

**DIVISION OF PUBLIC HEALTH
DPH CONTRACT 27478
AMENDMENT #4**

The Department of Health Services, on behalf of the Division of Public Health and Rock County Public Health Department agree to amend their original agreement for the program(s) titled Preventive Health and Health Services (PPHS) (Profile 159220) and Environmental Public Health Tracking (Profile 155078) 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 and 155078 shall be sixty (60) days after the Grant Agreement Period ending date. Expenses incurred during the Grant Agreement period on Profile 159220 and 155078, 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
53	630	159220	\$0	\$13882	\$13882	10/1/14-8/31/16
53	630	155078	\$0	\$10500	\$10500	11/1/15-7/31/16

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

GRANTEE's Authorized Representative
Name:
Title:

Date

GRANTOR's Authorized Representative
Chuck J. Warzecha
Administrator / Deputy Administrator, Division of Public Health
Department of Health Services

Date

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

Additional Information for Rock County

Environmental Public Health Tracking (EPHT) Program staff members Jenny Camponeschi and Christy Vogt had a kick-off conference call with Tim Banwell, Rick Wietersen, and Marie-Noel Sandoval (Noel), all with Rock County, on Tuesday, November 17, 2015. Additional information regarding their application was sought from Jenny and Christy. Specifically, information was asked about which partners were already on board vs. those that needed to be pulled in. Tracking staff also asked for additional detail on how Rock County would clearly evaluate their measures of success throughout the project. Rock County provided further detail as asked.

Staff from Rock County explained that they have already-existing partnerships with most of the partners listed in their application, but are working to develop them further. They noted that they already work closely with University of Wisconsin – Stevens Point.

Rick provided an enhanced version of their workplan/application after the call that included additional information specifically on the evaluation measures. That information is included below:

Objective 1 Evaluation Measures:

- Through collaborating partners, identification of all major nitrate sources which are likely contributing to elevated nitrates in the groundwater, including differentiating agricultural cropping practices.
- Reaching a consensus and enumeration on the relative degree to which each nitrate source may potentially be contributing to nitrates in the groundwater in Rock County.
- Determine how the nitrate source data will potentially integrate into a future geospatial nitrate risk evaluation tool.

Objective 2 Evaluation Measures:

- Through collaborating partners, identification of all major geologic conditions that influence the rate of nitrate leaching to the groundwater in Rock County.
- Reaching a consensus and enumeration on the relative degree to which each geologic condition contributes to nitrates in the groundwater of Rock County.
- Determine how the geologic information will potentially integrate into a future geospatial nitrate risk evaluation tool.

Objective 3 Evaluation Measures:

- A successful integration of Rock County and UWSP drinking water databases.

Objective 4 Evaluation Measures:

- Conduct at least two local town-hall type meetings in which the potential sources, potential geologic conditions and town-based well water sample results will be integrated and discussed with residents.

**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

Rock County Health Department
3328 U.S. Highway 51 North
P.O. Box 1088
Janesville, WI 53547

**Establishing a Foundation for an Educational
Online Drinking Water Nitrate Risk Tracking Tool**

Part II Proposal

A) Environmental Issue -

- Water Quality – Nitrates

B) **Statement of Needs:** Rock County's drinking water source is entirely dependent on ground water. The urban areas are supplied by public water wells and the rural populace has private wells. Both public and private wells are susceptible to Rock County's sensitive geology and both have been impacted by local land use practices. However, private wells tend to be impacted to a greater degree because of their shallow depth. There are over 15,000 private wells in Rock County, serving an estimated population of 40,000 people (25%). The remaining populace (120,000 pop.) is served by public wells with nitrate impacts.

Nitrates, a known health concern, can cause a condition in infants known as methemoglobinemia, or "blue baby syndrome". In infants, high nitrates can reduce the ability of blood to carry oxygen, hence causing a potential lack of oxygen to vital organs. Some scientific studies have also shown a potential correlation of high nitrates in drinking water to increased risk of certain cancers. Nitrates are also an early indicator for other potential contaminants such as pesticides and pharmaceuticals.

