

# UW SCHOOL OF PUBLIC HEALTH GRANT WRITING EFFORT REPORT

## RESPONSE TO FACULTY SENATE CLASS C RESOLUTION

### EXECUTIVE SUMMARY

The UW Faculty Senate passed a Class C Resolution Concerning Faculty Effort Certification in May 2018. This resolution charged Deans and Elected Faculty Councils of the Schools of Medicine and Public Health to 1) assess the effort required by faculty to generate proposals; 2) assess whether there is adequate support to generate proposals; and 3) if the support is not adequate to recommend a path forward.

In response to this resolution, the UW School of Public Health (SPH) identified all Federal grants and contracts submitted through the Office of Sponsored Programs during fiscal year 2018 and conducted a school-wide survey of new and resubmitted Federal grants/contracts. In this survey, faculty self-reported the time spent as PI or collaborator to prepare and submit a specific grant(s) in 2018. We adopted this approach to minimize errors in recall. We focused on federal grants as they are most relevant to Faculty Effort Certification. While this approach provided a useful one-year snapshot, it did not capture smaller proposals, non-federal grants, or sub-contracts and other grant-writing efforts. As grant-writing activities tend to be cyclic, a longer review period with prospective data collection would capture more accurate estimates. However, given the timeframe within which a response to the resolution was required, this was not deemed feasible.

From November 26, 2018, through January 11, 2019, we surveyed all Principal Investigators (PIs), Multiple Principle Investigators (mPIs), co-investigators and key personnel in the SPH who were involved in preparing new and resubmitted Federal grants/contracts in FY2018. The response rate was 67.9%. Overall, during this one-year period, 79 of 175 (45.1%) faculty primary in the SPH contributed to writing a grant as key personnel based on OSP data. This ranged from 33.3% in Heath Services to 57.1% in Global Health. Based on the sum of hours reported by all key personnel writing different parts of a grant regardless of their primary appointment, development of a single Federal grant/contract is estimated to take a median of 140 person hours to prepare. Restricting to faculty members primary in the SPH who responded to the survey, a median of 111 total person hours was spent preparing grants/contracts over one year. This ranged widely by role on the grant and by faculty rank. By comparison, all five departments provide a minimum of 5% full-time equivalence (FTE) for grant writing and other service activities.

Thus, we did not observe a great discrepancy between compensation provided and grant writing efforts for most faculty. However, there is a small group of faculty who reported spending more time writing grants than is covered by the 5% FTE (an estimated 10-15 individuals out of 175 faculty across the school in 2018).



To further address this, the School is engaged in discussions about faculty compensation models and whether they adequately cover faculty effort. The Senior Associate Dean hired an external consultant who conducted focus groups in Winter 2019 to further elucidate faculty concerns related to compensation. (The results of these focus groups are reported separately in the companion attachment.) In addition to the analysis presented here, the Elected Faculty Council is holding an All School Faculty Meeting to discuss faculty compensation and to identify next steps.

## **INTRODUCTION**

In Spring 2018, the UW Faculty Senate passed a Class C Resolution “requesting that the Deans and Elected Faculty Councils of the Schools of Medicine and Schools of Public Health (SPH) assess the extent to which faculty expend effort to generate funding proposals to further the missions of the University of Washington” (1). A focus on preparation of Federal grants/contracts was conveyed due to the need for accuracy in reporting of Faculty Effort Certification (FEC). In response to this request, a survey was developed and conducted to gather data on time that SPH faculty spend writing grants. The project was supported financially by the Dean and supervised jointly by the Office of the Dean and the SPH Faculty Council.

## **METHODS**

### **Grants/Contracts to be Surveyed**

Utilizing data generated from the UW Office of Sponsored Programs (OSP), grants and contracts submitted through OSP for federal funding during fiscal year 2017/18 (July 1, 2017-June 30, 2018) were identified. Of the total 183 Federal grants submitted this year, 74 new submissions and 16 resubmissions were selected to be surveyed. In addition, foundation applications over \$100,000 were included in order to assess the largest grants developed by the SPH. Federal proposals not selected included renewals, revisions, supplements, and pre-applications. Three foundation grants (all Bill and Melinda Gates Foundation applications) were identified for the survey. Information on each grant included the Principal Investigator (PI), title of the grant, and the corresponding eGC1 number.

