CRITERIA 3: CREATION, APPLICATION, AND ADVANCEMENT OF KNOWLEDGE

3.1 RESEARCH. *THE SCHOOL SHALL PURSUE AN ACTIVE RESEARCH PROGRAM, CONSISTENT WITH ITS MISSION, THROUGH WHICH ITS FACULTY AND STUDENTS CONTRIBUTE TO THE KNOWLEDGE BASE OF THE PUBLIC HEALTH DISCIPLINES, INCLUDING RESEARCH DIRECTED AT IMPROVING THE PRACTICE OF PUBLIC HEALTH.*

3.1.a. Description of the school's research activities, including policies, procedures and practices that support research and scholarly activities.

Overview: As part of the strategic planning process initiated by Dean Lynn Goldman, a Research Work Group conducted a situation analysis with SPH faculty in the spring of 2012 and subsequently made a series of recommendations, which led to hiring the School's first nationally-recruited Associate Dean for Research. Additional Work Group recommendations resulted in new by-laws requiring a standing School-wide Research Committee (with faculty and student representation) serving in an advisory role to the Associate Dean for Research. Providing targeted research leadership in combination with elevating faculty and student engagement in research planning and decision-making were critical milestones in shifting the SPH research trajectory. The SPH faculty is passionate about finding solutions to today's most critical public health problems. The research quests of our faculty often evolve into influential public health policy locally, nationally, and globally. Moreover, SPH's drive for research excellence creates a vibrant culture of learning for our students. Students matriculate from all cultures and backgrounds, ready for an intellectual journey to new frontiers of public health research. Research mentorship by our faculty steers them through that journey.

The strategic research goals include:

- Fostering a culture of research excellence capacity building, collaboration, and collegiality;
- Increasing and rewarding externally funded research;
- Enhancing the SPH scholarly output;
- Elevating the visibility of SPH research;
- Increasing the public health impact of SPH research; and
- Cultivating PhD and Post-Doctoral multidisciplinary training platforms.

The SPH research philosophy is one of collaboration and engagement, centered on research that translates into real-world policy and practice. Our researchers work hand-in-hand with a diverse group of academic, community, private, and government partners to identify unmet public health needs; to test innovative prevention models and strategies; and to evaluate public health initiatives to ensure that they are effective and sustainable in the communities that will benefit the most.

Our major thematic foci include:

- Health Policy and Healthcare Reform;
- HIV/AIDS and Other Infectious Diseases;
- Environment and Health;

- Healthy Societies Across the Lifespan, with concentrations in obesity prevention, tobacco control, and physical activity; and
- Cross-cutting innovative methodologies (such as social marketing and mHealth technologies).

1. Leadership, Administration, and Infrastructure

Established in 2012 and led by Associate Dean for Research Kimberly Horn (appointed June, 2012), service leadership is the cornerstone of the SPH Office of Research Excellence (ORE). ORE strives for high quality and high efficiency in the preparation and submission and post-award management of grant applications across all six departments, in collaboration with the George Washington University (GW) Office of the Vice President for Research (OVPR). Our overriding purpose is to deliver an efficient and flexible research infrastructure that stimulates productivity and encourages research synergy not only across our SPH departments, but also throughout the School. Under the supervision of the Associate Dean for Research, the ORE also includes a Senior Research Operations Director, two Pre-Award Specialists, and four OVPR-designated pre- and post-award staff. For details, refer to ***ERF 3.1.a.: SPH Grants Management Positions***.

As shown in the chart, each of the six academic departments has at least one grants management staff member who interfaces with SPH ORE research operations. To strengthen capacity across the SPH, the ORE initiated a Grants Management Administrators (GMA) Learning Community in 2013 to promote learning and cooperation among the SPH grants management personnel. The Senior Research Operations Director leads the Learning Community, which meets monthly to discuss timely research-related topics both internal and external to the SPH. Additionally, for training purposes, outside speakers are invited to present on a variety of research administration topics. Past speakers have discussed procurement, electronic routing, hiring, export control, post-award administration, and GW's PI Dashboard. The ORE provides yearly training awards to administrators to attend national and regional professional meetings (National Council of University Research Administrators). We also provide financial support for personnel to attend and enroll in the Certified Research Administrator (CRA) training. The SPH staff has increased from zero to eight CRAs since 2013. To qualify for the training and development awards, candidates must apply and are required to orally present a topic from the professional meeting/training to the Learning Community. The Learning Community budget, including training, is approximately $10K annually (not including the salaries/efforts of ORE and other SPH staff). The Senior Research Operations Director oversees and communicates regularly through the Learning Community listserv and provides timely updates on GW research-related events and policies, SPH research presentations and critical announcements from the funding community.