Over the last 20 years, Rock County Health Department (RCHD) has noticed a steady increase in nitrate concentrations in private and non-community wells. **Rock County has some of the highest nitrate levels in the State of Wisconsin, with about 30% of wells exceeding the 10 mg/L health advisory level.** (refer to Appendix A).

The role of RCHD has typically been to identify the nitrate levels in private wells and assist well users in knowing their potential health risks. This approach has been effective in educating well users of their potential health risks, however, as well water nitrate levels continue to rise to record levels in the county (Appendix A), **there is a significant need to address the risks as related to nitrate sources, land use activities or high-risk geologic conditions for all well water users in Rock County.** In addition to the potential health implications, the high nitrate levels result in significant financial burdens on the community through the need for purchasing bottled water, installing water treatment systems, or drilling expensive deep wells to avoid nitrates.

The Rock County Health Department has staff with years of extensive environmental and groundwater experience that are fully capable of leading this initiative. The Health Department has a water analysis lab with over 5,000 nitrate test results since the mid 1990's that have been placed on a GIS database

C) **Target Audience** The target audience of this grant project would be all well water consumers in Rock County. A primary focus would be on the 40,000 plus rural well users, however this project would also be beneficial to all residents of Rock County.

D) Project Description

a. Overview:

Rock County has a known problem with nitrates in groundwater as identified by the Wisconsin Environmental Public Health Tracking Program and data collected by the Rock County Health Department Water Testing Laboratory. The Rock County Health Department has established a strong groundwater testing program and continues to actively promote private well testing. Educational information is provided to citizens on nitrate health risks and options to reduce their risk based on their nitrate test results. This project is looking to go beyond typical scope of just identifying the problem and relaying the health risks. This project is looking to spatially identify major sources of nitrates contributing to the health risk, land-use activities that may be increasing the nitrate risk, and geologic conditions that significantly contribute to elevated nitrates in the groundwater of Rock County. This project will provide for a better understanding of the nitrogen balance in the groundwater of Rock County. Ultimately, it is hoped that this project will provide the foundation for establishing an online Nitrate Risk Tracking Tool that would greatly assist in educating well users, nitrogen source contributors, well professionals, and policy makers to the cause and effect relationship of the well water nitrate issue in Rock County.

This 'Nitrate Risk Tracking Tool' approach has been initiated in other parts of the country (http://ciwr.ucanr.edu/Tools/Nitrogen_Hazard_Index/) but has not been utilized in Wisconsin to promote a better understanding of the cause and effect relationship of the nitrate groundwater issue. If successful in obtaining this grant, the RCHD will lay the foundation for development of an online Nitrate Risk Tracking Tool that will assist the community in determining where nitrate risks exist in the county and potential factors as to why the risks are high in certain geographic regions. Decisions on determining future private well locations and well depths would be assisted by information provided by this tool. Practical applications can also be applied to land use planning and public well planning.

b. Goals and Objectives:

The short-term goal that would be covered by this grant would be to collaborate with community partners to identify contributing factors as to “why” nitrates are high in certain areas and not in other areas. This would be accomplished by spatially evaluating and identifying the major nitrate sources and the major land-use and geologic factors that contribute to high nitrates in groundwater. The specific objectives for this project are listed below and outlined in Appendix B using SMART Objectives.

Objective #1: From November 2015 to July 2016, establish a foundation for identifying and quantifying nitrate sources (fertilizers, septic systems, etc...) contributing to high nitrates in Rock County through collaboration with community partners and consultation with other similar nitrate risk projects in the US.

Objective 2: From November 2015 to July 2016, identify geologic features that are influential in the rate of nitrate contributions to the groundwater of Rock County.

Objective 3: Between November 2015 and March 2016, combine large RCHD well nitrate database with UWSP Well Water Quality Viewer database to provide nitrate groundwater data on a section basis (square mile).

Objective 4: From March 2016 to July 2016, educate well users through Town-based programs and one-on one consultation of their nitrate health risks by utilizing the combined RCHD groundwater nitrate database/UWSP Well Water Quality Viewer mapping tool and identified major risks groups identified by this project.

