

received
11/21/16

**MARYLAND HIGHER EDUCATION COMMISSION
ACADEMIC PROGRAM PROPOSAL**

PROPOSAL FOR:

- NEW INSTRUCTIONAL PROGRAM
 SUBSTANTIAL EXPANSION/MAJOR MODIFICATION
 COOPERATIVE DEGREE PROGRAM
 WITHIN EXISTING RESOURCES or REQUIRING NEW RESOURCES

(For each proposed program, attach a separate cover page. For example, two cover pages would accompany a proposal for a degree program and a certificate program.)

Johns Hopkins University

Institution Submitting Proposal

2017

Projected Implementation Date

Area of Concentration

Award to be Offered

1214-00

Suggested HEGIS Code

**Ageing and Public Health
(within the Master of Public Health)**

Title of Proposed Program

51.2201

Suggested CIP Code

Bloomberg School of Public Health

Department of Proposed Program

**Marie Diener-West
Chair, MPH Degree Program**

Name of Department Head

Philip Tang

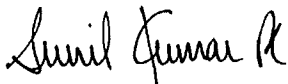
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Signature and Date

11/18/2016

President/Chief Executive Approval

N/A

Date

Date Endorsed/Approved by Governing Board

**The Johns Hopkins University
Bloomberg School of Public Health
Proposal for Substantial Modification to an Existing Program**

**New Area of Concentration in Aging and Public Health
within the Existing Master of Public Health**

A. Centrality to institutional mission statement and planning priorities

1. Program description and alignment with mission

The Johns Hopkins University Bloomberg School of Public Health (JHSPH) proposes a new Area of Concentration in Aging and Public Health (APH) in the existing and previously endorsed Master of Public Health (HEGIS code 1214-00, CIP code 51.2201), which is available on-site and online. The new concentration is designed for students seeking training in quantitative research methods who wish to pursue a multi-systems approach to the study of aging from the perspectives of the aging individual (*i.e.*, brain systems, body, and mind), the environments in which they age (*i.e.*, home, work, neighborhoods, and health care), and interventions that target these systems to delay and treat the progression of chronic diseases. The goal of the concentration is to help students integrate coursework with direct participation in the design, conduct, and/or analysis of existing, ongoing, or new observational, clinic, and intervention studies of aging. The new concentration is intended to be offered both on-site and online.

To enhance interdisciplinary training and practice, the proposed concentration will augment MPH core course work with opportunities for study group meetings, journal clubs, seminars, and works in progress meetings in which to present research hypotheses, plans for data analyses, and preliminary results in preparation for the capstone and for manuscript development. Faculty supporting the APH concentration span the Departments of Biostatistics; Epidemiology; Health, Behavior and Society; Health Policy and Management; Mental Health; and Population, Family, and Reproductive Health; and the Center on Aging and Health and Center for Innovative Care in Aging in the Johns Hopkins University School of Nursing. In addition, the concentration is coordinated with the Johns Hopkins University's Certificate in Gerontology and is distinguished by the inclusion of a concentration seminar course, a broader array of course offerings and specialized foci, and the incorporation of opportunities for practica, as required by the MPH program. Students may enroll in both the APH concentration and the Gerontology certificate program.

2. Alignment with institutional strategic goals

The Bloomberg School is dedicated to the education of an interdisciplinary group of research scientists and public health professionals, and through these activities, to the improvement of health and prevention of disease and disability. The proposed

concentration is aligned with strategic priorities outlined in the university's *Ten by Twenty* vision:

- Selectively invest in those programs and activities that will advance significantly our core academic mission: this concentration will train research scientists in methods ideal for learning about the impact of an aging population on health promotion, treatment and care.
- Enhance the impact of Johns Hopkins Medicine, the Bloomberg School of Public Health, and the School of Nursing as the world's preeminent academic health sciences enterprise by deepening collaboration among these entities as well as with disciplines in other parts of the university. This concentration will be broadly available to learners; it is anticipated that courses will be accessed by students primarily in the Bloomberg School but also in the School of Medicine and School of Nursing.

B. Adequacy of curriculum design and delivery to related learning outcomes

1. Program outline and requirements

A full course listing, with course titles and descriptions, is provided in Appendix A.

Students in the concentration will take at least 18 credits that include a research in aging seminar, four core courses, and additional elective courses that will allow students to focus their interests in aging and public health. The Research and Translation in Aging Seminar topics may include conceptualizing a research project, developing study hypotheses, conducting a literature review, identifying available data sets or ongoing studies, developing an analysis plan, and outlining a research paper. In the third and fourth terms, students are expected to formally report on the progress to date of their capstone projects.

Students can elect to target subspecialties offered by core faculty that integrate biologic, epidemiologic, and clinical sciences and quantitative assessment methods related to observing and intervening on age-related changes in:

- Cognitive and physical functions
- Auditory, visual, and vestibular systems
- Health care and policy
- Health disparities
- Women's health
- Aging in the workplace

In order to complete the concentration requirements, students must earn a grade of C or higher in each course.