Of note, the ORE works closely with the SPH Finance Director (whose staff, for continuity, also attend the Learning Community meetings) as well as the new SPH Associate Director for Graduate Assistantships, Scholarships and Financial Aid where financial aid and fellowships intersect with graduate research training.

2. Pre- and Post-Award Operations

    a. Shared Pre-Award Model. In order to ensure consistency of service and support across all departments, the Associate Dean for Research developed a centralized pre-award operations model. The "shared services" model provides support from school-level Pre-Award Specialists when departmental resources alone are not adequate to submit a proposal in a timely manner, including when late breaking opportunities appear. The shared services team (which now includes two Pre-Award Specialists) is highly responsive, with quick turnarounds for assigning team members to PIs to complete applications. The team specializes in Center grants, indefinite delivery, indefinite quantity (IDIQ) contracts, or other large complex proposals, and last minute grant opportunities. The team also provides temporary support to departments with staff on extended leave or vacation. Other services include, but are not limited to, partial assistance on proposals, technical assistance with proposal submission, and routing for internal review. The shared services model is intended to enhance faculty satisfaction in the school's pre-award services and proposal development. The School's leadership is evaluating the potential to provide post-award administration in a shared services model as well.

    b. Fast Track Process. As part of the ORE's responsiveness to PI issues, needs, and opportunities, we instituted a Fast Track proposal submission and routing process for opportunities that arise from late breaking requests for proposals. These requests often occur in the context of IDIQ task awards, international project opportunities, or funding for emergent public health crises. Working closely with OVPR, Fast Track is intended to streamline and supplement departmental administrative resources, reduce institutional review time, and assure responsiveness to the sponsor's requests (which are often unique, complex, or even vague) as quickly as possible.

    c. Post-Award Management/ Assessment. In 2014, ORE conducted an informal needs assessment for the purpose of identifying distinct post-award phases and associated challenges within the SPH. The major outcomes identified resulted from group and individual discussions between the SPH faculty, staff, and leadership; the SPH Research Committee; and OVPR, over several months (~June, 2014-December, 2014). In summary, within five distinct post-award processes at GW (Intake; Negotiation; Set-up; Management; and Closeout), the SPH has targeted improvement in the following areas: a) Resolution of financial conflict of interest (FCOI); b) Award notification/communication; c) IRB approval efficiencies; d) Award negotiation with sponsors; e) Prime award set-up; f) Sub-award/sub-contract set up; g) GRAs and research staff hiring; h) Communication between SPH Department Administrators and PIs; i) Award Closeout; and j) Resolution of Labor Distribution/Effort. The SPH and OVPR continue to work together and several key GW initiatives are already underway to further our post-award operations. For examples, refer to: https://research.gwu.edu/improvement-initiatives.

3. Proposal Development and Research Resources

Managed by ORE, an open-access, web-based portal was created in 2013 in response to faculty requests for easier proposal preparation. The portal provides a variety of resources that include templates (e.g., data sharing plans and facilities and resources pages tailored to each department), time management tools, and budget calculators. See more at: http://publichealth.gwu.edu/research/proposal-and-resources-portal.

4. Research Policies and Procedure

In addition to a new SPH Research Operations Handbook developed to lead investigators through the key processes of proposal and grants management at GW, over a dozen new SPH research policy/procedures have been implemented since ORE was established in 2012. See more at: http://publichealth.gwu.edu/research/policy-procedure-guidance. Key to providing efficiency and structure, all policies and procedural guidance documents are posted to the open-access research portal on the SPH website to promote ease of access and use, clear communication, and transparency regarding expectations and resources. ORE also established a variety of committees and work groups designed to enhance research operations and compliance, including the SPH Research Committee (a standing committee in the SPH by-laws, est. 2012); SPH Compliance and Ethics Committee (est. 2015); SPH International Research Task Force (est. 2015); Student IRB Liaison Work Group (est. 2014); HIPAA Compliance Committee and SPH standardized training (est. 2014); and Responsible Conduct of Research Workgroup (est. 2014).

5. Research Communications

The ORE uses the SPH website, including the research portal, as one means of communication with faculty, staff, and students. We also promote and inform through the SPH weekly faculty and staff newsletter. In Spring 2013 the SPH Research Accelerator blog was created, with input from SPH faculty and hosted by the Associate Dean for Research, to provide another central mechanism of communication. This blog supports and celebrates research excellence at our School by sharing updates on our research and our investigators; weekly funding alerts organized by department relevance; musings on timely topics (e.g., grant writing tips and research affairs); and upcoming events and trainings. Ultimately, the Research Accelerator is an indirect 'mentoring' technique to equip investigators with current resources and to promote communication, collaboration, and success. See more at: http://publichealth.gwu.edu/blogs/researchaccelerator/about-the-blog/.