The long-term goal (beyond this grant) is to utilize the existing well water data sets (RCHD Lab and UWSP Well water Viewer) and spatially compare the nitrate test results with land use activities that contribute nitrogen to the aquifer and geologic conditions that enhance this effect. This would be done through the creation of an online Nitrate Risk Tracking Tool. The reason that this long-term goal is placed in this project application is for the understanding of the importance of this project in leading to a much larger long-term beneficial application.

Objective 5: Develop an online Nitrate Risk Tracking Tool to evaluate relative nitrate risk factors spatially and compare to actual nitrate well water test results. (NOT PART OF THIS GRANT)

c. Timeline for Project

This project will be initiated in November of 2015, with completion of objectives by July 31, 2016. Objectives 1, 2 and 4 would be completed throughout the entire project period. Objective 3 would have a substantial completion timeline of March 2016. Objective 5 (Online Nitrate Risk Tool) is beyond the scope of this project.

d. Health Equity Considerations

This project will be directed at all citizens in Rock County, with special emphasis on rural well owners that have not been adequately served by sampling programs. Our Town-based sampling programs utilize a mailing system to all residents living at a location served by a private well, covering a wide-range of socio-economic groups.

e. Collaborating Partners

The following partnerships and their anticipated roles in this project include: Rock County Land Conservation Dept. (Nitrate Source ID, Crop Information), Wisc. Geologic & Natural History Survey (Geologic interpretations/mapping), UW- Madison/WDNR (Wisland2 Land Use Mapping Data), Wisconsin DNR (Land Application Information/database), Rock County Planning Agency (Land Use information), Wisconsin Department of Health Services (WI EPHT program data), Wisconsin DATCP

(Crop Information, Fertilizer Information), Rock County Towns Association (Town-based well sampling programs).

E) Work Plan

Objective 1: Identifying and quantifying nitrate sources

<u>Activity</u>	<u>Personnel</u>	<u>Timeline</u>	<u>Evaluation</u>
Meet w/ WISCLAND	Wietersen/Elmer	Dec/Jan	WISCLAND feasibility?
Review Risk Models	Wietersen	Nov-March	Applicability to Rock Co.
Meet with Stakeholders	Wietersen/Banwell	Dec-June	Land Use Criteria
Develop Source Risk Criteria	Wietersen	Jan-June	Criteria established

Objective 2: Identify geologic features influencing nitrates in groundwater

<u>Activity</u>	<u>Personnel</u>	<u>Timeline</u>	<u>Evaluation</u>
Meet with Stakeholders	Wietersen/Banwell	Dec-June	Geologic Criteria
Meet with WGNHS	Wietersen/Elmer	Jan/Feb	Mapping tools/layers
Review Risk Models	Wietersen	Nov-March	Applicability to Rock Co.
Develop Geologic Risk Criteria	Wietersen	Jan-June	Criteria established

Objective 3: Combine RCHD & UWSP Well Water databases

<u>Activity</u>	<u>Personnel</u>	<u>Timeline</u>	<u>Evaluation</u>
Meet with UWSP	Wietersen/Elmer	Dec.	Transfer Criteria
Prepare/Clean Data	Wietersen/Elmer	Jan/Feb	Data transferred

Objective 4: Educate well users based on data, nitrate sources and geology

<u>Activity</u>	<u>Personnel</u>	<u>Timeline</u>	<u>Evaluation</u>
Town Hall Meetings	Wietersen/Banwell	March-June	# of meetings
Project Press Release	Banwell/Wietersen	July	Mapping tools/layers
Project Summary Report	Wietersen/Banwell	July	Distribution Locations

