

## Pre-/Post-test Module 4: Redesigning with Health in Mind

Instructor Copy, with Answer Key

### Pre/Post-test

**NOTE: Post-test contains Self-assessment questionnaire**

**Self-assessment: Answer this only during post-test.**

In reference to the Redesigning with Health in Mind module, please choose all that apply:

- a. Specifically useful for my work. If so, you can describe how here (optional):  
\_\_\_\_\_
  - b. Quick refresher
  - c. Offers me knowledge about a topic I am less familiar with
  - d. Gives me confidence to increase my skills in and understanding of communicating risk related to land reuse sites
  - e. Motivates me to learn more about land reuse sites and ways I can be engaged
  - f. Not needed for my work
  - g. None of the above
- Other (please specify) \_\_\_\_\_
- 

**Minimum Passing Score: 70% (7 out of 10)**

**Allow multiple retakes? (Y/N) Yes**

1. **You are an Environmental Health Scientist working with a rural community that has high numbers of land reuse sites, no grocery stores, no community gathering spaces that can also serve as or storm shelters, a low median income, and no primary health care providers. The town is 25 miles from the nearest hospital and healthcare providers, three miles from the nearest gas station, and 10 miles from the nearest grocery store. The population is aging (median age is 48). Some**

residents can no longer drive and have a hard time getting to doctor appointments and grocery stores. The community has formed a Development Community, a diverse group of stakeholders committed to community revitalization, that is led by a local non-profit, and includes you, the local mayor and city council, several residents, three teenaged residents, a former teacher, and three retired medical professionals. The Development Community recently received a cleanup grant from the U.S. Environmental Protection Agency to clean up an old school that had lead and asbestos contamination. The Development Community vision is to redevelop the school into a community center and gym, a medical clinic, and a small business hub for up to 10 businesses, such as a small grocery, card shops, a tee shirt shop, a driving/ taxi service, and a caregiver provider office. A resident who lives in the next town over wants to purchase all of the business spaces to open an auto painting and repair facility and install a gas station. The Development Community knows that there are no auto painting and repair facilities within 50 miles, and the tax revenues from the business as well as the gas station would be a benefit to the community. What might be the best plan to Redesign with Health in Mind? Select the most appropriate answer:

- a. The Development Community may want to change their vision. The tax revenues alone would be a great bonus to the community, and an improved economy is part of improving community health.
- b. The Development Community may want to change their vision to eliminate the community center and gym, which could open up space to accommodate the small businesses as well as the auto painting and repair facility.
- c. **The Development Community may want to stick with their original vision because it includes more health-focused endpoints, such as a much-needed place for the community to gather, take shelter, or exercise; a driving service; and a caregiver provider office.**
- d. The Development Community may want to start over. That vision is old and it is time for a new one.

**Answer: c.**

**Rationale:** The original vision includes the most health-focused endpoints and still allows for small businesses. The auto painting and repair business with gas station may generate hazardous waste and odors, which may drift into the community center area. The gas station fuel tanks may also have odors, add car traffic, and could even leak if not properly monitored, increasing risks and danger to the community.

It's important to establish a community vision at the start of the project. This vision may guide all the decisions for the future site. If the project lacks a vision for a healthier community, it may never happen. When developers and other groups pitch ideas to develop the land, **it's crucial to understand the community's needs and integrate those into the central design of the site.**

2. **Select the steps you follow when hired to conduct a land reuse site cleanup (select all that apply):**
  - a. Promote the most inexpensive treatment methods to save the community and city money
  - b. **Identify and prioritize the key contaminants and exposure pathways to remediate**
  - c. **Establish cleanup goals that protect both workers and the environment**

- d. Ensure that the cleanup measures are the most stringent possible (e.g., for residential purposes)

**Answer: b. and c.**

**Rationale:** To conduct a site cleanup, “bargaining” on inexpensive treatment methods just to save money may not be most effective or protective of public health. A more expensive method may be more thorough in ensuring contamination is removed (a.). Identifying and prioritizing key contaminants and exposure pathways to remediate and establishing cleanup goals that protect both workers and the environment are typical activities of an environmental or health professional working on a site cleanup (b., c.). Cleanup measures may vary based on the site end use. Typically, residential standards are more stringent because occupants can be inside up to 24 hours per day, whereas commercial standards may be different based on an 8-hour workday and exposure period (d.).