6. Research Advancement Programs

The SPH Research Committee and Dean Horn proposed a new SPH Research Advancement Program to Dean Goldman in Spring 2014 to enhance the research excellence across the SPH. The multi-component program facilitates the achievement of three of the School's strategic research objectives: to foster a culture of research excellence through capacity building, collaboration, and collegiality; to

increase and reward externally funded research conducted at the SPH; and to enhance the *scholarly output* of the SPH. Managed by the SPH ORE, the program includes eight primary components: 1) an intensive Boot Camp; 2) PI Summits; 3) an on-going special topics Seminar Series; 4) a Facilitating Funds Program; 5) a tailored Mentoring Program for new faculty; 6) Networking Events; 7) Scientific Writing and Presentation Workshops; and 8) streamlined Motivation and Incentive Mechanisms*.* The program is currently fully funded by the SPH endowments with a proposed annual budget of ~$250,000

As part of the Facilitating Funds component, the School launched the inaugural Springboard Grants Program, *Pathways to NIH Funding,* in Spring 2014 *with* the goal of rapidly growing the research success of our faculty in competitive, externally funded grants. The Springboard Pathways [(http://publichealth.gwu.edu/downloads/research/springboard_pathways_rfa.pdf) RFA](http://publichealth.gwu.edu/downloads/research/springboard_pathways_rfa.pdf) is focused specifically on developing grantsmanship in pursuit of NIH R21 and R01 funding. Future RFAs will have different foci. Full-time active status faculty in the SPH are eligible to apply; this includes regular and research track faculty at the rank of assistant, associate and full professor. This unique program provides awardees each with $50K pilot awards, along with simultaneous grantsmanship training and intensive tailored mentoring led by Dean Horn. The end result is a highly vetted, competitive NIH proposal. One NIH proposal has already been submitted and the two others are scheduled. Learn about the first three Springboard Grants recipients (http://publichealth.gwu.edu/content/three-milken-institute-sph-faculty-receive-first-springboard-grants). See more at: [http://publichealth.gwu.edu/research/faculty-research-development#springboard grants](http://publichealth.gwu.edu/research/faculty-research-development#springboard).

Pilot funding is also available to our faculty through a variety of other GW funding sources. Refer to Table 1.1.d. for details.

7. Research Computing Services

a. Strongbox data storage. To meet the SPH's increasing need for secure high-speed data analysis, data storage, and collaborative data sharing, the SPH ORE and Department of IT developed and established a state-of-the-art infrastructure. Launched in Spring 2014, this new service includes nine software packages (STATA/MP 13, IBM SPSS Statistics Standard Edition v22, ArcGIS, MPlus Qualtics Research Suite, SAS 9.4, EndnoteX7, Adobe Creative Suite 6, Nvivo 10, Atlas Ti7); VPN and Onsite network access; storage capacity, (2) 128GB RAM, dual Intel Xeon E5-2650 2.00GHz, 20M Cache, 8.0GT/s QPI, Turbo, 8C processors servers; 36T SAN. StrongBox provides a comprehensive suite of the most current analytical software applications and a secure centrally managed, cloud-based data storage service for faculty, graduate students, and post-doctoral fellows. Researchers may use the system to: (a) store and preserve their research data for both future research and to provide "training" datasets for students; (b) work with both small and large-scale research datasets; and (c) collaborate more effectively on research with colleagues and students across schools and

departments. All instructions are provided on the research portal (see more at: http://publichealth.gwu.edu/research/shared-data-platform-strong-box).

b. Colonial One data analysis service. To meet the research needs of high-performance computing for 'big data' analysis, GW recently implemented a new, shared high-performance computing cluster named Colonial One, which is housed in one of GW's two enterprise-class datacenters and also on the Virginia Science and Technology Campus. Professional staff in the GW Research Services Group, within the Division of Information Technology, manages this system with assistance from GW-sponsored computational staff in the Computational Biology Institute and the Columbian College of Arts and Sciences. Access to Colonial One is open to the GW community. The SPH contracted usage of Colonial One for our investigators, which includes 24-hour on-premise and remote environment monitoring, with hourly staff walk-throughs; redundant power distribution including UPS (battery) and emergency generator backup; redundant cooling systems utilizing a dedicated chilled water plant and a glycol refrigeration system; and direct network connectivity to GW's robust 100 Gigabit fiber optic network. See more at: http://publichealth.gwu.edu/research/shared-data-platform-strong-box.

