SAFETY AND HEALTH INVESTMENT PROJECTS FINAL REPORT

Occupational Health Education for Dental Hygienists in Washington State $\frac{2013\text{XH}00204}{3/18/13\text{-}12/31/14}$

Dan Anton, PT, PhD, ATC dan.anton@ewu.edu

Eastern Washington University & St. Luke's Rehabilitation Institute Partner: Inland Northwest Dental Hygiene Study Club (INDHSC)

> 1/27/15 Dan Anton, PT, PhD, ATC Janet Nord, RDH, BS, Med Douglas Weeks, PhD



PART I

Narrative Report

Organization Profile:

For awarded organizations, to include partners and collaborators, provide a brief description of each organization. Mission, vision, and purpose for each of the organizations who applied (this includes partners and collaborators) for the grant.

Eastern Washington University (EWU) first became an institute for higher learning in 1882 as the Benjamin P. Cheney Academy, enrolling 200 students. In 1937, EWU became a fully accredited four-year, degree-granting institution offering majors in numerous subjects. Since then, EWU has added a wide range of undergraduate and graduate degree programs, including the Doctor of Physical Therapy Program, in response to the increase need for professionals in many fields. The University enrolls approximately 10,000 full-time students per year.

The mission is that EWU expands opportunities for personal transformation through excellence in learning. EWU achieves this mission by:

- fostering excellence in learning through quality academic programs, undergraduate and graduate student research and individual student-faculty interaction. Students extend their learning beyond the classroom through co-curricular programs, life skills development, internship programs, volunteering and service learning.
- creating environments for personal transformation that enrich the lives of individuals, families, communities and society at large.
- expanding opportunity for all students by providing critical access to first generation students, underserved populations, place-bound students, and other students who may not have the opportunity for higher education.
- developing faculty and staff by growing and strengthening an intellectual community and supporting professional development.

EWU envisions a future of professionally, socially and culturally engaged leaders, citizens and communities. EWU is a driving force for the culture, economy, workforce and vitality of Washington state. Our graduates think critically and make meaningful contributions to both their career fields and their communities.

Inland Northwest Health Services (INHS) was created in 1994 when executives from Spokane's four major hospitals joined forces to merge competing business lines and form a new non-profit organization to oversee them. INHS now oversees several collaborative health care services, including public and professional health education, inpatient and outpatient rehabilitative medicine through St. Luke's Rehabilitation Institute, rural outreach, a critical care air transport service, and health information technology. The Eastern Washington Center of Occupational Health & Education (COHE), a program funded by L&I, is a department of St. Luke's Rehabilitation Institute.

Abstract:

Present a short overview of the nature and scope of the project and major findings (less than half a page).

Work-related musculoskeletal disorders (WRMSDs) are costly and potentially disabling conditions affecting workers. These WRMSDs may be caused by "work risk factors." Dental hygienists are exposed to various work risk factors from their hand-intensive work tasks and these factors put them at risk for developing WRMSDs such as carpal tunnel syndrome, elbow tendonitis, and disk syndromes of the neck. The primary way work risk factors can be reduced in the workplace is through the use of ergonomic interventions. Although some dental hygienists currently use ergonomic interventions, such as ultrasonic scalers, many are unaware of the various options available to them. Since there may be only one dental hygienist per dental office, regular interaction among dental hygienists is limited, which makes dissemination of new ideas for safe practice challenging. However, continuing education is an especially attractive venue for disseminating occupational health and safety information to this population. Few continuing education programs for dental hygienists focus on ergonomic interventions that are evidence-based. Therefore, a need exists for new and experienced dental hygienists to learn about possible ergonomic interventions that may reduce their risk of developing WRMSDs. The primary objective of this project was to develop, validate, and disseminate educational modules for dental hygienists about ergonomic interventions. During the development phase, members of the Inland Northwest Dental Hygiene Study Club (INDHSC) helped the research team develop content for the modules. In the validation phase, the INDHSC provided input to refine the modules. In the dissemination phase, dental hygienists completed the educational modules and took a post-test, showing significant change in knowledge after completing the modules. Those who passed were awarded appropriate continuing education units.

Purpose of Project:

Describe what the project was intended to accomplish.

The purposes of the project were to:

- 1. Develop ergonomic educational modules for dental hygienists.
- 2. Validate the program by pilot testing the modules among dental hygienists
- 3. Disseminate final ergonomic educational modules to dental hygienists and evaluate the effectiveness of the modules.