Required, core, and elective courses

<i>Students are required to complete the following course:</i>			
330.XXX	Research and Translation in Aging Seminar (proposed course pending endorsement of concentration)	3 credits/ 1 per term	2nd through 4th terms
<i>Students are required to complete at least four of the following core courses:</i>			
309.605.01	Health Issues for Aging Populations (Wolff & Leff)	3 credits	1st term
380.604.01	Life Course Perspectives on Health (on-site or online) (Blum & Hughes)	4 credits	1st term
309.607.01	Innovations in Health Care for Aging Populations (Davis)	3 credits	2nd term
260.665.01	Biological Basis of Aging (Levitskaya & Margolick)	3 credits	3rd term
330.623.01	Brain and Behavior (Carlson)	3 credits	4th, move to 3rd term
330.618.01	Mental Health in Later Life (Rebok) (biennially offered)	3 credits	4th term
340.616.01	Epidemiology of Aging (Schrack)	3 credits	4th term
<i>Students are encouraged to elect to take any of the following courses to focus their concentration:</i>			
380.603.01	Demographic Methods for Public Health (onsite or online) (Hughes)	4 credits	2nd term
120.627.01	Stem Cells and the Biology of Aging and Disease (Drummond-Barbosa)	3 credits	2nd term
140.682.01	Principles and Methods of Functional Neuroimaging I (Lindquist)	4 credits	2nd term
410.615.01	Research Design in the Social and Behavioral Sciences (Thorpe & Maulsby)	3 credits	2nd term
340.699.01	Epidemiology of Sensory Loss in Aging: (Lin & Deal)	3 credits	2nd term
340.730.01	Assessment of Clinical Cardiovascular Disease (Michos)	2 credits	3rd term
380.666.01	Women's Health (Decker)	3 credits	3rd term
330.607.01	Prevention of Mental Disorders: Public Health Interventions (Ialongo & Rebok) (onsite or online)	3 credits	4th term
330.802.01	Seminar on Aging, Cognition & Neurodegenerative Disorders (Rebok & Albert) (any 1 of 4 terms fulfills this course option)	2 credits	1st-4th terms (offered biennially)

Capstone Experience

The MPH capstone experience in Aging and Public Health is designed to give students an opportunity to apply and integrate coursework with research. Preparation for the capstone experience will start near the end of the first term and be integrated throughout the year. In the second, third, and fourth terms, students will take the required Research and Translation in Aging Seminar and participate in informal discussions of issues relevant to public health research and research in progress sessions. The final product will be a

written paper based on one of the two approaches, listed below. Capstone Option 2 requires that students take the Biostatistics course sequence that emphasizes mastery of data analysis skills. Students may also take relevant research methods or mixed methods courses, as appropriate.

Students may choose a capstone project that addresses an important question in aging and that is approved by the student's advisor and the concentration directors. Options include:

- Comprehensive literature review. The student will prepare a comprehensive review of the literature on a specific topic in aging research using systematic methods for searching, screening, and inclusion of articles.
- Research Report. The student will use an available data set to conduct analyses to examine a specific question relevant to aging.

Credits for the MPH Capstone Work

Capstone Special Studies Credits: A total of 3 credits of research special studies (one each in second, third, and fourth terms) will be allotted to this activity under the direction of the student's capstone advisor.

In the fourth term, students are required to register for the 2-credit MPH Capstone Course, write a capstone paper and present the work in a short oral presentation in a school wide MPH Capstone symposium in May.

2. Educational objectives and student learning outcomes

Upon completion of the core courses required for the proposed Concentration in Aging and Public Health, students will be able to:

- a) Evaluate how the biology of the aging brain, body, and senses influences late-life vulnerability and informs the prevention and treatment of chronic disease
- b) Examine and design research that takes into account the complexities associated with the study of aging adults including, study design, construct validation, data collection, management, analysis and interpretation.
- c) Identify appropriate research methods for studying aging systems that span individual behaviors, biology, and environmental contexts
- d) Learn the design, implementation, and evaluation of interventions and policy to improve the health of diverse aging populations
- e) Develop leadership and communication skills to support the practice of and enhance the effectiveness of interdisciplinary research in the 21st century.

3. General education requirements

Not applicable.

4. Specialized accreditation/certification requirements

Not applicable.

5. Contractual agreements with other institutions

Not applicable.

C. Critical and compelling regional or statewide need as identified in the State Plan

1. Demand and need for program

The co-chair of the proposed concentration identified a need for more formalized training following her appointment and service on the Maryland Baby Boomer Council from 2010 to 2012 where she worked with community leaders to prepare for Maryland State Legislators a Council report on the demographics of Maryland's aging population and opportunities for pairing public-private stakeholders to promote resources for healthy aging and ongoing engagement post retirement. The skills that will be acquired from the proposed concentration program within the Johns Hopkins MPH program are highly sought, both locally and nationally, by stakeholders engaged in advancing the health and care of an aging population. Such stakeholders include individuals in community non-profit agencies and foundations, state government and regulatory agencies such as the Food and Drug Administration (based in Maryland), the Centers for Disease Control and Prevention, academicians, practicing clinicians, and scientists.

2. Alignment with the 2013–2017 Maryland State Plan for Postsecondary Education

The Aging and Public Health concentration in the Master of Public Health is an innovative program that will advance the several of the State's goals for postsecondary education, as discussed below.