8. Organized Thematic Research Units

The SPH is committed to creating and maintaining Organized Research Units (ORUs) that meet the highest standards of research and practice, are actively engaged in multi-disciplinary scholarship as described in the SPH and the university strategic plans, and convey GW's commitment to innovation to the outside world. The process and the procedures for SPH ORU can be found in the SPH Policy for Establishing Organized Research Units. See more at: http://publichealth.gwu.edu/downloads/research/SPHHS_Organized_Research_Units.pdf. To that end, the SPH ORUs include a variety of institutes, centers, programs, and cores. The following ORUs are currently aligned with Milken Institute School of Public Health:

Table 3.1.a.: SPH Organized Thematic Research Units

Institutes and Centers Chartered by SPH	Director
Center:	
Biostatistics Center	Elizabeth Thom, PhD
Center for Health Policy Research	Leighton Ku, PhD
Center for HIV/AIDS Epidemiology, Biostatistics and Public Health Laboratory	Alan E. Greenberg, MD, MPH
GW Center for Global Health	James Tielsch, PhD
Center for Social Well Being and Development (CSWD)	Mark Edberg, PhD
GW Workforce Development Institute	Polly Pittman, PhD
The DC Metro Tobacco Research and Instruction Consortium (MeTRIC)	Kimberly Horn, EdD
Non-chartered Signature Centers:	
Avance Center	Mark Edberg, PhD
Antibiotic Resistance Action Center	Lance Price, PhD
Center for Health and Health Care in Schools	Olga Acosta Price, PhD
Center for Risk Science and Public Health	George Gray, PhD
DC Developmental Center for AIDS Research (DC-CFAR)	Alan E. Greenberg, MD, MPH
Sumner M Redstone Global Center for Prevention and Wellness	William Dietz, PhD
Programs:	
Jacobs Institute of Women's Health	Susan Wood, PhD
Geiger Gibson Program in Community Health Policy	Peter Shin, PhD, MPH
Hirsh Health Law and Policy Program	Joel Teitelbaum, JD, LLM
Integrated Behavioral Health Policy Program	Eric Goplerud, PhD
mWellness Development and Optimization Program	Lorien Abroms, ScD
Cores:	
Biostatistics and Epidemiology Consulting Service (BECS)	Sam Simmens, PhD

9. Institutional Infrastructure—The GW Office of Vice President for Research

The SPH works closely and collaboratively with the GW Office of the Vice President for Research (OVPR), particularly the Office of Sponsored Projects to ensure successful submission of proposals and compliance throughout the life of the project. This relationship also helps link our departments with the research related services offered by the GW Division of IT (http://it.gwu.edu/research-computing), Grants and Contracts Accounting Services (http://comptroller.gwu.edu/gcas), the GW Libraries (http://libguides.gwu.edu/data-management), and more. Central to this collaborative relationship with the OVPR is the Sponsored Projects Team that is assigned specifically to the SPH to support research. Physically located in the SPH ORE, the Office of Sponsored Projects Administrators (SPAs), see *ERF 3.1.a.: Grants Management Positions,* serve as central resources to guide and steward SPH faculty and student investigators, and administrators. SPAs are responsible for the effective and timely handling of research proposals, as well as the preparation, interpretation, negotiation, and execution of agreements on behalf of GW for projects funded by federal and state agencies, foundations, and other public and private sources.

Additionally, the ORE works hand-in-hand with the Office of Human Research, including the IRB, for faculty and student research. Beginning fall 2015, the SPH appointed a faculty member as a new Student IRB and Research Liaison to provide critical linkage between our students and the IRB. The position helps students to navigate the IRB process while promoting learning and turn-around time. Under the

leadership of the GW Associate Vice President for Research, in tandem regular communication with the Associate Deans for Research throughout University, the GW OVPR provides numerous additional resources and initiatives that benefit the SPH research mission. See more at: http://research.gwu.edu/.http://research.gwu.edu/.
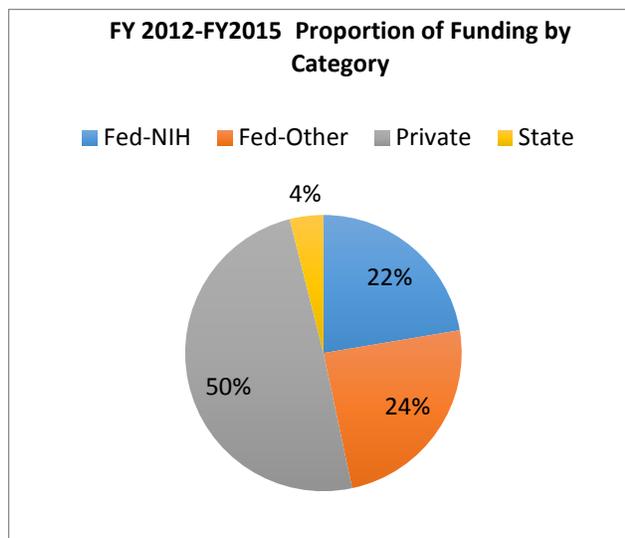
3.1.b. Description of current research undertaken in collaboration with local, state, national or international health agencies and community-based organizations. Formal research agreements with such agencies should be identified.

1. **Composition**

As illustrated in the figure below and delineated in CEPH Data Template 3.1.1 (***ERF 3.1.c.: CEPH Data Template 3.1.1 Research Activity***), our research reflects a diverse portfolio of federal, private, and state and local level funding.

