

Practice Lab: The Integrated Lead Poisoning Prevention Assignment

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1. Identify and briefly explain six potential lead sources that could affect people's health in the mock community. Which one is likely to affect the most people? Why?

The first potential source of lead exposure would be household exposure from deteriorating lead paint. According to the information on the mock community the single-family homes and apartment buildings were built primarily between the 1930's and 1950's. Lead was officially banned in 1978, so homes built before this date are highly likely to contain paint contain lead both inside the home and the exterior. The second sources of exposure would potentially be the drinking water, according to the scenario the homes of the community were built in the 1930's, homes built before 1986 are likely to contain lead pipes that have been shown to leach lead into the drinking water. The trend of restoring historical houses creates another potential source of lead exposure, as previously stated the homes of the community were built during the high regular use of lead in interior and exterior paint. The renovation of these historic homes potentially releases lead dust from the paint as it is removed from the home, the dust can be inhaled or ingested if proper protective equipment is not used during renovation of lead containing residences (Frumkin, 2016). The eye cosmetic Tiro is from Nigeria and reportedly contains lead. The face painting done at the New Residents Day would expose anyone who has Tiro applied to there eyes and allow lead to be absorbed by the capillaries of the eyes (Centers for Disease Control and Prevention, 2012). Arturo's Place offers Chapulines, which are grasshoppers commonly eaten in Mexico and Central America. The chapulines have potential lead contamination from the contaminated soil from mines in the area of Oaxaca, Mexico and the lead glazed cookware used in the preparation of the chapulines (Villalobos, 2009). The last source of lead exposure is the venison and other game donated by the Buckshot Buddies Hunting Club. The buckshot used by the hunting club can potentially contaminate the meat of the animal

if the lead buckshot is not completely removed during the cleaning process and if improperly cooked can result in lead exposure when consumed (U.S. Department of the Interior, 2019). The lead source most likely to affect the most people would be the household exposure. This being the result of the times from which the homes were built when lead paint was very commonly used and given the decades that have passed the paint deteriorating into a breathable dust can contaminate entire families. Factoring in the restoration efforts being encouraged in historic homes the odds of exposure to lead dust increase further without proper protection. Additionally, the possible existence of lead pipes used in the plumbing would result in ingestion of lead leached from the pipes.

2. Identify and briefly discuss three conditions/characteristics/practices/activities in the mock community – including cultural beliefs, values, and practices – that could affect people’s risk of lead poisoning? How are these factors important in how a lead poisoning education program is designed?

The living conditions of the housing community are the most notable likely to result in people’s risk of lead poisoning. Homes built before 1978 have a higher risk of containing lead pipes and paint that has deteriorated and become inhalable dust particles. With the community’s practice of renovating historic homes the chances of lead exposure increase when removing old paint both interior and exterior. Without using proper protective equipment and practices this can result in lead contamination of both the individual performing the renovation and their family (Frumkin, 2016). The community is remarkably diverse and brings many practices and customs with it. The New Residents Day and the practice of face painting using the Nigerian eye cosmetic Tiro notable contains lead that can be absorbed across the capillaries of the eyes

(Centers for Disease Control and Prevention, 2012). The diversity of the community additionally brings in diverse cultural cuisines, in the community scenario chapulines are a dish native to Oaxaca, Mexico. The grasshoppers originating in this area are potentially contaminated with lead from the mines of the area and possibly from the lead glazed cookware used in the preparation (Villalobos, 2009). Recognizing the potential sources of lead is paramount for the prevention of lead poisoning and designing educational programs. Familiarizing a community with the most common sources of lead is practical in the prevention of exposure. Understanding the cultural and ethnic beliefs is important and the example of Tiro, it being a common Nigerian practice, explaining the evidence of lead contamination to prevent exposing children to lead. Detailing the protective measures that can be done to prevent unnecessary exposure to lead, particularly for those of the community living in households at elevated risk of containing lead paint and those restoring historic homes are needed in the education design process.

3. Why are cultural factors in the mock community important for effectively communicating lead poisoning information? Using what you know about this community and its situation, recommend three specific risk communication strategies for reaching three different audiences and sectors in the mock community.

Cultural backgrounds and traditions are a major component of how people understand and accept information. Public health communication may distribute information that may be contrary to a culturally established norm. Understanding cultural difference is important otherwise any efforts put forth may be less successful or end in complete failure. The diversity of the community does make communicating information to everyone in an equal manner more difficult. Public health communication may challenge the established norms for a community, in

the case of lead poisoning prevention and education gaining an effective understanding of the information should be the main goal of interventions. Educating parents on the dangers lead presents to children is especially important as having an understanding of the most common and uncommon sources of lead exposure may actually be a surprise. The face painting using Tiro is one source of lead that a parent may overlook, using a fear communication approach is not advisable as overall the effects will be short lived and stopping a practice will only cease for a brief time. Communication in an honest and clear fashion is the best approach to help parents gain a true understanding of keeping their children safe from sources of lead. The housing sector in the scenario has homes built between 1930 and 1950, meaning there is a risk of lead being used in the homes. Communicating the dangers of lead exposure to the homeowners needs to be done with the understanding that they may not have a high health literacy, meaning using scientific and confusing terms will only confuse and frustrate those being educated. Communicating the information in an easily understood manner would yield the best retention of what was taught. In the community the food sector has a few culinary specialties that are potentially have been exposed to lead contamination. The restaurant Arturo's Place has a specialty dish called Chapulines from Oaxaca, Mexico and Buford's Restaurant with wild game killed by buckshot. The lead contamination of these foods puts those in the community at risk for ingesting lead, communicating this information with a credible source that has detailed evidence of the lead contamination is vital to change the practice of preparing these dishes.

References

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