**3. Common treatment methods include (select all that apply):**

- a. **Pump and Treat**
- b. **Bioremediation**
- c. Milk Dilution
- d. Controlled Burn
- e. **Thermal Desorption**
- f. **Capping**
- g. **Immobilization**
- h. Chemical Enhancement
- i. **Air Stripping**
- j. **Excavation**
- k. **Activated Carbon Treatment**

**Answer: a., b., e., f., g., i., j, and k.**

**Rationale:** Soil Sieving, Milk Dilution, Controlled Burn, and Chemical Enhancement are not real or typical site cleanup methods. All other methods, such as Pump and Treat or Thermal Desorption, are implemented to purify or clean environmental media, such as water or soil.

**4. To emphasize health with redevelopment, it is crucial to understand the community’s needs and integrate those into the redesign plan.**

- a. **True**
- b. False

**Answer: a.**

**Rationale:** The Land Reuse Site in your city can be transformed into a site that benefits the health of your citizens. That’s why it’s important to establish a community vision at the start of the project. This vision may guide all the decisions for the future site. If the project lacks a vision for a healthier community, it may never happen. When developers and other groups pitch ideas to develop the land,

it's crucial to understand the community's needs and integrate those into the central design of the site.

5. **Determinants of health that help you understand the basic health profile of your community include (select all that apply):**
- Income and social status**
  - Coping skills**
  - Culture**
  - Social environments**

**Answer: a., b., c., and d.**

**Rationale:** It is important to understand the basic health profile for your community. The four determinants of health listed in this question are part of many determinants, including education, employment/working conditions, physical environment, gender, and others. It is important to consider these factors when evaluating the health of your unique community and communicating with them.

6. **You are asked to serve as an environmental health professional on a community redesign plan that is spearheaded by a local park district. The Development Community wants to redevelop an old theatre that has been sitting idle for years into an indoor vertical farm and community supported agriculture project. The theater flooded during a storm event two years ago. In the last year, several people broke into the site and used it as a methamphetamine (meth) lab. The theatre property was tested and confirmed to have meth residue, lead based paint, and mold. It is hard to secure (lock) the building thoroughly as there are missing windows and doors and people break in through these openings. Some children have been skateboarding inside of the building and several people have been found sleeping in the building. As part of the Development Community team, you are using the Action Model to encourage community engagement in land reuse plans and are focusing on Step 2 of the Action Model: How Can Redevelopment Address the Issues? What are some of the redevelopment steps the community may select? Select all that apply:**

- Meth, lead, and mold are of great concern to the community
- The community needs increased access to food
- The community needs a food-based economic development project
- Conduct a combined removal of meth, lead based paint, and mold**
- Create a business plan for the future use as an agricultural facility**
- Provide risk communication during and post-remediation to ensure the community that the cleanup has been completed and people will not be exposed to contamination at levels of concern**
- Children and others may be exposed to harmful chemical contaminants (meth, lead, and mold) in the building
- Immediately secure the building with boards (board-up), caution tape, and flyers about contaminants and associated dangers to try to minimize exposure risk**

**Answer: d., e., f., and h.**

**Rationale:** While the community may be concerned about site contaminants (a.), needs increased access to food, needs an economic development project (b. and c.), and is concerned that children and others may be exposed (g.), these are issues are typically addressed prior to brainstorming a redevelopment plan (e.g., these are in Step 1 of the Action Model: What are the Community Issues?). Step 2 focuses on how redevelopment can address the issues. Removing the contaminants, creating a business plan, communicating risks, and immediately securing the building (d., e., f., and h.) are all part of redevelopment planning/redesigning with health in mind.

