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Substance Abuse Online

Online information surrounding substance abuse range from descriptions of user experience to population trends, along with evidence-based recommendations and resources for researchers, professionals, or the general public.

Websites such as Erowid.org, PsychonautWiki and various forums on reddit.com offer first-hand accounts of users’ experiences with a wide variety of substances, from the more common street drugs to research chemicals. Other sites, such as TripSit.me contain compiled information on a wide variety of research chemicals along with the typical street drugs. These sites are aimed at the user community but may not necessarily contain scientifically valid and reliable information that the community can rely on for the purposes of harm reduction.

The RADARS system, managed by the Rocky Mountain Poison and Drug Center, conducts research based on web monitoring on social media, forums, blogs, and news sites to serve as an early detection system specifically targeting prescription drug abuse and misuse. They also administer StreetRX.com, a site where users can anonymously report the street price of prescription and illicit drugs. Anyone can view the anonymized data, but researchers have used this information to help track the trends of drug use in their areas to improve outreach.

The National Institute on Drug Abuse (part of the National Institutes of Health) maintains a website with evidence-based information for a broad audience including researchers, health professionals, patients and families, educators, and children/teens. This targeted information addresses the latest scientifically accepted information, along with resources such as funding opportunities and research resources, information about where to find clinical trials for patients, lesson plans for teachers, and resources for finding addiction and mental health services.

In a similar manner, the American Association of Poison Control Centers (AAPCC) provides alerts and preventative information to the public on its website. In addition the AAPCC maintains the National Poison Data System, updated every 8 minutes with data that provides an almost-real-time picture of the conditions being called into poison control nationwide. This data help researchers understand patterns in toxic exposures, and data can be separated by those calls asking for information only versus calls where someone was exposed to a toxic substance. Annual reports are published online and data can be requested from the database.
Two Cases of Intoxication with New Synthetic Opioid U-47700

The opioid epidemic is fueled by the misuse and abuse of prescription opioids and heroin. People who start with prescription opioids often switch to heroin or other “street” drugs because it is cheaper. But heroin can be cut with other substances, such as fentanyl and designer drugs. One of those designer drugs is U-47770, which was originally synthesized by Upjohn, has been discussed on the internet by individuals since 2014. U-47770 is currently available for purchase over the internet and is referred to as a “research chemical”. Identification of this drug in emergency situations requires targeted screening techniques such as gas chromatography/mass spectrometry.

Dr. Joann Schulte and others at the North Texas Poison Center\(^1\) recognized the drug in the spring of 2016 and got it placed on the Schedule I list for the state of Texas. Lately U-47770 has been one of the drugs in grey death, a new potent and deadly opioid. [Click here to listen](#) to an interview Dr. Schulte did this spring with a Los Angeles radio station on the drug.

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Assessment of Customer Satisfaction in the LMPHW Public Health Laboratory

In April of 2015, the Louisville Metro Public Health and Wellness (LMPHW) Laboratory convened a meeting of key stakeholders in order to complete the L-SIP Local Assessment. Since that time, the LMPHW Laboratory has continued to focus on internal and external relationship building. In addition, the Louisville Metro Department of Public Health and Wellness received accreditation in August 2016 through the Public Health Accreditation Board. Related to both of these activities, the LMPHW Laboratory performed a customer service survey in April/May 2017. The results will be used to continue quality improvement activities and to meet or exceed customer expectations in the future.

The customer service survey was developed and distributed by the LMPHW laboratory to all customers (internal and external to LMPHW). Individuals had an option to complete a pen-and-paper survey and return in a self-addressed stamped envelope or to use a link online to complete the survey via Survey Monkey. Surveys were mailed on April 11, 2017 and data collection ended on May 12, 2017. The survey had a participation rate of 44% (23 completed of 52 mailed). Seven completed the survey online and 16 completed by pen-and-paper.

Ninety-five percent (n=22) of respondents were very satisfied with the responsiveness to the LMPHW lab with respect to questions and concerns. Most respondents (83%, n=19) mentioned that the LMPHW lab performs blood lead screening test for their facility. Of those who rely on the lab for blood lead testing, most (89%, n=17) were very satisfied with the turnaround time of lab results. Likewise, most (95%, n=18) were very satisfied with the turnaround time of lab supply orders for blood lead testing. A few respondents reported dissatisfaction with the turnaround time of lab supply orders (1 to 2 respondents per test).