Statement and Evidence of the Results:

Provide a clear statement of the results of the project include major findings and outcomes and provide evidence of how well the results met or fulfilled the intended objectives of the project.

With few exceptions, all purposes of the study were achieved. The results related to each purpose are as follows:

- 1. Development phase
 - a. Focus group #1: the research team conducted a focus group with 10 dental hygienists who were members of the INDHSC. The focus group members were asked specific questions about work-related MSDs common among dental hygienists, risk factors related to MSDs, and knowledge of ergonomic interventions. The focus group was also asked about what most dental hygienists

- would want to know about ergonomics and ergonomic interventions, and what they liked and did not like about online continuing education programs.
- b. Based on the results of the focus group, the research team developed draft ergonomic educational modules. Although we initially proposed developing three modules focusing on the three types of ergonomic interventions (engineering, administrative, and personal), it was clear from the focus group that the modules should be developed differently. Therefore, we developed the following four draft modules:
 - i. Introduction to Ergonomics
 - ii. Work-Related Musculoskeletal Disorders
 - iii. Introduction to Core Prevention Strategies
 - iv. Prevention Strategies for the Upper Extremity

2. Validation phase

- a. Focus group #2: After the draft modules were developed, the research team conducted a second focus group with 6 dental hygienists who were members of the INDHSC. Prior to meeting, focus group participants were sent a DVD with the draft modules and asked to review them. During the focus group, participants were asked questions such as what they liked and disliked about the modules, if they learned anything, what they thought about the interactivity of the modules, if the modules were confusing, and if the modules were entertaining, among others.
- b. Based on the results of focus group #1, the research team developed final versions of the ergonomic educational modules.

3. Dissemination phase

- a. When the modules were finalized, they were given to over 100 members of the INDHSC at their biannual meeting on 10/17/14.
- b. To validate the effectiveness of the educational modules, 62 dental hygienists completed a pre-test about ergonomic knowledge at the INDHSC meeting.
 - i. Those completing the pre-test were asked to view the modules over a two-week period, and then complete an online post-test about ergonomic knowledge. Upon completing the post-test, the participants would be awarded five continuing education units from the Department of Dental Hygiene at Eastern Washington University.
 - ii. After two weeks, only about 10 of those who took the pre-test also completed the posttest. Therefore, reminder emails were sent to all those who took the pretest to encourage them to finish the modules. After another two weeks, a total of 14 participants completed the posttests.
 - iii. Results of the effectiveness study: A pretest-posttest analysis was conducted to evaluate change in knowledge after a convenience sample of 14 dental hygienists completed the modules. The sample was recruited from a regional dental hygiene professional organization. Prior to being furnished with access to the modules, the dental hygienists completed a 20-item pretest that consisted of the identical items used to assess knowledge at the conclusion of the four modules (5 items per module). Five days following completion of the pretest, the dental hygienists were provided access to four quizzes through an online course management system. Each 5-item quiz corresponded to one of the four educational

modules. The dental hygienists completed a quiz after viewing the module associated with that quiz.

Mean scores on the pretests were compared to mean scores on the posttest with dependent t-tests. The table below reveals that mean change in knowledge for each module as well as across all four modules improved at a level of significance less than .001.

			P-Value
			for
	Pretest	Posttest	Difference
Module 1 (5 Points P	ossible)		
Mean Score	3.79	4.86	p < .001
Standard Deviation	0.89	0.36	
High Score	5	5	
Low Score	2	4	
Module 2 (5 Points P	ossible)		
Mean Score	2.43	4.50	p < .001
Standard Deviation	1.08	0.51	
High Score	4	5	
Low Score	0	4	
Module 3 (5 Points P	ossible)		
Mean Score	2.43	4.57	p < .001
Standard Deviation	1.34	0.51	
High Score	5	5	
Low Score	1	4	
Module 4 (5 Points P	ossible)		
Mean Score	2.43	4.57	p < .001
Standard Deviation	1.34	0.76	
High Score	5	5	
Low Score	0	3	
Overall Percent			
Mean Score	60.71	92.5	p < .001
Standard Deviation	11.58	6.72	
High Score	80	100	
Low Score	35	80	

Measures to Judge Success:

If relevant, state what measures or procedures were taken to judge whether/how well the objectives were met and whether the project or some other qualified outside specialist conducted an evaluation.