### **Faculty/Key Personnel to be Surveyed**

In order to identify all major contributors to preparing a grant, we accessed individual records of the eGC1 and extracted the names of all “key personnel” named in the grant. We did not include other staff such as programmers, research assistants, etc., whom might be named to work on the project but were not listed as being “key”. These individuals became the study population to be surveyed.

### **Survey Instrument**

The survey questionnaire was developed to be brief but to provide data that could be used to estimate hours of time spent by faculty in federal grant/contract development. Final content identified a specific grant by name and requested information on the role a respondent had in



preparing the grant (e.g. PI, mPI, co-investigator, etc.) and to estimate the number of hours that was spent completing specific sections of the grant. These included tasks such as developing concept/content of the grant, organizing investigators, preparing the budget and subcontract(s), writing the research plan, obtaining letters of support, etc. Time spent on tasks not listed in the survey was solicited. Role on the application and faculty position was also included. A copy of the final questionnaire can be found in the Appendix.

The survey was disseminated to groups of key personnel associated with a PI. The title of the grant was named and respondents were asked to provide the number of hours spent on that particular grant. If the specific PI submitted a second (or third) grant in fiscal year 2017/18, it was also included in the survey and the questions were repeated. The questionnaire was formatted for electronic data capture using the UW web tool catalyst WebQ.

### Survey Dissemination

An email message was sent out to all potential respondents of the survey by the Chair of Faculty Council prior to its distribution. Individual surveys were sent out electronically during the week of November 26, 2018 and consisted of 59 separate surveys sent to 187 individuals representing 93 grants/contracts. The survey remained open until January 11, 2019, at which time no further responses were accepted.

## RESULTS

### Response Rate

A total of 127 responses (out of 187 surveyed) to the survey were received by January 11 resulting in a total response rate of 67.9%. Response rate varied by department from 53.3% for Biostatistics to 76.5% for Health Services (Table 1). Principal Investigators (PIs) were most likely to respond (84.6% response rate) followed by multiple PIs (mPIs 64.0%), other key faculty (61.4%) and non-faculty staff (62.5%). We received at least one response to 81 of the 93 grants/contracts (87.1%) under review including 87.8% of the new Federal submitted grants and 81.2% of the Federal resubmissions. Responses to all three foundation applications were received.

	<b>N Responses/ N Sent out</b>	<b>Response Rate</b>
<b>Overall</b>	127/187	67.9%
<b>Department</b>		
Biostatistics	8/15	53.3%
Environmental and Occupational Health Sciences	27/39	69.2%
Epidemiology	37/58	63.8%
Global Health	29/41	70.7%
Health Services	26/34	76.5%
<b>Grant Role**</b>		
Principal Investigator (PI)	44/52	84.6%



Multiple Principal Investigator (mPI)	16/26	64.0%
Key Personnel – Faculty	62/101	61.4%
Key Personnel – Non-Faculty	5/8	62.5%

\*All respondents regardless of primary appointment and position.

\*\* Self-reported in survey.

### Percent of All Faculty Who Prepared a Grant/Contract in FY 2017/18

A total of 175 faculty had primary appointment in the SPH at the time of the survey including full, associate and assistant professors as well as instructors, lecturers and several clinical faculty. Using data from OSP records, we determined that 45.1% participated in preparing a grant/contract during this year (Table 2). Almost one-third (31.4%) served in the role of PI or mPI and others participated primarily as a co-investigator on a project.

