MARYLAND HIGHER EDUCATION COMMMISSION
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

Doctor of Public Health	**Public Health (DrPH)**
Award to be Offered	Title of Proposed Program
1214-00	**51.2210**
Suggested HEGIS Code	Suggested CIP Code
Bloomberg School of Public Health	**Michael Klag, Dean**
Department of Proposed Program	Name of Department Head
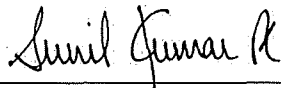
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Signature **12/2/2016**

Signature and Date

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 Academic Program
Doctor 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) is pleased to submit a proposal to substantially modify its existing and previously endorsed Doctor of Public Health (DrPH) (HEGIS code 1214-00, CIP code 51.2201) to make curricular changes and offer an online option. The Bloomberg School has offered the Doctor of Public Health since 1917.

The proposed changes are designed to prepare students to advance the public's health through the integration and application of a broad range of knowledge, analytical skills and competencies that will enable graduates to effectively assume leadership roles in public health both domestically and internationally.

The program will be designed primarily for part-time students who already have substantive public health experience but are interested in further advancing their careers so as to achieve leadership positions in a variety of agencies concerned with promoting public health including state and federal agencies, consulting firms and non-governmental agencies, and international organizations and overseas government agencies, as well as in health services delivery organizations.

The proposed changes closely align with recommendations made by the Association of Schools and Programs of Public Health (ASPPH) "Framing the Future" task force. The revised program will require successful completion of a minimum of 56 term credits (37 semester credits) of course work, plus eight term credits for a practicum and a dissertation, for a total of 64 term credits (43 semester credits). Students will take a qualifying examination at the conclusion of their required course work, a preliminary oral examination before they conduct their dissertation work, and a final oral examination.

The specific changes are as follows:

- The program will shift from a mixed part-time/full-time model to a predominantly part-time model
- Core course requirements are being revised with a stronger practice orientation
- In addition to previously endorsed concentrations, students will have the option to follow a customized program of study, tailored to their own particular interests and needs.

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The mission of the Johns Hopkins University is to educate its students and cultivate their capacity for life-long learning, to foster independent and original research, and to bring the benefits of discovery to the world. This program is fully consistent with Johns Hopkins' mission. The modified program offers the same rigorous educational experience available to other graduate students at the Bloomberg School, as it is based entirely upon the same material and is taught by the same instructors as the existing classroom or online programs. At the same time, it meets the needs of professionals who work full-time and seek a flexible yet comprehensive program independent of geography, work environment, and schedule.

2. Alignment with institutional strategic goals

Johns Hopkins University Strategic Goals

The proposed changes to the DrPH program advance the university's *Ten by Twenty* vision and related strategic goals for Johns Hopkins University in a number of ways. The program seeks to enhance access to a graduate education by shifting to a part-time format that allows students to continue working, making the program more affordable and preventing students from having to take time away from rapidly developing career trajectories. The program is also global in nature: its part-time basis will facilitate the participation of international students, and the content is designed to reflect a rapidly globalizing world. The university's *Ten by Twenty* vision emphasizes interdisciplinary collaboration, which is also a core tenet of the program, helping students to effectively lead and work in interdisciplinary teams.

Johns Hopkins Bloomberg School of Public Health Strategic Goals

The mission of the Bloomberg School is to improve health through discovery, dissemination, and translation of knowledge and the education of a diverse global community of research scientists and public health professionals. The DrPH program focuses in particular on the application of knowledge and ensuring that the public health leaders of tomorrow possess both appropriate analytical skills and the necessary competencies to apply those to solve public health challenges.

The redesigned DrPH degree seeks to supplement the outstanding research methods courses that already exist by adding greater breadth and depth of training in practice and notably in competencies such as leadership and communication. The proposed courses in the modified program draw upon the faculty's practitioner experiences across the school, at the State and Federal levels, and across the globe so as to provide advanced training rooted in the experiences of the teaching faculty. The courses will prepare students to address public health problems through multidisciplinary approaches that apply the latest scientific knowledge.

As articulated in its strategic plan, the Bloomberg School is committed to enabling students to pursue innovative interdisciplinary and individualized pathways through their educational programs. The redesigned DrPH program epitomizes this approach, offering both pre-

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identified concentrations as well as customized routes throughout the program. Further, the school seeks to strengthen linkages between research and practice, and the DrPH program provides a robust vehicle for pursuing this goal by providing students with the necessary tools to appreciate, commission and conduct research, while practicing public health at the highest levels.

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

1. Program outline and requirements

The redesigned DrPH program is built around a set of common, foundational competencies that all students entering the program will be expected to achieve. In addition, students are expected to develop five or more additional competencies that relate either to a specific concentration within the program or a customized program of study discussed and agreed between the student, the adviser, and the DrPH office. A full listing of courses to address the foundational competencies and courses required to address the new concentration competencies (with course titles and descriptions) is provided in Appendix A.

Students will be required to successfully complete a minimum of 64 term credits, including a practicum and a doctoral dissertation. There are 28 term credits of required courses, which are designed to develop knowledge, skills, and competencies in foundational areas. These courses are required for all DrPH students. In addition, students will choose between one of two program concentrations or engage in a customized course of study. An additional 28 term credits are associated with the student's specialized concentration or customized course of study. The degree can be completed over a minimum of 16 eight-week terms.

The DrPH foundational course requirements provide a breadth of skills and competencies relevant to public health leadership, including data analysis, health policy, management, and ethics, with particular emphasis on leadership and communication. A series of problem-based courses rooted in real cases provides students with opportunities to integrate skills and apply them to real world problems while working in diverse, multidisciplinary teams. The additional credits associated with the student's concentration or customized course of study allow more in-depth exploration of specific topical areas and skills.

All students will work with their advisers upon entering the program to complete an individual goals analysis, which will help to guide their course selections, as well as their practica and dissertation work. The goals analysis should be revisited by the student and adviser on a regular basis as the student's expectations of the program evolve. Students will take a qualifying examination after they have completed all coursework in the program, typically at the end of their second year in the program.

All students will be required to conduct a practicum at an organization external to the Bloomberg School. The practicum should provide an opportunity for the student to practice higher level skills than those typically entailed in day-to-day work. The practicum will be supported by a preceptor and also through an applied leadership course that enables students to reflect in peer action learning groups on challenges encountered during the practicum and approaches to addressing them. While the practicum itself does not carry credits, the required, accompanying applied leadership course does.

Students will produce a culminating dissertation (8 credits minimum) that will be supported by their faculty advisers. During the first and second years of the program, the DrPH seminar series will also support students in identifying and shaping appropriate dissertation work and sharing it with their peers. The DrPH dissertation is a substantive piece of applied analytical work that demonstrates the student's mastery of the chosen analytical approaches, as well as in-depth understanding of the topical area. DrPH dissertations must address applied problems of public health policy and practice.