Based on these survey results, LMPHW Laboratory will look into courier issues related to supply ordering and consider adding tests to meet customer needs for Trichomonas testing in males and additional tests for syphilis. Those respondents who provided email addresses will receive communications from the LMPHW laboratory, such as monthly newsletters and notifications of any changes in services.
Evaluation of Kentucky’s Electronic Surveillance System for Shigellosis in Louisville/Jefferson County

Shigellosis is an acute bacterial illness characterized primarily by diarrhea accompanied by fever, nausea, and other gastrointestinal symptoms. Early identification of cases will aid in the prevention of further disease spread. Positive lab reports of *Shigella* spp. are primarily reportable within one business day in Kentucky via the state’s National Electronic Disease Surveillance System (NEDSS). Local health departments, including Louisville Metro Public Health and Wellness (LMPHW), must interview cases using a standardized questionnaire and enter the results into NEDSS. Two other statewide electronic systems, Business Objects and Outreach, are also used for lab results and data analysis. LMPHW evaluated shigellosis reporting in Louisville using the three state-mandated systems to gauge the system’s effectiveness and efficiency for surveillance. The findings were presented at the Council for State and Territorial Epidemiologists’ National Conference hosted in Boise, Idaho June 4-8, 2017 by authors Rui Zhao, Mary Powell, Dr. Fairouz Saad, and Dr. Joann Schulte.

During the study period, 83 shigellosis cases were reported to LMPHW and entered into NEDSS with 1 duplicate. Completeness and mismatch rates for address information were 100% and 1.2% respectively, 98.8% and 1.2% for gender, 86.8% and 7.2% for phone numbers, and 95.2% and 4.8% for race. Additionally, 74.4% of reports were reported within the required time to LMPHW, and the PPV case definition accuracy was 98.8%. Food handler status was incomplete for 13.3% entries with 13.3% mismatched, and daycare/school status was unmarked for 9.6% entries with 22.9% mismatched.

Shigellosis follow-up investigations are based on laboratory results and demographic information. The omitted and wrong information generates additional work which delays a public health response. Using three data systems to compile a line list with relevant fields was difficult, requiring manual matching and manual entry which delayed analysis of information in outbreak situations. Therefore, improvements in the electronic surveillance systems will result in better outbreak responses at the local level.
Challenges With Hepatitis B and Hepatitis C Surveillance in Louisville

Hepatitis B (HBV) and Hepatitis C (HCV) surveillance faces many and different obstacles in Louisville. Both HBV and HCV have distinct acute and chronic phases of disease; the acute phase refers to the first 6 months after infection. Clinical and public health practitioners often differ on what constitutes an acute patient versus a chronic one. For public health surveillance, a person with positive HBV/HCV laboratory results requires clinical symptoms and elevated liver enzymes or jaundice to be considered an acute case. However, clinicians do not follow the same case definition, and thus may diagnose someone as an acute case on different criteria. This difference often results in confusion, such as clinicians reporting “acute” cases when those same cases fail to meet the surveillance definition of acute HBV or HCV.

Additionally, research and reference texts mention the possibility of acutely infected individuals who do not exhibit clinical symptoms associated with either disease. To further complicate the problem, case reporting is often incomplete as reports often omit clinical symptoms. An individual newly infected with either HBV or HCV lacking any of the aforementioned requirements (clinical symptoms especially) would prevent them from being classified as an acute case by public health surveillance standards. Finally, not all individuals infected with HBV and/or HCV seek medical attention during the acute phase of the disease. Combined with the fact that newly infected individuals can be asymptomatic for HBV or HCV, either disease can remain undetected, possibly long past the acute phase for HBV or HCV. As a result of these factors, public health faces a variety of issues to accurately and completely capture newly infected individuals.

To differentiate new and old cases of either HBV or HCV, Kentucky requires all hepatitis laboratory results, positive or negative to be reported. However, the raw nature of the reported laboratory data impedes data analysis at the community level. Firstly, different labs have different names for diagnostic tests associated with HBV/HCV. Then, different labs have different designations for positive and negative results. So in order to determine how many individuals have positive HBV/HCV results, we have to first determine all of the diagnostic results associated with HBV/HCV, then we need determine how each testing facility designates a positive. Therefore, these technical obstacles hamper our ability to answer the question of what is the burden of HBV and HCV in Louisville/Jefferson County.
Effectiveness Of The Needs Based vs. One-for-One Exchange Policies at Syringe Exchange Programs For Prevention of HIV

A common practice among people who inject drugs (PWID) is sharing or re-using syringes when access to clean syringes is unavailable to them. This practice places PWID at high risk for becoming infected with blood borne diseases (HIV, viral hepatitis) which can then easily be spread to others through continued sharing of syringes. For this reason, having access to clean syringes is a critical public health issue.