Goal 2: Access, Affordability and Completion. The concentration is incorporated within the one-year MPH program and many courses can be completed online to accommodate part-time students and working professionals seeking additional training or credentials in aging and gerontology. Direct participation in the design, conduct and/or analysis of existing, ongoing, or new observational, clinic, and intervention studies of aging. The typical student will take 5 credits each term and complete the 18-credit concentration as part of their one-year MPH.

Goal 4: Innovation. The concentration offers a number of subspecialties in aging that allow for a variety of course combinations to be taken so that each candidate can tailor the concentration to suit his/her individual goals. This concentration also offers opportunities for individualized hands-on practica focused on issues of aging that improve learning by transforming the way that instruction is delivered and the way that learning environments are designed.

Goal 5: Economic Growth and Vitality. One of the goals of this interdisciplinary concentration is to prepare MPH students to work in organizations where they can contribute to the needs of a rapidly aging society. The combination of foundational theory and practical methodologies targeting the improvement of health and prevention of disease and disability through courses, seminars, and practica provide candidates with usable skills that should contribute to regional and national economic growth and vitality.

D. Quantifiable and reliable evidence and documentation of market supply and demand in the region and State

1. Market demand

The proposed concentration aligns well with many of the institutional strategic goals to invest in those programs and activities that will advance training to professionals throughout industry, government, and academia in evaluating and implementing methods to assess the impact of an aging population on health promotion, treatment and care and develop strategies to address.

2. Educational and training needs in the region

As the baby boomer generation ages, the number of people aged 65 and older who will become at risk for chronic conditions, including cardiovascular disease, Alzheimer's disease, disability and frailty may triple by 2050, barring the development of breakthroughs to prevent, slow or stop their progression. These risks are greatly increased among minorities. Maryland has the seventh largest proportion of minorities in the U.S., and the minority population is growing. In Baltimore, approximately 18% of those 65 and over have incomes below the poverty level and 12.7% have a self-care disability, compared with 9.1% nationally. Incomes below poverty level and self-care disabilities have been associated with greater risk for chronic diseases, necessitating a corresponding increase in well-trained and educated practitioners at all levels of health care.

3. Prospective graduates

The proposed APH concentration is designed for MPH students enrolled at the Johns Hopkins Bloomberg School of Public Health. Individual courses are also open to students in other JHU divisions, including the School of Medicine, School of Nursing, and the Krieger School Arts and Sciences. It is estimated that five to 15 new MPH students will enroll in this concentration each year during the first five years the concentration is offered.

E. Reasonableness of program duplication

1. Similar programs

To our knowledge, there is not a similar master's level concentration program offered in Maryland.

2. Program justification

There is an unmet need for an area of concentration in aging that is rigorous but does not require the time required to pursue a separate master's degree in this field. By incorporating this focused area of study into the MPH program, JHSPH will better enable students—who span backgrounds and disciplines such as health practice, economics, business, and medicine—to pursue advanced training in aging.

F. Relevance to Historically Black Institutions (HBIs)

It is not anticipated that the proposed program will have any impact on Historically Black Institutions. Moreover, students from nearby Howard University and Morgan State University are welcome and encouraged to apply.

G. Evidence of compliance with the Principles of Good Practice

Courses offered online adhere to the Principles of Good Practice for Distance Education. Online courses are developed and managed by the Center for Technology and Learning (CTL) at JHSPH, which is a tremendous resource for the students and faculty. CTL makes available diverse tools to enhance the online learning experience including communication tools for asynchronous learning, Adobe Connect for “live talk” sessions, and mechanisms for self-assessment by the learners. See Appendix B for the evidence that this program complies with the Principles of Good Practice noted above.

H. Adequacy of faculty resources

See Appendix C for a representative list of faculty who will teach required and elective courses. The concentration involves leadership and collaboration among instructors in the Bloomberg School and School of Medicine to thematically organize existing courses with a focus on aging (see Appendix A), and it will not require additional faculty, staff, facilities, or equipment. Because the proposed concentration operates within the highly successful Master's in Public Health program in the Bloomberg School, no additional laboratory, computer, library, financial, or other resources are needed to implement the concentration. See Appendix C for detailed financial information.

Faculty Concentration Co-Directors:

- Michelle C. Carlson, PhD, Associate Professor, Department of Mental Health, Core Faculty, Center on Aging and Health, mcarlo2@jhu.edu; 410-614-4887
- Qian-Li Xue, PhD, Associate Professor, Departments of Medicine, Biostatistics, Epidemiology, Core Faculty, Center on Aging and Health, qxue1@jhu.edu; 410-502-7808

I. Adequacy of library resources

The book collections at the Johns Hopkins University number nearly four million volumes, selected to support the studies of all departments and divisions of the university. These

collections serve to advance research, teaching, and scholarship at the university. No additional library resources will be needed to implement the certificate program.

The William H. Welch Library collects current scholarly information, primarily electronic, which supports the research, clinical, administrative, and educational needs of its clients. The collection covers health, the practice of medicine and related biomedical and allied health care disciplines, public health and related disciplines, nursing, research literature, methodological literature, reviews or state-of-the-art reports, and in-depth, authoritative analyses of areas influencing biomedicine and health care. The library's emphasis is on providing materials at point of need. As a result, the collection includes more than 5,000 electronic journals, more than 400 databases, and more than 2,000 electronic books. The library has staff members assigned to each department to aid in research and best practices for library services.

