

Chapter VI

Research

CEPH Criterion

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

Research

CEPH Expected Documentation

- 1 A description of the School's research activities, including policies, procedures, and practices that support research and scholarly activities
 - 2 A description of current community-based research activities and/or those undertaken in collaboration with health agencies and community-based organizations. Formal research agreements with such agencies should be identified
 - 3 A list of current research activity, including amount and source of funds, over the last three years
 - 4 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 over the last three years
 - 5 A description of student involvement in research
 - 6 Assessment of the extent to which this criterion is met
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Overview

As articulated in the School’s mission, research remains a major responsibility and activity of the faculty. Most importantly, our mission statement emphasizes the inseparable link between research, education, and professional practice. The faculty’s broad complement of expertise includes laboratory-based, quantitative, and qualitative research, with disciplines ranging from molecular mechanisms to policy formation (Table VI.1). This breadth of expertise, together with the willingness and interest of the faculty to collaborate within and outside the School, results in a productive, interdisciplinary, and scholarly environment for addressing major public health problems. Students greatly benefit from this environment through direct involvement in faculty scholarship and through participation in the many research seminars and special lectures that are organized by the faculty and departments. The School and its faculty are committed to high-quality research, the application of this research, and the integration of research and practice with the education of future research scientists and professional practitioners of public health.

Table VI.1 **Examples of General Areas of Faculty Research**

<p>Disease Oriented</p> <p>Cancer</p> <p>Chronic Diseases</p> <p>Drug and Alcohol Abuse</p> <p>Genetic Susceptibilities</p> <p>Infectious and Parasitic Diseases</p> <p>Mental Health Disorders</p> <p>Nutrition</p> <p>Policy</p> <p>Bioterrorism and Preparedness</p> <p>Disability Policy</p> <p>Firearms Research</p> <p>Food Security</p> <p>Global Tobacco Control</p> <p>Health Disparities</p> <p>Injury Control</p> <p>Vaccine Policy</p>	<p>Health Issues</p> <p>Aging</p> <p>Children and Adolescents</p> <p>Environmental Health</p> <p>Minorities</p> <p>Occupational Health</p> <p>Population Health</p> <p>Reproductive Health</p> <p>Women</p> <p>Health Care Systems</p> <p>Clinical Effectiveness and Patient Outcomes</p> <p>Health Care Cost Containment</p> <p>Health Care Financing and Management</p> <p>Health Care Organization</p> <p>Other</p> <p>Bioinformatics</p> <p>Health Education and Communication</p> <p>Molecular Epidemiology</p> <p>Risk Sciences</p> <p>Vaccine Sciences</p>
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Research Policies, Procedures, and Practices

The Office of Research Administration and the Office of Graduate Education and Research have responsibility for ensuring compliance with the School's research policies, procedures, and practices. These offices are directed by the Associate Dean for Research Administration and the Associate Dean for Graduate Education and Research, respectively. The School's research-related policies and procedures are codified in the *Policy and Procedure Manual* and documented on the School's Web site (Table VI.2) and in the faculty handbook.

Table VI.2 **Research-related Policies of the Bloomberg School of Public Health**

Human Subjects and Animal Research Policies

Committees on Human Research <http://www.jhsph.edu/chr>

Humane Treatment of Research Animals <http://www.jhu.edu/animalcare>

Policy and Procedures Memoranda on Faculty <http://www.jhsph.edu/schoolpolicies>

Appointments, Promotions, and
Professional Activities of the Faculty (#1)

Conflicts of Interest and Commitment (#4)

Fraud in Research (#7)

Professional Conduct (#8)

Intellectual Property Policy <http://www.jhsph.edu/ora/IPG>

Funding Procedures: The Office of Research Administration helps faculty identify opportunities for sponsored funding and successfully compete for support, while adhering to established School policy. The Development Office of the School, under the leadership of the Associate Dean for External Affairs, also works with faculty to identify potential sources of private foundation and corporate support for specific projects.

Many non-federal funding opportunities, especially those that allow only one applicant from the University, are distributed to faculty by the University Office of Research Projects Administration. The School's faculty may also access ReSource, a database designed to track all of the University's sponsored research. Each proposal submitted for external funding is recorded in the database, along with its disposition. The database is a valuable tool for determining, among other things, the history of funding from a particular sponsor. Researchers can also search for faculty in other divisions whose interests are similar to their own.

