

Practice Lab: The Integrated Lead Poisoning Prevention Assignment

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

- A. Tiro eye painting. Traditionally used in Nigeria, it has been reported to contain lead ¹.
- B. Plastic bead necklaces, typically manufactured in China. These beads have been found to contain toxins to include lead, either in the paint or within the material itself ².
- C. The musical instrument and rubber toys may contain lead in the paint or within the material itself. Children habitually put toys in their mouths thereby increasing the risk of lead exposure.
- D. Houses typically built before 1960 are more likely to contain lead paint on the interior or exterior surfaces. The paint particulates and chips off and can poison children who are lower to the floor. This will affect most people as the majority of the population will likely be in older homes more likely to contain lead paint. Furthermore, older homes are more affordable and the majority of the population has an income of below 53,700. However, well-to-do families may live in more expensive historical homes which also may contain lead paint.
- E. Buckshot used to kill wild game may contain lead. Because lead buckshot scatters when it hits its target, it would be exceedingly difficult to ensure the meat is free of lead contamination.

2. Three conditions/characteristics/practices/activities in the mock community that could affect people's risk of lead poisoning? How are they important in how a lead poisoning education program is designed?

A. New Resident Day

Wearing plastic necklaces potentially containing lead unnecessarily exposes residents and increases their risk of lead poisoning. These necklaces are important to the younger residents. Removing them would not be a positive course of action. An alternative would have to be considered to continue with the celebration. Tiro eye cosmetic is known to contain high levels of lead and is a cultural tradition of Nigeria. Therefore, a sensitive approach utilizing cultural competence would need to be considered in designing an education program.

B. "Renovate it yourself"

The semi-annual "renovate it yourself" event increases the risk for lead exposure. Houses built before 1960, especially before the 1940s have been known to contain lead paint in the interior and exterior. Therefore, extreme caution should be used when renovating. Dust and paint chips on the interior would be hazardous to children and the hazard should be mitigated as soon as possible and with caution. These older homes would be most affordable to the lower-income brackets in this town and this bracket makes up a large proportion of the population in Happytown. However, more expensive historic homes may also contain lead. Taking away

people's independence in renovating may be seen as too controlling, so maintaining independence in self-renovating as much as possible should be included in educational programs in lead poisoning.

C. Food

Chapulines from Oaxaca, Mexico have been found to contain high levels of lead due to their preparation using lead-glazed ceramics³. This is a cultural food and so care and sensitivity to its significance to the Hispanic community would need to be employed in changing the way this food is prepared. The hunting club effort in acquiring food for Buford's restaurant using buckshot unnecessarily uses buckshot to kill wild game. This form of ammunition may contain lead. Because buckshot spreads out into the animal when shot, it would be difficult to ensure patrons were not consuming lead-laden meat. Changing how the game is hunted and educating its members will require a delicate hand. Showing respect for this close-knit group of hunters will command respect simultaneously.

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 specific risk communication strategies for reaching three different audiences and sectors in the mock community?

Earn trust, inform, educate, need to accept and involve the residents. Including cultural factors into consideration will make efforts more inclusive and empathetic. Risks must be made to be familiar, as exotic risks tend not to be accepted. Trusted sources of risk communication are more accepted.

A. Low-income groups – Provide accurate information, focus on compassion, ensure risks affect both adults and children. Ensure the message is in line with the literacy of the audience. Using infographics would be helpful. Use of media to highlight lead exposure risks and effects of lead poisoning. Ensure information is accurate, if lead sources are found, ensure information is released as quickly as possible. Have a town meeting where members of the community can express their concerns. Have a dialogue between town leaders, public health professionals, and stakeholders. A community effort would be perceived in the individual's control and best interest. Teach the benefits of lead awareness with empathy and openness. Lead exposure affects everyone and so, therefore, the risk is fairly distributed throughout the community.

B. Hunting club – Provide accurate information, educate the members keeping in mind how they will perceive the risks. Using buckshot with lead is under the individual's control which would be a more acceptable perceived risk. The benefits of using non-lead-containing ammunition would result in removing the risk of lead poisoning in meat. Important to appear trustworthy as a trusted source is better received. Allow members to have a chance to ask questions and express concerns. Address the concerns with openness and eagerness. Allowing two-way communication will be with leadership and members of the club will be more accepted. The risk presented would be familiar as ammunition is commonly thought of as lead-based and therefore, more accepted.

C. Children- Use simple terms, empathy, and pictures to help explain the risk to their health. Providing accurate information. Ensure that information is appropriate to the age group. Use media with child-friendly themes format to educate children, this would be well received and easy to understand.

References

1. Centers for Disease Control and Prevention [CDC], Infant lead poisoning associated with use OF TIRO, an Eye cosmetic from Nigeria - Boston, massachusetts, 2011. (n.d.). Retrieved April 14, 2021, from <https://www.cdc.gov/mmwr/preview/mmwrhtml/mm6130a3.htm>
2. Redmon, D. (2017, March 08). The toxic truth Behind Mardi GRAS BEADS. Retrieved April 14, 2021, from <https://www.smithsonianmag.com/science-nature/toxic-truth-mardi-gras-beads-180962431/>
3. Handley, M. A., Hall, C., Sanford, E., Diaz, E., Gonzalez-Mendez, E., Drace, K., . . . Croughan, M. (2007). Globalization, binational communities, and imported food risks: Results of an OUTBREAK investigation of lead poisoning in monterey County, California. *American Journal of Public Health*, 97(5), 900-906. doi:10.2105/ajph.2005.074138