HEALTH IMPACT ASSESSMENTS FOR BROWNFIELDS REDEVELOPMENT

FORMER CHESAPEAKE SUPPLY BROWNFIELD REVITALIZATION: RAPID HEALTH IMPACT ASSESSMENT

Presentation by: LaRonda Koffi - U.S. EPA (Region 3) - June 20, 2019
In a nutshell, HIAs:

Evaluate how a proposed policy, plan, program, or project... 

...may affect...

Social, Economic & Political Factors
Living & Working Conditions
Public Services & Infrastructure
Individual Behaviors
Individual Factors

Health

...lead to health outcomes...

...and provide recommendations for impact management.
Why perform an HIA?

Benefits of HIA

- Promotes a greater understanding of health and the health impacts of decisions
- Improves the evidence on which stakeholder and policy decisions are made
- Engages and empowers communities
- Provides recommendations for changes to the design, adoption, or implementation of proposed decisions to include health
- Promotes healthy and sustainable communities
SUSTAINABLE & HEALTHY COMMUNITIES RESEARCH PROGRAM

HIA PROCESS

- Is it feasible?
- Create a Plan
- Establish Baseline
- Develop Practical Strategies
- Communicate Progress
- Evaluate and Monitor

Core Values
- Democracy
- Equity
- Sustainability
- Ethical Use of Evidence
- Comprehensive Approach to Health

Monitoring and Evaluation

Screening

Scoping

Assessment

Recommendations

Reporting
Types of HIA

Vary based on effort, complexity, and duration

**Rapid**
- 2 To 12 weeks
- Broad overview of potential health impacts (little to no data collection and/or stakeholder engagement)
- Applied when time and resources very limited

**Intermediate**
- 12 weeks to 6 months
- Involves collection and analysis of existing data with limited stakeholder input
- Requires moderate time and resources

**Comprehensive**
- 6 months to 1 year+
- Involves collection and analysis of existing data with extensive stakeholder input
- Requires significant time and resources

The Aquaponics Business Plan User Guide provides guidance for developing a business plan for the startup and operation of an urban aquaponic farm.

2016 HIA Training in Dover

A full day workshop at the Kent County Administration Building June 21, 2016

- Introduction to HIA and the steps of the HIA process
- Case study to gain hands-on experience
Combined Pathway: 2016 HIA Training in Dover

- **Proposed Decision**
  - Dover Hybrid Community Environmental, Economics and Public Health Pathway
  - Redevelop brownfield Dover X into an aquaponics facility

- **Mediators**
  - Δ Access to fresh food
  - Δ Local Job Opportunity
  - Δ Brownfield and Downtown Revitalization
  - Δ Crime Rate

- **Health Determinants**
  - Δ Transportation Cost
  - Δ Employment
  - Δ Household Economics & Community tax base
  - Δ Community Cohesion
  - Δ Safety, Perceived Safety, Reduced Risk
  - Δ Time Spent Outside

- **Health Outcomes**
  - Δ Health Insurance
  - Δ Health Care Costs
  - Overall health and well-being
  - Mental Health
  - Chronic disease
  - Prenatal Outcomes
  - Child development
  - Bodily Injury
  - Overall health and well-being
RAPID HIA PROCESS FOR FCSS IN DOVER

- Is it feasible?
- Create a plan
- Establish baseline
- Develop practical strategies
- Communicate Progress
- Evaluate and Monitor
Determined the rHIA was feasible.

*Health impacts of different revitalization choices to support food production on brownfields in Dover could be associated with changes in:*

- Risk reduction from brownfield site cleanup for revitalization.
- Employment prospects and job creation impacts for brownfield reuse and food production construction and operation.
- Public health and environmental impacts of a brownfield revitalization resulting in a food production reuse choice.
- Improved food access and local food market access. Increased food production training, employment, and job creation.
Formed the HIA Leadership Team and an HIA Dover Project Team and key roles.

Established the methods of communication (webinar, teleconference, email) and a timeline.

Determined scope of HIA and study area.

The HIA Project Team conducted the rapid HIA with the assistance of other local organizations, such as the Downtown Dover District Partnership and the National Council on Agricultural Life and Labor Research Fund, Inc. (NCALL).
238 Railroad Avenue was the target site for potential revitalization and the focus of this rapid HIA.