We had three main measures to judge whether our objectives were met. First, we received feedback on the draft modules from practicing dental hygienists during focus group #2. Second, 16 dental hygienists completed both pretests and posttests which allowed us to evaluate the educational effectiveness of the modules. Third, we received several anecdotal comments about the programs from other dental hygienists.

Relevant Processes and Lessons Learned:

Specify all relevant processes, impact or other evaluation information which would be useful to others seeking to replicate, implement, or build on previous work

AND

Provide information on lessons learned through the implementation of your project. Include both positive and negative lessons. This may be helpful to other organizations interested in implementing a similar project.

The primary lesson learned was flexibility related to the study aims. We originally proposed to develop three modules emphasizing the three types of ergonomic interventions. However, it quickly became apparent during focus group #1 that the practicing dental hygienists felt a different approach would be indicated. Specifically, the focus group members felt that an overview of ergonomics was necessary, since many dental hygienists do not have basic education in ergonomics. Providing modules about ergonomic interventions before the requisite basic knowledge would "put the cart before the horse." Also, the focus group members wanted more information about common WRMSDs among dental hygienists. Finally, it became clear that dental hygienists do not think of interventions in the typical ergonomic categories of engineering, administrative, and personal interventions. Instead, they think of interventions affecting different parts of the body. For example, seating issues affected the spine more than the upper extremity. Thus, we modified the project to develop modules consistent with these themes.

Product Dissemination:

Outline of how the products of the project have been shared or made transferrable.

We have disseminated information about the project through presentations and ergonomic educational modules.

Presentations:

- Gilmore J, Robb L, Anton D. Dental hygienist risk factors for musculoskeletal disorders.
 17th Annual Graduate & Undergraduate Eastern Washington University Student Research and Creative Works Symposium. 2014. Cheney, WA.
- Gilmore J, Mortensen G, Anton D. Prevention strategies for dental hygienists to reduce

- risk of work-related musculoskeletal disorders. 17th Annual Graduate & Undergraduate Eastern Washington University Student Research and Creative Works Symposium. 2014. Cheney, WA.
- Campbell S, Cerenzia L, Anton D, Weeks D, Nord J. Creating engaging & interactive
 ergonomic modules via Adobe Premier and Captivate. 17th Annual Graduate &
 Undergraduate Eastern Washington University Student Research and Creative Works
 Symposium. 2014. Cheney, WA.
- Morris N, Brouwer J, Tucker B, Anton D. Comparison of muscle activity between cutting
 with a sub-compact portable bandsaw and hacksaw. 17th Annual Graduate &
 Undergraduate Eastern Washington University Student Research and Creative Works
 Symposium. 2014. Cheney, WA.
- Nord J, Anton D. Oh, my aching back...and neck...and shoulder...and wrist. Pacific Dental Conference. 2014. Vancouver, BC, Canada.
- Nord J, Anton D. Preventive strategies for work-related musculoskeletal disorders.
 Pacific Northwest Dental Conference. 2014. Bellevue, WA.
- Anton D, Nord J, Weeks D. Don't just survive; Thrive! Ergonomics for the dental hygienist – short course. Washington State Dental Hygiene Association Symposium. 2015. Bellevue, WA. (4/24/15)
- Anton D, Nord J, Weeks D. Good ergonomics is good economics short course. Inland Northwest Dental Conference. 2015. Spokane, WA. (4/16/15)

Products:

- Anton D, Nord J, Weeks D, Campbell S, Cerenzia L, Gilmore J, Robb L. Introduction to Ergonomics for Dental Hygienists. (interactive training module). Washington State Department of Labor & Industries. 2014.
- Anton D, Nord J, Weeks D, Campbell S, Cerenzia L, Gilmore J, Robb L. Work-Related Musculoskeletal Disorders among Dental Hygienists. (interactive training module).
 Washington State Department of Labor & Industries. 2014.
- Anton D, Nord J, Weeks D, Campbell S, Cerenzia L, Gilmore J, Robb L. Introduction to Core Prevention Strategies for Dental Hygienists. (interactive training module).
 Washington State Department of Labor & Industries. 2014.
- Anton D, Nord J, Weeks D, Campbell S, Cerenzia L, Gilmore J, Robb L. Prevention Strategies for the Upper Extremity for Dental Hygienists. (interactive training module). Washington State Department of Labor & Industries. 2014.