Standard practices for the review and approval of the DrPH dissertation will be applied with the proposal being examined at a preliminary oral exam (potentially conducted remotely by video conference) by a faculty committee composed of at least three faculty members from different departments (including the department of the student's primary adviser) and one representative of the practice community. The final dissertation will also be reviewed and approved by a committee of four readers, including one representative of the practice community. In assessing the quality and acceptability of a DrPH dissertation proposal and final dissertation, the committee should assess the rigor of the analytical methods and the relevance of the topic. It is accepted that high quality data may not always be available for public health decision making in which case the dissertation should assess the degree of confidence that can be placed in findings and the implications for decision making. DrPH dissertations may follow the standard three-paper format or consist of two papers plus a policy briefing paper.

Students applying for admission to the DrPH program should have a minimum of three years relevant public health experience and an MPH degree or equivalent. Students who do not have an MPH degree from an accredited U.S. university may be required to take additional master's level courses so as to achieve the same level of knowledge, skills, and competencies as incoming MPH graduates. Admission standards will be rigorous and will require applicants' academic transcripts, curriculum vitaes, letters of recommendation, and statements of purpose. Applicants will also be required to submit standardized test (GRE or GMAT) scores. Students for whom English is a foreign language will be required to submit TOEFL scores or a comparable alternative. All of these factors will be carefully considered in the admissions process, with special emphasis on applicants' practice experience and promise as a public health leader, as well as on their demonstrated ability to complete required coursework.

2. Educational objectives and student learning outcomes

The goal of the Doctor of Public Health program is to prepare students from diverse individual and professional backgrounds to assume leadership roles in domestic and international public health policy and practice positions, as well as in health services delivery settings.

Upon completion of the DrPH degree program, students will have competencies and skills as follows:

a. *Data analysis.* Identify, synthesize, and apply evidence-based public health research and theory from a broad range of disciplines and health related data sources for problem solving, and to advance programs, policies, and systems promoting population health.
b. *Ethics.* Identify and analyze ethical issues, including balancing the claims of personal liberty with the responsibility to protect and improve the health of the population; and act on the ethical concepts of social justice and human rights in public health research and practice.
c. *Policy.* Influence decision making regarding policies and practices that advance public health using scientific knowledge, analysis, communication, and consensus building.
d. *Communication.* Assess and use communication strategies across diverse audiences to inform and influence individual, organization, community, and policy actions in order to promote the health of the public.
e. *Leadership.* Enable organizations and communities to create, communicate, and apply shared visions, missions, and values; inspire trust and motivate others; build capacity; improve performance; enhance the quality of the working environment; and use evidence-based strategies to enhance public health.
f. *Management.* Provide fiscally responsible, strategic, and operational guidance within both public and private health organizations for achieving individual and community health and wellness.
g. *Program design and evaluation.* Design and evaluate system-level and programmatic initiatives in multidisciplinary teams so as promote public health outcomes and health equity.

Students pursuing a customized program of study will work with their advisers to develop a list of competencies that will be reviewed and approved by the DrPH office.

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 DrPH degree program is designed as a terminal, professional qualification for those aspiring to leadership roles in public health in both domestic and international settings. The modified program will be truly global, inspiring learning across diverse countries, and drawing upon Johns Hopkins expertise and experience both domestically and abroad.

The program will combine rigorous training in doctoral level analytical skills, notably epidemiology, biostatistics, and evaluation, and in high level practice skills, in particular communications, systems thinking, and leadership.

The DrPH program will be primarily offered as a part-time program. It is designed to serve the needs of those who are already working in a public health role but seek to enhance both their analytical skills and their practice competencies so as to accelerate their career trajectories and enhance their contributions to public health.

The program aims to:

- Strengthen students' analytical skills in public health;
- Further develop practice oriented skills in leadership, communication, and decision-making;
- Broaden students' exposure to an array of public health challenges and organizational settings; and
- Benefit from the knowledge, experience, and networks of faculty and peers that the Bloomberg School attracts.

Graduates of the DrPH program will be equipped to drive the responsible development of new knowledge and new ways of saving lives and improving health to further progress across core disciplines in science and technology, public health, and medicine in Maryland and beyond.

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

The 2013-2017 Maryland State Plan for Postsecondary Education articulates six goals for postsecondary education: 1) quality and effectiveness; 2) access, affordability, and completion; 3) diversity; 4) innovation; 5) economic growth; and 6) data use and distribution. The Doctor of Public Health program helps to fulfill the Maryland State Plan in a number of these core goals.

The program furthers Goal 2 by providing a course of study that is primarily online and can be completed on a part-time basis. Multiple professional workshops will provide students with skills that are transferable to many work environments. The typical student

will take 20 to 26 term credits each year for the first two to three years and complete the 64-term credit degree in four to five years.

The program promotes Goal 4 by preparing students to achieve leadership positions in a variety of agencies concerned with promoting public health including state and federal agencies, consulting firms and non-governmental bodies, and international organizations or government agencies as well as in health services delivery organizations. While built upon the school's existing DrPH curriculum, many courses within the program have been redesigned, as has the course sequence. The program seeks to reduce costs and improve learning by transforming the way that instruction is delivered and learning environments are designed. The new modes of delivery and programmatic initiatives will serve the State's increasingly diverse student population and advance the State's goal of being a national and international leader in higher education.

The program promotes Goal 5 by helping Maryland meet the challenges of a changing workforce by addressing the need for more people in the workforce with recognized credentials. Program graduates will stimulate economic growth, innovation, and vitality by supporting a knowledge-based economy and advancing research. The program's advisory board will incorporate feedback from professional organizations and public health stakeholders to ensure that the program is aligned with workforce needs.

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

1. Market demand

The degree will be targeted at people who already have significant public health experience (a minimum of three years of public health experience, though ideally more) and who already hold an MPH or equivalent degree. The target market consists primarily of working public health professionals who are seeking additional training that will enable them to move into leadership positions.

A survey of recent alumni from the Bloomberg School MPH program was conducted to assess market demand for the redesigned DrPH program. Of the 140 respondents to the survey, 63 stated that they were likely or very likely to want to pursue a DrPH program. The majority of respondents (83 out of the 133 who responded to the question) noted that they would prefer a part-time program to a full-time one. Accordingly, based on historical demand for the DrPH program and results from the survey, a likely high demand from well qualified candidates is anticipated.

The program is intended for both a domestic and a global audience, serving public health leaders in the U.S. (both at state and federal level) as well as public health leaders in rapidly industrializing and emerging economies such as China, Indonesia, India, and Nigeria, and other regions such as the Middle-East where there are relatively high incomes but few facilities for post-graduate education in public health. The part-time, online nature of the course will be well suited to such applicants.

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In preparing for the redesign of the program, the school interviewed 19 employers of DrPH graduates to enquire about desired competencies, and attitudes towards part time study. DrPH graduates have gone to work at state and federal agencies, consulting firms, universities, international organizations, non-governmental organizations, and for foreign governments, and representatives from such agencies were among the respondents. These employers confirmed the need for doctoral level graduates who combine excellence in analytical methods with strong leadership and communication skills. The program is designed to respond to these employers' articulated needs.