	<b>Total Faculty*</b>	<b>Participated in Grant Writing</b>	<b>Served as PI or mPI</b>
	<b>N</b>	<b>N (%)</b>	<b>N (%)</b>
<b>Overall</b>	175	79 (45.1)	55 (31.4)
<b>Department</b>			
Biostatistics	30	18 (60.0)	9 (30.0)
Environmental and Occupational Health Sciences	34	14 (41.2)	11 (32.4)
Epidemiology	41	17 (41.5)	16 (39.0)
Global Health	28	16 (57.1)	12 (42.9)
Health Services	42	14 (33.3)	7 (16.7)
<b>Faculty Rank</b>			
Professor	80	36 (45.0)	26 (32.5)
Associate Professor	36	18 (50.0)	10 (27.8)
Assistant Professor	29	17 (58.6)	15 (51.7)
Instructors/Lecturers	21	2 (9.5)	1 (4.8)
Acting Faculty	9	6 (66.7)	3 (33.3)

\*Based on PI, mPI, and co-investigators named on at least one eGC1 with primary appointments in the School of Public Health (SPH) regardless if they responded to the survey.

### Time Needed to Write an Individual Grant/Contract

To quantify the total number of hours spent on a single grant, we summed the amount of time estimated per section of each grant by key personnel which included PI, mPI, co-investigators and non-faculty scientists (Table 3). A mean of 171.0 (SD 204.5) person-hours were estimated to have been spent to develop a single grant/contract during FY 2017/18 based on the 81 applications surveyed. The large standard deviation for this estimate conveys the great amount of variability provided in these estimates. Due to this, the median of 140.5 hours/grant may be a better estimate of time utilized in grant preparation. Estimates differed by the type of grant prepared with new NIH submissions requiring the most effort (median of 147 hours) and resubmissions needing only a median of 41 hours to complete. In terms of individuals, PIs and mPIs spent the most amount of time developing a grant spending a median of 125.5 and 120 hours each per grant/contract.



**Table 3. Mean and Median of Total Number of Hours Spent Preparing Specific Parts of an Individual Grant/Contract (N=81)**

	Total Hours (Per Grant)			
	Mean	SD	Median	Range
<b>Specific Parts of Grant Preparation</b>				
Developing Grant concept/content	37.3	55.5	24.5	1-336
Staff/investigator organization	13.7	24.7	5.5	1-168
Grant coordination	13.6	21.8	8	1-140
Subcontract coordination	5.9	9.7	2	1-40
Budget	7.8	10.7	5	1-40
Budget justification	4.4	4.6	4	1-20
Biosketches	6.2	7.8	5	1-40
Other administrative documents	7.7	12.1	5	1-40
Letters of support	4.6	8.3	2	1-50
Literature review	17.9	27.3	10	1-168
Research plan	50.1	80.74	30	1-504
Appendix	1.8	3.9	0	1-24
<b>TOTAL HOURS PER GRANT</b>	171.0	204.5	140.5	1-1374
<b>Average Number of Preparers</b>	2.1	1.7	3	
<b>Average Number of Hours/Preparer*</b>	81.4			

\*Key Personnel regardless of role

**Table 4. Average Number of Total Hours Spent PER GRANT/CONTRACT by All Key Personnel by Department, Type of Grant and Role on Grant\***

	Grants (N)	Total Hours (Per Grant)		
		Mean	SD	Median
<b>Overall</b>	81	171.0	204.5	140.5
<b>Department</b>				
Biostatistics	7	202.9	197.2	119
Environmental and Occupational Health Sciences	17	157.6	99.5	152
Epidemiology	20	140.6	156.6	100.5
Global Health	25	128.1	150.9	75
Health Services	12	311.6	378.0	168.5
<b>Type of Grant</b>				
NIH grants - New	55	208.4	212.4	147
NIH grants - Resubmission	15	60.9	59.7	41
Other federal grants (CDC, USDA, NSF, HRSA, NOAA, AHRQ, VA)	8	143.7	81.2	119
Large Foundation grants (> \$100,000)	3	108.3	107.8	59
<b>Role on Grant (All respondents)</b>	<b>N of Personnel</b>			
Principal Investigator (PI)	52	168.5	139.3	125.5
Multiple PI (mPI)	19	182.4	165.4	120



All Key Personnel	106	45.0	59.7	22
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\*Total respondents included faculty primary in SPH, faculty in other schools, and non-faculty scientists.