The Abraham M. Lilienfeld Library is the primary resource within the school for information in the fields of public health, management science, and the social sciences. The library provides access, via the Johns Hopkins Medical Institution online catalog and specialized bibliographic databases, to information in all areas of interest to the schools' students and faculty. The total library collection is now approximately 30,000 volumes of books, pamphlets and government reports, with a strong emphasis in epidemiology, infectious diseases, health policy and management, the social aspects of health care, and HIV and the AIDS pandemic.

J. Adequacy of physical facilities, infrastructure and instructional equipment

JHSPH has adequate physical facilities, infrastructure, and instructional equipment to implement the proposed area of concentration, including 26,567 square feet of classroom and student study space. Each classroom has a computer and LCD projector. The school has robust student support services, including a fully staffed information technology team and more than 1,000 computers located in computer labs and throughout main buildings for student use.

The Office of Information Technology (IT) is the central computing resource for the school and provides students with reliable computing infrastructure, location, and device independence, and critical software tools. Additionally, an enterprise service desk offers support for faculty, staff, and students. Assistance is provided over various channels, including phone, desktop, and FIPS 140-2 compliant remote-control support. Customer satisfaction is monitored and benchmarked against other higher educational institutions and industries.

No additional facilities, infrastructure, laboratory, or computer resources will be required.

K. Adequacy of financial resources with documentation

See Appendix D for detailed financial information.

L. Adequacy of provisions for evaluation of program

As part of the program design and approval process, student learning outcomes and assessments have been aligned with the academic goals of the school and approved by the Bloomberg School's Committee on Academic Standards. All courses are individually evaluated by students at the conclusion of every term by the school. Additionally, feedback regarding the appropriateness of course content in terms of the overall concentration program will be solicited from all students upon graduation from the MPH program. The co-directors and participating faculty will meet annually to assess course evaluations and other feedback provided by students, faculty and the MPH Executive Board. Based on these data, the co-directors will implement changes to the program (*i.e.*, in terms of curriculum content, course delivery mechanisms, among other areas) in coordination with the MPH Executive Board, as necessary.

M. Consistency with the State's minority student achievement goals

Any student meeting the admissions requirements can apply to the concentration in Aging and Public Health. The program will work to help all accepted students improve their workplace competitiveness and reach their professional goals, an aim consistent with the State's minority student achievement goals.

N. Relationship to low productivity programs identified by the Commission

Not applicable.

Appendix A

Course List and Descriptions

120.627.01 Stem Cells and the Biology of Aging and Disease (3 credits)

Focuses on stem cell properties and on the biology of stem cells in the context of normal development, aging, tissue homeostasis, and disease settings including cancer. Also discusses the potential application of stem cells to the treatment of human disease, and emphasizes current literature.

140.682.01 Principles and Methods of Functional Neuroimaging I (4 credits)

Introduces the principles of functional magnetic resonance imaging (fMRI) as applied to human subjects research. Presents a theoretical overview of human fMRI research and includes key aspects of the design, data collection, processing, analysis and publication of a human subject's fMRI experiment. Focuses on describing all aspects of an fMRI study from the initial experimental design, through data collection and pre-processing, to statistical analysis. Describes the goals and limitations for fMRI studies, the data format and how it is processed prior to statistical analysis. Focuses on performing individual subject and group level univariate statistical analysis of fMRI data with appropriate thresholding and multiple comparison correction. Weekly labs provide a practical application of these concepts to sample datasets and prepares students for the analysis of fMRI data.

260.665.01 Biological Basis of Aging (3 credits)

Emphasizes the fundamental nature of the aging process, at the molecular, cellular, and organismal level and examines the principles of aging in other animal species which may apply to man. Presents the physiological aspects of the different organs/systems affected by the disease processes (e.g., cardiovascular, metabolic, immunological etc.) Discusses the theoretical models of aging.

309.605.01 Health Issues for Aging Populations (3 credits)

Acquaints students with topics that pertain to aging populations. Organized around three modules that explore (1) broad social and policy implications of an aging society (demography, socially defined roles and expectations, disability dynamics and trends, housing and the built environment), (2) clinical issues in aging (aging and geriatric medicine, chronic care, long term care delivery, ethical issues in the health care of older adults, and death and dying), and (3) financial consequences for individuals and society (financing of health and long-term care, retirement and economic security, sustainability of entitlement programs).

309.607.01 Innovations in Health Care for Aging Populations (3 credits)

Acquaints students with the nature of the health care received by older Americans at home and in hospitals, nursing homes, emergency departments, rehabilitation facilities, and outpatient offices. Presents successful and promising innovations in the health care of older people. Provides students with available evidence about the costs and effectiveness of these innovations.

330.xxx.01 Research and Translation in Aging Seminar—Required Course (3 credits)

Provides opportunity for presentation and feedback on capstone projects and a meaningful environment for healthy intellectual exchange between students and program faculty from various departments and institutions that can broaden students' reach and strengthen their research quality, as well as strengthen the network for research on aging at our institution.

