

**DIVISION OF PUBLIC HEALTH
DPH CONTRACT 27480
AMENDMENT #8**

The Department of Health Services, on behalf of the Division of Public Health and Sauk County Public Health Department agree to amend their original agreement for the program(s) titled Preventive Health and Health Services (PPHS) (Profile 159220), Environmental Public Health Tracking (Profile 155078) and BRACE (Profile 150500) as follows:

REVISION: SECTION 5. SERVICES

Additional projects to be completed as detailed in attached Exhibit(s).

REVISION: SECTION 34.A.2

Insert: "The due date of the final fiscal report for Profile 159220, 155078 and 150500 shall be sixty (60) days after the Grant Agreement Period ending date. Expenses incurred during the Grant Agreement period on Profile 159220, 155078 and 150500, but reported later than sixty (60) days after the period ending date, will not be recognized, allowed or reimbursed under the terms of this Grant Agreement."

Adjustment will be made to the Community Aids Reporting System (CARS) based on the information in the table below.

| Agency # | Agency Type | Profile # | Current Contract Level | Contract Change Amount | New Contract Level | Funding Period |
|----------|-------------|-----------|------------------------|------------------------|--------------------|-----------------|
| 56 | 630 | 159220 | \$0 | \$15866 | \$15866 | 10/1/14-8/31/16 |
| 56 | 630 | 155078 | \$0 | \$9444 | \$9444 | 11/1/15-7/31/16 |
| 56 | 630 | 150500 | \$0 | \$6500 | \$6500 | 9/30/15-9/29/16 |

All other terms and conditions of the original agreement remain unchanged.

GRANTEE's Authorized Representative

Date

Name:

Title:

GRANTOR's Authorized Representative

Date

Chuck J. Warzecha

Administrator / Deputy Administrator, Division of Public Health
Department of Health Services

“Taking Action with Data: Use of the Environmental County Health Profiles to Improve Environmental Health in a Community”

Additional Information for South Central Environmental Health Consortium

Environmental Public Health Tracking (EPHT) Program staff members Christy Vogt and Paul Creswell had a kick-off conference call with Jim Beix, Steve Lisser, and Amy Elizabeth Merwin on 11/24/2015.

Christy and Paul sought some additional information regarding the application from the South Central Environmental Health Consortium. Specifically, details on the DNR data, budget allocation for the GIS consultant, and the platform for the geocoded data were discussed. All questions were answered.

Jim said they will likely be able to get the DNR data for free but built in that cost just in case. Christy explained that budget adjustments of up to 10% of the total funded amount are acceptable without prior approval. She asked that if an adjustment of more than that was needed, that it be discussed first. Should the DNR data be free or at a reduced cost, additional funds will likely be redistributed to the GIS consultant line item.

The format for the geocoded data is undetermined, but might be an applet or GIS interactive website.

Application for the Taking Action with Data: Use of the Environmental County Health Profiles to Improve Environmental Health in a Community

RFA# G-0476-DPH-16

Part I – Applicant information

Study Name: A Longitudinal Study of Nitrate Levels in the Drinking Water of Sauk, Juneau and Adams Counties in South Central Wisconsin

Name of Applicant: South Central Environmental Health Consortium (SCEHC)

Municipalities served: Sauk, Juneau & Adams Counties

Contact information: James A Beix, MPH
505 Broadway ST, Suite 37
Baraboo, WI 53913
608-355-4307 (office)
jbeix@co.sauk.wi.us

Resume: See Attachment 1

Part II – Proposal

Environmental Issue Selected

GIS mapping of nitrate levels in drinking water

Statement of Need

Adams, Juneau and Sauk Counties are located in south-central Wisconsin. The counties meet at the Juneau and Adams County Southern border and Sauk Counties Northern border. Each county has been designated a rural county by the U.S. Department of Agriculture and has a combined estimated population of 109,989 in 2014.