One of five brownfield properties in the area.

This property is the location of the Former Chesapeake Supply.

Target area shows indicators, such as poverty, unemployment, environmental degradation, and a lack of access to healthy foods, which may suggest environmental justice concerns in the focus area.
Former Chesapeake Supply Co. Site Aerial 2015

LEGEND

+ Approximate Location of Ground Monitoring Wells with top of casing (TOC) elevations.

NOTE: THIS DRAWING IS ADAPTED FROM A GOOGLE EARTH 2015 IMAGE, AND IS DIAGRAMMATIC. NOT TO SCALE OR PROPORTION.

Downtown Dover Partnership
Former Chesapeake Supply Site (DE-1334)
239 Railroad Avenue, Dover, Delaware 19904
2015 Well Site Investigation
November 13, 2015

© 2015 Google
Map of Former Chesapeake Supply target site and surrounding brownfields (Source: ESRI)
ASSESSMENT

Proposed Decision

Determinants of Health

Health Outcomes

Redevelop Former Chesapeake Supply Brownfield into a Food Production Facility

Δ Food Access (healthy, affordable food)

Δ Nutritional Status

Δ Prenatal Outcomes and Child Development

Δ Mental Health and Chronic Disease

Δ Overall Health and Well-being

Δ Employment

Δ Social Cohesion/Capital

Δ Household and Community Economics

Δ Access to Green Space/Time Spent Outside

Δ Mortality/Life Expectancy

Δ Bodily Injury

Δ Brownfield and Downtown Revitalization

Δ Presence of Vacant/Derelict Properties

Δ Crime and Perceived Safety

Δ Contaminant Exposures (soil, water, structures)
Impact Characterization Table

Potential impacts based on six criteria:
1) likelihood, 2) direction, 3) magnitude; 4) permanence; 5) distribution; and 4) strength of evidence.

<table>
<thead>
<tr>
<th>Health Determinant</th>
<th>Likelihood</th>
<th>Direction</th>
<th>Magnitude</th>
<th>Permanence</th>
<th>Distribution</th>
<th>Evidence</th>
</tr>
</thead>
<tbody>
<tr>
<td>Food Access</td>
<td>Highly likely</td>
<td>Positive</td>
<td>Limited</td>
<td>Long lasting</td>
<td>Most vulnerable populations, including low income and food insecure households and those with limited transportation</td>
<td>Strong</td>
</tr>
<tr>
<td>Employment</td>
<td>Plausible</td>
<td>Positive</td>
<td>Limited</td>
<td>Long lasting</td>
<td>Those unemployed, underemployed or employed, but living below the poverty line</td>
<td>Strong</td>
</tr>
<tr>
<td>Brownfield Redevelopment &amp; Urban Revitalization</td>
<td>Plausible</td>
<td>Positive</td>
<td>Moderate</td>
<td>Long lasting</td>
<td>Most vulnerable populations, including those living nearest the target site</td>
<td>Sufficient</td>
</tr>
<tr>
<td>Crime</td>
<td>Plausible</td>
<td>Positive</td>
<td>Limited</td>
<td>Long lasting</td>
<td>Most vulnerable populations, including the elderly, disabled, and children</td>
<td>Limited</td>
</tr>
<tr>
<td>Household and Community Economics</td>
<td>Plausible</td>
<td>Positive and Negative</td>
<td>Moderate</td>
<td>Long lasting</td>
<td>Including, but not limited to, most vulnerable populations, such as those with low food access and fewer job opportunities</td>
<td>Sufficient</td>
</tr>
</tbody>
</table>
• Recommendations by health determinant.

• Focus on practical strategies for promoting positive health impacts and/or mitigating adverse health impacts during project implementation.