Feedback:

Provide feedback from relevant professionals, stakeholder groups, participants, and/ or independent evaluator on the project.

We received feedback about the draft modules during focus group #1. All focus group members felt the modules were entertaining, informative, and kept their interest the entire time. They liked the visual aides, videos, and images as well as the interactivity.

Somewhat surprisingly, several members found much of the information about risk factors and resulting musculoskeletal disorders new; we are glad that we decided to include this information in the modules instead of just talking about interventions. Some other comments that were made included, "Thoroughly impressed with the modules" and "Great job pulling everything together from focus group 1."

This focus group also had several recommendations. Specifically, they thought the narrator spoke too fast and the graphs were on screen for too short of a time. They also had some suggestions for the "drag and drop" interactive slides. Based on these recommendations, we modified the final versions of the modules.

Feedback of the final modules was more anecdotal. For example, one dental hygienists who completed the modules stated, "I just finished the disk, Job well done. Thank you for taking the time to learn about us and trying to find ways to help us."

Based on the project, the four modules are now used in Clinical Dental Hygiene II (DNHY351), a course at Eastern Washington University in the Department of Dental Hygiene. The course instructor states about the modules, "The students are loving it so far!"

Project's Promotion of Prevention:

Explain how the results or outcomes of this project promote the prevention of workplace injuries, illnesses, and fatalities?

Although not assessed in this project, the literature is clear that ergonomic training programs are successful at reducing WRMSDs. The effect of electronic, interactive ergonomic training is unknown, as opposed to in-person training. The significant change in knowledge as a result of viewing the modules indicates that educational content may have a preventative benefit for reducing WRMSDs among dental hygienists.

Uses:

How might the products of your project be used within the target industry at the end of your project?

Is there potential for the product of the project to be used in other industries or with different target audiences?

Dental hygienists across the State of Washington should be able to access this training from Labor and Industries. Additionally, the Department of Dental Hygiene at Eastern Washington University may be able to provide continuing education units for dental hygienists that successfully pass the posttest.

Additional Information

	Industry Classification (check industry(s) this
	project reached directly)
	11 Agriculture, Forestry, Fishing and Hunting
nt	21 Mining
	22 Utilities
	23 Construction
	31-33 Manufacturing
	42 Wholesale Trade
	44-45 Retail Trade
	48-49 Transportation and Warehousing
	51 Information
ntent is	52 Finance and Insurance
	53 Real Estate and Rental and Leasing
ssistaiitsj	54 Professional, Scientific, and Technical Services
	55 Management of Companies and Enterprises
	56 Administrative and Support and Waste
	Management and Remediation Services
	61 Educational Services
	71 Arts, Entertainment, and Recreation
	72 Accommodation and Food Services
	81 Other Services (except Public Administration)
	92 Public Administration
tion	List, by number above, industries that
	project products could potentially be
	1
andulaa	applied to.
	2
31	
95	
6	Potential impact (in number of persons
86	or companies) after life of project?
	ntent is ssistants) tion nodules 30 31

Have there been requests for project products from external sources? yes

If Yes, please indicate sources of requests:

At our two presentations (B.C. and WA), several dental hygienists were wondering when the training program would be available on the L&I website.

Comment [1]:

5 hr modules * 16 study participants

5 hr modules * 50 INDHSC (we estimate half of those given modules viewed them but did not complete the posttest)

Comment [2]:

16 dental offices represented at focus groups 75 dental offices represented at INDHSC 40 dental offices represented at the B.C. and WA presentations

Comment [3]: 125 INDHSC

60 B.C. presentation

60 WA presentation

75*2 for 2015 presentations

Comment [4]:

16 dental offices represented at focus groups

Comment [5]:

16 focus groups 150 INDHSC meeting 60 B.C. presentation

60 WA presentation

SAFETY AND HEALTH INVESTMENT PROJECTS

SHIP Expenditure Report

Budget Summary

Project Title: Occupational Health Education for Dental Hygienists in Washington State

Project #: 2013XH00204 Report Date: 1/31/15 Contact Person: Dan Anton, PT, PhD, ATC Contact #: 509-838-1375

Milestone \$: \$ 41,825.24 **Report Period:** 3/26/14 – 12/31/14

Total Award \$: \$77,280.00 (Expenditure Report for 3/1/14-12/31/14)