As described in the Environmental Health Profiles, all three counties have elevated nitrate levels in municipal drinking water when compared to the state of Wisconsin. Sauk and Adams counties are both at 2.6 mg/L and Adams County is at 1.8 mg/L. Private drinking well data available on the county environmental profiles show even higher concentrations with Sauk County in the 5.1 – 10.0 mg/L range and Adams and Juneau counties in the 2.1-5.0 mg/L range. While these values are under the safe drinking water act maximum contamination level of 10.0 mg/L, the data indicates that non-municipal water sources may be at increased risk of nitrate contamination. Being rural counties, the residents in the SCEHC jurisdiction frequently rely on private wells and non-municipal water systems as their primary source of drinking water.

Nitrates in drinking water pose a serious threat to infants. Methemoglobinemia, or blue-baby syndrome, is a condition where hemoglobin is converted to methemoglobin which cannot transport oxygen. At lower levels, symptoms include blueish mucous membrane and digestive and/or respiratory distress. At higher levels the blood becomes hypoxic resulting in brain damage and death can occur. Adults produce an enzyme that converts methemoglobin to hemoglobin.

Nitrates can enter water systems through runoff of farm lands, leaking or failed septic systems and erosion of natural deposits. Concentrated Agricultural Feed Operations (CAFOs) are farm systems that raise a large quantity of animals in a relatively small land area. CAFOs have raised concerns that the manure generated at these facilities can become a source for groundwater contamination.

SCEHC is an agent of the Wisconsin Department of Natural Resources (DNR) for transient non-community drinking water systems (TNC). These systems are usually located outside of municipal water system settings and need to serve 25 or more people, 60 or more days out of the year to qualify as a TNC. TNCs are required to be sampled annually for nitrate levels. There are approximately 420 TNC systems in the SCEHC footprint. The DNR has approximately 30 years' worth of TNC nitrate data. The DNR also has historical data on other types of non-municipal water systems. This wealth of historical data could be used to generate longitudinal GIS map layers to visualize nitrate levels over time. Each individual county also have GIS services and land conservation departments that can provide technical assistance if needed.

Target Audience

The target audiences for this study is the Environmental and Public health workers of the three counties being studied as well as the residents. The SCEHC can use the study results to identify high nitrate levels for further study for possible point source identification and remediation. Sauk, Juneau and Adams County's public health department can utilize the study results to identify susceptible populations to conduct targeted education and interventions. The study results will also be published on the SCEHC website so residents can use the data to make informed decisions about testing their private wells.

Project Description

This study seeks to expand on previous drinking water studies by longitudinally evaluating nitrate level data that have been annually collected in non-municipal water systems and use GIS mapping techniques to visualize nitrate levels as they have developed over time. This data will be used to complement some of the previous studies that have focused on municipal water systems and private wells. The goal of this study is to identify trends in nitrate level data and if blooms appear, try to identify their sources.

GIS will be used to map visualize nitrate levels recorded in drinking water. SCEHC will attempt to compile a comprehensive dataset using, municipal water system, non-municipal water system and private well data that is available. Land use data will also be utilized to identify potential point sources of contamination. Finally Census data will be used to better understand the affected populations and tailor targeted marketing for affected populations.

By January 31st 2016 the data sets for the project will be reviewed, obtained, validated and grouped into appropriate time clusters. Data sets will include census data, municipal boundaries, drinking water nitrate test results and land use data. The Environmental Health Manager of SCEHC will be responsible for this goal. Some datasets may have to be purchased. This goal will be considered successful if all the data sets are obtained in a timely fashion and upon evaluation it is determined that the data is the most current version and high quality.

By May 31st 2016 the datasets will be used to generate GIS map layers. This goal will be the responsibility of the GIS personnel. The water nitrate data will be grouped in such a way that it will be possible to visually nitrate levels over time to see if any trends can be identified.

By July 31st 2016, The GIS map layers will be analyzed for trending in drinking water nitrate levels and identification of potential point sources of contamination. This goal will be the responsibility of the SCEHC manager and Staff. The files will be reviewed on a consortium level and if there is a noticeable and sustained elevated level then the land use of the affected area will be analyzed to see if any potential sources can be identified (septic/sewer systems for residential areas, farming operations/run off for farm lands).