<table>
<thead>
<tr>
<th>Health Determinant</th>
<th>Recommendation</th>
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<tbody>
<tr>
<td>1. Food Access</td>
<td>A. Incorporate ease of access planning, such as green spaces, well-lit streets and sidewalks, ramps and wheelchair accessible areas for walkability and access to site.</td>
</tr>
<tr>
<td>2. Employment</td>
<td>A. Provide funding opportunities for local entrepreneurs (e.g. small business grants, foundation matching, matching grants for job creation, etc.) aimed at creating jobs.</td>
</tr>
<tr>
<td>3. Brownfield and Downtown Revitalization</td>
<td>A. Work with DNREC to clarify the specific conditions of the site, use restrictions and review how the proposed food reuse and similar food production uses at a former brownfield will not pose a health risk to workers, residents and neighbors or consumers.</td>
</tr>
<tr>
<td>3. Brownfield and Downtown Revitalization</td>
<td>B. Inform residents about past hazards, ongoing land use controls and how proposed reuse does not pose risks. Future public meetings also can engage residents in identifying other potential brownfields as well as sites now serving or planned for gardens or food production.</td>
</tr>
<tr>
<td>3. Brownfield and Downtown Revitalization</td>
<td>C. Collect information baseline information on population food access, participation in nutrition assistance programs, consumption and dietary disease prevalence may need to be collected or existing information examined. Local students may be able to assist in neighborhood research on the food environment and assist with outreach and information collection among peers and family members.</td>
</tr>
<tr>
<td>3. Brownfield and Downtown Revitalization</td>
<td>A. Consider other community crime prevention measures such as community policing programs.</td>
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</table>
Proposed Plan for Monitoring Health Impacts

- Monitoring and evaluation are the final steps.
- Evaluates the HIA process and its impacts on decision-making.
- Monitors changes in health in affected communities.
- rHIA is pre-decisional, while monitoring and evaluation are traditionally post-decisional steps of HIA.
Successes:

- Bringing City and Stakeholders together to discuss improving health.
- Project expanded the effort to illustrate how health can be incorporated into future urban revitalization projects.

Challenges:

- Lack of specificity in the project design and decision point.
- Limited time and resources dedicated to this project.

### Table 12. Evaluation of HIA goal achievement

<table>
<thead>
<tr>
<th>HIA Goal</th>
<th>Achieved?</th>
<th>Documentation</th>
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<tbody>
<tr>
<td>Develop a rapid HIA that promotes the consideration of health in the brownfield revitalization project for Dover, Delaware</td>
<td>Yes</td>
<td>The HIA assessed the potential direct and indirect health impacts of the proposal develop a food production facility on a remediated brownfield site in downtown Dover. Impacts on food access, employment, brownfield redevelopment, crime, and individual and community economics were assessed at the request of the City of Dover and their partners.</td>
</tr>
<tr>
<td>Bring evidence-based information to help inform the City of Dover’s decision to pursue a food production project, such as an aquaponics facility, on a remediated brownfield site.</td>
<td>Yes</td>
<td>The recommendations included in the HIA are based on evidence found in scientific literature and other urban revitalization projects.</td>
</tr>
<tr>
<td>Raise awareness of HIA as a decision-support tool that considers direct and indirect consequences, both benefits and harms, before a decision is made.</td>
<td>Yes</td>
<td>Through the HIA Process, EPA raised awareness of HIA as a decision support tool with the city of Dover, the State of Delaware, EPA Region 3, the Office of Brownfields and Land Revitalization, and the public. Both potential positive and negative health impacts of the proposal were identified.</td>
</tr>
<tr>
<td>Demonstrate the use of HIA on a brownfield revitalization project.</td>
<td>Yes</td>
<td>This rapid HIA serves as a model for future application of HIA on brownfield revitalization projects.</td>
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</table>
Dover Brownfield Redevelopment Project Rapid Health Impact Assessment

Executive Summary, Main Findings and Recommendations

- Executive Summary
- Main Findings - “Determinants of Health” summaries, which include:
  - Review of Literature
  - Existing Conditions
  - Predicted Health Impact (change of existing conditions due to redevelopment project)
- Short-term Recommendations
- Conclusion
- References

Rapid

- 2 To 12 weeks
- Broad overview of potential health impacts (little to no data collection and/or stakeholder engagement)
- Applied when time and resources very limited
rHIA Goals:

- Inform revitalization choices.
- Compile and provide evidence-based recommendations to decision-makers.
- Allow for integration of this project into other local programs.

https://www.epa.gov/healthresearch/final-report-former-chesapeake-supply-brownfield-revitalization-rapid-health-impact
1. Relationships and existing partnerships are key.

2. A strong leadership team and structured project team is required.

3. Firm parameters and flexibility for adjustments.
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