There are many models for syringe exchange programs (SEP) regarding distribution of syringes, from least restrictive (where participants receive as many syringes as they need without regard to the number of syringes returned) to most restrictive (participants receive one new syringe for each syringe they return). A central aim of SEPs is to provide clean injecting equipment to minimize the spread of blood borne disease. An ample supply of clean injection equipment means people who inject drugs are able to use clean, new equipment every time they inject.

Before opening our syringe exchange, LMPHW analyzed existing research on the various models of syringe dispensation models, to ensure our model would be aligned with evidence-based practices. The Louisville Metro Syringe Exchange Program (LMSEP) uses a “many-for-one” model, which has been proven to be more successful in preventing the transmission of disease and injection site infection than the more restrictive “one-for-one” policy. The full white paper discussing the evidence behind various SEP policies can be found on our website. LMPHW is committed to ongoing evaluation of our programs and services, such as the LMSEP, to ensure we offer those we serve the best, evidence-based practices available in public health.

Read the full article here at the LMPHW website.
Addressing Adverse Childhood Experiences (ACEs) in Louisville

Abuse, neglect, and household dysfunction are toxic stressors experienced in childhood are collectively called “adverse childhood experiences” or ACEs. These events are strongly correlated to poor health outcomes in adult life such as heart disease, depression, autoimmune disease and substance abuse.\(^1\) In addition, ACEs have negative outcomes on learning and behavior including difficulty in paying attention, cognitive processing, and controlling behavior according to the American Academy of Pediatrics. Kentucky has a higher rate of chronic diseases among the youth than the national average and has a significantly higher frequency of ACEs among children living in extreme economic hardship according to the National Survey of Children’s Health in 2011-2012.

The BOUNCE Coalition, a multi-sector community coalition, was formed to strengthen the resiliency and protective factors of children vulnerable to ACEs by developing a trauma-informed care system within Jefferson County Public Schools and Out-Of-School Care delivery providers. The coalition used the evidence-based-resources of the National Child Traumatic Stress Network (NCTSN) to identify and recognize the trauma effects and to engage in classroom intervention strategies. The training was first piloted in 2014 at Semple Elementary school with 488 enrolled students from pre-kindergarten through 5th grade situated among the community’s top quartile for families living in poverty. In the spring of 2015 it was expanded to out-of-school-time care providers, specifically YMCA sites serving the neighborhood surrounding the pilot school.

Early results indicate the program was successful compared to a control school at: 1) decreasing suspension days (77 vs. 210) and suspension events (27 vs. 67); 2) improving the percentage point increase in students’ math (16% vs. 5%) and reading (5% vs. 2%) test scores; 3) increasing the staff’s belief that they possess adequate skills to support students experiencing traumatic events; 4) improving the staff, student, and parent belief that the school cared and supported children.

Community Health Needs Assessment (CHNA)

LMPHW has convened a work group to conduct a robust community health needs assessment (CHNA). The work group consists of representatives of the health systems serving Jefferson County, Federally Qualified Health Centers, University of Louisville, Jefferson County Public School System (JCPS), Metro United Way, Louisville Metro Government (Parks and Recreation, Office of Globalization, and Office of Community Services), along with many other non-profit organizations serving the community.

The research program will assess the community’s perceptions about the biggest health problems facing Jefferson County, along with what is needed to improve the health of the community. Other survey questions will assess how the community receives health information and will ask questions about perceptions on specific problems such as violence or addiction. The survey is currently being designed and data will be collected in late 2017, followed by qualitative focus groups in 2018.

This survey information provides a critical component to understanding the health needs of the community. LMPHW and others can turn to traditional data sources to understand the prevalence of disease and disability or health behaviors. However, the community’s priorities affect how they will respond to an intervention. By demonstrating an understanding and respect for the community’s beliefs, public health interventions can be tailored to improve how well the community receive those interventions.