The final outputs of the study will be the generated GIS mapping layers that will be shared with individual county GIS services and Land Use divisions, a report that will be posted on the SCEHC website, limited printed copies of the report for distribution and presentation materials for a conference or for local presentations.

James A. Beix
2214 South Woodward Street, Milwaukee, WI
414/758-1716
jim.beix@gmail.com

PROFESSIONAL EXPERIENCE

Environmental Health Manager

April 2015 – Present

South Central Environmental Health Consortium

- Ensure oversight of all environmental division programs, including limited agent program for the Division of Health Services, full agent for the Department of Agriculture, Trade and Consumer Protection, Department of Natural Resources's Transient Non-Community Water Sampling program and human health Hazard investigations
 - Conduct field inspections for all programs of the South Central Environmental Health Consortium.
 - Supervise the daily activities of three employees.
 - Attend Governance Meetings to provide testimony and participate in the budget approval process.
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Epidemiologist and Environmental Health Manager

April 2005 – March 2015

City of Wauwatosa Health Department

- Ensure oversight of all environmental division programs, including control of rabies, nuisance, human health hazard, recreational waters and restaurant & retail food establishment inspections.
 - Conduct outbreak investigations as a member of the management team, including design and administration of questionnaires, maintenance of data integrity, performance of data analysis, and coordination of environmental investigations.
 - Lead the emergency preparedness planning effort for the City of Wauwatosa Health Department, including meeting all grant objectives, served as a resource during outbreak investigations, special needs population planning, training and competency mapping, and staffing of after hours clinics.
 - Supervise the daily activities of three employees.
 - Attend Common Council Meetings to provide testimony and participate in the budget approval process.
-

Epidemiology and Surveillance Specialist

February 2004 – April 2005

South-Central Wisconsin Public Health Preparedness

- Participate in the formation of a grant-funded, public health, emergency-preparedness consortium for eight local health departments serving South-central Wisconsin.
- Evaluation of current surveillance systems and projection of future needs as they related to bioterrorism and other infectious agents.
- Serve as a point of reference during infectious disease outbreaks.
- Assist in testing local emergency-preparedness plans by developing and conducting tabletop exercises.

- Facilitate collaboration with multiple local, regional, and state departments which previously had few interdepartmental associations.
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Laboratory Technologist
Mayo Clinic

January 2001 – August 2002

- Participate on the Porphyria and Nutrition Team at the Biochemical Genetics Lab.
 - Analyze patient samples using High Performance Liquid Chromatography, Spectrophotometry and Spectroflurometry.
 - Compile and relay large quantities of data to consultants.
 - Perform general equipment maintenance and validation.
 - Serve on the Laboratory Safety Committee.
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EDUCATION

Tulane University
New Orleans, LA

September 2002 – December 2003

Master of Public Health: Epidemiology
Area of concentration: Infectious disease
Cumulative GPA: 3.696
Degree Hours: 45.0 semester hours

University of Wisconsin – La Crosse
La Crosse, WI

September 1994 – December 2000

Bachelor of Science: Microbiology
Minor: Chemistry
Cumulative GPA: 2.75
Degree Hours: 138.0 semester hours