- Local/state, including community-based collaborations: Between FY12-FY14, we were awarded over 70 (8% of the total portfolio) projects from state level sources*, most of which involved partnerships with state health departments. Demonstrating our SPH research involvement in our DC community, 50% of these projects included funding from the DC Department of Health. Various levels of community engagement are common across our funded research activities, regardless of the funding source. *For this purpose, the District of Columbia is considered a state.

Additionally, several of our thematic ORUs (see *ERF 3.1.a.: SPH Grants Management Positions*), focus specifically on health disparities in the DC community, including the DC Center For Aids Research, which was competitively renewed with a five-year NIH grant in the amount of $7.5M in April, 2015.

FY 2012-FY2015 Proportion of Funding by Category

Legend: ■ Fed-NIH ■ Fed-Other ■ Private ■ State

Pie chart values: 4%, 22%, 24%, 50%

- <u>National</u>. Almost half of our overall portfolio was awarded from federal sources during this reporting period, targeting populations ranging from the DC community, to rural West Virginia, Alabama, to California. SPH investigators continue to perform pivotal work in conducting research and evaluation that informs policies, regulations, and strategies enacted by The Healthcare Reform Act, CMS/Medicare/Medicaid, the CDC, USAID, HRSA and the FDA. Currently, we operate six federally-funded centers. Funding sources include NIH, HRSA, and CDC.

- <u>International</u>. The SPH has numerous projects with an international focus. Although we have an emergent Center for Global Research within the Department of Global Health, many of our departments have global research initiatives. From Mongolia to Kenya to Egypt, much of our international research includes public health workforce development, evaluation and training components in underserved, impoverished regions. Refer to Criteria 3.1.c. below.

Dollars in Funding Category by Year
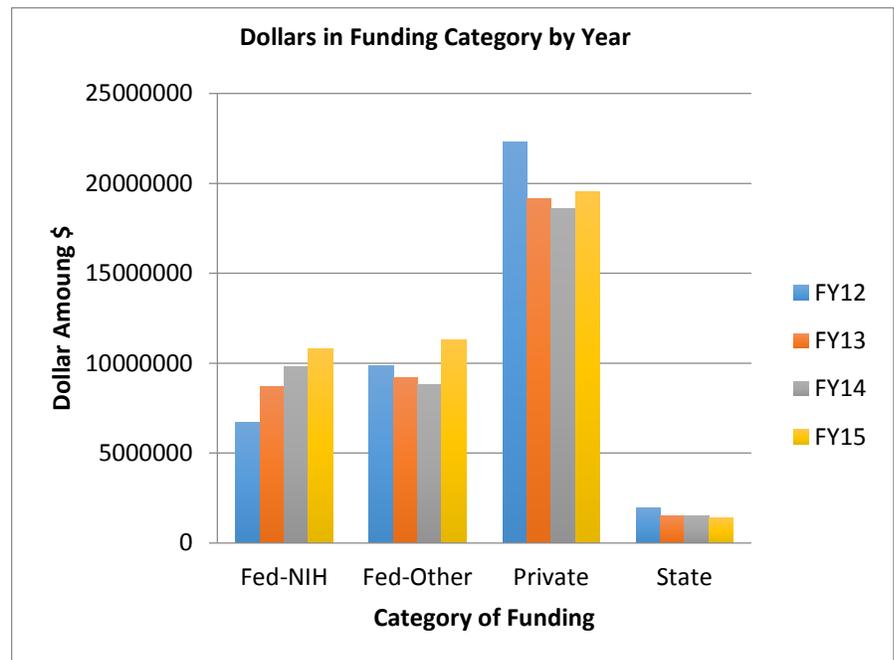
2. Special arrangements, such as IDIQs

Between 2012-2015 SPH served as prime on four IDIQ's and one IDIQ sub-award through a partnering organization. The largest Program Support Center (PSC) IDIQ serves any HHS agency and includes a range of topics. Most of the IDIQ's with the PSC are from the Offices of the Assistant Secretary for Planning and Evaluation, Assistant Secretary for Health, the National Coordinator for Health Information Technology and Administration on Children and Families. Although the CDC Office of Associate Director for Policy oversees the Achieving Public Health Impact Thru Policy IDIQ, it can provide projects from any CDC office. A major focus is on policy aspects of CDC activities and may include both domestic and international issues. The Medicaid and CHIP Policy Impact and Evaluation IDIQ are affiliated with the Centers for Medicare and Medicaid Services and are mostly Medicaid and CHIP focused. These contracts are related to assistance to states in Medicaid transformations. A HRSA IDIQ serves

community health centers, maternal and child health or the Ryan White program. All IDIQs are housed in the Department of Health Policy and Management.