Fiscal Management Procedures: The School's Office of Research Administration and Business Office work closely with departmental administrators and faculty/student investigators to ensure efficient and appropriate management of all extramural funds. When a new grant, contract, or other sponsored project is awarded or renewed and all compliance issues are met, these offices assign budget numbers and allocate funds as stipulated by the investigator and outlined in the award. As funds are spent from each budgetary category,

they are recorded centrally. On a monthly basis, department administrators forward to each principal investigator a statement of expenditures from the previous month and total amounts spent and unspent to date. The principal investigator is responsible for reviewing the statement and addressing issues or questions with the department administrator.

Policy Compliance Procedures and Review: Research proposals for funding must be approved by the Office of Research Administration and the School (Table VI.3). Researchers must comply with the School's policies on salary support, indirect costs, patents, copyrights, biosafety, conflict of interest, and equipment procurement. Research involving human subjects requires approval by the School's institutional review board, the Committees on Human Research.¹ Research using animals must be approved by a University-wide committee on animal research.

Research Policies and Practice Oversight: The research compliance activities of the School are under the purview of the Offices of Research Administration and of Graduate Education and Research. These offices work in conjunction with other University and School offices and faculty committees that are charged with reviewing research proposals for policy and regulatory compliance, as well as overseeing ongoing compliance (Table VI.4). These committees are also responsible for assessing the appropriateness of existing policies and procedures and, when necessary, making recommendations for their revision to the School's Advisory Board or, as is applicable, to University governing bodies.

Research Regulations Specialists: The regulatory offices (Table VI.4) have staff responsible for ensuring compliance with their respective regulations. Staff members are available to offer assistance to faculty and students through all phases of their research. The School's research regulations specialist is charged with ensuring that the School complies with the animal and human subjects research regulations, in particular those of HIPAA and Export Controls/ITAR.

¹ Because of the large number of research activities, the School has two institutional review committees with the same responsibilities; they are referred to as the Committees on Human Research

Table VI.3 **Research Proposal Review and Compliance Procedures**

Internal Reviews and Endorsement

- The Committees on Human Research, the School's institutional review board, must approve all proposals involving human subjects or data on human subjects. Human subjects research is conducted based on assurance with the DHHS. The School will seek accreditation from the Association for Accreditation of Human Research Protection Programs in 2007
- Proposals involving HIPAA-protected health information are reviewed by the School's research regulations specialist, and appropriate waivers are obtained from the Committees on Human Research
- All animal research protocols must be reviewed and approved by the University's Animal Care and Use Committee
- Each application for external sponsored funding must be approved by the School through a review by the Office of Research Administration and signed by one of the following School deans:
 - Associate Dean for Research Administration
 - Associate Dean for Graduate Education and Research
 - Senior Associate Dean for Finance Administration
 - Senior Associate Dean for Academic Affairs

Salary Support and Indirect Cost Rate

- Full reimbursement must be sought for all staff and faculty salaries in proportion to the effort to be expended on the project, unless support for salaries is excluded by the funding agency
- The most recently negotiated indirect cost rate and fringe benefit rate for the University must be applied to each funding application

Patent or Copyright

- Any discovery potentially leading to a patent or copyright must be disclosed to the School's Director of Technology and Licensing

Conflict of Interest

- Faculty members may not solicit or engage in research that might involve a conflict of interest or commitment to responsibilities in the School. In accordance with School policy and with the Department of Health and Human Services regulations, principal investigators and other individuals involved in the design, conduct, or dissemination of a research project must complete the School's Significant Financial Disclosure form for each awarded activity. They must also complete an annual, online Activity Report that is reviewed by the Conflict of Interest Committee
- Faculty members may not solicit support for classified research

Purchases and Leasing

- Only the University's purchasing agent (or designee) is authorized to purchase or lease equipment or vehicles
 - Leases for off-campus property to be used for research projects must be reviewed and approved by the Office of the General Counsel and the Senior Associate Dean for Finance and Administration
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Table VI.4 **Offices and Committees with Research Policy and Practice Oversight**

