

## VECTORBORNE AND COMMUNICABLE DISEASE

The Indian Health Service, Division of Environmental Health Services (DEHS) delivers a comprehensive environmental health program to the American Indian/Alaska Native (AI/AN) population and is one of many partners responsible for ensuring environmentally-healthy communities to a population of over 2 million AI/ANs.

Given continued concern and an ever-increasing disease burden regarding diseases transmitted via humans, insects, or animals the issue of vectorborne and communicable disease remains a priority. Additionally, as public health priorities shift to address current issues in Indian Country, the DEHS will adjust program priorities to prevent illness, reduce risk factors, and increase the knowledge and awareness of the AI/AN population regarding vectorborne and communicable diseases.

Nationally, concerns regarding West Nile virus, Hantavirus, Zika virus, H1N1, and many other environmental health issues, illustrate the complex environment where humans reside. In some instances the infectious organisms remain unnoticed until a noticeable amount of disease presents itself. DEHS funding is used to prevent and control environmental health risks that contribute to disease.

This document describes a strategy for addressing and determining the environmental health needs of a national priority. This issue statement is formatted for flexibility and adaptability so that regional and local programs may use it to develop their own systems and strategies, while maintaining uniform methods of determining need and delivering services.

The DEHS activities revolve around the Ten Essential Services of Environmental Health:

### SERVICES

#### Environmental and Health Monitoring and Surveillance

- Enhanced Disease Surveillance Capabilities
- Enhanced Hazard Monitoring Capabilities