2. Educational and training needs in the region

The Bloomberg School has offered the DrPH since 1917. The table below indicates the number of applicants (across all departments), number of accepted students, and number of students finally enrolling during the three most recent years.

Table 1. Trends in Applicants and Enrollees in JHSPH DrPH programs

	Applied	Accept	Enrolled
2013	159	40	29
2014	136	31	19
2015	147	36	21

The school anticipates that the new program requirements and a part-time program format will help it to meet the increasing demand for such a program.

Projected admissions for the modified DrPH program are as follows:

Year 1: 35 students
Year 2: 40 students
Year 3: 45 students
Year 4: 50 students
Year 5: 50 students

The school anticipates a maximum of 50 new students enrolled in the program each year.

3. Prospective graduates

Based on an average time to degree of four to six years, an initial cohort of approximately 12 students admitted in 2017 would graduate in 2021. Twenty-five students are expected to graduate in 2022, 40 in 2023, 45 in 2024, 49 in 2025, and 50 annually in subsequent years.

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E. Reasonableness of program duplication

1. Similar programs

While there are at least 41 DrPH doctoral degree programs in public health across the United States, there is only one other DrPH program in Maryland, offered by Morgan State University. Morgan State's program is a 60-semester credit program that is designed for full-time students to complete in four years. Courses are offered in a classroom format on evenings and weekends. Similar to the Bloomberg School's program, students can choose to specialize in one of three areas: Behavioral Health Sciences; Health Policy and Management; or Public Health Analysis-Epidemiology. Students may also elect to follow a generalist track.

2. Program justification

The modified DrPH program will build upon students' MPH training and will offer more advanced training in analytical skills relevant to their chosen concentration as well as high level practice-oriented skills, particularly in communication and leadership.

The program will take advantage of many of the existing online courses already available in analytical methods. In addition, new, more practice-oriented courses are being developed, including a core sequence of problem-based courses designed to help students integrate different skill sets and work in diverse, multidisciplinary teams to solve real-world problems. Students will achieve these core competencies primarily through these problem based courses.

All students will have the opportunity to apply newly acquired skills through a required practicum that will address a special project or initiative, which will be conducted typically in their current workplace. In addition, a practice-oriented dissertation will provide students with an opportunity to complete the cycle of a research-based or analytical project so as to further integrate and master acquired skills.

This redesigned DrPH program will provide the skill sets and competencies necessary for graduates to advance their professional careers and become leaders in addressing critical public health challenges at local, national, and global levels. As a terminal degree, the DrPH will position graduates for senior management and leadership positions across a range of public-health related agencies and health services delivery organizations, and help them develop professional networks that will serve students throughout their careers.

F. Relevance to Historically Black Institutions (HBIs)

Prospective students for the Doctor of Public Health program would apply after completing at least a Master of Public Health degree, including at any of Maryland's Historically Black Institutions. The proposed program would not directly affect the implementation, maintenance, uniqueness, identity, or mission of these institutions, and graduates of HBIs are encouraged to apply.

G. Evidence of compliance with the Principles of Good Practice

See Appendix B for the evidence that this program complies with the Principles of Good Practice.

H. Adequacy of faculty resources

See Appendix C for a representative list of faculty who will teach and serve as mentors in the modified program.

I. Adequacy of library resources

The book collections at the Johns Hopkins University number almost two and one-half million volumes, selected to support the studies of all departments and divisions of the University. The William H. Welch Medical 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 7,200 electronic journals, more than 400 databases, and more than 13,000 e-books. The library has staff members assigned to each department to aid in research and best practices for library services.

J. Adequacy of physical facilities, infrastructure and instructional equipment

Most courses in the proposed program will be offered online. The program will have no discernible impact on the use of existing facilities and equipment beyond the standard requirements already in place; primarily, faculty office space in an existing university facility location.

While some courses will be offered onsite, no additional facilities, infrastructures or laboratory or computer resources will be required. JHSPH has 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 over 1000 computers located in computer labs and throughout main buildings for student use.

K. Adequacy of financial resources with documentation

See Appendix D for detailed financial information.

L. Adequacy of provisions for evaluation of program

Program level evaluation activities will include an annual assessment of program inputs, processes and outputs to generate a report on program applicants and admitted students, course enrollment, faculty participation, pedagogical innovations and program accomplishments/recognition. Evaluation of student learning and achievement will focus on the early identification of students' goals/objectives and individualized learning outcomes; students' acquisition of knowledge and skills and the degree to which the program is fostering students' achievement of the degree competencies. Post-degree professional and academic accomplishments of graduates will also be tracked. Student course evaluations, conducted at the end of each term, will provide feedback about both courses and faculty. The evaluations include questions addressing the course overall, the instructor and the assessments of learning.

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

Any student meeting the admissions requirements can apply to the Doctor of Public Health program. 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

Preparatory Requirements

Introduction to Online Learning (0 credits)
Introduction to Online Learning (IOL) will prepare a student for taking both online and on-campus courses offered through CoursePlus, a course management system at Johns Hopkins University. The course is designed to give students clear examples of the fundamental design principles for courses across schools at the University: time-boxed, cohort-based, and highly collaborative. Attention is focused on learner responsibilities and communication/collaboration strategies in both online and face-to-face courses. While ensuring that an individual computer and network connection is compatible with the tools used in CoursePlus is an important part of the course, the primary focus is on the digital course experience and not on teaching basic computer and Web browsing skills.

Introduction to Problem-Based Learning (0 Credits)
This online class will prepare students to participate in courses involving problem-based learning. Problem-based learning is a student-centered approach whereby students work in small teams to address complex, real world challenges. This introductory course will introduce students to the theory of problem-based learning and explore good behaviors and practices in a problem-based learning environment.

550.860 Academic and Research Ethics (0 Credits)
Examines academic and research ethics at JHSPH in a series of online interactive modules. Focuses on information about the academic ethics code and responsible conduct of research at the School. Explores issues of academic integrity such as proper ethical conduct and referencing, and discusses violations such as plagiarism and cheating, relative to case studies that illustrate situations faced by students and faculty in the academic setting. Addresses topics that include responsible conduct of research, authorship, data management, data ownership, guidelines for professional conduct, research fraud or scientific misconduct, federal and institutional guidelines related to research using human and animal subjects and ethical issues involving vulnerable subjects in research.

Introduction to the DrPH Program (0 credits)
This face-to-face module will provide students with an overview of the DrPH Program, the different concentrations on offer, and the requirements of the program.