Offices and Committees	Responsibility
University	
Animal Care and Use Committee	Reviews animal use protocols and maintains compliance with applicable laws, regulations, and policies http://www.jhu.edu/animalcare http://www.jhsph.edu/schoolpolicies/ppm_admingov_1.shtml
Health, Safety and Environment Office of the Johns Hopkins Medical Institutions	Provides technical information and training for biological and environmental safety on-campus <ul style="list-style-type: none"> • Reviews and certifies biosafety procedures and equipment • Reviews registrations for Recombinant DNA, pathogens, biological toxins, and human gene therapy/pathogen clinical trials • Certifies compliance with environmental regulations • Responsible for disposal of hazardous waste http://www.hopkinsmedicine.org/hse
Institutional Compliance Oversight Committee of the Office of Vice Provost for Research	Responsible for establishing and maintaining a University-wide compliance program http://jhuresearch.jhu.edu/compliance-committees.htm
School of Public Health	
Intellectual Property Management and Business Development Office	Provides education, strategic business advice, and other technology transfer services to the School and facilitates the distribution, development, and commercialization of innovations, inventions, and other intellectual assets http://www.jhsph.edu/TechTransfer
Office of Graduate Education and Research	Provides integrated services and resources to foster and maintain excellence in graduate education and integrity in research http://www.jhsph.edu/ger
Office of Research Administration	Provides support to faculty seeking research funding and oversight of compliance issues related to funding and faculty adherence to University policies http://www.jhsph.edu/ora
Committee on Conflict of Interest	Reviews equity transactions involving the School and/or faculty and reviews faculty annual disclosures of conflict of interest and commitment http://www.jhsph.edu/ora/ipg/nsguides.htm http://www.jhsph.edu/schoolpolicies/ppm_admingov_1.shtml
Committees on Human Research	Institutional Review Board for the School http://www.jhsph.edu/chr http://www.jhsph.edu/schoolpolicies/ppm_admingov_1.shtml
Committee on Professional Conduct	Reviews allegations of professional misconduct, including research fraud, and makes recommendations regarding related policies and procedures http://www.jhsph.edu/GER
Committee on Technology Transfer	Reviews School policies governing technology transfer; recommends, when appropriate, new policies or changes to existing policies related to technology transfer; and may review invention disclosures http://www.jhsph.edu/schoolpolicies/ppm_admingov_1.shtml

Conduct of Research Training: In addition to review by the School’s regulatory and compliance offices and committees, the School offers compliance assistance and training opportunities for faculty, postdoctoral fellows, students, and other research personnel. The assistance and training opportunities are designed to help ensure that policies and procedures are adhered to and the highest standards for research are maintained.

All new faculty participate in orientation sessions that provide an overview of existing policies and procedures governing faculty and student research. The Office of Graduate Education and Research organizes an annual symposium and workshop on Responsible Conduct of Research. The symposium and workshop target new faculty and postdoctoral fellows. The Office of Research Subjects also hosts a monthly “Brown Bag” series of presentations and conversations relevant to human subjects research.

Training Modules: Ongoing training is particularly important as federal regulations regarding research grow increasingly complex. To meet this need, the University and School have developed and implemented training modules for all faculty, postdoctoral fellows, students, and other research personnel (Table VI.5). These and other training opportunities are designed to reinforce the established practices of the School’s research scientists and inform the research staff of the institutional and governmental regulations applicable to their work. They are also designed to help prevent fraudulent research and enhance compliance. In addition, PhD, ScD, ScM, and academic MHS students are required to take at least one academic course on research ethics.

Table VI.5 Training Modules and Courses on the Conduct of Research

Training Module/Course	Intended Audience	Web Site Links
Animal Care and Use	Required for investigators, staff, and students before working with animals	https://secure.lwservers.net/default.cfm
Human Subjects Research	Required of all investigators conducting human research	http://www.jhsph.edu/CHR/TrainingModule
HIPAA Research	Relevant sections required of all investigators whose research involves HIPAA regulations	https://secure.lwservers.net/courses.cfm?m ode=JHHCT
Course on Research Ethics	Required of all PhD, ScD, ScM, and academic MHS students	306.665 Research Ethics and Integrity 550.860 Research Ethics
Research Coordinator Training Course	For staff and faculty who coordinate human subjects research projects; co-sponsored by Schools of Medicine, Nursing, and Public Health	http://distance.jhsph.edu/rc/index.cfm
Guidelines for Export Controls	Recently developed module will be required of all appropriate faculty	https://secure.lwservers.net/courses.cfm?m ode=JHMRCT
Effort Reporting	Required of all University faculty and staff supported by federal funding	Protected Web site
Conflict of Interest and Commitment	Reporting is now required; online module will be required of all School faculty within one year	https://secure.lwservers.net/courses.cfm?m ode=JHMRCT

Research Ethics Consulting Service: Faculty, staff, and students facing ethics challenges related to human subjects research have access, without charge, to the School's Research Ethics Consulting Service. One of the consulting service's goals is to raise awareness of ethical issues related to research design, conduct, and analysis. Another goal is to assist investigators resolve ethical challenges in research. The service is staffed by faculty associated with the University's Berman Bioethics Institute and members of the School's Committee on Human Research.