#### Investigation

- Improved Hazard Investigation

#### Environmental Health Education

- Increase Public Awareness and Promote Health Literacy

#### Mobilization of Partnerships

- Develop Partnerships with Other Programs

#### Public Health Policy Development

- Tribal Code Development

#### Support Public Health Laws & Regulations

- Inform Tribes/Partners of Federal Laws & Regulations

#### Link People to Environmental Health Services

- Integrate with Clinical Services

#### Assure Competent Workforce

- Staff Credentialing

#### Evaluate Environmental Health Services

- Program and Project Evaluations
- Conduct Customer Satisfaction Assessments

#### Research New Insights and Innovative Solutions

- Community Based Research
- Project Funding

| STRATEGY   | OBJECTIVES   | INDICATORS   | PERFORMANCE MEASURES   |
|--|--|--|--|
| <p><i>Enhanced Disease Surveillance Capabilities</i></p> <p>A web-based data system, Notifiable Disease and External Cause of Injury (NDECI), will provide surveillance data and reports for vectorborne and communicable diseases (CD).</p>   | <ul style="list-style-type: none"> <li>➤ Enhance report output capabilities of current system for vectorborne and CD</li> <li>➤ Provide training on use of the system and interpretation of the data</li> </ul>  | <p>Health Effects Indicator:<br/>Rates of vectorborne and certain CD</p> | <p>Data on vectorborne, CD, and other disease thresholds</p> <p>Determine baseline rates</p> <ul style="list-style-type: none"> <li>➤ Decrease vectorborne rates with probable environmental etiology by 5% over 5 years</li> </ul>          |
| <p><i>Enhanced Monitoring Capabilities</i></p> <p>To improve efficiency and maximize resources, the DEHS needs the capability to monitor critical risk factors and/or indicators identified during on-site surveys so efforts can be focused on reducing or controlling hazards.</p> | <ul style="list-style-type: none"> <li>➤ Implement an electronic survey capability into our Web-based Environmental Health Reporting System (WebEHRS) for:</li> <li>➤ Provide tablet PCs to provide on-the-spot, rapid reporting.</li> <li>➤ Provide training</li> </ul>   | <p>Intervention Indicator:<br/><br/>Environmental Investigations</p>     | <p>Number of Referrals and Environmental Investigations</p> <ul style="list-style-type: none"> <li>➤ Assure that an assessment occurs within 5 working days for 95% of complaints</li> </ul>   |
| <p><i>Improved Hazard Investigation</i></p> <p>The DEHS needs the capability to provide a comprehensive approach to identifying and responding to vectorborne &amp; CD outbreaks in communities.</p>   | <ul style="list-style-type: none"> <li>➤ Develop systems to: <ul style="list-style-type: none"> <li>○ Collect data</li> <li>○ Analyze trends</li> <li>○ Email results</li> <li>○ Interface w/ other software</li> <li>○ Print reports</li> <li>○ Serve as a repository</li> </ul> </li> <li>➤ Provide Training</li> <li>➤ Provide Equipment</li> </ul> | <p>Hazard Indicator:<br/><br/>Vector breeding ground sites</p>           | <p>Interventions to reduce vectors</p> <p>Proportion of homes with vector problems that are addressed</p> <ul style="list-style-type: none"> <li>➤ Increase successful interventions applied by 10% over 5 years</li> </ul>                  |
| <p><i>Increase Public Awareness and Promote Health Literacy</i></p> <p>Develop awareness materials for community and target audiences to include disease specific education, general sanitation, hygiene training.</p>   | <ul style="list-style-type: none"> <li>➤ Develop a standard educational video(s) for specific communicable diseases</li> <li>➤ Distribute copies of the video to appropriate partners (i.e. community health representatives, EPA grant coordinators, tribal public health departments)</li> </ul>   | <p>Intervention Indicator:<br/><br/>Education</p>                        | <p>Percentage of population provided awareness-level education on vectorborne &amp; CD</p> <ul style="list-style-type: none"> <li>➤ Conduct training and provide education to reach 50% of the local population by 2015</li> </ul>           |
| <p><i>Develop Partnerships with Other Programs</i></p> <p>Develop partnerships with Tribal Housing Authority, local health jurisdictions, clinicians, county health departments, and other stakeholders.</p>   | <ul style="list-style-type: none"> <li>➤ Sponsor meetings and workshops</li> <li>➤ Attend partners' meetings and workshops</li> </ul>  | <p>Intervention Indicator:<br/><br/>Partnership Mobilization</p>         | <p>Number of meetings/workshops with stakeholder partners attended or coordinated</p> <ul style="list-style-type: none"> <li>➤ Attend or coordinate at least one meeting/workshop annually that are focused on vectorborne and CD</li> </ul> |

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|--|---|---|---|
| <p><i>Tribal Code Development</i></p> <p>Ensure tribes have and enforce current, relevant animal control and nuisance codes. Disease prevention code development/enforcement will decrease disease incidence/outbreaks.</p>  | <ul style="list-style-type: none"> <li>➤ Conduct comprehensive assessments of tribal codes/infrastructure.</li> <li>➤ Focus efforts to develop tribe-specific vectorborne and CD codes where none exist</li> </ul>  | <p>Intervention Indicator:<br/>Tribal Animal Control and Nuisance Codes</p> | <p>Percentage of tribes with disease prevention/control codes</p> <ul style="list-style-type: none"> <li>➤ Increase the number of tribes with disease prevention/control codes by 5% each year</li> </ul>                       |
| <p><i>Inform Tribes/Partners of Federal Laws &amp; Regulations</i></p> <p>Ensure Tribes have a comprehensive ordinance or codes concerning EPA regulations and proper use of pesticides and herbicides.</p>  | <ul style="list-style-type: none"> <li>➤ Conduct comprehensive assessment of tribal codes/infrastructure</li> <li>➤ Ensure Tribal Natural Resource and other Departments are aware EPA regulations regarding pesticide labeling, use, and disposal</li> </ul> | <p>Intervention Indicator:<br/>Education</p>                                | <p>Number of Tribal Programs who incorporate EPA rules and recommendations into practice</p> <ul style="list-style-type: none"> <li>➤ Ensure 100% of Tribal Programs are aware of EPA regulations</li> </ul>                    |
| <p><i>Integrate with Clinical Services</i></p> <p>Communicate disease surveillance and survey findings with Tribes, clinicians and State/County health departments and align practices and protocols with these partners. Ensure the community is linked to environmental health services through clinical services.</p> | <ul style="list-style-type: none"> <li>➤ Ensure that clinicians provide written referrals to the environmental health services department in response to an illness with suspected environmental etiology in the home</li> </ul>                              | <p>Intervention Indicator:<br/>Referral Program</p>                         | <p>Percentage of diagnosed vectorborne and CD referred to environmental health services<br/>Determine baseline rate of referrals</p> <ul style="list-style-type: none"> <li>➤ Increase referrals by 40% over 5 years</li> </ul> |
| <p><i>Staff Credentialing</i></p> <p>To ensure a workforce competent in CD and vector prevention, all environmental health staff receive/hold a registration (i.e. REHS or RS).</p>  | <ul style="list-style-type: none"> <li>➤ All environmental health staff receive/hold a registration (i.e. REHS or RS)</li> </ul>  | <p>Intervention Indicator:<br/>Workforce Credentials</p>                    | <p>Number of RS/REHS credentialed DEHS staff</p> <ul style="list-style-type: none"> <li>➤ Maintain RS/REHS credentials for 80% of DEHS staff</li> </ul>   |
| <p><i>Program and Project Evaluations</i></p> <p>Conduct evaluations to ensure initiatives are having a positive effect on education, awareness, and exposure reduction.</p>   | <ul style="list-style-type: none"> <li>➤ Analyze epidemiological data for disease levels related to vectorborne and CD</li> </ul>   | <p>Intervention Indicator:<br/>Program Standards and Best Practices</p>     | <p>Analysis of program and strategic performance measures</p> <ul style="list-style-type: none"> <li>➤ 100% of Area programs produce tri-annual report demonstrating results</li> </ul>   |
| <p><i>Conduct Customer Satisfaction Assessments</i></p>  | <ul style="list-style-type: none"> <li>➤ Develop local or Area standardized assessment methodology</li> </ul>   | <p>Intervention Indicator:</p>  | <p>Assessment results</p> <ul style="list-style-type: none"> <li>➤ 100% of Area programs conduct tri-annual</li> </ul>  |