The SHIP Program recognizes that occasionally grantees may need to modify the original project budget, personnel or activities. Requests for such modifications must be submitted in writing and must be approved in advance before interim or final reports of a modified project can be considered

1.	Grant funds received (or scheduled to be received) from SHIP during period specified above	\$ 0.00
2.	Authorized transfer of unexpended balance from previous reporting period (if applicable)	\$ 41,825.24
3.	Total funds available for expenditure (add 1 + 2)	\$ 41,825.24
4.	Total funds covered by report (See Box G – Total Amount Paid or Encumbered)	\$ 41,825.24
5.	Unexpended balance (line 3 minus line 4)	\$ 0.00

Budget Category

	Total Budgeted	Spent to date	Amount remaining
A.Personnel	\$48,594.00	\$49,214.52	(\$ 620.52)
B.Subcontractors	\$15,696.00	\$15,696.00	\$ 0.00
C.Travel	\$ 2,141.00	\$ 2,245.76	(\$ 104.76)
D.Supplies	\$ 5,125.00	\$ 4,399.28	\$ 725.72
E.Publications	\$ 0.00	\$ 0.00	\$ 0.00
F.Other	\$ 0.00	\$ 0.00	\$ 0.00

Instructions:

- Indicate whether this is an interim or final report (final reports include all expenditures from date of completion of interim report through termination date of grant)
- Indicate period covered by report by specifying the inclusive dates
- Report and itemize all expenditures during specified reporting period per the attached supplemental schedules
- Forms must be signed by authorized persons (see last page)

SAFETY AND HEALTH INVESTMENT PROJECTS SHIP Expenditure Report Supplemental Schedules (Budget)

Project

Occupational Health Education for Dental Hygienists in Washington State

Title:

Project #: 2013XH00204 Report Date:1/31/15 Contact Dan Anton, PT, PhD, ATC Contact #: 509-828-1375

Person:

 Milestone \$:
 \$ 41,825.24
 Report Period:
 3/26/14 - 12/31/14

 Total Award \$:
 \$77,280.00
 (Expenditure Report for 3/1/14 - 12/31/14)

A. PERSONNEL (Itemize all positions,	Budgeted for	Amount Paid or	* Variance	Variance
indicating percent of time, salary and names	Reporting Period	Encumbered	- Current	Total
of senior personnel)			Milestone	
1. Dan Anton, PT, PhD, ATC	\$7,386.50	\$ 7,535.12	(\$ 148.62)	(\$332.52)
2. Janet Nord, RDH	\$2,071.50	\$ 2,158.64	(\$ 87.14)	(\$195.44)
3. Research Assistants	\$4,032.00	\$10,938.59	(\$6,906.59)	(\$3,135.20)
Fringe Benefits (specify rate and base) 1. Dan Anton (18% of summer salary; 26% of AY salary) 2. Janet Nord (18% of summer salary; 41% of AY salary) 3. Research Assistants (8% of wages)	\$ 1,922.00 \$ 849.00 \$ 324.00	\$ 1,382.20 \$ 404.11 \$ 176.01	\$ 539.80 \$ 444.89 \$ 147.99	\$1,199.30 \$ 961.52 \$ 881.82
Subtotal	\$16,585.00	\$22,594.67	(\$6,009.67)	(\$620.52)
*Briefly explain why differences between planned spending and actual spending occurred:	Both Dan Anton and Janet Nord received a small raise this academic year. The actual fringe benefit rate for Research Assistants was only 1.4% of wages, instead of the 8% of wages budgeted. Also, the actual fringe rates for both Dan Anton and Janet Nord during the academic year were between 18% and 19% as opposed to the 26% (Anton) and 41% (Nord) budgeted. This is because overload pay does not have health insurance associated with it. Research Assistants worked more on the project than originally anticipated.			wages on and and 19% d. This is ociated

B. SUB-CONTRACTORS	Budgeted for	Amount Paid or	*Variance	Variance
	Reporting Period	Encumbered	- Current	Total
			Milestone	
	\$4, 776.00	\$ 12,336.41	(\$7,560.41)	\$ 0.00
1. INHS – Douglas Weeks, PhD				
Subtotal	\$4,776.00	\$ 12,336.41	(\$7,560.41)	\$ 0.00
*Briefly explain why differences between	The invoice for the per	iod 10/1/13-12/31/1	3 was receive	ed and paid
planned spending and actual spending	in March 2014. The invoice for 1/1/14-3/31/14 was received and			
occurred:	paid in May 2014. The final invoice was received and paid in			oaid in
	September 2014.			