Foundational Requirements
551.610 Foundations of Leadership: A Survey Course (3 credits)
Students develop an understanding of the role expectations of the organizational leader and the essential knowledge and skills the role requires. Provides a framework for understanding the process of working effectively with, influencing and leading others. Drawing from a variety of

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disciplines, emphasizes organizational effectiveness, developing a future vision and direction, leading change and building adaptive organizational cultures.

xxx.xxx Applied Leadership Development (3 credits)
This course in applied leadership development will be taken by DrPH students at the same time as they undertake their practicum. The course promotes and supports reflection on and development of students' own leadership principles and practices. The course builds upon the Foundations of Leadership class providing students with an opportunity to both revisit and put into practice their personal leadership philosophy. During the class students will work in small (4-5 person) action learning teams in order to reflect on their experiences of leadership during their practicum. This process of reflection will be supported and prompted by a specialized leadership framework. The final assignment of the class is an individual leadership reflection paper, and the course will culminate in a student conference during the winter institute which will promote sharing and discussion around students' own experiences.

301.772 Making Effective Public Presentations (2 credits)
Enhances skills to construct and deliver oral presentations with clarity and impact. Provides a template for "audience-centered" presentation construction with examples, tools and exercises. Provides individual assessment and feedback for each participant through videotaped exercises and a short formal presentation constructed during the course.

301.771 Case Studies in Communicating with the Media (1 credit)
Provides techniques and guidelines to understand and handle the media during a crisis. Topics include: and overview of the media needs in a crisis, the essential elements of crisis communication plans, tips and techniques for spokespersons, common pitfalls to avoid, audience psychology, non-verbal communication and techniques for communicating complex information to the lay audience. Students review videotapes of news coverage and participate as spokespersons in videotaped simulation exercises.

xxx.xxx DrPH Student Seminar – Developing a DrPH Dissertation (1 credit)
This three part seminar series (taken during the second year in the program) is designed to assist DrPH students in the development of a dissertation proposal and to facilitate the transition from doctoral course work to a dissertation. The course will start by reviewing components of a dissertation proposal and the process through which a dissertation proposal is developed and approved. Students will review and critique already completed DrPH dissertations. Particular emphasis will be placed on identifying a suitable problem or challenge to address in a DrPH dissertation. During the second and third terms of the seminar, students will work individually on developing problem statements, literature reviews, conceptual frameworks, research questions, and study methods. Student evaluation is based on seminar presentations and participation.

xxx.xxx DrPH Problem-Based Sequence 1 –Scaling up and Sustainability: Learning from the India Avahan Initiative (3 credits)
This class focuses on the challenges to managing scaling up of new programs and how effective scale up can affect prospects for sustainability. The class focuses on efforts in India in the early 2000s to ensure rapid scale up of an NGO-based HIV/AIDS prevention program in the high prevalence states, and the subsequent transition of the program to the government of India. A

second case focuses on scale up and sustainability of public health programs in the US context. The case addresses issues of management, evaluation and ethics.

xxx.xxx DrPH Problem-Based Sequence 2 – Vaccine safety at the FDA (3 credits)
Focusing on two vaccine related challenges faced by the US Food and Drug Administration, this class will help students to develop competencies in data analysis, communication and policy. In 1999, the FDA realized that given levels of ethylmercury in vaccines, infants who followed the recommended childhood immunization schedule might be exposed to cumulative doses of ethylmercury that exceed some federal safety guidelines. The science behind the case was challenging. Students will play the part of FDA officials seeking both to assess the science, deliberating about how to communicate risk to the public, and managing multiple stakeholders with differing views on the case. The second case in this class focuses on the 2010 contamination of Rotavirus vaccine with pig viruses, and focuses again on assessments and communication of risk and managing negotiations regarding this issue with both national and international actors. Prerequisite: xxx.xxx DrPH Problem-Based Sequence 1 –Scaling up and Sustainability: Learning from the India Avahan Initiative

xxx.xxx DrPH Problem-Based Sequence 3 – Managing outbreaks: Ebola in West Africa and Zika in the Americas (3 credits)
The Ebola outbreak in West Africa required a very rapid and coordinated response across multiple agencies. This case focuses in particular on analytical methods, including modelling of the epidemic, and issues regarding how to manage uncertainty in such fast moving environments. The case also explores issues of community engagement, systems thinking, and how to link and coordinate public health strategies and clinical containment efforts. Finally, the case will also examine issues concerning research ethics during outbreaks of this nature. Problems from the more recent Zika outbreak in the Americas are also compared and contrasted with the Ebola outbreak. Prerequisites: xxx.xxx DrPH Problem-Based Sequence 1 –Scaling up and Sustainability: Learning from the India Avahan Initiative, xxx.xxx DrPH Problem-Based Sequence 2 – Vaccine safety at the FDA

xxx.xxx DrPH Problem-Based Sequence 4 – Preventing HIV among African American men (3 credits)
While overall rates of HIV are declining in Baltimore, they are actually increasing among gay and transgender people. This case explores a new program in Baltimore that works closely with community-based organizations to scale up testing and adoption of Pre-Exposure Prophylaxis (PREP) among people who engage in risky behavior, particularly gay men in the African American community. The case seeks to strengthen students' analytical skills, but also focuses on cultural competencies and leadership. Prerequisite: xxx.xxx DrPH Problem-Based Sequence 1 –Scaling up and Sustainability: Learning from the India Avahan Initiative, xxx.xxx DrPH Problem-Based Sequence 2 – Vaccine safety at the FDA, xxx.xxx DrPH Problem-Based Sequence 3 – Managing outbreaks: Ebola in West Africa and Zika in the Americas

140.620 Advanced Data Analysis Workshop (2 credits)
Covers methods for the organization, management, exploration, and statistical inference from data derived from multivariable regression models, including linear, logistic, Poisson and Cox regression models. Students apply these concepts to two or three public health data sets in a

computer laboratory setting using STATA statistical software. Topics covered include generalized linear models, product-limit (Kaplan-Meier) estimation, Cox proportional hazards model.

140.607 Multilevel Models (2 credits)
Gives an overview of "multilevel models" and their application in public health and biomedical research. Multilevel models are statistical regression models for data that are clustered in some way, violating the usual independence assumption. Typically, the predictor and outcome variables occur at multiple levels of aggregation (e.g., at the personal, family, neighborhood, community and/or regional levels). Multilevel models account for the clustering of the outcomes and are used to ask questions about the influence of factors at different levels and about their interactions. Students focus on the main ideas and on examples of multilevel models from public health research. Students learn to formulate their substantive questions in terms of a multilevel model, to fit multilevel models using Stata during laboratory sessions and to interpret the results.

