

ENH 697: Internship

Sharia Hudson

University of Alabama at Birmingham

Internship Site: UAB The Edge of Chaos

Internship Site Supervisor: Mr. David Hooks, Director of Innovation

(205) 934-7762

dhooks@uab.edu

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Dr. Dickinson

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Assessment of Environmental Health Internship

My experience as an intern at UAB's Edge of Chaos has been exhilarating and has granted me the opportunity to increase my professional development skills that I will incorporate into my future endeavors. During my fall 2014 internship, I created and worked on a project regarding Household hazardous waste (HHW) disposal in Jefferson County. Therefore, the objective of the project was to increase resident participation during annual household hazardous waste collection days and encourage the disposal of HHW regularly and appropriately at various venues and recycling centers around the county to prevent potential adverse health outcomes. The HHW collection day serves as an outlet for residents to dispose of their HHW properly. I focused on this project because I was aware that most household hazardous waste products contain toxic agents and chemicals that have the potential to attribute to adverse health outcomes and contaminate and destroy our environment. When HHW is disposed of improperly, the waste has the capability to pollute the water, soil, groundwater, air, fish, and humans. Therefore, it is essential that residents dispose of HHW properly to protect and preserve the quality of our environment which includes lakes, streams, soil, and groundwater. The key to preserving the environment is to "reduce, reuse, and recycle" HHW.

During the course of the internship, many activities were completed in order to meet the needs of the required competencies. The activities included attending a recycling summit hosted by the Alabama Environmental Council, attending health fairs for community outreach related

activities, informing local residents on the importance of disposing of HHW appropriately, conducting phone interviews with various organizations, and coordinating an important discussion with various entities and stakeholders regarding the importance of HHW disposal in Jefferson County. For a successful internship, at least 9 competencies must be met and focused on for the duration of the internship. The 9 core competencies included the following: MPH 12 which focuses on “approaches for assessing, preventing, and controlling environmental hazards that pose risks to human health and safety,” MPH 13 entails being able to “identify direct and human, ecological, and safety effects of major environmental and occupational agents,” MPH 14 consisted on “identifying present environmental risk assessment methods,” MPH 15 focused on “the genetics, physiologic and psychosocial factors that affect susceptibility to adverse health outcomes following exposure to environmental hazards,” MPH 19 consist of “describing federal and state regulatory programs, guidelines, and authorities that control environmental health issues,” MPH 20 focused on identifying vital sources of epidemiological data, MPH 21 focused on “describing disease patterns according to person, place and time,” MPH 37 concentrated on “describing the steps and procedures for the planning, implementation and evaluation of public health programs, policies, and interventions,” and lastly MPH 50 emphasized on being able to describe the “methods of ensuring community health safety and preparedness.”

To meet the requirements of MPH 12, I identified hazards and informed residents of the proper way to dispose of their household hazardous waste. Some HHW contains hazardous agents that possess one or more chemical properties that may be attribute to a chemical reaction, may be corrosive, easily to ignite, and toxic in regards to human health. Therefore, it is imperative that residents avoid mixing agents with each other and avoid storing products

improperly. Surprisingly, many residents were unaware that mothballs are highly toxic and flammable and should be disposed of properly during HHW collection days. Increasing, if residents avoided purchasing products classified as HHW in bulk and shared the excess among family, friends, and neighbors having to dispose of HHW would decrease drastically.

Furthermore, I recommended residents to visit recycleal.com for more information regarding various venues and recycling centers for information regarding the acceptance of specific HHW on a daily basis. Some of the entities that accept HHW include Advance Auto Parts for motor oil, Batteries Plus for batteries, Technical Knockout for appliances and computers, and Light Bulb Depot for Compact Fluorescents (CFLs). If residents were unable to access the website I provided them with a recycling brochure from the Alabama Environmental Council which listed all recycling centers in Jefferson County.