330.607.01/81 Prevention of Mental Disorders: Public Health Interventions (3 credits)

Introduces the basic principles and methods that guide research on the prevention of and early intervention with mental disorders and drug abuse. Includes public health interventions that operate at multiple ecological levels, including the community (e.g., mobilization, media), school (e.g., changes in classroom management and organization), family (e.g., parent training strategies), and individual (e.g., social competence strategies). Focuses on specific topics in prevention and intervention trial design, community and institutional base building, intervention theory and monitoring, and data analysis techniques and findings.

330.618.01 Mental Health in Later Life (3 credits)

Contrasts the definition, diagnosis, risk factors, natural history, functional implication, and settings of care for the major mental disturbances of late life, identifying gaps in knowledge and research approaches to fill them. Emphasizes measurement issues as applied to the older adult.

330.623.01 Brain and Behavior in Mental Disorders (3 credits)

Examines the onset and clinical symptoms of mental disorders over the life course of the developing and aging brain to illustrate neurobiological systems involved in thinking, feeling, and acting. Increases understanding of behavioral disorders, their assessment, neurobiological underpinnings, and systemic influences. Reviews some common disorders, discussion (1) clinical and case studies; (2) definitions and diagnostic methods; treatment, epidemiologic evidence regarding etiology, and (3) challenges to examining brain-behavior relationships across disorders.

330.802.01 Seminar on Aging, Cognition & Neurodegenerative Disorders (2 credits)

Addresses age-related cognitive and neuropsychiatric disorders that are of particular importance with the rapid expansion of the aging population. Focuses on the major domains of cognition and comparison of the age-related changes that occur in each cognitive domain. Includes emphasis on contrasting the major neurodegenerative disorders related to age and describing the clinical presentation and pattern of cognitive change in each condition. Participants address current strategies for maximizing cognitive function with age and treatment strategies for the primary neurodegenerative disorders. Participants examine and identify gaps in knowledge and research approaches to fill these gaps. Explores concepts of cognitive systems, animal and imaging models, and selective pathological change with age and disease.

340.616.01 Epidemiology of Aging (3 credits)

Addresses the rapidly increasing need for specialized knowledge among epidemiologists in order to effectively promote the health of the aging society in the US (in 2020, 20% of the US population will be 65 or older). Introduces the epidemiology of aging and age-related disorders, including overviews of the public health impact of an aging society and the demographics and biology of aging. Covers the descriptive and analytic epidemiology of prevalent chronic

conditions in the aged, methodologic challenges essential to consider in research on older adults, and strategies for prevention of age-related disorders.

340.699.01 Epidemiology of Sensory Loss in Aging (3 credits)

Introduces biologic, epidemiologic and clinical aspects of aging-related declines in the auditory, visual, and vestibular systems. Demonstrates methods of assessment of sensory function for epidemiologic studies. Reviews current epidemiologic knowledge of sensory function and aging-related outcomes in older adults, including the epidemiology and consequences of dual sensory loss. Presents areas for future research and opportunities for intervention and prevention.

340.730.01 Assessment of Clinical Cardiovascular Disease (2 credits)

Familiarizes students with techniques used to detect and quantify the presence of clinical cardiovascular disease. Initially, students tour the hospital, medical records department, angiography, echocardiography, and vascular laboratories. Students as a group observe radiographic (CT and MRI) imaging of atherosclerosis and review gross and histological specimens of atherosclerosis in the pathology laboratory. In addition, each student makes direct observations of any one imaging technique including cardiac or carotid echocardiography, coronary or peripheral angiography, coronary calcium scores using EBCT or Helical CT, or clinical assessment of blood pressure and ankle/brachial index.

380.603.01/81 Demographic Methods for Public Health (4 credits)

Teaches students the basic methods demographers use to describe populations and analyze population change. Introduces the concept of a population, describes the demographic approach to populations, and identifies sources of population data. Covers four sets of methods with broad applicability in public health: 1) techniques for describing population composition, distribution, and growth; 2) methods to compare populations (age-period-cohort approaches and standardization and decomposition of rates); 3) single-decrement life tables; and 4) the cohort-component method for population projection. Also covers the basic tools used to study the fundamental population processes of fertility, mortality, and migration.

380.604.01/81 Life Course Perspectives on Health (4 credits)

Teaches students to frame public health issues using a multilevel, life course perspective. Provides a conceptual framework with which to understand the development of health over time and the interrelated effects of biological, psychological, and social factors on health. Elaborates and illustrates the framework by considering health in specific life stages, highlighting multilevel, life course influences on health, processes by which social influences “get under the skin”, and multilevel, life course approaches to research and practice. Students create a conceptual framework illustrating the application of the framework to a public health outcome their choice.

380.666.01 Women's Health (3 credits)

Presents an overview of the health status of women, and preventive strategies to improve their health, primarily in developed countries. Topics include physical and mental health problems, health behavior, and where appropriate, gender differences in health problems and health behavior. Discusses risk factors for each, as well as effective preventive interventions for women. Views health issues from biological, social, and life course perspectives.

410.615.01 Research Design in the Social and Behavioral Sciences (3 credits)

Provides an overview of the design and conduct of research in the social and behavioral sciences as applied to public health. Drawing primarily from the research perspectives and methodologies of sociology, anthropology, and health promotion, students will examine: formulation of a research question, selection of a research design, selection of a study site and population, issues and methods of data collection, and measurement validity and reliability. Evaluates the strengths and weaknesses of the major types of research design used in the social sciences.