F) Project Evaluation

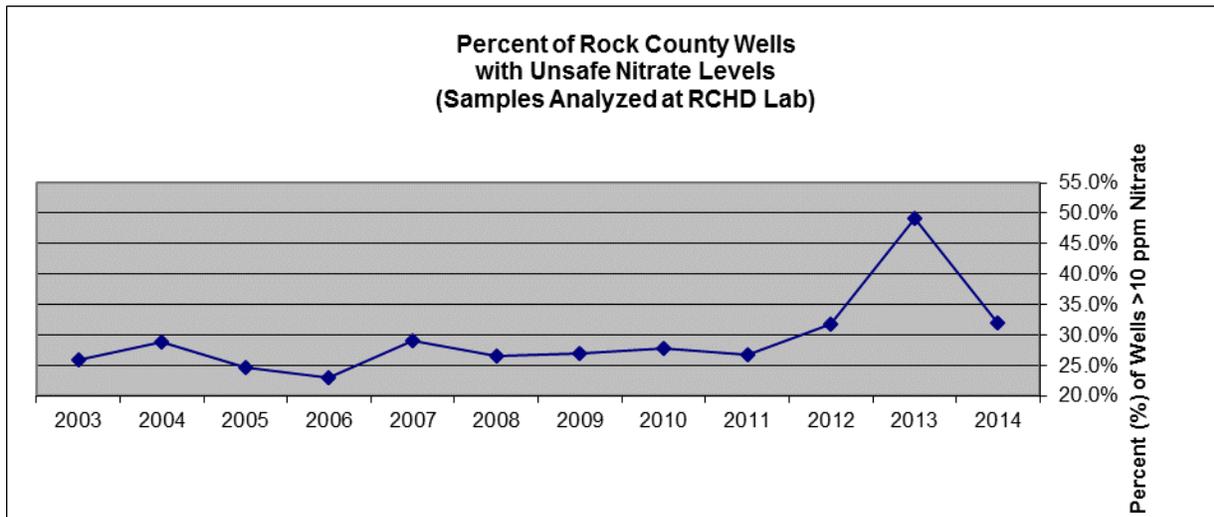
This project will be evaluated based on the number of collaborating partners and stakeholders, the ability to reach established goals, the number of citizens reached in group and one-on-one consultations and the completion of the summary report. The success of the project will be in its ability to serve as a foundation for the establishment of a Rock County Online Nitrate Risk Tool.

Part III

Budget

Taking Action with Data: Use of the Environmental County Health Profiles to Improve Environmental Health in a Community			
October 1, 2015 - July 31, 2016			
or Tribal Health Agency Name: Rock County Health Department			
		Fiscal Agent Representative: Tim Banwell	
		Representative Phone: 608-757-5440	
		Representative E-mail: banwell@co.rock.wi.us	
Budget Items			Totals
PERSONNEL			
Salaries (List Name(s), Position, FTE Equivalent)	Rick Wietersen (Sanitarian) (0.1 FTE)	\$4,000	\$7,000
	Tim Banwell (Env. Health Director) (0.02 FTE)	\$1,500	
	Adam Elmer (Sanitarian) (0.03 FTE)	\$1,500	
Fringe Benefits (List Name)	Rick Wietersen	\$1,600	\$2,800
	Tim Banwell	\$600	
	Adam Elmer	\$600	
Total Personnel			\$9,800
CONSULTANT/CONTRACTED STAFF			
List Name, Position, FTE Equivalent			\$0
SUPPLIES			
Itemize	Printing/Posters/Postage	\$400	\$600
	Meeting Supplies	\$200	
TRAVEL			
Itemize	Vehicle Milage	\$100	\$100
EQUIPMENT			
Itemize			\$0
OTHER			
Itemize			\$0
TOTALS (Total Funding Request Cannot Exceed \$10,500)		\$10,500	\$10,500
IN-KIND SUPPORT (none is required)			
Itemize	Additional Staff Time and Fringe Benefits	\$8,000	\$8,000