For MPH 13, I researched peer review articles on the direct and indirect effects of household hazardous waste in humans and how they contaminate the environment. Also, I reviewed current waste and remediated risk assessments via the Environmental Protection Agency (EPA). To comply with MPH 15, I reviewed toxicological references to identify factors that affect susceptibility to adverse health effects and Integrated Risk Information System (IRIS) via the EPA website. The activity I completed for MPH 19 including researching and reviewing federal regulations, contacting the Jefferson County Health Department in regards to the State of Alabama regulations and guidelines. Sadly, the state and federal government have no regulations pertaining to the disposal of HHW. However, local municipalities such as Decatur, has established a HHW disposal monthly in conjunction with their solid waste management program. For MPH 21, I informed residents of potential adverse health effects via the hazardous waste and hazardous substance from the EPA website and attended three health fairs to information

residents of adverse health effects associated with improper disposal of HHW. Also, for MPH 20, I reviewed diverse peer review articles pertaining to household hazardous waste and discovered that some agents commonly found in HHW leaked in various landfills and posed a threat to public health. Moreover, developing a fact sheet on the hazards associated with improper HHW disposal and distributing it to the community completed the MPH 50 competency.

Finally for MPH 37, I participated in a community outreach in Birmingham to assess how the community disposes of household hazardous waste. I facilitated in the project by identifying hazards that may contribute to adverse health effects and educating the public on the proper disposal protocol to mitigate potential health hazards. If the public improperly dispose of household hazardous waste, the environment such as the water, soil, and air may become contaminated and pose a threat to public health. During the community outreach at the health fairs, quite a bit of citizens were unfamiliar with the term household hazardous waste. Therefore, I created a factsheet concerning what was classified as HHW and distributed the sheets to those attending. For example, motor oil, electronic waste, propane tanks, batteries, and pesticides are all classified as HHW and need to be properly discarded. On October 30, I attended the Recycling summit hosted by the Alabama Environmental Council and gained knowledge regarding the success of various recycling and disposal programs around the state. In particular, I learned that the City of Decatur has a successful household hazardous waste program and residents are able to properly dispose of their waste on a monthly basis with the health of Clean Harbors; Lastly, to conclude my internship, I scheduled a meeting with the Jefferson County Health Department to discuss the steps and procedures pertaining to public health programs, policies, and interventions. In addition, I coordinated an important wicked problem discussion on

November 18 regarding HHW with the Jefferson County Health Department, Environmental Health Specialist, Birmingham Storm Authority, firefighters, and the City of Hoover. The purpose of the discussion was finding solutions on ways to mitigate or eliminate household hazardous waste from contaminating our landfills and polluting our soil and water sources. Moreover, increasing participation from local residents and promote awareness of how to safely dispose hazardous waste would be feasible.

Certainly the most involved aspect of my internship experience was coordinating and conducting a successful wicked problem discussion regarding the disposal of household hazardous waste. Through this coordination, I gained valuable skills that I will be able to apply in my future employment opportunities. Before coordinating any kind of discussion event, I was required to identify key decision makers, environmental health professions, first responders, and governmental personnel. Compiling a contact list took longer than I expected; therefore, I spend most of my time researching on the internet, phonebooks, flyers, attending events and news articles for personal information such as names, occupation, phone numbers and email address. At first, this task seemed to be quite easy; however, locating phone numbers and email addresses became complicated and took almost two months. Furthermore, I learned that it was easier to receive feedback and RSVP via email rather than calling each individual. After the conclusion of the discussion, I was able to capture key and important facts regarding the HHW disposal in the county. Some residents were unaware on how to differentiate between what was considered regular waste and household hazardous waste. In addition, the average person purchases a product and is unaware of the hazards associated with the product. Furthermore, they assume because there aren't any regulations on purchasing them that they are safe to utilize and dispose of in everyday household generated waste. The group suggested that there should be an increased

tax for all products classified as household hazardous waste. This tax would allocate funds to help facilitate the proper disposal of HHW in the county and the local governments would not be forced to spend exorbitant fees for annual HHW Collection days. All attendees agreed that further actions need to be implemented to preserve our precious environment and protect human health from potential hazards associated with household hazardous waste.

Overall, this internship has provided me with the opportunity to network with key stakeholders and discuss relevant public health issues regarding the importance of community involvement on proper household hazardous waste disposal. My Environmental Health and Toxicology curriculum adequately prepared me for my household hazardous waste project and I was able to identify how toxic agents affect the body once residents are exposed to the toxic elements commonly found in HHW. Moreover, the opportunity to serve as The Edge of Chaos first intern has enhanced my personal, academic, and professional experience and I'm eager to apply the skills I gained to my future endeavors.