140.608 Analysis of Longitudinal Data (2 credits)
Covers statistical models for drawing scientific inferences from longitudinal data. Topics include longitudinal study design; exploring longitudinal data; linear and generalized linear regression models for correlated data, including marginal, random effects, and transition models; and handling missing data. Prerequisite: Intermediate level biostatistics & epidemiology

340.768 Professional Epidemiological Methods: Decision Making in Health Situation Analysis (2 credits)
Covers advanced health situation analyses for the evaluation of effectiveness of public health programs using real public health scenarios and available health information datasets. Covers selected epidemiological metrics for measuring social health inequalities and methods for informing evidence-based healthcare decision-making using epidemiologic data. Also addresses the role of available epidemiological evidence and translational research for public health programs. Laboratory exercises provide experience with applying concepts, methods and tools to problems drawn from real epidemiological data and published literature. Prerequisite: 340.608 Observational Epi or 340.752 Epidemiologic Methods II

340.727 Introduction to Health Survey Research methods (2 credits)
Students learn the basics skills necessary to conduct health survey research, providing both theoretical information and experience in the field. Specifically, students learn about: qualitative methods, the use of theory in informing survey development; development of research questions; probability and non-probability sampling; power calculations; ethical issues of conducting research; and quality assurance/quality control. Hands-on exercises include the development and administration of a brief survey.

410.671 Introduction to Qualitative Research Methods (3 credits)
Introduces students to qualitative research methods applied to the investigation of public health issues. Explores the theoretical underpinnings of qualitative research, factors that influence the utility of a qualitative approach, and ethical considerations in qualitative research. Focuses on the qualitative interview and provides an overview of the practical skills and tools required for conducting qualitative interviews and analyzing qualitative data.

410.673 Introduction to Qualitative Data Analysis for Public Health (2 credits)
Introduces students to the analysis of interview and focus group data collected as part of qualitative public health research. Explores distinct analytic approaches and traditions, and compares the strengths and weaknesses of different analytic paradigms for different research questions. Introduces computer software for coding and managing data using freely available online demonstration of various software packages. Presents both theoretical and practical dimensions of qualitative data analysis. Emphasizes hands-on learning activities within the classroom to practice and apply concepts learned through readings, lectures, and discussion. Develops skills to conceptualize an analytic plan for qualitative data for future research. Prerequisite: 410.671 Introduction to Qualitative Research Methods

Environmental Health Concentration

180.628 Introduction to Environmental and Occupational Health Law (4 credits)
Examines US and international environmental and occupational health laws and regulations. Covers significant US federal laws, such as the Clean Air Act, the Occupational Safety and Health Act, Superfund, the Toxic Substances Control Act, Safe Drinking Water Act, the Resource, Conservation and Recovery Act and significant international treaties and laws, such as the European Union's REACH legislation, with a particular emphasis on how they influence public health intervention strategies. Also introduces students to the agencies that administer worker health and environmental protection programs.

183.631 Fundamentals of Human Physiology (4 credits)
Encompasses the integration of a variety of organ systems. Invites leading scientists in different fields of physiology to offer exceptional and up-to-date lectures that quickly move through the basic mechanistic principles. Applies basic mechanistic principles of each organ system to current public health issues and environmentally relevant topics.

188.680 Fundamentals of Occupational Health (3 credits)
Surveys the history of occupational health, the continuum from exposure to disease, the hierarchy of controls in the workplace, workplace medical screening and surveillance, occupational health hazards, legal and regulatory issues, the provision of occupational health services, the core disciplines in occupational health and safety, and current issues in occupational health.

182.631 Occupational Safety and Health Management (3 credits)
Introduces the organizational framework in which safety sciences are practiced in the U.S. Illustrates professional and scientific methodologies by focusing on selected, substantive areas of practice (systems safety, nature of accidents, electrical hazards, fire and fire suppression, explosions and explosives, and falls and walking and working surfaces).

317.610 Risk Policy, Management and Communication (3 credits)
Examines the role of the risk sciences in the public policy process. A case study approach presents the broad societal context of risk based decision making, including the scientific, social, economic, legal and political factors that drive the policy process. Provides an overview of risk management tools and the application of risk communication principles and strategies. The goal

is to provide an understanding of how the risk sciences are applied in the formulation and implementation of public health risk policy in "the real world." Prerequisite: 317.600 Intro to the Risk Sciences and Public Policy

187.610 Public Health Toxicology (4 credits)
Students examine basic concepts of toxicology as they apply to the effects of environmental agents, e.g. chemicals, metals, on public health. We discuss the distribution, cellular penetration, metabolic conversion, and elimination of toxic agents, as well as the fundamental laws governing the interaction of foreign chemicals with biological systems. Students focus on the application of these concepts to the understanding and prevention of morbidity and mortality resulting from environmental exposures to toxic substances through a case study format.

317.600 Introduction to the Risk Sciences and Public Policy (4 credits)
Provides an introduction to the basic paradigm for quantitative risk assessment and illustrates its application in the public policy process using case studies. Examines risk assessment in a broad societal context, considering social, economic, and political factors that affect risk decision-making; evolution of risk assessment; and the use of risk assessment in regulatory processes. Students complete a risk assessment exercise.

180.615 Environmental Epidemiology (3 credits)
Introduces the key health effects of environmental exposures and the epidemiologic methods used to identify and estimate those effects. Emphasizes the interplay of methodological issues, including the assessment of environmental exposures and the understanding of specific disease processes in identifying the health impact of environmental exposures in the population. Students learn about environmental exposures (including water and air pollution, food contamination, ionizing radiation, persistent environmental pollutants and emergent environmental exposures) and key methodological issues relevant for these exposures in population studies (including study design, exposure assessment and biomonitoring, disease clusters, dose-response relationships, susceptibility, geographic analysis, and evidence synthesis). Prerequisite: An introductory level course (or higher) in epidemiology

550.630 Public Health Biology (3 credits)
Discusses the molecular, cellular, physiological, genetic and immunological determinants of human diseases and disease susceptibility, including infectious disease, nutritional deficiencies, reproductive and developmental anomalies, and effects of exposures to toxic environmental agents. Explores ecological principles that determine the distribution of infectious disease in human populations, and how principles of the human immune system provide the rationale for methods of immunization. Focuses how biological principles help to understand the development, treatment and prevention of disease, and to assess risk from potentially hazardous agents and behaviors.

Health Policy and Management (HPM) Concentration

312.621 Strategic Planning (3 credits)
Focuses on principles of strategic management and competitive analysis to support strategy development for health care organizations. Provides an understanding of how current business

and management knowledge is applied to health care organizations to promote future success and competitive advantage. Examining contemporary theory and models, students learn to assess and develop an organization's mission and vision; perform an internal and external strategic assessment; evaluate competitive threats and responses; develop organizational strategies and measures of success; and evaluate the decision-making approaches best able to develop and execute the best strategies.

312.633 Health Management Information Systems (3 credits)
Provides a broad overview of healthcare information systems with emphasis on historical foundations, current issues, and industry pressures pushing modernization and increased sophistication in the use of technology. Major topics include an overview of healthcare use of information technology, medical informatics, public health informatics, information technology infrastructure, ethics in computing, computer security, consumer informatics, clinical software, computing in clinical education, research computing, health information exchange, and the future of healthcare computing. Prerequisite: 312.600 Managing Health Services Organizations or 312.603 Fundamentals of Budgeting and Financial Management

309.631 Population Health Informatics (3 credits)
Introduces students to concepts, methods, and issues related to the application of health information technology (HIT) to population health. Emphasizes the population health potential of comprehensive electronic health records (EHRs), personal health records (PHRs), mobile health and telemedicine devices; and consumer focused internet-based tools. Covers the uses of HIT to define and identify populations and sub-populations of interest, describe the health status and needs of populations, improve the health of populations, and evaluate services provided to populations. Emphasizes the use of HIT within both local, regional and federal public health agencies and population-based private health care organizations such as integrated delivery systems and health insurance plans. Lessons are mainly US oriented but are also applicable to other high and middle income countries.