3.1.c. A list of current research activity of all primary faculty identified in Criterion 4.1.a., including amount and source of funds, for each of the last three years. These data must be presented in table format and include at least the following information organized by department, specialty area or other organizational unit as appropriate to the school: a) principal investigator, b) project name, c) period of funding, d) source of funding, e) amount of total award, f) amount of current year's award, g) whether research is community based, and h) whether research provides for student involvement. See CEPH Data Template 3.1.1; only research funding should be reported here. Extramural funding for service or training/continuing education grants should be reported in Template 3.2.2 (funded service) or Template 3.3.1 (funded training/workforce development), respectively.

Refer to *ERF 3.1.c.: CEPH Data Template 3.1.1 Research Activity* for overall research funding. We do not currently have a specific code that captures "community-based" funding. However, a significant number of grants in our portfolio directly include community partners or serve communities. As described in Criteria 3.1.b above, our work with state level health departments is a meaningful proxy of research that influences local level policy and practice. To evaluate public health education and workforce grants, we performed a key word search in our awards database (using "training, "education", "technical assistance" and "workforce") to capture the number of projects by funding category. The results are presented in Table 3.1.c. below.

Table 3.1.c.: SPH Workforce Training/Education/TA Grants and Contracts

Funding Source	Count
AY 2012-13	**47**
Fed-NIH	5
Fed- Other	20
Private	20
State	2
AY 2013-14	**33**
Fed-NIH	3
Fed- Other	13
Private	17
State	0
AY 2014-15	**32**
Fed-NIH	4
Fed- Other	14
Private	14
State	0

3.1.d. Identification of measures by which the school may evaluate the success of its research activities, along with data regarding the school's performance against those measures for each of the last three years.   For example, schools may track dollar amounts of research funding, significance of findings (eg, citation references), extent of research translation (eg, adoption by policy or statute), dissemination (eg, publications in peer-reviewed publications, presentations at professional meetings) and other indicators.

1. **Research Funding**

The SPH tracks the conventional data-driven measures of research success, including proposals submitted, success rates, direct and indirect costs, and faculty effort coverage. (See Table: Conventional Measures of Research Success.) The SPH established its first *Research Blueprint* in 2012, following strategic planning by the deans and chairs of the School, with input from the Research Committee and faculty. The Blueprint (***ERF 3.1.d.: Research Blueprint***) aligns specific objectives with the School's strategic research goals. The activities and associated achievements for each objective are shown in the Blueprint as they relate to the SPH strategic goals.

Table 3.1.d.1: Conventional Measures of Research Success

FY	Total Expend ($M)	Indirect Costs ($M)	Direct Costs ($M)	PIs[1] (#)	Proposals Submitted[2] (#)
FY10	$33	$4	$29	83	203
FY11	$35	$4	$31	80	212
FY12	$41	$5	$36	86	224
FY13	$39	$5	$34	87	228
FY14	$39	$5	$34	98	221
FY 15	$43	$7	$36	90	235

[1] PIs often hold more than one award.
[2] This number reflects new proposals, supplements and non-competitive renewals.

- As presented in the table, the number of proposals submitted has generally increased since FY10, as have the total expenditures, including direct and indirect costs.

- The number of funded PIs has also steadily increased over the past five years. Between FY12-FY14, the school held 892 awards with 126 faculty members serving as PIs.

- The school's proposal success rate (#awards/#proposals) has averaged approximately 45%-50% over the past three fiscal years. Note that the tracking methods of the School's Office of Vice President of Research includes in this rate proposals that were submitted and awarded simultaneously, supplemental awards given to an existing proposal, and other non-competitive award mechanisms.

2. Peer-reviewed publications

An additional measure of success includes dissemination of research results through peer-reviewed publications. In 2012, our faculty published 251 articles; in 2013 we published 270 articles; and in 2014 we published 254 articles.

3. Research translation and influence on policy

A less quantitative measure of research productivity, but one that we value highly, is the translation of our scholarship into effects on policy and practice. In the past year, faculty have contributed in significant ways to national and regulatory dialogue on key public health issues. A few examples follow; there are many others.

- On April 9, 2015 the White House held a roundtable working session on education and climate change, which was attended by Dean Lynn Goldman, PHD, MS, MPH, and Melissa Perry, ScD, MHS, Professor and Chair of the Department of Environmental and Occupational Health, as well as deans and leaders from 30 medical, public health and nursing schools from across the country. The roundtable is part of a long list of actions unveiled by the White House aimed at highlighting the health impacts of climate change and encouraging data sharing. See more at: http://publichealth.gwu.edu/content/dean-lynn-goldman-and-eoh-chair-melissa-perry-participate-white-house-roundtable-climate.

