-risk inmates to county jails. Many operations at the County Jail have been affected by this population shift, including the LEMC. More inmates and longer sentences result in a substantial increase in the demand for medical services. As a result, the LEMC staff had over 49,000 medical visits with inmates in the last year.

The LEMC staff work in a challenging and fast-paced environment where no two days are the same, and all of us at Public Health are thankful for the hard work they do!

SAN LUIS OBISPO COUNTY REPORTED CASES OF SELECTED COMMUNICABLE DISEASES

DISEASE	YEAR 2013					YEAR 2014				
	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Total Cases	Jan-Mar	Apr-Jun	Jul-Sep	Oct-Dec	Year to Date
AIDS/HIV	0 2	0 0	2 6	1 2	3 10	1 2	2 3	2 0	0 4	5 9
Campylobacteriosis	9	18	33	19	79	12	24	15	24	75
Chlamydial Infections	228	282	233	261	1004	258	245	226	305	1034
Coccidiodomycosis	36	24	26	21	107	12	10	9	8	39
Cryptosporidiosis	2	1	0	2	5	4	2	2	1	9
E. Coli	2	2	7	2	13	2	1	7	5	15
Giardiasis	6	1	3	0	10	2	1	5	2	10
Gonorrhea	9	14	16	19	58	29	40	39	45	153
Hepatitis A	1	0	1	3	5	0	0	0	0	0
Hepatitis B (Chronic)	0	8	9	12	29	12	7	7	11	37
Hepatitis C (Community)	51	48	70	102	271	105	97	54	72	328
Hepatitis C (Correctional)	70	71	74	61	276	58	57	58	52	225
Lyme Disease	1	0	3	9	13	1	0	1	0	2
Measles (Rubeola)	0	0	0	0	0	0	0	0	0	0
Meningitis (Bacterial)	1	0	1	0	2	1	1	2	3	7
Meningitis (Viral)	4	6	8	4	22	0	7	7	4	18
MRSA	0	0	0	0	0	0	0	2	0	2
Pertussis	2	4	5	7	18	3	12	25	3	43
Rubella	0	0	0	0	0	0	0	0	0	0
Salmonellosis	7	10	15	10	42	9	11	9	11	40
Shigellosis	2	1	0	1	4	0	0	2	5	7
Syphilis (Primary/Secondary)	1	1	2	1	5	1	0	0	4	5
Tuberculosis	1	1	1	1	4	1	1	0	1	3

For more information, please visit the SLO County Epidemiology Data and Publications website. Case counts reflect those reported diseases that meet case definitions as established by the California Department of Public Health. Cases reported by health care providers that do no meet the case definitions are not included in case counts. All cases are for San Luis Obispo County residents only. Persons who do not list San Luis Obispo County as their primary residence and are reported as having a communicable disease are reported in their primary county of residence. Case counts may change over time, as cases currently under investigation are resolved they are added to the totals.

SAN LUIS OBISPO COUNTY
PUBLIC HEALTH DEPARTMENT
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MEET LABORATORY FIELD REPRESENTATIVE TRUDY HODGE

Did you know that comprehensive laboratory testing services are available locally? It is no longer an insider secret that the SLO County Public Health Laboratory provides a variety of testing services, from the routine to the complex, for a diverse clientele, including clinics, private practice physicians and hospital and clinical laboratories.

Field Representative and Public Health Microbiologist Trudy Hodge is busy spreading the word about our comprehensive testing services as well as billing and courier services. Trudy meets with staff from hospital and commercial laboratories, as well as clinics and private practice offices to provide useful information, collection kits, technical training and the well-received Testing Reference Binder. Trudy says the Binder has become a popular resource for clients who especially value having quick access to testing fact sheets and specimen collection instructions. While all these services are valuable to our clients, Trudy says access is the most valuable and rare service our lab offers, "Call us and you get a live person!"

SLO Public Health Laboratory is also the reference laboratory for SLO, Santa Barbara and Ventura Counties for identification of suspected agents of bioterrorism, including anthrax, plague, and tularemia. As the Laboratory Bioterrorism Training Coordinator, Trudy visits all 26 laboratories in the three-county region to educate staff on safe practices for collection, identification, and transport of suspicious specimens to our laboratory for confirmation. Trudy understands the demanding work environment of a laboratory and also conducts workshops to ensure technicians can safely identify and handle suspicious cultures.

Trudy Hodge, Public Health Laboratory Field Rep and her popular Testing Reference Binder

As well as experts in identifying select agents of bioterrorism, the SLO Public Health Laboratory is also the local expert for communicable disease testing, including the three most requested tests: Respiratory Virus PCR 7 Panel; GI 7 Panel; and STD. Trudy would also like all SLO providers to know that our staff are available seven days a week for questions and technical consultation "because the purpose of this laboratory is to safeguard the community, not profit from it."

Please visit us online at www.SLOpublichealth.org/Lab to learn more, or contact Trudy directly at 805-781-4843 with questions, comments, or to request the Testing Reference Binder.