311.615 Quality of Medical Care (3 credits)
Introduces quality issues, including the extent to which customary care for specific health problems improves quality of life and reduces mortality, and quality assessment and assurance performed by caregivers, professional societies, government-sponsored professional review organizations, and government and other third party organizations who pay for care. Provides a basis to judge the effectiveness of quality assessment and assurance activities and to begin to develop programs.

309.730 Patient Safety and Medical Errors (3 credits)
Provides an introduction to the science of safety, and how it relates to problems with patient safety in health care. Explains the role of both individuals and systems in improving patient safety. Reviews institutional responses to adverse events, including the topics of risk management and medical malpractice. Emphasizes the importance of communication and teamwork. Students learn the basics of conducting an incident investigation, gain an understanding of the advantages and limitations of error reporting, learn how to disclose errors and adverse events, and learn models for improving safety in hospitals and other health care organizations from both the micro and macro points of view.

309.712 Assessing Health Status and Patient Outcomes (3 credits)
Provides an understanding of the conceptual basis for measures of health; some of the common measures, their properties, and strengths and weaknesses; and a framework for judging the appropriateness of a particular measure for students' own work.

312.603 Fundamentals of Budgeting and Financial Management (3 credits)
Explains the role of budgeting as a key component of the administrative process. Students learn to develop a budget and evaluate the financial status of a department or operating unit and determine what, if any, corrective actions need to be taken. Presents various analytical methods in management decision making, including benefit/cost ratio analysis, variance analysis, and break-even analysis. Also includes approaches to benchmarking, productivity improvement techniques, and methods for building cost standards.

313.643 Health Economics I (3 credits)
Introduces the analytical tools of economics and applies them to issues in healthcare. Topics include: resource allocation in health care; government as payor and regulator; asymmetric information and the role of agency; the market for health insurance; market structure and competitive strategy as it applies to health care organizations; the market for labor in health care; and the market for innovations and technology. Uses mainstream neoclassical microeconomic theory as the basis for analysis, but also explores the implications when the assumptions of this model are violated. Uses a standard health economics text as the main reading, but uses journal articles in the field to examine how the profession is analyzing health care and public health issues

313.641 Introduction to Health Economics (3 credits)
Introduces students to the application of economic tools to the interaction among the many stakeholders in the health care system and the public health system. Intended for those students who want an overview of health economics, but who do not expect to pursue additional courses in the field. Uses a standard health economics text as the main reading; also draws on articles from the popular press and professional journals that illustrate the tools of economics or their application to health care and public health issues.

312.621 Strategic Planning (3 credits)
Focuses on principles of strategic management and competitive analysis to support strategy development for health care organizations. Provides an understanding of how current business and management knowledge is applied to health care organizations to promote future success and competitive advantage. Examining contemporary theory and models, students learn to assess and develop an organization's mission and vision; perform an internal and external strategic assessment; evaluate competitive threats and responses; develop organizational strategies and measures of success; and evaluate the decision-making approaches best able to develop and execute the best strategies. Prerequisite: 312.600 Managing Health Services Organizations or 312.603 Fundamentals of Budgeting and Financial Management

309.620 Managed Care and Health Insurance (3 credits)
Presents an overview of major issues related to the design, function, management, regulation, and evaluation of health insurance and managed care plans. Provides a firm foundation in basic

concepts pertaining to private and public sector health insurance/benefit plans, both as provided by employers and government agencies such as Medicaid and Medicare. Key topics include population care management techniques, provider payment, organizational integration, quality and accountability, cost-containment, and public policy. Uses outside experts extensively.

315.707 Introduction to Biomedical and Public Health Informatics (3 credits)

In these course, we tackle the roles that IT is taking on in healthcare and public health, and develop a framework for understanding that role, from low-level technology, data, information, and knowledge, and IT systems through workflow, human needs, and organizational imperatives. Along the way, we discuss evidence supporting impact, whether positive or negative. The course provides a survey of issues in health IT and informatics, taking the system's perspective. Students leave with a number of frameworks they can use to critically appraise a wide variety of health IT problems and systems. Issues in common to clinical (medical) and public health information problems, as well as issues unique to each, are discussed.

315.703 Leading Change through Health IT (3 credits)

Prepares learners to lead organizations implementing new IT systems. Covers the knowledge and skills that enable clinical and public health informaticians to lead and manage changes associated with implementation, adoption, and evaluation of effective use of clinical and public health information systems.

315.700 Health Information Systems: Design to Deployment (3 credits)

Reviews health information systems, such as patient records, patient monitoring, imaging, public health, educational, bioinformatics and scholarly systems. Teaches the core architectures and technologies of these core systems, focusing on commonalities and differences and design. Prerequisite: 315.707 Introduction to Biomedical and Public Health Informatics

315.708 HIT Standards and Systems Interoperability (3 credits)

Students learn the health information technology (HIT) standards critical to the successful implementation of local, regional, national and international health information systems. Target competencies are to specify user (clinicians, public health professionals) needs for an information system that will supports data collection and exchanges in the process of solving a public health problem; identify HIT standards for such information system; and learn about user role in a national HIT standardization process. Prerequisite: 315.707 Introduction to Biomedical and Public Health Informatics or 309.631 Population Health Informatics

315.709 Health Sciences Informatics: Knowledge Engineering & Decision Support (3 credits)

Provides a framework for understanding decision support in the workflow of the health sciences. Focuses on the types of support needed by different decision makers, and the features associated with those types of support. Discusses a variety of decision support algorithms, examining advantages and disadvantages of each, with a strong emphasis on decision analysis as the basic science of decision making. Students are expected to demonstrate facility with one algorithm in particular through the creation of a working prototype, and to articulate the evidence for efficacy and effectiveness of various types of decision support in health sciences and practice, in general.

309.631 Population Health Informatics (3 credits)
Introduces students to concepts, methods, and issues related to the application of health information technology (HIT) to population health. Emphasizes the population health potential of comprehensive electronic health records (EHRs), personal health records (PHRs), mobile health and telemedicine devices; and consumer focused internet-based tools. Covers the uses of HIT to define and identify populations and sub-populations of interest, describe the health status and needs of populations, improve the health of populations, and evaluate services provided to populations. Emphasizes the use of HIT within both local, regional and federal public health agencies and population-based private health care organizations such as integrated delivery systems and health insurance plans. Lessons are mainly US oriented but are also applicable to other high and middle income countries.