ADDITIONAL EXPERIENCE

Software

- Microsoft Office, SPSS, EpiInfo, NeoGov, GEMS financial software

Attachment B: Work Plan for GIS Mapping of Drinking Water Nitrate Level Study

| OBJECTIVE 1: Research, obtain and validate data for available sources | | | | |
|-----------------------------------------------------------------------|----------------------------------------|----------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------|
| ACTIVITY | PERSON RESPONSIBLE | TIMELINE | EVALUATION | NOTES |
| Obtain data sources | James Beix | By December 31 | Direct access of data files | Sources include WI EPHT, WI DNR, Local Land Conservation and Census data |
| Validate data | GIS Personnel, James Beix | By January 15 | Verification that data files are appropriate for GIS Mapping | Reformat data if needed to best suite GIS Mapping software |
| Group data into chronological groups | GIS Personnel, James Beix | By January 31 | Data files are properly formatted and ready for GIS Mapping | |
| OBJECTIVE 2: Generate GIS map layers | | | | |
| ACTIVITY | PERSON RESPONSIBLE | TIMELINE | EVALUATION | NOTES |
| Review data files and set break points for analysis | GIS Personnel, James Beix | By February 29 | The best method to stratify the data is chosen | |
| Geocode data files to create GIS map layers | GIS Personnel | By March 31st | Data points are geocoded with 100% accuracy | |
| Meeting to review preliminary results | GIS Personnel, James Beix | By April 30th | Map layers are reviewed and any additional data manipulation is identified | |
| Finalize GIS map layers | GIS Personnel | By May 31 | Receive the map layer files from the GIS personnel | |
| OBJECTIVE 3: Analysis of data layers | | | | |
| ACTIVITY | PERSON RESPONSIBLE | TIMELINE | EVALUATION | NOTES |
| Review of data | GIS Personnel, James Beix, SCEHC Staff | June 30th | Meeting of partners to present GIS Mapping data | |
| Identification of trends | SCEHC Staff | July 31st | Analyze maps and document nitrate level trends over time | |
| Identification of potential point sources | SCEHC Staff | July 31st | If blooms appear, use land use layers to try and identify a point source | |

**Taking Action with Data: Use of the Environmental County Health Profiles
to Improve Environmental Health in a Community**

October 1, 2015 - July 31, 2016

Local Public Health Agency **South Central Environmental Health Consortium**

Fiscal Agent Representative: Amy Lee-Merwin

Representative Phone: 605-355-4319

Representative E-mail: ALee@co.sauk.wi.us

| Budget Items | | Totals | |
|--------------------------------------------------------------|------------------------------------------------------|-----------------|---------|
| PERSONNEL | | | |
| Salaries (List Name(s), Position, FTE Equivalent) | James Beix, Environmental Health Manager, 40 hours | \$1,330 | \$2,579 |
| | Steve Lisser, Environmental Health Tech, 40 hours | \$749 | |
| | Sophie Smith, UW Nursing Student, 40 hours (stipend) | \$500 | |
| Fringe Benefits (List Name) | James Beix, Environmental Health Manager | \$336 | \$365 |
| | Steve Lisser, Environmental Health Tech | \$28 | |
| | | | |
| | | Total Personnel | \$2,944 |
| CONSULTANT/CONTRACTED STAFF | | | |
| List Name, Position, FTE Equivalent | GIS personnel or consultant | \$3,000 | \$3,000 |
| SUPPLIES | | | |
| Itemize | Presntation materials | \$500 | \$500 |
| TRAVEL | | | |
| Itemize | Travel to presentation conference | \$328 | \$500 |
| | Lodging for presentation conference | \$120 | |
| | Meals for presentation conference | \$52 | |
| EQUIPMENT | | | |
| Itemize | 1 License of ESRI ArcGIS for Desktop | \$1,500 | \$1,500 |
| OTHER | | | |
| Itemize | Data | \$1,000 | \$1,000 |
| TOTALS (Total Funding Request Cannot Exceed \$10,500) | | \$9,444 | \$9,444 |
| IN-KIND SUPPORT (none is required) | | | |
| Itemize | | | \$0 |

Contract Objective Details - Intermediate

Contract #: 27480

Agency: Sauk County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services
Block Grant

Objective #: 1 of 2

Objective Value: \$1,066

Objective: Primary Details

Objective Statement (Template Objective)

Template Objective 10

National Public Health Standards - Required: By August 31, 2016, Sauk County Health Department will conduct one activity to meet or sustain National Public Health Performance Standards (i.e. pursue accreditation readiness) by conducting a Quality Improvement Project to improve the Community Health Improvement Plan using evidenced based activities with our community partners.

Deliverable Due Date: 09/30/2016

Contract Deliverable (Evidence)

A report entered into an electronic data collection tool that briefly describes:

1. Evidenced-based strategies implemented and outcomes measured.
2. Challenges or barriers to success.
3. Strategies to overcome barriers or challenges.
4. If Prevention funded activities were used to obtain additional funding, donations or in-kind contributions.