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| Gauge the perception and opinion of the level, type, and quality of environmental health services  | ➤ Complete surveys of stakeholders and residents that measure the satisfaction of stakeholders and residents with the services of the environmental health program | Program Assessment   | assessment<br>➤ Results improve each three-year cycle by 10%  |
| <i>Community Based Research</i><br><br>New insights and innovative solutions to such issues as community disease management plans might only be recognized through research. | ➤ Coordinate research activities   | Intervention Indicator:<br>Research Best Practices           | Number of research project affiliations<br>➤ Conduct at least one research project to test and verify intervention strategies thought to improve health |
| <i>Project Funding</i><br><br>Ensure tribal entities are competitive in receiving grants   | ➤ Assist tribal entities in procuring funding to translate research into practice  | Intervention Indicator:<br>Program and Policy Best Practices | Number of tribes or tribal programs that receive funding<br>➤ Assist tribal entity in successful receipt of vectorborne and CD funding every 5 years    |

| ESTIMATED COST   |  |
|--|--|
| Equipment  | \$2000/tablet PC * 150 personnel = \$300,000                                       |
|  | \$10,000/Area for epidemiological response kits = \$120,000                        |
| Training   | \$125,000/Area for training = \$1,500,000  |
|  | ➤ NDECI  |
|  | ➤ Investigations   |
|  | ➤ Workshops/Conferences  |
| Supplies and Materials   | \$10/CD-ROM * 15,000 facilities = \$150,000  |
|  | \$5,000/Area for sampling devices, storage, and transport = \$60,000               |
| Personnel / Services   | \$25,000 for NDECI   |
|  | \$20,000 for WebEHRS   |
|  | \$2000/Area/year for sampling media/laboratory service = \$24,000                  |
|  | \$5,000/Area train on grant writing and attend grant writing workshops = \$60,000. |
|  | \$5,000/Area to design, conduct, and analyze survey = \$60,000.                    |
|  | \$10,000/Area for Tribal referral system assessment/development=\$120,000          |
|  | \$3000/Area for certified pesticide applicator materials=\$36,000                  |
|  | \$50,000 for culturally appropriate video development                              |
| \$80,000/Area to conduct Tribal policy assessments and develop vector/CD codes = \$960,000 |  |
| <b>TOTAL</b>   | <b>\$3,485,000</b>   |