- New Report: *Community Health Center Data Capture Incomplete in Electronic Health Record Systems, Potentially Affecting Reimbursement.* A new study raises fundamental questions about how to quantify and reimburse the true value of care associated with the community health center model. The report, from the Geiger Gibson/RCHN Community Health Foundation Research Collaborative, based at the SPH, assesses the feasibility and usefulness of combining electronic health record (EHR) information with federal cost report data as the basis for developing or evaluating reimbursement rates for community health centers. See more at: http://publichealth.gwu.edu/content/new-report-community-health-center-data-capture-incomplete-electronic-health-record-systems.

- Lance B. Price, PhD, Professor of environmental and occupational health, participated in a press briefing held on Capitol Hill to announce the re-introduction of a bill, *Preservation of Antibiotics for Medical Treatment Act (H.R. 1552)*, by Rep. Louise Slaughter, (D-NY). The briefing was held on Tuesday, March 24, 2015. The legislation would ban the non-therapeutic use of eight important classes of antibiotics in factory farms; large livestock operations that routinely feed healthy animals low doses of antibiotics. The practice allows farming operations to keep animals in crowded, unsanitary conditions. The resulting "superbugs" can spread and cause drug-resistant infections in humans. According to the U.S. Centers for Disease Control and Prevention about two million Americans acquire a drug resistant infection every year with about 23,000 of those dying. See more at: http://publichealth.gwu.edu/content/professor-lance-price-participates-congressional-briefing-legislation-aimed-preserving.

- On April 15, 2015, Amita Vyas, PhD, MHS, Associate Professor of prevention and community health and director of the Maternal and Child Health program at the SPH, was invited to speak before the Senate Democratic Caucus on education and economic empowerment of women and girls globally at the US Capitol. This roundtable discussion was designed to be a candid

conversation and an opportunity to discuss solutions with Senators. See more at: http://publichealth.gwu.edu/content/professor-amita-vyas-speaks-senate-democratic-caucus-global-empowerment-women-girls.

- Loretta DiPietro, PhD, MPH, Professor and Chair of the Department of Exercise and Nutrition Sciences, PhD, MPH, published a commentary April 6, 2015 on the Institute of Medicine's (IOM) website as part of the IOM's Perspective Series connected to its Roundtable on Obesity Solutions. Dr. DiPietro points out that physiologic function and resiliency decline with age, even among the most robust of older adults; however that decline can be significantly minimized by maintaining an active lifestyle. See more at: http://publichealth.gwu.edu/content/iom-publishes-commentary-physical-activity-older-people.

- On April 3, 2015, Fitzhugh Mullan, MD, Murdock Head Professor of Medicine and Health Policy and Mary Ellsberg, PhD, MA, Professor of Global Health gave talks at the TEDx Foggy Bottom event. Ellsberg's talk focused on domestic violence against women while Mullan zeroed in on reforms in medical education and ways that such reform could lead to better health for all. See more at: http://publichealth.gwu.edu/content/tedx-talk-gw-campus-features-professors-mullan-and-ellsberg.

- *Women's Health Issues*, the peer-reviewed journal of the Jacobs Institute of Women's Health, publishes original research, systematic review articles, and commentaries on women's health care and policy. It is the top-ranked women's studies journal (out of 41). Recent research articles have addressed implications of differing mammography screening guidelines for higher-risk populations; workplace accommodations for breastfeeding mothers; the health of post-menopausal women veterans; and the economic burden of Alzheimer's Disease on women and men. Topics of recent commentaries include the role of Planned Parenthood in healthcare for low-income women; unanswered research questions for women's heart health; Medicaid and women's health; legal impediments to midwifery; and trauma-informed primary care. See more at: http://www.whijournal.com/.

- The School is also committed to influencing policy through dissemination of policy briefs and white papers. From 2012 – spring of 2015, our faculty published 135 such reports.

Table 3.1.d.2. Assessment of Success of Research Activities

Outcome Measure	Target	AY2012-13	AY2013-14	AY2014-15
Publications in SCOPUS	**250**	251	270	254
Number of submitted *new, unique* proposals*	**200**	197	192	188
Proposal success rate, overall and by funding source	**Overall = 40%** **Fed NIH = 25%** **Fed Other = 35%** **Private = 50%** **State = 50%**	**45%** 24**%** 35**%** 61**%** 75**%**	**49%** 31**%** 38**%** 63**%** 50**%**	**40%** 20**%** 40**%** 53**%** 50**%**
Increase number of active awards across ranks.	**N=350 Awards** *Professor=150* *Assoc.* *Professor=100* *Assist.* *Professor=60* *Other/Res.* *Scientist=40*	**N=281 Awards** *Professor=144* *Assoc.* *Professor=77* *Assist.* *Professor=32* *Other/Res.* *Scientist=28*	**N=285 Awards** *Professor=124* *Assoc.* *Professor=85* *Assist.* *Professor=41* *Other/Res.* *Scientist=35*	**N=323 Awards** *Professor=149* *Assoc.* *Professor=85* *Assist.* *Professor=52* *Other/Res.* *Scientist=40*
Increase direct and indirect funding across departments (from $33M, AY 2010-11)	**$40M**	$41M ($36M, Direct; $5M IDC)	$39M ($34M, Direct; $5M IDC)	$39M ($34M, Direct; $5M IDC)
Increase NIH funding	**NIH $10M/Annual**	NIH Funding=$6.4M	NIH Funding=$8.7M	NIH Funding=$9.8M
GRAs and Post-Docs supported with external funding	**10 GRAs** **6 Post Docs**	11 **4**	11 **6**	11 **8**