Programs Providing Funds for this Objective

Preventive Health and Health Services Block Grant: \$1,066

Agency Funds for this Objective:

Data Source for Measurement

Agency report to be entered into an electronic data collection tool to be provided by the WI Division of Public Health.

Baseline for Measurement

This is a new initiative.

Sauk County Health Department has submitted for accreditation. The PHAB site visitors completed the site visit on June 2-3, 2015. We are awaiting the results of the review by the Accreditation Board in November 2015.

Input Activities

CDC requires Preventive Health and Health Services Block Grant funds to be used on evidence-based strategies, best practices or promising practices. Describe the strategies/practices to be used and identify the associated web links as available. Potential links to strategies for this objective can be found on the 2014-2016 Preventive Health and Health Services Block Grant Program Boundary Statement.

Agencies will conduct one of the following activities to prepare for voluntary accreditation:

- Conduct a Quality Improvement project in regard to the Sauk County CHIP.
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Contract Objective Details - Intermediate

Contract #: 27480

Agency: Sauk County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services

Objective #: 1 of 2

Objective Value: \$1,066

Block Grant

Objective: Risk Profile

Percent of Objective Accomplished

| | | | | | | | | | | | | |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 85% | 90% | 95% | 100% |
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Corresponding Percentage Recoupment

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Corresponding Potential Recoupment Amounts

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Definition of Percent Accomplished

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Conditions of Eligibility for an Incentive

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Contract Objective Details - Intermediate

Contract #: 27480

Agency: Sauk County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services
Block Grant

Objective #: 2 of 2

Objective Value: \$14,800

Objective: Primary Details

Objective Statement (Template Objective)

Template Objective 2

Environmental Health Hazards: By August 31, 2016, Adams, Juneau and Sauk Counties will implement 3 strategies to prevent or ameliorate environmental health hazards.

Deliverable Due Date: 09/30/2016

Contract Deliverable (Evidence)

A report entered into an electronic data collection tool that briefly describes:

1. Evidenced-Based strategies implemented and outcomes measured.
2. Challenges or barriers to success.
3. Strategies to overcome barriers or challenges.
4. If Prevention funded activities were used to obtain additional funding, donations or in-kind contributions.

Programs Providing Funds for this Objective

Preventive Health and Health Services Block Grant: \$14,800

Agency Funds for this Objective:

Data Source for Measurement

Agency report to be entered into an electronic data collection tool to be provided by the WI Division of Public Health.

Baseline for Measurement

In 2014, a grand total of 331 environmental health hazard problems in the three counties were investigated. A grand total of 824 contacts were made regarding these environmental health hazards which included indoor and open air quality, housing, solid waste, asbestos, lead and water quality issues. The policy for mold investigation changed to decrease the amount of time spent in landlord tenant disputes. Education is provided with identified problems. Collaboration with the planning and zoning department and corporation counsel is sought when abatement orders are needed.

The breakdowns for each county are as follows:

Adams County: Environmental Health Hazard problems (83); contacts (190)

Juneau County: Environmental Health Hazard problems (82); contacts (223)

Sauk County: Environmental Health Hazard problems (166); contacts (411)

Input Activities

CDC requires Preventive Health and Health Services Block Grant funds to be used on evidence-based strategies, best practices or promising practices. Describe the strategies/practices to be used and identify the associated web links as available. Potential links to strategies for this objective can be found on the 2014-2016 Preventive Health and Health Services Block Grant Program Boundary Statement.

Adams, Juneau and Sauk Counties will follow their environmental health hazards policies and procedures. This includes the updated policy for mold investigation. Education is provided with identified problems. Collaboration with the planning and zoning department and corporation counsel is sought when abatement orders are needed.

(see next page)

Contract Objective Details - Intermediate

Contract #: 27480

Agency: Sauk County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services

Objective #: 2 of 2

Objective Value: \$14,800

Block Grant

Objective: Risk Profile

Percent of Objective Accomplished

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|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 85% | 90% | 95% | 100% |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|

Corresponding Percentage Recoupment

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Corresponding Potential Recoupment Amounts

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Definition of Percent Accomplished

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Conditions of Eligibility for an Incentive

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