Current Research Activities

Since the last accreditation visit, the total amount awarded for sponsored research increased by 70 percent, from approximately \$130 million to almost \$220 million (Table IV.1). As of June 30, 2005, the School's faculty were engaged in 650 sponsored research activities (listed in Appendix VI.1 Sponsored Research). The School's faculty continue to compete successfully for funding from the National Institutes of Health (NIH), our major source of research funding (Exhibit VI.1 NIH Awards). If NIH funding remains flat, as predicted, faculty may need to increase the number of proposals in order to maintain their current level of funding.

Departmental Research Activities: Individual faculty efforts in research are typically organized at the departmental level. Professorial faculty are free to pursue their own research interests as long as they conform to the general policies described above and are consistent with the missions of the School and their department. Most departments have identified research priorities to promote the relevance and impact of their total research effort (see Exhibit II.B.1 Department Profiles). These priorities are discussed and reassessed during department reviews that occur every five years and during other internal strategic planning opportunities (Chapter III Governance).

Interdisciplinary Research: Enhancing interdisciplinary research was an objective of Strategic Plan 2000 (Chapter I Mission, Goals). Interdisciplinary research brings together a critical mass of researchers with different perspectives who can facilitate the development of unique and exemplary research initiatives that cut across the traditional department and disciplinary boundaries.

Research Centers and Institutes: The School's centers and institutes (Exhibit II.B.2 Centers) provide an infrastructure for bringing together faculty interested in a particular area or topic. Although each center has a "home" department or departments for administrative reasons, most involve faculty from several departments and divisions of the University. Some also involve faculty from other universities and research organizations. As a result, centers can often undertake a breadth of research and training that faculty associated with only one department cannot conduct alone.

Most of the School's centers and institutes are research-oriented, but they may include practice and service activities; others focus primarily on practice or service (Chapter VII Service). Centers are funded primarily through grants from federal agencies, or from gifts and

endowments from foundations and philanthropists. Many of the centers resulted from the School's successful response to a request for proposal (RFP) from a federal funding agency, foundation, or philanthropist, or from investigator-initiated projects. Examples include the Centers for a Livable Future, Injury Research and Policy, Immunization Research, and Adolescent Health Promotion and Disease Prevention. These centers frequently augment their initial support with funding from other sources, allowing expansion of activities beyond the scope of the original proposal. Some centers are not the result of a specific funding initiative, but were developed by faculty to provide an organizational locus for research and training in areas that cut across departments and disciplines. Examples include the Center for American Indian Health and the Center for Clinical Trials.

School Funding Support for Faculty Research

In addition to providing core monies to some centers, the School supports three initiatives that promote faculty research. These funds, established since the last self-study, help support interdisciplinary research, junior faculty as they develop their research programs, and technology transfer (Appendix VI.2 Faculty Research Awards).

Faculty Research Initiatives Fund: The School established the Faculty Research Initiatives Fund because it views the promotion of interdisciplinary and cross-departmental research as vital for its research, practice, and education enterprises. A faculty committee reviews proposals submitted by researchers from throughout the School and annually awards four \$50,000 grants for research projects that are interdisciplinary or interdepartmental in nature.

Faculty Innovation Fund: Core funds also support the Faculty Innovation Fund. Each year six tenure-track assistant professors receive the award to help initiate and facilitate their research efforts. The grants are awarded by a faculty committee that reviews proposals submitted by junior faculty. In late 2005, 23 of those who received the award between 1999 and 2004 were surveyed. The grants resulted in 17 peer-reviewed publications and 21 subsequent private and federal grants. Thus far, 36 percent of the recipients have been promoted to associate professor.

Technology Transfer Seed Grants: The School also annually awards two to four seed grants to help bring projects with commercial potential to market. This award is overseen by the Technology Transfer Committee. Money for the grants is derived from successful technology transfers by the School's faculty.