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Focuses on principles of strategic management and competitive analysis to support strategy development for health care organizations. Provides an understanding of how current business and management knowledge is applied to health care organizations to promote future success and competitive advantage. Examining contemporary theory and models, students learn to assess and develop an organization's mission and vision; perform an internal and external strategic assessment; evaluate competitive threats and responses; develop organizational strategies and measures of success; and evaluate the decision-making approaches best able to develop and execute the best strategies. Prerequisite: 312.600 Managing Health Services Organizations or 312.603 Fundamentals of Budgeting and Financial Management

312.633 Health Management Information Systems (3 credits)
Provides a broad overview of healthcare information systems with emphasis on historical foundations, current issues, and industry pressures pushing modernization and increased sophistication in the use of technology. Major topics include an overview of healthcare use of information technology, medical informatics, public health informatics, information technology infrastructure, ethics in computing, computer security, consumer informatics, clinical software, computing in clinical education, research computing, health information exchange, and the future of healthcare computing.

309.631 Population Health Informatics (3 credits)
Introduces students to concepts, methods, and issues related to the application of health information technology (HIT) to population health. Emphasizes the population health potential of comprehensive electronic health records (EHRs), personal health records (PHRs), mobile health and telemedicine devices; and consumer focused internet-based tools. Covers the uses of HIT to define and identify populations and sub-populations of interest, describe the health status and needs of populations, improve the health of populations, and evaluate services provided to populations. Emphasizes the use of HIT within both local, regional and federal public health agencies and population-based private health care organizations such as integrated delivery systems and health insurance plans. Lessons are mainly US oriented but are also applicable to other high and middle income countries.

312.603 Fundamentals of Budgeting and Financial Management (3 credits)
Explains the role of budgeting as a key component of the administrative process. Students learn

to develop a budget and evaluate the financial status of a department or operating unit and determine what, if any, corrective actions need to be taken. Presents various analytical methods in management decision making, including benefit/cost ratio analysis, variance analysis, and break-even analysis. Also includes approaches to benchmarking, productivity improvement techniques, and methods for building cost standards.

311.615 Quality of Medical Care (3 credits)
Introduces quality issues, including the extent to which customary care for specific health problems improves quality of life and reduces mortality, and quality assessment and assurance performed by caregivers, professional societies, government-sponsored professional review organizations, and government and other third party organizations who pay for care. Provides a basis to judge the effectiveness of quality assessment and assurance activities and to begin to develop programs.

312.620 Performance Measurement in Health Care (2 credits)
Focuses on performance measurement for hospitals and describes key aspects and challenges of measurement initiatives in the current context of health care reform in general, and payment reform more specifically. The faculty, all senior health care professionals from the trenches, describe the regulatory environment, and Joint Commission and CMS requirements. They also summarize key measures used for public reporting and payment such as chart-abstracted clinical process, administrative data based outcomes, satisfaction, and efficiency. Highlights the advantages and disadvantages of each type of measure and discusses appropriate use of analytics and comparison data including patient satisfaction. Covers current public reporting and pay for performance initiatives and associated challenges. Another topic is emerging initiatives in the context of the electronic medical records, such as e-measures and meaningful use.

309.600 Evaluating Quality Improvement and Patient Safety Programs (3 credits)
Prepares students to evaluate Quality Improvement/Patient Safety (QI/PS), projects by developing their competencies in the following areas: 1) Critiquing evaluations of QI/PS projects; 2) Designing a robust evaluation of a QI/PS project; and 3) Conducting a small scale qualitative study.

309.730 Patient Safety and Medical Errors (3 credits)
Provides an introduction to the science of safety, and how it relates to problems with patient safety in health care. Explains the role of both individuals and systems in improving patient safety. Reviews institutional responses to adverse events, including the topics of risk management and medical malpractice. Emphasizes the importance of communication and teamwork. Students learn the basics of conducting an incident investigation, gain an understanding of the advantages and limitations of error reporting, learn how to disclose errors and adverse events, and learn models for improving safety in hospitals and other health care organizations from both the micro and macro points of view.

309.712 Assessing Health Status and Patient Outcomes (3 credits)
Provides an understanding of the conceptual basis for measures of health; some of the common measures, their properties, and strengths and weaknesses; and a framework for judging the appropriateness of a particular measure for students' own work.

312.693 Introduction to Comparative Effectiveness and Outcomes Research (3 credits)
In the last few years, comparative effectiveness research has surged to the forefront of political and academic consciousness in the US. This course provides an introduction to the motivation and methods of this rapidly evolving field. Reviews the problems faced by decision makers across the US health care system, and reviews priority topics for investigation. Explains the role of stakeholders, including payors, manufacturers, health care organizations, professional groups, providers and patients. Explains study designs and methods used in effectiveness research, focusing in particular on observational studies, but also on newer trial designs. Addresses the policy implications of this research.

Appendix B

Evidence of Compliance with the Principles of Good Practice

(a) Curriculum and instruction

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

The proposed program 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. JHPSH faculty experts will lead and support the development of online courses. Several program faculty members are experienced in developing and supporting online learning. New instructors are required to meet the same qualifications as those teaching in the traditional onsite program.

(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 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.**

The proposed program will be delivered via the School's course delivery and management system—CoursePlus. This 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

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

Refer to Section A.1 in the main body of the proposal.

(ii)   **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 on the East Baltimore campus and the Milton S. Eisenhower Library on the Homewood campus. The Welch Library collects current scholarly information that supports the research and educational needs of the Johns Hopkins Medical Institutions as well as the Bloomberg School. Because the library's emphasis is on providing materials at point of need, the collection is primarily in electronic format. The electronic collection includes more than 7,200 electronic journals, more than 400 databases, and more than 13,000 e-books. The WelDoc Service provides access to materials not in the Hopkins collections. The library offers a variety of instructional services, including classes and online tutorials 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.**

JHSPH 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. 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. 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. Courses that deviate from the program plan and have not been approved by an adviser may not count toward degree requirements.

Library services. Students have online access to the William H. Welch Medical Library 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 University's library system provides easy access to a wide selection of electronic information resources, including an 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 Career Services Office at the Bloomberg School 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 (My JHSPH) were 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.**

All accepted online students are required to have met the admission requirements stated for the 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.**

Please 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. The proposed program 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	Terminal Degree	Title/Academic Rank	Status
Olakunle Alonge	PhD	Assistant Scientist	Full-Time
Steven An	PhD	Associate Professor	Full-Time
Abdulgafoor Bachani	PhD	Assistant Professor	Full-Time
Abdullah Baqui	DrPH	Professor	Full-Time
Stefan Baral	MD	Associate Professor	Full-Time
Sara Bennett	PhD	Director for DrPH program; Associate Professor	Full-Time
Wendy Bennett	MD	Assistant Professor, primary at School of Medicine (joint appointment with Public Health)	Full-Time
David Bishai	PhD	Professor	Full-Time
Robert Blum	PhD	Professor	Full-Time
Thomas Burke	PhD	Professor	Full-Time
Maureen Cadorette	PhD	Assistant Scientist	Full-Time
Jennifer Callaghan	PhD	Assistant Scientist	Full-Time
Carlos Castillo-Salgado	DrPH	Professor	Full-Time
David Celentano	ScD	Charles Armstrong Chair in Epidemiology, Professor	Full-Time
Kitty Chan	PhD	Associate Professor	Full-Time
Dagna Constenla	PhD	Associate Scientist	Full-Time
Melissa Davey-Rothwell	PhD	Associate Scientist	Full-Time
Michele Decker	ScD	Associate Professor	Full-Time
Sydney Dy	MD	Associate Professor	Full-Time
Lilly Engineer	DrPH	Program Director for Health Care Leadership and Management Concentration, Assistant Professor	Full-Time
Mary Fox	PhD	Assistant Professor	Full-Time