Appendix A – Rock County Elevated Nitrates in Drinking Water



Appendix B: - SMART Objective Tables

Objective 1: From November 2015 to July 2016, establish a foundation for identifying and quantifying nitrate sources contributing to high nitrates in Rock County through collaboration with community partners and consultation with other similar nitrate risk projects in the US.	
Key Component	Objective
Specific - What is the specific task?	In cooperation with community partners, spatially identify key nitrate contributors that are likely causing elevated groundwater nitrates and quantify their potential impacts on a spatial (GIS) basis.
Measurable - What are the standards or parameters?	Number of Nitrate Sources identified and quantified. Potential significant contributing nitrate sources that may be identified and quantified may likely include cropping types, irrigation, land applications, and septic systems. Also measurable is the numerical risks established for each major source.
Achievable - Is the task feasible?	Yes, the identification of sources is feasible and the relative quantification of the nitrate risk has been achieved in other regions of the US having similar nitrate risk models.
Realistic - Are sufficient resources available?	Spatial data sources exist for land/crop use (Landsat), land application (DNR), and septic systems (RCHD), and high-capacity irrigation wells (DNR).
Time-Bound - What are the start and end dates?	November 2015 to July 2016.

Objective 2: Identify Geologic features that are influential in the rate of nitrate contributions to the groundwater of Rock County.	
Key Component	Objective
Specific - What is the specific task?	In cooperation with community partners, identify key geologic conditions that contribute to the rate of nitrate impacts on the groundwater.

Measurable - What are the standards or parameters?	Number of individual geologic conditions identified and spatially quantified. Potential geologic factors that may be identified and quantified include potential factors such as soil types, bedrock type & depth, and groundwater depth. Also measurable is the numerical risk established for each geologic condition.
Achievable - Is the task feasible?	Yes, the identification of geologic features is feasible and the relative quantification of the potential impact has been achieved in other regions of the US having similar nitrate risk models.
Realistic - Are sufficient resources available?	Spatial data sources (GIS layers) exist for soils, bedrock type, and bedrock depth. General groundwater depth data is available but not in an electronic format except for shallow groundwater. Very specific groundwater depth data does exist through well construction records but getting that information into a usable GIS layer may be beyond the scope of this project.
Time-Bound - What are the start and end dates?	November 2015 to July 2016.

Objective 3: Combine large RCHD well nitrate database with UWSP viewer database to provide nitrate groundwater data on a section basis (square mile).	
Key Component	Objective
Specific - What is the specific task?	Place over 5000 Nitrate well water results into the UWSP view database.
Measurable - What are the standards or parameters?	Number well water test results transferred to the UWSP viewer.
Achievable - Is the task feasible?	Yes, the 5,000 plus nitrate results will require some data manipulation to ensure that duplication of data does not exist, that only the most recent results per well are utilized, and that results from water treatment systems removed from the database.
Realistic - Are sufficient resources available?	The RCHD GISdata system will allow for most of this data analysis to be conducted prior to combining data sets. The UWSP Viewer has /staff have the capability and willingness to work with RCHD to accomplish this task.
Time-Bound - What are the start and end dates?	November 2015 to March 2016.

Objective 4: Utilize combined groundwater nitrate database/UWSP Viewer mapping tool and identified major risks groups to educate well users of their nitrate health risks.	
Key Component	Objective
Specific - What is the specific task?	Conduct town-hall based meetings and one-on-one consultations with well users to share nitrate well data information and associated risks based on potential sources and geologic features.
Measurable - What are the standards or parameters?	Number of people consulted on nitrate risks using new database/UWSP mapping tool and identified nitrate sources in their local area.
Achievable - Is the task feasible?	Yes, the RCHD plans to continue to conduct Town-based well water sampling programs in 2016 which will provide a excellent platform for educating well users on the known and potential risks based on the new information provided by the combined database and knowledge of identified major nitrate risks and geologic factors.
Realistic - Are sufficient resources available?	RCHD Staff will be available to conduct town-based education to rural residents.
Time-Bound - What are the start and end dates?	November 2015 to July 2016.