Research Activities with Health Agencies and Community-based Organizations

In keeping with the School's mission and commitment to “maximize the synergy between discovery and implementation in effecting prevention and cure” (Strategic Plan 2000), much of our sponsored research is based in the community—locally, regionally, nationally, and internationally. This research involves close collaboration with community leaders, service organizations, churches, schools, health care providers, and government agencies, among others. The research is based primarily in departments but may also derive from the work of centers.

International Research: The School's definition of community extends far beyond East Baltimore to diverse communities across the country and world. Indeed, the extent of the School's involvement in community-based research throughout Africa and in countries such as Thailand, Nepal, and Bangladesh is unparalleled among schools of public health. Many of the School's international research projects, be they community-based or not, are collaborative efforts with governmental and non-governmental agencies responsible for health programs in the host country. Examples of recent and current research projects in more than 60 countries can be found at <http://commprojects.jhsph.edu/research>.

Local and Regional Community-based Research: Closer to home, the School continues to promote research involving local communities in East Baltimore, Baltimore City, Maryland, and the surrounding area. The AIDS Link to Intravenous Experience (ALIVE) study is one example of the many projects that combine service to the local community and research that has shaped national policy regarding HIV care (Table VI.6 for examples of community-based research in Maryland). As noted elsewhere, a new 30,000 square-foot community building will be the home for the School's local community-based initiatives (Chapter IV Resources). In addition, the School recently assumed administrative responsibility for the Urban Health Institute that was created to provide health care and training opportunities for East Baltimore residents, and promote evidence-based urban health interventions (see Chapter VII Service).

Table VI.6 **Examples of Maryland Community-based Research by Department**

Department	Project Title
Environmental Health Sciences	Regional Organizing Initiatives for Community Food Security State Homeland Security Program
Epidemiology	Behavioral Surveillance Research (Be Sure Study) Baltimore Asthma Severity Study (BASS) Reducing Smoking in Urban, African American Young Adults AIDS Link to Intravenous Experience (ALIVE) The SAMHSA Study Atherosclerosis Risk in Communities (ARIC), Washington County, Maryland
Health, Behavior and Society	A High Risk Prospective Study of Drug Use and Crime MD Community Traffic Safety Program Evaluation and Training Grant Brief Child Safety Intervention in Emergency Departments Disseminating Child Safety Products in Urban Communities Network Outreach Intervention for HIV Prevention A Network and Dyad HIV Prevention Intervention for IDUs
Health Policy and Management	Guided Care: Integrating High Tech and High Touch Community Health Worker Technology Program Exploring Health Disparities in Integrated Communities (EHDIC) A Clinic-based Program for Families of Depressed Mothers
International Health	Efficacy of Parent-Child Diet Plans Incorporating Medifast Meal Replacements for Weight Loss Maryland Emerging Infections Program Feasibility Study Evaluation: Food Store-based Intervention for Low Income Baltimore Residents Gender, Environment, and Adolescent Sexual Risk Behavior Baltimore Pediatric Eye Survey
Mental Health	Pilot Studies for Baltimore CPP/Pathways Follow-up Center for Prevention and Early Intervention Development and Malleability from Childhood to Adulthood Youth Drug Abuse Family and Cognitive Behavioral Therapy Mental Health Outcomes of PBIS Whole School Interventions Evaluation of Children, Teachers, and Schools: The Baltimore Experience Corps Program
Molecular Microbiology and Immunology	Acute Infection and Early Disease Research Network
Population and Family Health Sciences	Baltimore AIDS Video Project Impact of Paternity Testing on Families Fetal Neurobehavioral Development and Postnatal Continuity Preparing the Next Healthy Generation State Level Evaluation of W. K. Kellogg School-based Health Care Policy Program South East Youth Academy Evaluation, Baltimore City Assistance to Maryland Assembly on School-based Health Care Evaluation of Adolescent Smoking Cessation Programs in Baltimore City and Howard County

Student Involvement in Research

A rich and diverse research environment benefits all students but is particularly important for academic degree students who are required to conduct original research (Chapter V.E Academic Degrees).

Thesis Research: Both academic masters and doctoral students conduct research as part of their graduate studies. In addition, gaining analytic skills is a primary goal of many MPH students whose capstone projects may include analysis of existing data, often collected by the student. Academic MHS students prepare culminating papers that integrate their course work and participation in research projects. Doctoral and ScM theses are based on original research. The faculty advisor/mentor is responsible for training and guiding the student through the research that often builds on the advisor's own studies. Doctoral students often write grant proposals and serve as the primary investigator for research, provided the advisor is listed as a mentor or sponsor. The breadth and depth of student research is evident simply from the theses titles (Appendices V.F.1 Doctoral Theses).