Appendix B

Evidence of Compliance with the Principles of Good Practice (as outlined in COMAR 13B02.03.22C)

(a) Curriculum and instruction

- (i) A distance education program shall be established and overseen by qualified faculty.

Online courses in the proposed concentration will be supported by the school's Center for Teaching and Learning (CTL), which offers an array of evidence-based programs and services that support innovative teaching methods. JHSPH faculty experts will lead and support the development of online courses. Several faculty members are experienced in developing and supporting online learning. New instructors are required to meet the same qualifications as those teaching in existing on-site and online programs.

- (ii) A program's curriculum shall be coherent, cohesive, and comparable in academic rigor to programs offered in traditional instructional formats.

All online courses adhere to CTL's course development process with support from experienced instructional designers. Online coursework follows well-established curriculum development standards, tailoring delivery methods, content, and assessments to learning objectives. Each term the school compares student course evaluations for onsite and online courses; these comparisons consistently yield very similar results.

- (iii) A program shall result in learning outcomes appropriate to the rigor and breadth of the program.

The program learning outcomes (competencies) are derived with input from professionals within the discipline, the program faculty, program leadership, and other program stakeholders, and are reviewed by the school's Committee on Academic Standards.

- (iv) A program shall provide for appropriate real-time or delayed interaction between faculty and students.

Courses in the proposed program will be delivered via the school's course delivery and management system, CoursePlus. The platform supports both synchronous and asynchronous interaction between faculty and students. Students and faculty may also participate in real-time interaction through weekly web-conference office hours, supported by Adobe Connect, and pre-scheduled LiveTalks.

- (v) Faculty members in appropriate disciplines in collaboration with other institutional personnel shall participate in the design of courses offered through a distance education program.

Faculty members are selected based on domain expertise, program-related teaching experience and completion of required course development training. Faculty will be fully supported by CTL experts.

(b) Role and mission

- (vi) A distance education program shall be consistent with the institution's mission.

See Section A.1 in the main body of the proposal.

- (vii) Review and approval processes shall ensure the appropriateness of the technology being used to meet a program's objectives.

All courses offered online are designed in conjunction with CTL and with the support of an instructional designer, multimedia producers, and web specialists. These individuals assist in identifying and recommending the most effective learning technologies for achieving the course learning objectives. The course instructor(s) consults with an instructional designer during the course design process to determine the most effective learning technologies and strategies needed to meet the course learning objectives. The course design goes through multiple reviews by the instructional designer and program directors. Program directors ensure that the course design meets the program's expectations for online courses and that the course learning objectives reflect what the program expects students to achieve after completing the course. The CTL design team continually monitors courses and consults with the instructors to make adjustments, if needed. All new online courses participate in a midterm and end-of-term course evaluation process. Midterm feedback is used to determine if any midterm adjustments are needed and the end-of-term feedback is used to assess whether further course refinements are needed prior to the next time the course is offered.

(c) Faculty support

- (i) An institution shall provide for training for faculty who teach with the use of technology in a distance education format, including training in the learning management system and the pedagogy of distance education.

Online programs are supported by CTL, which offers a number of opportunities and resources for faculty instructors and teaching assistants to become more familiar with online teaching and best pedagogical practices. In addition to maintaining an extensive catalog of resources on teaching and learning via an online Teaching Toolkit, CTL regularly offers events, workshops, and one-on-one office hours to introduce and provide updates on the latest advances in teaching technology and pedagogy.

- (ii) Principles of best practice for teaching in a distance education format shall be developed and maintained by the faculty.

Prior to teaching their first courses, all new online instructors are required to participate in training that conveys, among other things, principles of best practices for online education.

- (iii) An institution shall provide faculty support services specifically related to teaching through a distance education format.

The Bloomberg School, through CTL, maintains an innovative course management system and provides faculty support and training for online education through a staff of more than 30 individuals who specialize in instructional design, audio production, technical writing, web development, production management and quality control.

- (d) An institution shall ensure that appropriate learning resources are available to students including appropriate and adequate library services and resources.**

The Johns Hopkins University library system includes The William H. Welch Medical Library in the School of Medicine, the Abraham M. Lilienfeld Library in the Bloomberg School of Public Health, and the Milton S. Eisenhower Library on the Homewood campus. Most periodicals, including more than 13,000 journal subscriptions and multiple databases and catalogs, are available to University Faculty, staff and students online from any location in the world. The interlibrary loan department also makes the research collection of the nation available to faculty and students. The libraries offer a variety of instructional services, including electronic classrooms designed to explain the library resources available for research and scholarship. Students have access to all libraries and library informationists.

- (e) Students and student services**

- (i) A distance education program shall provide students with clear, complete, and timely information on the curriculum, course and degree requirements, nature of faculty/student interaction, assumptions about technology competence and skills, technical equipment requirements, learning management system, availability of academic support services and financial aid resources, and costs and payment policies.

The Bloomberg School maintains numerous web-based resources to inform prospective students on the information they may need as an online student. These resources include the JHSPH website www.jhsph.edu and the Course Catalog. These resources offer detailed programmatic information, academic support services, financial aid, costs, policies, etc. and specific information for online learning. As new online students are admitted and enrolled, they receive timely emails with important information to help them prepare to become an online student. These emails include information on technical requirements, available academic support services, and a required orientation course (IOL) for new online students.