### Total Effort Preparing Grants for Individual SPH Faculty in FY 2017/18

Of the respondents in the survey, 61 were identified as having primary appointments in the SPH at the time of the survey. The estimates below (**Table 5**) show the total hours spent preparing grants/contracts during FY 2017/18. Overall, the median total number of hours spent preparing grants was 111 hours per faculty member with wide variability across the role of the investigator. PIs and mPIs generally spend 195 and 106 hours per year (respectively) writing grants. While the N is small, Acting Faculty spent much more time producing grant applications (231 hours) than other faculty members.

	Faculty N	Grants N	Total Hours (All Grants)		
			Mean	SD	Median
<b>Overall</b>	61	111	166.34	170.17	111
<b>Department</b>					
Biostatistics	8	22	159.75	211.60	57.5
Environmental and Occupational Health Sciences	12	23	153.17	158.09	112.5
Epidemiology	13	18	172.62	158.36	111
Global Health	15	28	188.27	164.32	127
Health Services	13	20	151.00	195.14	106
<b>Role on Grant*</b>					
PI – faculty only	30	46	227.47	173.63	195
mPI – faculty only	13	13	167.85	157.32	106
KP – faculty only	28	52	40.75	70.80	17.5
<b>Faculty Position</b>					
Professor	29	63	189.72	191.96	124
Associate Professor	12	18	137.67	112.80	133
Assistant Professor	11	18	143.09	109.93	106
Lecturer/Instructor	4	4	29.00	42.30	12
Acting Faculty	5	8	260.6	268.32	231

### Total Effort Writing Grants of All SPH Primary Faculty

While the previous section provides estimates of total grant writing effort of those who prepared grants and responded to the survey, it is important to review grant preparation in the context of all faculty. **Table 6** provides the number and percent estimated hours across all faculty with primary appointments in the SPH. Overall, less than half of SPH faculty wrote grants during the period studied; almost 55% were estimated to not spend time in grant preparation in FY 2017/18. We did not find this statistic surprising as the nature of grant



writing is cyclical. Once a PI is successful in obtaining funding he/she will spend less time writing new proposals as focus is shifted to implementing the awarded one(s). Of those who did write a proposal, 16% spent less than or equal to 100 hours preparing them (accounting for 45.9% of those who wrote grants). An estimated 6.9% of all faculty, or almost 20% of all grant faculty grant writers, spent 101-200 hours preparing grants.

<b>Table 6. Grant Writing Effort of SPH Faculty*</b>	
<b>Total Faculty</b>	<b>175</b>
<b>Total Grant Time</b>	<b>N (%)</b>
0 hours	96 (54.9)
1-50 hours	19 (10.9)
51-100 hours	9 ( 5.2)
101-150 hours	10 ( 5.7)
151-200 hours	2 ( 1.1)
201-300 hours	11 ( 6.3)
301-400 hours	5 ( 2.8)
>400 hours	5 ( 2.8)
**Unknown	18 (10.3)

\*Retrieved from OSP data identifying faculty who submitted grants.

\*Faculty who were identified on the eGC1 as participating in a proposal but did not respond to the survey.

### **Department Compensation for Grant Writing and Service**

All five departments provide a minimum of 5% full-time equivalence (FTE) for grant writing and other service activities.

### **Grants/Contracts Awarded to the School of Public Health**

In FY 2017/18, the School of Public Health submitted a total of 500 grants/contracts to governmental and private funders representing a total of almost \$500 million (\$486,250,543 reported in 486 applications). Of these, 200 were submitted to the federal government for funding representing requests for a total of \$388,058,774. Overall, 55% of grants/contracts were successful and funding was awarded. However, success rate differed by type of application with only 21.2% of new Federal grants/contracts and 11.8% of Federal resubmissions awarded. Federal grants outside of new/resubmitted (previously denied) were most successful with a funded rate of 84.7 % although it should be noted that applications such as non-competing grants/contracts were included in this category. Most importantly, caution should be taken on the figures provided below as they represent only a single year of data and multiple years of data are needed to observe trends and generalize data across years.