C. TRAVEL	Budgeted for Reporting Period	Amount Paid or Encumbered	*Variance - Current	Variance Total
1.7	A. 27 00	*	Milestone	A 111 -
1. Dentist Office Travel	\$ 37.00	\$ 0.00	\$ 37.00	\$ 114.57
2. Professional Conference	\$ 2,014.00	\$ 2,233.33	(\$219.33)	(\$ 219.33)
Subtotal	\$ 2,051.00	\$ 2,233.33	(\$182.33)	(\$104.76)
*Briefly explain why differences between	Only one reimburseme	nt form for local mi	leage (listed	under
planned spending and actual spending	Dental Office Travel) v	vas processed, whic	h was actuall	y for
occurred:	mileage driven to purch	nase supplies neede	d for the proje	ect. Both
	Dr. Anton and Janet No	ord attended the Pac	eific Dental C	onference
	in Vancouver, BC in M	Iarch 2014 as well a	s the Pacific	Northwest
	Dental Conference in S	Seattle, WA in June	2014.	
D. SUPPLIES (itemize by category)	Budgeted for	Amount Paid or	*Variance	Variance
	Reporting Period	Encumbered	- Current	Total
			Milestone	
1. Adobe Captivate	\$ 336.00	\$ 325.01	\$ 10.99	(\$103.11)
2. Adobe Creative Suite & video				
cameras (& other misc. items)	\$1,136.00	\$ 955.93	\$180.07	\$227.73
3. Portable Hard Drives	\$ 140.00	\$ 0.00	\$140.00	\$271.76
4. Participant Incentives	\$ 196.00	\$ 210.00	(\$ 14.00)	\$140.00
5. Focus Group Food	\$ 42.00	\$ 71.73	(\$ 29.73)	\$ 21.51
6. Office Supplies	\$ 161.00	\$ 0.00	\$ 161.00	\$167.83
Subtotal	\$2,011.00	\$ 1,562.67	\$ 448.33	\$725.72
*Briefly explain why differences between	The amounts in the "Bu	udgeted for Reporting	ng Period" co	lumn are
planned spending and actual spending	calculated by prorating the entire grant period budget for each			
occurred:	particular line item by the number of months in the reporting			
	period. Actual expenses do not necessarily occur in this way, but			
	vary from month to mo			<i>3</i> /

E. PUBLICATIONS (production and dissemination)	Budgeted for Reporting Period	Amount Paid or Encumbered	*Variance - Current Milestone	Variance Total
N/A	\$0.00	\$0.00	\$0.00	\$0.00
N/A				
Subtotal	\$0.00	\$0.00	\$0.00	\$0.00
*Briefly explain why differences between				
planned spending and actual spending				
occurred:				

F. OTHER	Details	Proposed Expense (\$ amount ONLY)	*Variance Current Milestone	Variance Total
1.N/A				

2.				
Subtotal	•			
*Briefly explain why differences between planned spending and actual spending occurred:		0	J	

G. TOTAL	Budgeted for Reporting Period	Amount Paid or Encumbered	Variance - Current Milestone	Variance - Total
DIRECT COSTS (sum of A through F)	\$25,423.00	\$ 38,727.08	(\$13,304.08)	\$ 0.44
INDIRECT COSTS (8% of total direct costs)	\$ 2,033.00	\$ 3,098.16	(\$1,065.16)	(\$ 0.44)
TOTAL	\$27,456.00	\$ 41,825.24	(\$14,369.24)	\$ 0.00

IN-KIND CONTRIBUTIONS	Budgeted for Reporting Period	Amount Paid
Total		

I hereby certify that the foregoing report is true in all respects and that the expenditures have been made with the provisions of the SHIP grant and for the purposes approved:

Grantee Organization and Mailing Address

Eastern Washington University Student Financial Services – OGRD 202 Sutton Hall Cheney, WA 99004 Name and Title of Principal Officer

Nancy Miller, Dir. of Post-Award Administration

Nancy R. Miller 1/13/15

I hereby certify that the expenditures listed on this report were made with my approval:

Date

Signature of Project Manager