- (ii) Enrolled students shall have reasonable and adequate access to the range of student services to support their distance education activities.

JHSPH online students have access to the following academic support services:

Academic advising. Degree-seeking students are assigned an advisor when accepted. Students work individually with the advisor to develop a course of study that meets the requirements of the program and the career goals of the student. The advisor regularly contacts the students to check on progress and answer questions. Certificate sponsoring faculty will be available to provide advising to non-degree-seeking students. Courses that deviate from the program plan and have not been approved by an adviser may not count toward program requirements.

Library services. Students have online access to the William H. Welch Medical Library in the School of Medicine, the Abraham M. Lilienfeld Library in the Bloomberg School of Public Health, and the Milton S. Eisenhower Library on the Homewood campus. The interlibrary loan department allows students access to resources at any other university in the nation. The library also provides easy access to a wide selection of electronic information resources, including the library's online catalog, and numerous electronic abstracting and indexing tools. Many of the databases are accessible remotely. Librarians are available to assist students remotely and the library maintains an extensive web site to take visitors through all its services and materials.

Disability Support Services. The Johns Hopkins University is committed to making all academic programs, support services, and facilities accessible to qualified individuals. Students with disabilities who require reasonable accommodations can contact the JHSPH Disability Services' senior director.

Career Services. The Bloomberg School Career Services Office helps students, alumni, faculty, staff, and employers navigate the world of public health jobs.

Johns Hopkins Student Assistance Program. The Johns Hopkins Student Assistance Program (JHSAP) is a professional counseling service that can assist students with managing problems of daily living. Stress, personal problems, family conflict, and life challenges can affect the academic progress of students. JHSAP focuses on problem solving through short-term counseling. Accessing the service is a simple matter of a phone call to arrange an appointment with a counselor. Online students contact the service by phone for consultation and are directed to the appropriate resource or office. JHSAP services are completely confidential. The program operates under State and federal confidentiality legislation and is HIPAA compliant.

Transcript Access. Students may view and print unofficial transcripts at any time. Official transcripts will be mailed to students upon completion of the program; additional official transcripts will be mailed upon request of the student at minimal charge.

Student Login IDs. The university issues each student a Johns Hopkins Enterprise ID (JHED ID) and the school issues a JHSPH ID. The JHED ID grants students a JHU email address and secure access to many online services including course registration, bill payment, official grades, library services, and the online learning platform CoursePlus. Students are also issued a JHSPH ID that provides access to the School's intranet (MyJHSPH) where students can locate additional resources including research and administrative tools as well as the School's policy and procedures manual.

- (iii) Accepted students shall have the background, knowledge, and technical skills needed to undertake a distance education program.

Students are required to have met the admission requirements stated for the MPH program. New online students are required to complete the Introduction to Online Learning (IOL) course prior to beginning their first online courses. IOL covers a broad range of topics on how to be a successful online student such as learning expectations for online students and how to participate in online discussions.

- (iv) Advertising, recruiting, and admissions materials shall clearly and accurately represent the program and the services available.

All relevant program information is available on the JHSPH web site. All recruiting information includes the URL for the JHSPH website, which contains information available to prospective and current students. The school's Prospectus and Guidebook are posted online, as are school-wide student handbooks and all program-specific handbooks. The school's website contains links to all student-relevant information including admissions requirements, online application and instructions, online registration, student funding resources and financial aid, and other student support services.

(f) Commitment to Support

- (i) Policies for faculty evaluation shall include appropriate consideration of teaching and scholarly activities related to distance education programs.

Faculty who teach online courses are strongly encouraged to participate in one or two professional development opportunities annually to improve their online teaching skills. Teaching online is viewed no differently than teaching onsite for promotion purposes.

- (ii) An institution shall demonstrate a commitment to ongoing support, both financial and technical, and to continuation of a program for a period sufficient to enable students to complete a degree or certificate.

JHSPH has a commitment to online teaching as demonstrated by the resources of its Center for Teaching and Learning, which provides course development, instructional, and technical support to new and current faculty. See Appendix D for detailed financial information regarding the proposed program.

(g) Evaluation and Assessment

- (i) An institution shall evaluate a distance education program's educational effectiveness, including assessments of student learning outcomes, student retention, student and faculty satisfaction, and cost-effectiveness.

See Section L of the main body of the proposal.

- (ii) An institution shall demonstrate an evidence-based approach to best online teaching practices.

CTL continually participates in professional development activities to keep abreast of evidence-based approaches to online teaching practices. These online teaching practices are then incorporated into faculty workshops and training sessions.

- (iii) An institution shall provide for assessment and documentation of student achievement of learning outcomes in a distance education program.

As part of the online course design process, course assessments are required to be aligned with stated courses learning objectives. Online courses in the proposed concentration will incorporate authentic assessments that demonstrate students' application of learned skills. Program faculty have experience with developing individual and collaborative assessments for measuring the acquisition of relevant knowledge and skills through online learning.