Objective 5: Develop an online Nitrate Risk Mapping Tool to evaluate relative nitrate risk factors spatially and actual nitrate well water test results. (NOT PART OF THIS GRANT)	
Key Component	Objective
Specific - What is the specific task?	Create a mapping tool to be utilized by well professionals, homeowners, Health Professionals, and Community Planners to evaluate known high nitrates in well water results with known geologic and land-use factors which may be contributing to these high nitrates. This tool would be informational and could be used to assist in siting private and public wells and in making risk-based judgements in decisions such as well replacement vs water treatment.
Measurable - What are the standards or parameters?	Number of People utilizing the online tool.
Achievable - Is the task feasible?	Not in the scope of this grant. The foundation laid by objectives 1-3 would allow for the potential implementation of the Nitrate Risk Mapping tool when additional resources are available.

Realistic - Are sufficient resources available?	Additional local, state and national assistance in calibrating the Nitrate Risk factors and developing an online mapping tool will be required.
Time-Bound - What are the start and end dates?	Beyond July 2016.
	

Appendix C:

Key Personnel Information:

RESUME

Timothy C. Banwell

Environmental Health Director

Rock County Health Department

PO Box1143

Janesville WI 53547

Education

Bachelor of Science , Augustana College, Rock Island, IL 1973

Master of Public Health, University of Illinois-Medical Center, Chicago, IL 1980

Employment History

Thirty-two years experience in public health at the local community level in south central Wisconsin and north central Illinois, serving urban and rural populations in areas categorized as industrial, agricultural and residential. Twenty-eight years have been in management; writing budgets, developing program goals and objectives. Other responsibilities have been in public health risk assessments and communications, community assessments, coordinating community-wide projects.

Rick Wietersen is a Sanitarian II for the Rock County Health Department where he has been employed since 2001. As a Sanitarian he has and been involved in a variety of environmental health programs including managing the Departments groundwater program for the past 15 years. Rick has been instrumental in managing the private well water laboratory in the Department and implemented a GIS-based water data collection program. He is currently certified by the state of Wisconsin as a Registered Sanitarian

and a Private Onsite Wastewater Treatment System (POWTS) Inspector. Rick brings a unique perspective to the department with ten years of prior experience in the private sector investigating soil and groundwater contamination sights. His expertise involves extensive daily contact with private industry, regulatory agencies, and local citizens; all of which will be key participants in this project. Rick has an M.S. in Soil Science from the University of Wisconsin Madison and a B.S. in Soils and Water Resources from the University of Wisconsin Stevens Point.

Contract Objective Details - Intermediate

Contract #: 27478

Agency: Rock County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services
Block Grant

Objective #: 1 of 2

Objective Value: \$11,814

Objective: Primary Details

Objective Statement (Template Objective)

Template Objective 2

Environmental Health Hazards: By August 31, 2016, Rock County Health Department will implement one strategy 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: \$11,814

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

During the 2014-15 contract period there were 400 well tests conducted. There will be 1,000 well tests conducted during the upcoming 2015-16 grant cycle through the Rock County well water lab.

Input Activities

A well sampling program will be coordinated through at least one town to provide well testing services at a reduced cost. Past programs have resulted in 12 to 22% of private wells in a town being tested for bacteria and nitrates. Health Department staff will promote the program and provide educational information to users of private wells.

Public service announcements will be released county wide on the importance of annual private well testing. Posters with this message along with contact information will be located in public locations.

Contract Objective Details - Intermediate

Contract #: 27478

Agency: Rock County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services
Block Grant

Objective #: 1 of 2

Objective Value: \$11,814

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 #: 27478

Agency: Rock County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services
Block Grant

Objective #: 2 of 2

Objective Value: \$2,068

Objective: Primary Details

Objective Statement (Template Objective)

Template Objective 10

National Public Health Standards - Required: By August 31, 2016, Rock County Health Department will conduct one activity to meet or sustain National Public Health Performance Standards (i.e. pursue accreditation readiness) by completing a strategic plan.

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: \$2,068

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.

Input Activities

The Rock County Health Department will conduct at least three Strategic planning sessions involving all agency staff. Up to five goals with objectives will be included in the final report.

Contract Objective Details - Intermediate

Contract #: 27478

Agency: Rock County Public Health Department

Contract Year: 2015

Program: Preventive Health and Health Services

Objective #: 2 of 2

Objective Value: \$2,068

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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