Name	Terminal Degree	Title/Academic Rank	Status
Shannon Frattaroli	PhD	Associate Professor	Full-Time
Paul Gaist	PhD	Professor	Part-Time
Michael Griswold	PhD	Associate Professor	Part-Time
Eliseo Guallar	DrPH	Professor	Full-Time
Ann-Michelle Gundlach	EdD	Assistant Professor	Part-Time
David Holtgrave	PhD	Professor	Full-Time
Douglas Hough	PhD	Associate Scientist	Full-Time
Adnan Hyder	PhD	Professor	Full-Time
Nicholas Ialongo	PhD	Professor	Full-Time
David Jernigan	PhD	Associate Professor	Full-Time
Vanya Jones	PhD	Assistant Professor	Full-Time
Hadi Kharrazi	PhD	Assistant Professor, Track Director for Public Health Informatics within Health Policy and Management Concentration	Full-Time
Amanda Latimore	PhD	Assistant Scientist	Full-Time
Robert Lawrence	MD	Professor	Full-Time
Bruce Lee	MD	Associate Professor	Full-Time
Tianjing Li	PhD	Assistant Professor	Full-Time
Paul Locke	DrPH	Associate Professor	Full-Time
Jill Marsteller	PhD	Associate Professor	Full-Time
Nikolas Matthes	PhD	Assistant Professor	Part-Time
Robert Miller	PhD	Associate Professor, primary at School of Medicine (joint appointment with Public Health)	Full-Time
Laura Morlock	PhD	Executive Vice Dean for Academic Affairs, Professor	Full-Time
Keeve Nachman	PhD	Assistant Professor	Full-Time
Ana Navas-Acien	PhD	Associate Professor	Full-Time
Jill Owczarzak	PhD	Assistant Professor	Full-Time

Name	Terminal Degree	Title/Academic Rank	Status
Tonia Poteat	PhD	Assistant Professor	Full-Time
Peter Pronovost	PhD	Professor, primary School of Medicine (joint with Public Health)	Full-Time
George Rebok	PhD	Professor	Full-Time
Ian Saldanha	PhD	Assistant Scientist	Full-Time
Jodi Segal	MD	Professor, primary School of Medicine (joint with Public Health)	Full-Time
Joshua Sharfstein	MD	Professor of the Practice	Full-Time
Susan Sherman	PhD	Professor	Full-Time
Katherine Clegg Smith	PhD	Professor	Full-Time
David Stein	MD	Assistant Professor, primary School of Medicine (joint with Public Health)	Full-Time
Donna Strobino	PhD	Professor	Full-Time
David Sullivan	MD	Professor	Full-Time
Patrick Tarwater	PhD	Professor	Part-Time
Wietse Tol	PhD	Assistant Professor	Full-Time
Jonathan Weiner	DrPH	Professor	Full-Time
Brian Weir	PhD	Assistant Scientist	Full-Time
Albert Wu	MD	Professor	Full-Time
Junya Zhu	PhD	Assistant Professor	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)	$472,640	$556,544	$645,120	$738,560	$760,320
a. Number of F/T Students	–	–	–	–	–
b. Annual Tuition/Fee Rate	–	–	–	–	–
c. Total F/T Revenue (a x b)	–	–	–	–	–
d. Number of P/T Students	35	40	45	50	50
e. Credit Hour Rate	$1,055	$1,087	$1,120	$1,154	$1,188
f. Annual Credit Hour Rate	12.8	12.8	12.8	12.8	12.8
g. Total P/T Revenue (d x e x f)	$472,640	$556,544	$645,120	$738,560	$760,320
3. Grants, Contracts & Other External Sources	–	–	–	–	–
4. Other Sources	–	–	–	–	–
TOTAL (Add 1 – 4)	$472,640	$556,544	$645,120	$738,560	$760,320

Resources narrative:

1. Reallocated Funds: No reallocation of existing resources will be required.

2. Tuition revenue for incoming new students entering the program over the initial five years. Tuition increase of 3%.

3. Grants and Contracts: No grant or contract support is anticipated.

4. Other Sources: No other sources are anticipated.

TABLE 2: EXPENDITURES					
Expenditure Categories	2017	2018	2019	2020	2021
1. Faculty (b + c below)	$160,800	$165,624	$170,593	$175,710	$180,982
a. # Sections offered	1	1	1	1	1
b. Total Salary	$120,000	$123,600	$127,308	$131,127	$135,061
c. Total Benefits	$40,800	$42,024	$43,285	$44,583	$45,921
2. Admin. Staff (b + c below)	$67,938	$69,976	$72,076	$74,237	$76,467
a. # FTE	.3	.3	.3	.3	.3
b. Total Salary	$50,700	$52,221	$53,788	$55,401	$57,065
c. Total Benefits	$17,238	$17,755	$18,288	$18,836	$19,402
3. Support Staff (b + c below)	$93,800	$96,614	$99,512	$102,498	$105,573
a. # FTE	1	1	1	1	1
b. Total Salary	$70,000	$72,100	$74,263	$76,491	$78,786
c. Total Benefits	$23,800	$24,514	$25,249	$26,007	$26,787
4. Equipment	-	-	-	-	-
5. Library	-	-	-	-	-
6. New or Renovated Space	-	-	-	-	-
7. Other Expenses	$164,333	$168,813	$178,427	$183,181	$193,076
TOTAL (Add 1 – 7)	$486,871	$501,027	$520,608	$535,626	$556,098

Expenditures narrative:

1. Faculty: Faculty salaries and fringe benefits total over the first five years of the DrPH program incoming class. Annual increases of 3%. Fringe benefit at 34%.

2. Administrative Staff: Program director's salary (.3 FTE) and fringe benefits over the first five years of the program. Annual increases of 3%. Fringe benefit of 34%.

3. Support Staff: Program manager's salary (1 FTE) and fringe benefits over the first five years of the program. Annual increases of 3%. Fringe benefit at 34%.

4. Equipment: No additional equipment is needed for the proposed program.

5. Library: No additional library resources are needed for the proposed program.

6. New or Renovated Space: No additional space is needed for the proposed program

7. Other Expenses: Cost of course needs, including online support and additional compensation to faculty advisers.