**7. How are Healthfields defined or described? Select the best answer:**

- a. The reuse of potentially contaminated land to create health education centers
- b. The reuse of potentially contaminated land to create gardens
- c. The reuse of potentially contaminated land to create health care facilities (clinics, private provider offices, and hospitals)
- d. **The reuse of potentially contaminated property into a vibrant area that serves a number of community health needs**

**Answer: d.**

**Rationale:** While Healthfields may result in health education centers, gardens, and healthcare facilities (a.-c.), answer d. explains that Healthfields may be redeveloped into areas that serve a number of community health needs. A Healthfield is a former land reuse site that has been transformed from an underused, potentially contaminated property into a vibrant area that serves a number of community health needs. The concept of Healthfields is simple: take abandoned and blighted properties and, using coordinated funding and community-based mechanisms, turn them into thriving economic developments that also improve access to healthful lifestyle choices for all (Ballogg, 2013).

**8. Which projects were Healthfields projects: (Select all that apply)**

- a. **Willa Carson Clinic**
- b. St. James Skateboard and Recreational Park
- c. Johnny Taylor's Health in the Arts Center
- d. **Lynchburg Grows Garden**
- e. **Baraboo, Wisconsin Riverwalk**

**Answer: a., d., and e.**

**Rationale:** Contaminated sites can be assessed and remediated while maintaining a broad vision for future possibilities, including access to health care, recreation, healthful foods, jobs, and other community benefits. By providing long-term solutions that address the root causes of health and economic disparities, Healthfields are already changing communities across the country. The

Healthfields movement owes a tremendous debt to Ms. Willa Carson (a.). In 1998, Carson was a retired nurse in Clearwater, Florida. When the City of Clearwater designated the Greenwood area of Clearwater as a Brownfields Redevelopment Site, Carson saw an opportunity to turn Greenwood, an abandoned gas station site, into a stand-alone health care facility. In Lynchburg, Virginia, organizers turned to the owners of the derelict Schenkel Farm, a six-and-a-half acre rose growing facility with nine historic greenhouses, a farmhouse, a root cellar, and other farm buildings (d.). Inspired by the Lynchburg Grows mission, the family provided attractive terms for the organization to acquire the property, now known as the H.R. Schenkel Urban Farm and Environmental Center. Once transferred, the fledgling Lynchburg Grows appealed to community groups and local schools to clean the space and prepare for growing food. By 2013, more than 5,000 volunteers contributed over 70,000 hours working with Lynchburg Grows staff. They have produced over 100,000 roses and 80,000 pounds of food, donating almost 75% to Lynchburg-area food banks and soup kitchens. The City of Baraboo is a river community of 12,000 people with the Baraboo River essentially bisecting the town. An active group of volunteers in Baraboo created redevelopment plans that not only improved the environment, but also the health of the community in the redevelopment area (e.). Several community organizations helped support the development of a 2.92-mile recreational trail along the riverfront. As a result, the area has seen increasing numbers of residents and visitors alike — walking, jogging, picnicking, and using several parks linked by the trail.

**9. Health centers were some of the first Healthfields projects.**

- a. True
- b. False

**Answer: a.**

**Rationale:** Early on in the Healthfields process, several communities, particularly in Florida, receive funding to redevelop brownfields into health centers (a.). While health centers were a primary driver, there are several other redevelopments, such as park districts, schools, or library projects that demonstrate how versatile Healthfields projects can be.

**10. Partners and roles engaged in redesigning a community with health in mind can include (select all that apply):**

- a. Environmental and Health Professionals who can work with the Municipal Agency to ensure that the environmental cleanup of the site is completed and protective of community health
- b. Community Champions, who work with planners, municipalities, and environmental and health professionals
- c. The Municipal Agency who works with everyone in the Development Community, host community meetings, and find funding and resources for the redevelopment project
- d. Community Members who can champion their project, volunteer, and establish the long-term redesign vision
- e. Developers who may be interested in health-focused redevelopment
- f. Community Planners who work with everyone in the Development Community
- g. **All of the above are partners and roles engaged in redesigning a community with health in mind**

**Answer: g.**

**Rationale:** Establishing a diverse and inclusive Development Community can be the key to successfully redesigning a community with health in mind. An inclusive and communicative process can lead to a successful long-term vision and revitalization that improves health on many levels.