<b>Table 7. Requested and Awarded Federal Grants/Contracts in FY2017/18 by Type of Application</b>
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	N	Funds Requested	N Awarded (%)	Funds Awarded
All Applications	486	\$486,250,543	275 (55.0)	\$108,732,886
Federal New	85	144,465,805	18 (21.2)	17,542,063
Federal Resubmissions	17	44,822,960	2 (11.8)	935,123
Federal Other	98	198,770,009	83 (84.7)	68,117,212
Foundations	9	6,086,272	4 (44.4)	2,699,691
Other	291	92,106,497	168 (57.7)	19,438,876

\*This is all applications which had funding amount requested in database.

## DISCUSSION

The goal of this study was to estimate effort spent by SPH faculty to prepare major (primarily Federal) grants or contracts in a year. Results of the survey to all key personnel involved in grant writing during FY 2017/18 found that less than half of primary SPH faculty (45.1%) participated in writing a grant that year. Across the school, a median of 88 hours of faculty time was needed to prepare a single grant with amounts varying by department, type of grant and role that a writer had in grant preparation. Overall, primary faculty spent a median of 111 hours annually preparing grants based on this snapshot of one year.

This study includes a number of strengths that increase confidence in its outcome. Most importantly, the response rate of this study, 68%, is very high for a university survey and demonstrates the importance that this topic is to SPH faculty and staff. Inclusion of all key personnel as named in OSP, while requiring much effort, assured that anyone assigned an important role in a future funded grant had the opportunity to provide their effort in preparing it. While we recognize that relying on memory related to prior work is a challenge (see limitations below), the approach used here that included the title of individual grants related to key personnel should have produced more specific recollections and responses. By asking respondents to reflect on the various parts of a grant, accuracy of the final total number of hours spent on a grant should have been improved. The approach taken to estimate faculty effort writing grants maximized the quality of results to the extent possible using retrospectively collected data.

A number of limitations must be acknowledged. The study population identified for the survey was considered to be a snapshot in time, chosen for a recent period, but might not be representative of all faculty federal grant writing hours over a longer period. As all applications identified for review in this study were prepared between 6 months and 1.5 years ago, recall bias may be a big factor in determining results. While collecting data prospectively would be the ideal design for collecting these data, the need to respond to the Class C Resolution did not allow us the time (or expense) of doing such a study. In addition to recall bias, it is also possible that individual respondents may have been influenced by their own feelings toward the amount of writing they do and may have inadvertently exaggerated some estimates. The wide variability of responses received also suggests that respondents may have interpreted the activities for a grant to extend beyond the period of grant preparation (i.e. counting the extensive time, in months or years, developing a concept that was initially written up). Finally, the hours presented in this report only reflect a small number of the total funding efforts sent to OSP in a year. While the Federal grants/contracts submitted here were selected to meet the request of the Class C resolution and most likely reflect the largest proposals, the data from OSP indicate that faculty also spend time writing smaller foundation grants, student funding, subcontracts, and other proposals. This report suggests that while there may not be a big problem regarding FEC certification for SPH primary faculty, there remain issues regarding uncompensated time that may need to be addressed in the School. The ability to measure more accurately total time spend preparing grants, mentoring students and conducting service may yet need additional study. The development of strategies and policies to address gaps in compensation for some faculty (which may differ each year) may help ameliorate time spent writing grants and other activities that exceed compensation.





## CONCLUSION

Based on data from this study reporting a one-year estimate of time that SPH primary faculty spend writing grants, it does not appear that there is a great discrepancy between compensation provided and grant writing efforts for most faculty. Less than half of faculty were involved as key personnel in a Federal grant or contract submission in the study year, and the majority of those preparing grants spent less than 120 hours per year preparing proposals. However, data show that there is a small group of faculty who spend a large number of hours in writing grants well beyond what they are compensated for, an estimated 10-15 individuals across the school. We recommend the development of policies that allow faculty to request/receive extra support for grant writing in years when they expect to expend more time writing grants than the baseline support provided by their department. In addition, the SPH acknowledges limitations of this survey and the need for further studies to account for all grant and service activities that faculty undertake. Further efforts are currently underway to address this need.