Appendix C

Faculty

Name/Credential	Title/Academic Rank and Department	Status
Robert Blum, MD	Professor, William H. Gates Sr. Chair, Department of Population, Family and Reproductive Health	Full-time
Michelle Carlson, PhD	Associate Professor, Core Faculty, Center on Aging and Health	Full-time
Karen Davis, PhD	Professor, Department of Health Policy and Management; Director, The Roger C. Lipitz Center for Integrated Health Care	Full-time
Jennifer Deal, PhD	Assistant Scientist, Department of Epidemiology	Full-time
Michele Decker, ScD	Associate Professor, Department of Population, Family and Reproductive Health	Full-time
Daniela Drummond-Barbosa, PhD	Associate Professor, Department of Biochemistry and Molecular Biology	Full-time
Mary E. Hughes, PhD	Associate Scientist, Department of Population, Family and Reproductive Health	Full-time
Nicholas Ialongo	Professor, Department of Mental Health	Full-time
Bruce Leff, MD	Professor, Department of Medicine Division of Geriatric Medicine	Full-time
Jelena Levitskaya, MD	Associate Professor, Department of Molecular Microbiology and Immunology (Affiliated); Center for Global Health	Full-time
Frank Lin, MD, PhD	Associate Professor, Otolaryngology - Head and Neck Surgery	Full-time
Martin Lindquist, PhD	Professor, Department of Biostatistics	Full-time
Joseph Margolick, MD	Professor, Molecular Microbiology and Immunology	Full-time
Cathy Maulsby, PhD	Assistant Scientist, Department of Health, Behavior and Society	Full-time
Erin D. Michos, MD, MHS	Associate Professor, Department of Medicine; Associate Director of Preventive Cardiology, the Ciccarone Center for the Prevention of Heart Disease	Full-time
George Rebok, PhD	Professor of Mental Health; Core Faculty, Center of Aging and Health	Full-time
Jennifer Schrack, PhD	Assistant Professor, Department Epidemiology; Core Faculty, Center on Aging and Health	Full-time
Jennifer Wolff, PhD	Associate Professor, Department of Health Policy and Management, Core Faculty, Center on Aging and Health	Full-time

Appendix D

Finance Information

TABLE 1: RESOURCES					
Resource Categories	2017	2018	2019	2020	2021
1. Reallocated Funds	–	–	–	–	–
2. Tuition/Fee Revenue (c + g below)	\$324,940	\$334,520	\$344,664	\$355,116	\$365,616
a. Number of F/T Students	2	2	2	2	2
b. Annual Tuition/Fee Rate	\$25,320	\$26,080	\$26,862	\$27,668	\$28,498
c. Total F/T Revenue (a x b)	\$50,640	\$52,160	\$53,724	\$55,336	\$56,996
d. Number of P/T Students	13	13	13	13	13
e. Credit Hour Rate	\$1055	\$1086	\$1119	\$1153	\$1187
f. Annual Credit Hour Rate	20	20	20	20	20
g. Total P/T Revenue (d x e x f)	\$274,300	\$282,360	\$290,940	\$299,780	\$308,620
3. Grants, Contracts & Other External Sources	–	–	–	–	–
4. Other Sources	–	–	–	–	–
TOTAL (Add 1 – 4)	\$324,940	\$334,520	\$344,664	\$355,116	\$365,616

Resources narrative:

1. Reallocated Funds: None.
2. Tuition and Fee Revenue: The cost of both full-time and part-time and per-credit tuition costs is subject to a 3% increase each year. The expectation is that there will be two full-time and 13 part-time students over a five-year period.
3. Grants and Contracts: Not applicable.
4. Other Sources: Not applicable.

TABLE 2: EXPENDITURES					
Expenditure Categories	2017	2018	2019	2020	2021
1. Faculty (b + c below)	\$115,109	\$118,562	\$122,118	\$125,782	\$129,555
a. # Sections offered	.80	.80	.80	.80	.80
b. Total Salary	\$85,902	\$88,479	\$91,133	\$93,867	\$96,683
c. Total Benefits	\$29,207	\$30,083	\$30,985	\$31,915	\$32,872
2. Admin. Staff (b + c below)	-	-	-	-	-
a. # FTE	-	-	-	-	-
b. Total Salary	-	-	-	-	-
c. Total Benefits	-	-	-	-	-
3. Support Staff (b + c below)	\$15,008	\$15,458	\$16,399	\$16,891	\$17,397
a. # FTE	.20	.20	.20	.20	.20
b. Total Salary	\$11,200	\$11,536	\$12,238	\$12,605	\$12,983
c. Total Benefits	\$3,808	\$3,922	\$4,161	\$4,286	\$4,414
4. Equipment	-	-	-	-	-
5. Library	-	-	-	-	-
6. New or Renovated Space	-	-	-	-	-
7. Other Expenses	\$82,025	\$84,681	\$87,471	\$90,401	\$93,477
TOTAL (Add 1 – 7)	\$212,142	\$218,701	\$225,988	\$233,074	\$240,429

Expenditures narrative:

1. Faculty: Faculty per section is equivalent to one FT faculty teaching at FTE of 80%. This includes salary and a fringe benefits rate of 34%.
2. Administrative Staff: Not applicable.
3. Support Staff: Twenty percent of a support staff member's salary with 3% annual increases and benefits at a rate of 34%.
4. Equipment: Not applicable.
5. Library: Not applicable.
6. New or Renovated Space: Not applicable.
7. Other Expenses: Cost of instructional course needs including online support, scholarships for PT and FT students and adviser stipends.