* This number differs from Table 3.1.d.a as that number represents all submitted proposals, including supplements and renewals.

3.1.e. Description of student involvement in research.

Between 2012-2014 funded research supported approximately 36 FTEs for SPH students, spanning 126 projects (see Template 3.1.1). Historically, the SPH relied on staff wage positions (instead of GRAs) to support and train students. Starting in summer of 2014, we began new initiatives to increase GRA training and funding.

Beyond GRA support, our students are engaged in a myriad of research endeavors including:

- Research-driven practica, CEs, and internships at GW, in DC, and beyond;

- GW Research Days. Each year SPH students present work at the university-wide research event. Abstracts from the past three years can be found at:
  http://research.gwu.edu/research-days-2015 (n=27 students)
  https://research.gwu.edu/research-days-2014-0 (n=39 students)

http://research.gwu.edu/research-days-2013 (n=41 students)

SPH faculty mentorship is a requirement for participation; and

- Faculty-mentored publications and presentations at national meetings. For example, at the 2015 National Society for Research on Nicotine and Tobacco, nine SPH graduate students had accepted abstracts. Our students also regularly present abstracts at the APHA and other public health conferences.

3.1.f. Assessment of the extent to which this criterion is met and an analysis of the school's strengths, weaknesses and plans relating to this criterion.

This criterion is met.

Strengths:

- Organized the Office of Research Excellence, under new Associate Dean for Research.
- Convened a newly charged and re-vamped SPH Research Committee, including student representatives.
- Developed a prioritized, strategic research plan through the SPH Research Blueprint.
- Formed a SPH Learning Community for the school's grant management administrators.
- Launched the School's Faculty Research Advancement Program.
- Established critical new policies and guidance to facilitate pre- and post-award operations.
- Established an on-line SPH Research web portal.
- Created a pre-award shared services model to assist departments with proposal development.
- Secured new long-term, reliable wet and dry laboratory space for research and classrooms.
- Established and formalized a Biostatistics Consulting Core and other shared resources, such as StrongBox.
- Established the SPH Research Accelerator ~ with a blog and informative content.
- Growth and diversity of the research portfolio.
- Proximity and access to promote multidisciplinary collaboration through the new buildings.
- New and innovative resources to train, prepare, motivate and incentivize research:
  - A new SPH Faculty Research Advancement Program that includes the Springboard pilot project funding mechanism, grant writing workshops, funders' presentations, Mentor Match peer-review program, grant-related workshops and trainings, and award management trainings.
- High level assurances for compliance:
  - Created a school-level Conflict of Interest and Ethics committee.
  - Availability of modules for responsible conduct of research.
  - Student IRB liaison and enhanced SPH representation on the IRB.
  - Standardized HIPAA training for SPH.
- Data management resources
  - Developed "Strongbox," a customized server for SPH researchers that provides a comprehensive suite of analytical software applications and secure centrally managed data storage.
  - Partnership with the Colonial One Big Data server.

Challenges:

- Increasing student engagement in future SPH Research Days.
- Shifting from Research Assistant and "wage" research positions to graduate research assistantships, fellowships, and postdocs.
- Increasing student research scholarships.
- Improving post-award services.
- Utilizing upgrades in the university's PI Dashboard to create PI-specific metrics that can assist with the identification of PIs who can benefit from mentoring and additional support in securing research funding.
- Tracking various levels of collaborations, student involvement, cultural diversity, community-based research outreach, etc.
- Developing a method to specifically identify community-based research as this is integrated throughout much of our portfolio.
- Improved tracking of scholarship and impact.
- Occupying and managing new research laboratory/facilities in the SEH.

Future Plans:

- Fully implement the multi-component Research Advancement Program.
- Develop innovative doctoral and post-doctoral training programs.
- Increase GRA availability and student-faculty mentorship and training.
- Continue to work with OVPR to create more efficient and transparent post-award systems.
- Increase the number of high impact manuscripts and presentations.
- Explore relevant research cores and shared resources.
- Expand multidisciplinary research collaborations across GW.
- Create a SPH Biosafety Committee.
- Set and track specific goals for IDC Recovery.
- Create a biblioinformatics system to track scholarship and impact.