Non-thesis Research: In addition to thesis research, students have many opportunities to become involved in faculty research at a variety of different levels, including participation in study team meetings, data collection and analysis, and manuscript preparation. Since 1999, all PhD and ScD programs have been required to ensure that students are exposed to at least one research experience other than their thesis (Chapter V.E Academic Degrees). Students may also volunteer for community-based research projects identified through the Student Outreach Resource Center (SOURCE) (Chapter VII Service, <http://www.jhsph.edu/source>). In addition, students are often involved in research projects through formal course requirements or special studies.

Funding Support for Student Research: The Office of Graduate Education was established in 1996 to assist students in obtaining extramural funds for educational expenses, including thesis and dissertation awards. The office provides a variety of resources, including numerous databases that are maintained on the Student Funding Resources Web site and contain extramural funding sources (<http://www.jhsph.edu/SFR>). The office works proactively with departmental student coordinators to identify potential sources of student support, and also provides one-on-one assistance to degree students and postdoctoral fellows seeking funding support. The office recently established the Training Grant Management System to assist the School's training programs track their trainees and gather information for new and continuing training grant proposals.

Training Programs and Awards: The School's training programs are a major source of support for student research. Funding may come from department-based training programs or through individual awards. Training grants provide support for up to five years, and most include a stipend, a tuition allowance, funds for supplies and travel, and health insurance. In March 2006, the School's 32 training programs collectively provided training for 153 doctoral students and 91 postdoctoral fellows (Exhibit VI.2 Training Grants). Students in the School have also been successful in obtaining individual training awards to assist in their

research; 62 have been awarded since 1999. During the 2004–2005 academic year, these individual fellowships provided more than \$1,700,000 in support for doctoral students.

Kellogg Foundation Programs: The School has two programs sponsored by the Kellogg Foundation that support community-based research by students. The Program in Health Policy Research provides funds for doctoral research on minority health issues. The Community Health Scholars Program supports postdoctoral fellows engaged in community-based participatory research (<http://www.jhsph.edu/publichealthnews/articles/2005/kelloggfoundation.html>, <http://www.wkkf.org>).

Delta Omega Research Scholarships: Exceptional scholarly activity of students and faculty is recognized by annual inductions into Delta Omega, the national honorary society in public health. The School's Alpha Chapter also promotes student research activities by sponsoring student research scholarships and scientific poster competitions, and makes available free public health software programs.

Measures of Success

The success of the School's research activities is evident in the number of sponsored research projects that cover the broad range of public health disciplines, as well as the sciences that underpin them. Support for research increased from approximately \$180 million in 1999 to \$220 million in 2005. In 2005, our 485 full-time faculty members were actively involved in approximately 650 different sponsored research activities in more than 60 countries. In addition, the School has awarded approximately 95 PhD and ScD degrees each year since 1999 (Chapter IX.A Students). This research results in hundreds of peer-reviewed publications in public health, medical, and social sciences journals that are authored by our faculty and students each year.²

² Curricula vitae of all full-time faculty will be available at the site visit

Assessment

Strengths

- The school supports a large and multifaceted research program that is closely aligned with its educational programs and its commitment to professional practice
- Students are integrally involved in all aspects of faculty research and benefit from learning in a rich environment where faculty are continually seeking solutions to some of the world's most important public health problems
- The faculty represent a unique range of disciplines encompassing basic molecular mechanisms to policy formulation. The School takes advantage of this breadth of expertise by promoting interdisciplinary and cross-departmental research
- Faculty also are involved in a broad range of community-based research activities that directly benefit the Baltimore community and beyond
- The School seeks to integrate research and practice programs and to ensure that researchers and health professionals collaborate on research about the most pressing health problems and their potential solutions

Challenges

- The changing funding climate of private and public sources will make it more difficult to compete for the funds needed to undertake exemplary research
- The changing regulations for laboratory, human subjects, and animal research require constant vigilance to ensure compliance

Plans

- The School's faculty will continue to:
 - Conduct innovative research across the breadth of public health disciplines
 - Identify areas for interdisciplinary research throughout the School and with other divisions of the University
- Faculty and students must continue to be vigilant of the changing climate with regard to private and public funding sources in order to compete for the funds needed to undertake exemplary research
- The School must also keep a watchful eye on the changing regulations and procedures for conducting research on human subjects as well as in the laboratory

The criterion is met

Exhibit VI.1
NIH Awards

National Institutes of Health Awards (in 1000s) by Fiscal Year, 1999–2005

Institute	Fiscal Year						
	1999	2000	2001	2002	2003	2004	2005
National Institute of Allergy and Infectious Diseases	13,311	12,819	16,196	17,933	18,901	20,970	33,026
National Eye Institute	3,532	4,417	5,044	6,637	7,860	8,147	11,976
National Institute of Mental Health	7,676	7,620	6,555	6,203	7,535	10,396	11,876
National Institute on Drug Abuse	4,959	5,345	5,753	7,589	9,131	11,902	10,665
National Heart, Lung, and Blood Institute	6,936	7,100	8,437	10,847	10,739	8,906	8,339
National Institute of Environment Health Sciences	4,003	3,215	3,414	3,161	4,431	5,862	4,488
National Institute on Aging	2,308	3,404	7,593	9,082	6,925	7,271	3,895
National Institute of Child Health and Human Development	2,468	2,292	3,132	3,598	3,792	4,045	3,647
National Institute of Diabetes and Digestive and Kidney Diseases	801	793	694	605	2,115	3,804	3,075
National Cancer Institute	4,049	4,439	4,133	3,700	4,080	5,363	2,765
Fogarty International Center	1,517	1,832	3,780	4,687	3,279	4,443	2,341
National Institute of General Medical Science	1,707	1,505	1,916	1,932	1,811	1,946	2,149
National Institute of Neurological Disorders and Stroke	307	645	648	953	1,216	1,030	1,411
National Institute of Nursing Research	193	77	266	254	191	388	692
National Center for Research Resources	470	486	334	296	0	490	607
National Institute on Alcohol Abuse and Alcoholism	619	353	65	360	542	393	469
National Library of Medicine	92	234	0	38	86	70	15
National Institute of Arthritis and Musculoskeletal and Skin Diseases	136	119	388	377	296	21	0
Total ¹	55,084	56,694	68,348	78,249	82,931	95,448	101,440

¹ Totals may reflect rounding error

Exhibit VI.2
Training Grants

Training Grants as of March 2006

Training Grant Title	Number of Trainees	
	Doctoral	Postdoctoral
Population Training for Policy and Programs	4	0
Infectious Disease Training Program in Peru	1	0
Fogarty AIDS International Training and Research Program (AITRP)	10	5
Actions for Building Capacities: Training Grant for Control of Cysticercosis (Peru)	1	1
International Training and Research in Population and Health	2	2
Malaria Research and Training Program in Zimbabwe	2	0
The International Collaborative Genetics Research Training Program	2	6
Hubert H. Humphrey Fellowship Program in Drug Abuse	0	10
Community Health Scholars Program (Kellogg)	0	4
Interdisciplinary Training– Alcohol, Injury, and Violence	6	0
The Epidemiology and Biostatistics of Aging	6	3
Training in Molecular and Cellular Bases of Infectious Disease	8	3
Johns Hopkins Training Program in STIs	3	2
Training in Areas Fundamental to Cancer Research	9	4
Cancer Epidemiology, Prevention, and Control Training Fellowship	7	4
NIDA Epidemiology Training Program: Johns Hopkins University	5	5
Pre-doctoral Training in Environmental Biostatistics	4	0
Training Program in Environmental Health Sciences	20	3
Clinical Trials Training Program in Vision Research	6	2
Multidisciplinary Training in the Reproductive Sciences	3	1
Multidisciplinary Training in Population	4	0
Cardiovascular Epidemiology Institutional Training	4	5
Multidisciplinary Training Program in Lung Disease	6	15
Training in Health Services Research	5	0
Mental Health Economics	8	0
Psychiatric Epidemiology Training Program	6	6
Prevention Research Training in Mental Health	0	4
Child Mental Health Services and Service System Research	9	4
Biostatistics Mental Health/Psychiatry Training Program	4	1
Tutorial in Tropical Health at JHU/Peru Overseas Site	6	1
Johns Hopkins Education and Research Center for Occupational Health and Safety (ERC)	Varies	0
Maternal and Child Health (MCH) Training Program	2	0
Total	153	91