The survey provides a critical data set that will be used by LMPHW and community partners to prioritize the health needs of the community and create a strategic action plan to address them. In addition, non-profit hospitals/health systems and FQHCs (among others) have requirements to conduct similar health assessments and create implementation plans describing how they will address the issues they uncover with their research. This conjoint approach allows the community to pool resources and collaborate to align work and, ultimately, improve the health of the community.

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Community Health Needs Assessment (CHNA) continued

Since 2012, LMPHW has partnered with the health systems that serve Jefferson County to conduct this survey. In prior years, the hospital systems sent the survey to individuals who used their services, along with their employees. In 2015, this method allowed us to collect over 13,000 respondents. However, the results show that the individuals who completed the survey were not necessarily representative of Jefferson County as a whole. For instance, nearly all respondents (99%) had health insurance and 67% of respondents were over age 45. However, at the time the survey was conducted, 92% of Jefferson County residents had health insurance, according to the CDC’s Behavioral Risk Factor Surveillance Survey and 41% were over age 45 according to the United States Census American Community Survey.

The goal of the 2017-2018 survey program is to improve our ability to generalize the results of the survey to the population of Jefferson County. In order to do this, the workgroup includes partners other than the healthcare systems serving Jefferson County to assist in data collection. This will improve representation of underserved communities such as those without adequate transportation, health insurance, or who have low English literacy. The work group also aims to have data that can be used to conduct sub-county analysis by ZIP code or other smaller geographic areas, and explore differences among genders, age groups, and race/ethnic groups.

The group aims to have a completed report by mid-2018. LMPHW will use that report, in conjunction with other data, to facilitate the development of the community health improvement plan which will serve as the community-wide strategic plan for improving health of Jefferson County.
Surveillance Summary of Suicides Occurred In Jefferson County Between March, 2014 to Dec, 2016

According to the Centers for Disease Control and Prevention (CDC), suicide is one of the leading causes of death in the United States. Suicide is defined as a death resulting from an individual directing violence toward themselves with the intent to end their lives. Suicide also affects the health of the community. When an individual commits suicide, their family and friends often experience shock, anger, guilt, and depression. The medical costs and lost wages associated with suicide also take their toll on the community.

According to the preliminary vital statistics data, both locally and nationally, the number of suicide deaths are increasing against the backdrop of generally declining mortality. In order to better understand the current status of suicide deaths that have occurred within Jefferson County, the Office of Policy Planning and Evaluation collected and analyzed data for suicide deaths that are referred to medical examiner/coroner.

The number of suicides examined by the Jefferson County coroner’s office has steadily increased from 121 suicides in 2014 to 157 suicides in 2016. Use of firearms was the frequent method of suicide. Demographic distributions and more detailed description of the data can be found at this link.
Healthy Babies Louisville Seeks to Improve Perinatal and Infant Health

Infant mortality (death of a baby within the first year of life) is a population health indicator associated with quality of life. The US infant mortality rate has declined in recent years. However, in 2015 (the most recent year for which data is available), Louisville Metro infant mortality rates (6.7/1000 live births) were higher than the national rates (5.9/1000 live births)\(^1\).

Infants born premature (before 37 weeks of gestation) or with low birth weight (weighing less than 2,500 grams -- approximately 5.5 pounds -- at birth) are at a higher risk of death, contributing to an increase in the infant mortality rate. In an average year, Louisville has approximately 10,000 births. For 2014, among 10,082 Louisville resident births, 10.6% were premature, and 9.3% of infants had low birth weight. Twenty-seven percent of these expectant mothers did not receive prenatal care in their first trimester of pregnancy and over 12% smoked while pregnant. Both smoking and lack of prenatal care can lead to low birth weight, premature birth, and infant mortality. Despite a wide array of maternal and child health (MCH) resources that are available locally, Louisville has such significant disparities in infant mortality and other maternal and child health outcomes.

In July 2014, Louisville Metro Department of Public Health and Wellness (LMPHW) formed the Healthy Babies Louisville (HBL) coalition with 25 organizations representing community wide MCH stakeholders. HBL convened to address issues impacting perinatal and infant health. This county level collective impact project promotes evidence-based policies and practices for 18 strategic focus areas. The group also promotes community collaboration, shared performance monitoring, and quality improvement.

Sources: