Outline of Gastroenterology Fellowship Program

I. Institutions

A. Sponsoring Institution

1. The Hospital of the University of Pennsylvania (HUP) of The University of Pennsylvania Health System serves as the sponsoring institution for the gastroenterology program as per the Institutional Requirements.

2. The program director will be given sufficient protected time and financial support to run the program.

3. HUP demonstrates commitment to education and research sufficient to support the gastroenterology fellowship program.

4. The gastroenterology fellowship is established within the Department of Medicine of The University of Pennsylvania School of Medicine and The University of Pennsylvania Health System. The primary mission of the Department of Medicine and the gastroenterology program is to advance internal medicine and gastroenterology education and patient care.

5. HUP will provide fellow compensation and benefits, faculty, facilities, and resources for education, clinical care, and research required for accreditation through ACGME.

6. HUP will assure that adequate salary support is provided to the program director for the administrative activities of the gastroenterology fellowship program. The program director must not be required to generate clinical or other income to provide this administrative support.

7. HUP will notify the Review Committee within 60 days of changes in institutional governance, affiliation, or resources that affect the gastroenterology fellowship program.

8. Graduate education in the subspecialty of gastroenterology will require a major commitment to education by HUP. Evidence of such commitment assures that the minimum number of fellowship positions supported by HUP must not be less than the number of accredited training years of the program. For gastroenterology, 5 fellows are accepted per year and that the duration of training for the fellow will be for 3 years. HUP will assure that significant research in gastroenterology and hepatology is ongoing and will have a significant positive impact on the gastroenterology fellowship program.
B. Participating Sites

1. HUP is the primary training site that provides the required training resources, will be the location of the program director’s activity, the location where the fellow spends most of his or her clinical training time, and the location of the core program in internal medicine. Penn Presbyterian Medical Center (PPMC) and The Philadelphia VA Medical Center (PVAMC) serve as additional training sites for required and elective inpatient and outpatient rotations in gastroenterology, hepatology, and endoscopy.

II. Program Personnel and Resources

A. Program Director

1. There is a single program director with authority and accountability for the operation of the gastroenterology fellowship program.

2. Thomas W. Faust, M.D., M.B.E. is the program director for the gastroenterology fellowship program at The University of Pennsylvania.

3. Thomas W. Faust, M.D., M.B.E., will continue in his position for a sufficient length of time adequate to maintain continuity of leadership and program stability.

4. Thomas W. Faust, M.D., M.B.E. has the necessary requisite specialty expertise and administrative experience acceptable to the Review Committee. Dr. Faust is Board-Certified in Internal Medicine, Board-Certified in Gastroenterology, Board-recertified in Gastroenterology, and Board-Certified in Transplant Hepatology. Dr. Faust has served as course co-director of the gastroenterology and hepatology pathophysiology course that is required for University of Pennsylvania medical students. Dr. Faust has served as a member of the Residency Scholar Program at HUP which is responsible for the education of medical housestaff. He coordinates the gastroenterology and hepatology curriculum for the medical housestaff. Dr. Faust is director of the weekly liver conference for gastroenterology and transplant surgery faculty, housestaff, medical students, and ancillary personnel. Dr. Faust has coordinated national conferences pertaining to hepatology and ABIM Board Certification and Recertification courses in gastroenterology and hepatology. Dr. Faust has received numerous teaching awards while at the University of Pennsylvania.

5. Thomas W. Faust, M.D., M.B.E. is responsible for the evaluation and treatment of patients with gastrointestinal and liver diseases. He participates
actively in the transplant evaluation of patients with liver disease and the management of patients following liver transplantation. Dr. Faust is an active participant in the outpatient pre and post transplant clinics, the inpatient liver service, and the liver transplant selection committee. Numerous housestaff and medical students at The University of Pennsylvania and outside Penn have rotated through the inpatient and outpatient services.

6. Thomas W. Faust, M.D., M.B.E. is currently licensed in the state of Pennsylvania and holds an active appointment at HUP.

7. Thomas W. Faust, M.D., M.B.E., has participated as an active faculty member for over 5 years in ACGME-accredited programs in gastroenterology while at The University of Chicago and The University of Pennsylvania.

8. Thomas W. Faust, M.D., M.B.E., oversees and ensures the quality of didactic and clinical education in gastroenterology at HUP, PPMC, and PVAMC. Dr. Faust approves the selection of gastroenterology program faculty, evaluates these faculty, and approves the continued participation of these faculty based upon evaluation by the gastroenterology fellows and other interested parties. Dr. Faust monitors gastroenterology fellow supervision at HUP, PPMC, and PVAMC. Dr. Faust prepares and submits information requested by ACGME, including but not limited to program information forms (PIF) and annual gastroenterology fellow updates to ADS, and ensures that the information is accurate and complete. Dr. Faust provides gastroenterology fellows with documented semiannual evaluation of performance with feedback. Dr. Faust ensures grievance and due process procedures as set forth in the Institutional Requirements and implemented by HUP, PPMC, and PVAMC. Dr. Faust provides verification of gastroenterology fellowship education for all fellows, including those who leave the program prior to completion. Dr. Faust implements policies and procedures consistent with the institutional and program requirements for fellow duty hours and the working environment, including moonlighting. These policies and procedures will be distributed to faculty and transplant hepatology fellows. The program director also monitors transplant fellow duty hours according to HUP, PPMC, and PVAMC policy with a frequency sufficient to ensure compliance with ACGME requirements. Gastroenterology fellow schedules will be adjusted if necessary to mitigate excessive service demands and/or fatigue. The program director is responsible for monitoring demands of at-home call and adjusts schedules as necessary to mitigate excessive service demands and/or fatigue.

9. Thomas W. Faust, M.D., M.B.E., monitors the need for and ensures the provision of back up support systems when patient care responsibilities are unusually difficult or prolonged.

10. The gastroenterology program director will comply with HUP, PPMC, and PVAMC written policies and procedures for selection, evaluation, promotion, disciplinary action, and supervision of gastroenterology fellows.
11. The program director is responsible for monitoring gastroenterology fellow stress, conditions that inhibit performance or learning, and drug or alcohol-related dysfunction. Confidential counseling and psychological support services are provided if necessary. Situations that demand excessive service or that produce significant stress on gastroenterology fellows will be evaluated and modified.

12. Thomas W. Faust, M.D., M.B.E., will dedicate an average of 20 hours per week of his effort to the gastroenterology fellowship program, with sufficient time for administration of the program, and receive institutional support for that administrative time.

13. Thomas W. Faust, M.D., M.B.E., will participate in academic societies and educational programs that enhance his educational and administrative skills.

14. The program director will implement a program of continuous quality improvement in medical education for the faculty, especially as it pertains to teaching and evaluation of ACGME Competencies.

15. Thomas W. Faust, M.D., M.B.E. will be located at HUP.

B. Faculty

1. At HUP, PPMC, and PVAMC there are sufficient number of faculty with documented qualifications to instruct and supervise gastroenterology fellows.

2. The faculty will devote sufficient time to the gastroenterology program to fulfill their supervisory and teaching responsibilities and demonstrate strong interest in the education of gastroenterology fellows.

3. The faculty will administer and maintain an environment conducive to educating gastroenterology fellows in each of the ACGME competency areas.

4. All faculty are certified by The American Board of Internal Medicine in Gastroenterology or have qualifications acceptable to the Review Committee.

5. All faculty possess current medical licensure in the state of Pennsylvania and have active appointments at HUP, PPMC, and/or PVAMC.

6. All HUP, PPMC, and PVAMC faculty must meet professional standards of ethical behavior.

7. Nonphysician faculty at HUP, PPMC, and PVAMC have appropriate qualifications in their field and hold appropriate institutional appointments.
8. The faculty of HUP, PPMC, and PVAMC has an environment of inquiry and scholarship with an active research component pertaining to gastroenterology and hepatology.

9. All HUP, PPMC, and PVAMC faculty regularly participate in organized clinical discussions, rounds, journal clubs, and conferences pertaining to gastroenterology and hepatology.

10. Some members of the HUP, PPMC, and PVAMC faculty demonstrate scholarship by 1 or more of the following: peer-reviewed funding, publication of original research or review articles in peer-reviewed journals or chapters in textbooks, publication or presentation of case reports or clinical series at local, regional, national professional and scientific society meetings, or participation in national committees or educational organizations.

11. Faculty will encourage and support gastroenterology fellow scholarly activities.

C. Other Program Personnel

1. HUP, PPMC, PVAMC and the gastroenterology fellowship program will jointly ensure the availability of all necessary professional, technical, and clerical personnel for the effective administration of the program.

2. The gastroenterology program satisfies ACGME requirements for key clinical faculty, including the program director. Key clinical faculty dedicate on average 10 hours per week throughout the year to the gastroenterology training program.

3. The key clinical faculty are active clinicians with broad knowledge and experience in gastroenterology, hepatology, and transplant hepatology.

4. The key clinical faculty are certified by The American Board of Internal Medicine in Gastroenterology or possess qualifications judged by the Review Committee to be acceptable.

5. The program director and the key clinical faculty are responsible for planning, implementation, monitoring, and evaluation of gastroenterology fellow clinical and research training.

6. All clinical faculty members at HUP, PPMC, and PVAMC should participate in prescribed faculty development programs designed to enhance effectiveness of teaching.
**D. Resources**

1. HUP, PPMC, PVAMC, and the gastroenterology program ensure the availability of adequate resources for gastroenterology fellow education, as defined in the gastroenterology program requirements.

2. Gastroenterology fellows have clinical experiences in efficient, effective ambulatory and inpatient care settings.

3. There is adequate space and equipment at HUP, PPMC, PVAMC, and the Center for Advanced Medicine (CAM) for the educational program including meeting rooms, examination rooms, computers with electronic medical records and transplant databases, visual and other educational aids, and work/study space.

4. HUP, PPMC, and PVAMC have adequate lounge and food facilities during assigned duty hours.

5. Clinical records that document both inpatient and ambulatory care are readily available at all times. At HUP, PPMC, PVAMC, and CAM, electronic outpatient and inpatient data bases are maintained.

6. The inpatient and ambulatory care rotations at HUP, PPMC, PVAMC, and CAM provide gastroenterology fellows exposure to patients with a variety of acute and chronic gastrointestinal and liver diseases. Gastroenterology fellows will acquire expertise in the evaluation of laboratory tests, imaging studies, and pathology relevant to gastroenterology and hepatology as per the Gastroenterology Core Curriculum, ACGME, and ABIM training requirements. Fellows will develop expertise in the assessment and management of patients with acid-peptic disorders, biliary and pancreatic diseases, cellular and molecular physiology, endoscopy, ethics, medical economics, and systems-based practice. Additionally, fellows will gain expertise in geriatric gastroenterology, hepatology, transplant hepatology, inflammatory and enteric infectious diseases, malignancy, motility and functional illnesses, nutrition, pathology, radiology, research, surgical treatment of gastrointestinal and hepatic diseases, and women’s health pertinent to digestive and hepatic disorders. The gastroenterology fellow will develop communication skills with other members the gastroenterology division and other personnel within The University of Pennsylvania Health Care System (UPHS). Gastroenterology fellows will be required to attend outpatient continuity clinics and to serve as a vital member of the inpatient gut and liver services at HUP, PPMC, and PVAMC.

7. There will be an adequate number of patients of both sexes, with broad age ranges at HUP, PPMC, PVAMC, and CAM.

8. There will be a sufficient number of patients to ensure adequate inpatient and ambulatory experience for gastroenterology fellows.
9. All deaths of patients who received care by gastroenterology fellows must be reviewed and autopsies performed whenever possible. Gastroenterology fellows must receive autopsy reports after autopsies are completed on their patients.

10. There will be adequate secretarial and administrative staff and technology to support Thomas W. Faust, M.D., M.B.E., the program director. Nancy Wells will serves as the gastroenterology program coordinator. She will be responsible for coordinating activities that promote the efficient running of the program.

11. Inpatient clinical support services at HUP, PPMC, and the PVAMC will be available on a 24-hour basis to meet reasonable and expected demands including intravenous services, phlebotomy services, messenger/transplant services, and laboratory and radiologic information retrieval systems that allow prompt access to results.

12. Consultations from other clinical services at HUP, PPMC, PVAMC, and CAM will be available in a timely manner. All consultations will be performed by, or under the supervision of a qualified specialist in the field.

E. Medical Information Access

1. Gastroenterology fellows have ready access to reference material pertaining to internal medicine, gastroenterology, hepatology, and transplant hepatology. Relevant material (hardcopy and electronic) is available through textbooks, medical journals, the University of Pennsylvania Intranet, and the Internet. A variety of electronic medical literature databases with search capabilities are available to physicians in training at HUP, PPMC, PVAMC, and CAM.

III. Gastroenterology Fellow Appointment

A. Eligibility Criteria

1. Thomas W. Faust, M.D., M.B.E., the program director will comply with the criteria for gastroenterology fellow eligibility as specified in the Institutional Requirements. Gastroenterology fellows will be required to have completed a 3-year ACGME-accredited internal medicine fellowship program prior to entering the gastroenterology program.

B. Number of Gastroenterology Fellows

1. There will be 5 gastroenterology fellows accepted per year. The duration of the gastroenterology fellowship will be for 3 years.
C. Gastroenterology Fellow Transfer

1. Before accepting a gastroenterology fellow who is transferring from another gastroenterology fellowship program, Thomas W. Faust, M.D., M.B.E., will obtain written or electronic verification of previous educational experiences pertaining to gastroenterology and a summative competency-based performance evaluation of the transferring fellow.

2. Thomas W. Faust, M.D., M.B.E., will provide timely verification of the gastroenterology fellowship education and summative performance evaluations for fellows who leave the program prior to completion.

D. Appointment of Fellows and Other Students

1. The appointment and presence of medical and pediatric residents, general and transplant surgery residents and fellows, medical students, PhD students, nursing students, nurse practitioners, and physicians’ assistants at HUP, PPMC, and PVAMC will not interfere with the gastroenterology fellow’s education. Thomas W. Faust, M.D., M.B.E., will report the presence of other learners to the DIO and GMEC in accordance with HUP, PPMC, and PVAMC guidelines.

E. Fellow responsibilities and ABIM Issues

1. Gastroenterology fellows will have clearly defined written lines of responsibility for all clinical experiences at HUP, PPMC, PVAMC, and CAM.

2. When averaged over any 5 year period, a minimum of 75% of gastroenterology fellows must be graduates of an ACGME-accredited internal medicine training program. Non-ACGME internal medicine-trained fellows must have at least 3 years of internal medicine training prior to starting the gastroenterology fellowship. Prior to appointment, Thomas W. Faust, M.D., M.B.E., the program director, must inform non-ACGME trained applicants in writing of the ABIM policies and procedures that may affect the gastroenterology fellow’s eligibility for ABIM certification. It is anticipated that fellows who successfully complete the gastroenterology program will apply for ABIM Certification in gastroenterology and meet the minimal requirements set forth by the Board for certification. Applicants to the Certification Examination in gastroenterology must be ABIM-certified in internal medicine.

3. The ABIM requires a minimum of 36 months of formal training in gastroenterology. Eighteen months of training must be clinically-based. Please
refer to other sections of this manual for specifics about procedures and competency requirements.

4. ABIM requires documentation that candidates for Certification in gastroenterology are competent in patient care, medical knowledge, practice-based learning and improvement (PBLI), interpersonal and communications skills, professionalism, and systems-based practice. The Board will require verification of gastroenterology fellows’ clinical competence from the program director. All fellows must receive satisfactory ratings on overall clinical competence, moral and ethical behavior, and the six core competencies during the 3 years of training.

IV. Educational Program

A. Curricular Components

1. The overall educational goals of the gastroenterology program will be distributed to gastroenterology fellows and faculty annually.

2. Competency-based goals and objectives for each assignment at HUP, PPMC, PVAMC, and CAM will be distributed in either written or electronic format to gastroenterology fellows and faculty annually. The goals of each rotation will be reviewed with the gastroenterology fellow at the beginning of each rotation.

3. The written goals and objectives will address the educational purpose, teaching methods, the variety of gastrointestinal and liver diseases, patient characteristics, and types of clinical inpatient and outpatient encounters, procedures and services that the gastroenterology fellow will likely experience.

4. In addition to the above, other educational methods including reading lists and the use of pathological material pertaining to gastroenterology and hepatology will be discussed.

5. After admission to the gastroenterology program, the fellow will be familiar with the methods of evaluation pertaining to competence in each rotation.

6. Competency-based goals and objectives for each assignment will define the level of gastroenterology fellow supervision by faculty members in inpatient and outpatient settings.

The overall goals of the program and competency-based goals for each rotation will be reviewed and revised at least every 3 years by gastroenterology faculty members and fellows to keep the goals and objectives of the gastroenterology program current and relevant.
7. The gastroenterology program will schedule regular didactic sessions pertaining to management of patients with a variety of gastrointestinal and hepatobiliary diseases. These sessions will address the basic and clinical sciences relevant to gastroenterology, hepatology, and pancreaticobiliary diseases.

8. The overall goals of the gastroenterology program will also address fellow responsibilities for inpatient and outpatient care, progressive responsibility for patient management, and supervision of fellows during the 3 year program.

9. The ACGME competencies are patient care, medical knowledge, practice-based learning and improvement (PBLI), interpersonal and communication skills, professionalism, and systems-based practice. All competencies will be integrated into the 3 year curriculum in gastroenterology.

10. **Patient care**: Gastroenterology fellows must provide patient care that is compassionate, appropriate, and effective for the treatment of gastrointestinal and liver diseases. Gastroenterology fellows are expected to learn the practice of health promotion, disease prevention, diagnosis, care, and treatment of men and women with gastrointestinal, liver, and pancreaticobiliary diseases from adolescence to old age, during health and all stages of illness.

11. **Medical knowledge**: Gastroenterology fellows must demonstrate knowledge of established and evolving biomedical, clinical, epidemiological, and social-behavioral sciences, as well as the application of this knowledge to the care of patients with gastrointestinal, hepatic, and pancreaticobiliary diseases. Gastroenterology fellows are expected to learn the scientific method of problem solving pertaining to gastroenterology and hepatology, evidence-based decision making, a commitment to lifelong learning, and an attitude of caring that is derived from humanistic and professional values.

12. **Practice-based learning and improvement (PBLI)**: Gastroenterology fellows must demonstrate the ability to investigate and evaluate their care of patients with gastrointestinal, liver, and pancreaticobiliary diseases, to appraise and assimilate scientific evidence, and to continuously improve patient care based on constant self-evaluation and life-long learning. Fellows must develop skills and habits that identify strengths, weaknesses, and limits in one’s knowledge and expertise. In addition, fellows must set learning and improvement goals, identify and perform appropriate learning activities, and systematically analyze the practice of gastroenterology and hepatology using quality improvement methods and implement changes with the goal of practice improvement. The fellow must incorporate formative evaluation feedback into the daily practice of gastroenterology and hepatology. The fellow must locate, appraise, and assimilate evidence from scientific studies related to their patients with gastrointestinal, hepatic, and pancreaticobiliary diseases. Gastroenterology fellows must utilize information technology pertaining to gastroenterology and hepatology to optimize learning and participate in the education of patients with
13. **Interpersonal and communication skills:** Gastroenterology fellows must demonstrate interpersonal and communication skills that result in the effective exchange of information and collaboration with patients and their families, and health professionals. Fellows are expected to communicate effectively with patients who have gastrointestinal, liver, and pancreatobiliary diseases, their families, and the public across a broad range of socioeconomic and cultural backgrounds. Gastroenterology fellows must communicate effectively with other physicians, allied health professionals, and health-related agencies. Fellows must work effectively as a member or leader of the gastroenterology and hepatology teams. Fellows are expected to act in a consultative role to other physicians and health professionals and maintain comprehensive, timely, and legible medical records, if applicable.

14. **Professionalism:** Gastroenterology fellows must commit to carrying out professional responsibilities and adherence to ethical principles. The fellow must demonstrate compassion, integrity, and respect for others. The fellow must be responsive to patient needs that supersede self-interest. The fellow must respect patient privacy and autonomy. The fellow must be held accountable to patients, society, and the profession. The fellow must be sensitive and responsive to a diverse patient population, including but not limited to diversity in gender, age, culture, race, religion, disabilities, and sexual orientation.

15. **Systems-based practice:** Gastroenterology fellows must demonstrate awareness and responsiveness to healthcare systems at HUP, PPMC, PVAMC, and CAM. Furthermore, fellows must be able to call effectively on other resources in the broader healthcare system to provide optimal health care. Fellows are expected to work effectively in various health care delivery settings relevant to gastroenterology and hepatology, coordinate patient care within the health care system relevant to the subspecialty, and incorporate considerations of cost awareness and risk-benefit analysis in patient and/or population-based care as appropriate. The fellow must also advocate for quality care in gastroenterology and hepatology and for systems that promote quality care. The fellow must work in interprofessional teams to enhance patient safety and improve patient care quality pertaining to gastroenterology and hepatology, and participate in identifying system errors and implementing potential systems solutions.

**B. Gastroenterology Fellow’s Scholarly Activities**

1. The gastroenterology curriculum will advance the fellow’s knowledge of the basic principles of research, including how such research is conducted, evaluated, explained to patients, and applied to patient care.
2. Gastroenterology fellows will participate in a scholarly activity during the 3 year program. The program will ensure a meaningful, supervised research experience with appropriate protected time either in blocks or concurrent with gastroenterology and hepatology clinical rotations. During the scholarly activity, it is expected that the essential clinical experience in the gastroenterology and hepatology curriculum will be maintained. The gastroenterology fellows will be supervised and advised by qualified faculty members in the conduct of research. Details about research experiences including but not limited to basic science and Master’s in Clinical Epidemiology (MSCE) tracks and training grants may be found elsewhere in this manual.

3. Gastroenterology fellows will be expected to learn the standards of ethical conduct of research in gastroenterology and hepatology, design and interpretation of research studies, the use of informed consent, research methodology, and interpretation of data.

4. Gastroenterology fellows must demonstrate evidence of recent research productivity in gastroenterology, hepatology and/or pancreaticobiliary diseases through publication of manuscripts or abstracts in peer-reviewed journals, abstracts presented at national meetings pertaining to gastroenterology, hepatology, and/or pancreaticobiliary diseases, and/or publication of review articles in journals or chapters in textbooks.

5. HUP, PPMC, PVAMC, CAM, and the gastroenterology program will allocate adequate educational resources to facilitate fellow involvement in scholarly activities.

C. Definition and Scope of Gastroenterology

1. Gastroenterology is a subspecialty of internal medicine and is a voluntary component in the continuum of the educational process. Training in gastroenterology should take place after satisfactory completion of an accredited program in internal medicine.

2. To be eligible for accreditation, the gastroenterology subspecialty program must function as an integral part of an accredited residency program in internal medicine. The internal medicine residency program at HUP, PPMC, PVAMC, and CAM is accredited by ACGME.

3. There is a reporting relationship, to ensure compliance with the ACGME accreditation standards, from the program director of the subspecialty program to the program director of the parent internal medicine residency program. Thomas W. Faust, M.D., M.B.E., is the program director of the gastroenterology program. A reporting relationship exists between Dr. Faust and Lisa M. Bellini, M.D., program director of the internal medicine program at HUP, PPMC, PVAMC, and
CAM. There will also be a reporting relationship between Dr. Faust and Dr. Anil Rustgi, Chief of the Division of Gastroenterology. Dr. Rustgi, will be kept informed of all educational activities and will be provided an annual summary statement. Dr. Jonathan Katz serves as Associate Program Director in Gastroenterology and oversees all research training programs for gastroenterology fellows enrolled in the program.

4. The discipline must be one for which a certificate is offered by the American Board of Internal Medicine. The ABIM offers a certification examination in gastroenterology.

5. Gastroenterology programs must provide advanced training to allow the gastroenterology fellow to acquire competency in subspecialty with sufficient expertise to act as a consultant. The gastroenterology program at HUP, PPMC, PVAMC, and CAM will meet this need.

D. Didactics

1. **Inpatient and consultation teaching**: Teaching and management rounds are usually combined in subspecialty training programs. These rounds will be required in the Penn gastroenterology program. These rounds must be patient-based sessions in which current cases of gastrointestinal, hepatic, and pancreaticobiliary diseases are presented as a basis for discussion of such points as interpretation of clinical data, laboratory tests, imaging studies, and endoscopic and liver biopsies. Moreover, these rounds are used to address the pathophysiology and differential diagnosis of gastrointestinal and liver diseases whereby management decisions are made. The appropriate use of technology including routine laboratory tests, invasive and non-invasive imaging studies, and advanced endoscopic/radiologic procedures pertaining to patients with gastrointestinal and liver diseases will also be stressed. The incorporation of evidence and patient values in clinical decision making and disease prevention will also be emphasized. The inpatient gut and liver services at HUP and the combined inpatient gut/liver services at PPMC and PVAMC will serve as vital sources of instruction for the gastroenterology fellow. Medical students at Penn, medical interns, and medical residents at HUP have required rotations through the inpatient liver service. The gut service at HUP and the combined gut/liver services at PPMC and PVAMC service primarily as consultant services. There is no dedicated inpatient service for these rotations. At HUP, PPMC, and PVAMC, the gastroenterology fellow will have the opportunity to participate actively in daily ward rounds, formal inpatient lectures, patient management decisions, and education of medical students, Penn medical housestaff, and healthcare personnel who rotate from outside institutions. The fellow will be exposed to a wide variety of gastrointestinal, hepatic, and pancreaticobiliary diseases while on their inpatient rotations. The total teaching time spent in combined management and teaching rounds must exceed by a minimum of 5 hours per week the time
required to supervise the care of patients. In addition to daily patient walk rounds, the gastroenterology fellow will be required to attend daily sit down patient rounds of 1.5 hours in length on the inpatient liver service at HUP, 5 times per week plus one 30 minute inpatient formal didactic session pertaining to liver disease weekly. While on the gut service at HUP, the fellow will be required to attend the 30 minute weekly didactic discussion pertaining to gastrointestinal disease. In addition to formal sit down rounds and didactic sessions, gastroenterology fellows will be expected to attend weekly pathology sessions to review gastrointestinal and liver biopsy slides under the direction of Emma Furth, M.D., Professor of Pathology and Laboratory Medicine.

2. **Conferences and Seminars**: Conferences must be conducted regularly as scheduled and must be attended by faculty and fellows. At a minimum these will include at least 1 clinical conference weekly, 1 literature review conference (journal club) monthly, 1 research conference monthly, and at least 1 core curriculum conference weekly, when averaged over 1 year. The core curriculum conference series will include the basic sciences relevant to the subspecialty of gastroenterology and hepatology. The core curriculum conference series will cover the major clinical topics in the subspecialty. The core curriculum conference series will repeat often enough, or be made available for review on tape or electronically, to afford each fellow an opportunity to attend or review most of the core conference topics. Within the Division of Gastroenterology, there are weekly clinical case conferences, grand rounds, basic science and clinical gastroenterology core curricula conferences, journal clubs, pathology conferences, liver conferences, hepatobiliary tumor conferences, and research seminars/conferences. Fellows must participate in formal review of gross and microscopic pathological material from patients who have been under their care. The gastroenterology fellow will be required to participate in planning and conducting conferences (e.g. clinical and core curricula conferences, journal clubs, or research conferences) during the 3 year fellowship program.

3. **Interdisciplinary Topics**: The gastroenterology fellow will become proficient in the critical assessment of medical literature pertinent to gastroenterology and hepatology. The fellow will also become proficient in the use of medical informatics, clinical epidemiology, and biostatistics. If desired, the gastroenterology fellow can take advantage of the resources offered by Penn’s Center for Clinical Epidemiology and Biostatistics (CCEB) within the Department of Biostatistics and Epidemiology (DBE). Gastroenterology fellow instruction will include clinical ethics, medical genetics, quality assessment, quality improvement, patient safety, risk management, preventive medicine, pain management, end-of-life care, and physician impairment. Educational experiences are offered through Penn’s Center for Bioethics and the Division of Medical Genetics. Instruction in quality assessment and improvement, patient safety, risk management, preventive medicine, pain management, end-of-life care, and physician impairment can be obtained throughout The University of Pennsylvania complex.
E. Clinical

1. **Ambulatory medicine**: The gastroenterology program will have on-site faculty whose primary responsibilities will include the supervision and teaching of fellows. Gastroenterology fellows will be able to obtain appropriate and timely consultation from other specialties within HUP, PPMC, PVAMC, or CAM for their ambulatory patients. HUP, PPMC, PVAMC, and CAM will provide ancillary services including but not limited to nurses, social workers, language interpreters, and dieticians.

2. **Experience with continuity ambulatory patients**: Gastroenterology fellows will have a continuity ambulatory clinical experience in order to develop a continuous healing relationship with patients for whom they provide care relevant to gastroenterology and hepatology. This rotation will provide the gastroenterology fellow with experience in the assessment and management of patients with gastrointestinal, hepatic, and pancreaticobiliary diseases. The fellow will be required to participate in a half day continuity clinic at CAM, PPMC, or PVAMC. These clinics will be ongoing during the 3 year fellowship. Gastroenterology fellows are expected to attend the weekly ½ day clinic in addition to their inpatient rotations. Gastroenterology fellows will be responsible for 4 to 8 patients during each half day session in the continuity clinic. Over the course of the gastroenterology fellowship, the fellow’s panel of patients will include at least 25% from each gender. The outpatient ambulatory clinics associated with the gastroenterology program will provide the fellows the opportunity to observe and learn the course of gastrointestinal and liver diseases.

3. **Other outpatient rotations**: Senior gastroenterology fellows have the opportunity to rotate through a variety of other outpatient experiences including but not limited to endoscopy, medical imaging and clinics pertaining to inflammatory bowel disease, hepatology, motility disturbances, oncology, genetics, pancreaticobiliary diseases, and nutrition.

4. **Procedures**: Gastroenterology fellows will develop a comprehensive understanding of the indications, contraindications, limitations, complications, techniques, and interpretation of results of diagnostic and therapeutic procedures integral to gastroenterology and hepatology. Please review other portions of this manual about details regarding procedural requirements. These procedures include but are not limited to upper endoscopy with or without treatment of nonvariceal and variceal hemorrhage, esophageal dilation, colonoscopy with or without polypectomy, percutaneous endoscopy gastrostomy (PEG), capsule endoscopy, and liver biopsy. Gastroenterology fellows will acquire knowledge of and skill in educating patients about the rationale, technique, and complications of procedures relevant to gastroenterology and hepatology and in obtaining
procedure-specific informed consent. Faculty supervision of gastroenterology fellows’ procedures will occur during their training.

V. Evaluation

A. Fellow

1. Formative evaluation: The gastroenterology faculty will evaluate fellow performance in a timely manner during each rotation or similar educational assignment and document this evaluation at the completion of the assignment. The faculty will discuss this evaluation with the fellow at the completion of the assignment. The gastroenterology program will provide objective assessments of competence in patient care, medical knowledge, PBLI, interpersonal and communication skills, professionalism, and systems-based practice. Gastroenterology fellows will be evaluated by gastroenterology faculty, peers, patients, self, and other professional staff. The program will document performance improvement during the 3 year program. In addition, the program will provide the gastroenterology fellow with documented semiannual evaluation of performance with feedback. The evaluation will include formal evaluations of knowledge, skills, and professional growth pertaining to gastroenterology and hepatology. Appropriate counseling from the program director will be provided, if needed. The evaluations of fellow performance will be accessible for review by the fellow in accordance with institutional policy. Permanent records of gastroenterology fellow performance and counseling will be maintained in the fellow’s file and will be accessible to the fellow and other authorized personnel. The record of evaluation will document the fellow achievement of competencies using appropriate evaluation methods. The record of evaluation will document that records were maintained by logbook or equivalent to demonstrate that the gastroenterology fellow has achieved competence in the performance of invasive procedures. The records will state the indications and complications, and include names of supervising physicians. The records will be sufficiently detailed to permit use for future credentialing. The record of evaluation will document that gastroenterology fellows were evaluated in writing and their performance reviewed with them verbally on completion of each rotation. The record of evaluation will also document that the fellow was evaluated in writing and their performance in continuity clinic reviewed with them verbally on at least a semiannual basis.

2. Summative evaluation: The program director, Thomas W. Faust, M.D., M.B.E., will provide a summative evaluation for gastroenterology fellows upon completion of the 3 year program. The evaluation will become a part of the fellow’s permanent record maintained by HUP and must be accessible for review by the fellow in accordance with institutional policy. The evaluation will document the fellow’s performance during the final period of education and verify that the
fellow demonstrated sufficient competence to enter practice without direct supervision. The program director will prepare annually a written summative evaluation of the clinical competence of each fellow. The summative evaluation will stipulate the degree to which the fellow has achieved the level of performance expected in the core competencies (patient care, medical knowledge, PBLI, interpersonal and communication skills, professionalism, and systems-based practice). As per the Curricular Guidelines for training in gastroenterology, the letter of evaluation should be written within 2 months of completion of the fellowship stating that the fellow has met all criteria as a gastroenterologist.

**B. Faculty**

1. At least annually, the gastroenterology program will evaluate faculty performance as it relates to the educational program. The evaluations will include a review of the faculty’s clinical teaching abilities, commitment to the educational program, clinical knowledge, professionalism, and scholarly activities. This evaluation will include at least annual written confidential evaluations by gastroenterology fellows. The fellows will evaluate each attending physician at the end of the rotation. These evaluations will be reviewed with each attending physician annually. The fellows will evaluate the faculty’s effectiveness as teachers and evaluate the effectiveness of the rotation in achieving the goals and objectives identified in the curriculum for that rotation. The fellows will also have the ability to evaluate formally the effectiveness of ambulatory teaching on an ongoing basis. The evaluations will be used for faculty counseling and for selecting faculty for specific teaching assignments.

**C. Program Evaluation and Improvement**

1. The gastroenterology program will document formal, systematic evaluation of the curriculum at least annually. The program will monitor and track fellow performance, faculty development, graduate performance, including performance of program graduates on the ABIM Certification Examination in gastroenterology. At least 80% of those eligible to take the ABIM subspecialty certifying examination upon completion of their training for the most recent 5 year period will have taken the ABIM Certifying Examination in gastroenterology. The gastroenterology fellows and faculty will have the opportunity to evaluate the program confidentially and in writing at least annually and the program will use these evaluations to improve the program. If deficiencies are found, the program will prepare a written plan of action to document initiatives to improve performance. The action plan will be reviewed and approved by the teaching faculty and documented in the meeting minutes.
VI. Fellow Duty Hours in Working Environment

A. Principles

1. The gastroenterology program will be committed to and be responsible for promoting patient safety and fellow well-being and to providing a supportive educational environment. The learning objectives will not be compromised by excessive reliance on fellows to fulfill service obligations. Didactic and clinical education will have priority in the allotment of gastroenterology fellow time and energy. Duty hour assignments will recognize that faculty and fellows collectively have responsibility for the safety and welfare of patients.

B. Supervision of Fellows

1. The gastroenterology program will provide qualified faculty to supervise fellows in patient care activities.

C. Fatigue

1. Gastroenterology faculty and fellows will be educated to recognize the signs of fatigue and sleep deprivation and must adopt and apply policies to prevent and counteract its potential negative effects on patient care and education.

D. Duty Hours

1. Duty hours are defined as all clinical and academic activities related to the gastroenterology program; i.e. patient care (inpatient and outpatient), administrative duties relevant to patient care, the provision for transfer of patient care, time spent in-house during call activities (if performed), and scheduled activities, such as conferences. Duty hours do no include reading and preparation time spent away form the duty site.

2. Duty hours will be limited to 80 hours per week, averaged over a 4 week period, inclusive of all in-house call activities.

3. Gastroenterology fellows will be provided with 1 day in 7 free from all educational and clinical responsibilities, averaged over a 4 week period, inclusive of call.
4. Adequate time for rest and personal activities will be provided. This will consist of a 10 hour time period provided between all daily duty periods and after in-house call (if performed).

E. On-Call Activities

1. It is anticipated that there will be no in-house call for the gastroenterology program; however, if this were to occur, it would not occur more frequently than every 3rd night, averaged over a 4 week period.

2. It is anticipated that here will be no in-house call for the gastroenterology program; however, if this were to occur, continuous on-site duty will not exceed 24 consecutive hours. Fellows may remain on duty for up to 6 additional hours to participate in didactic activities, transfer care of patients, conduct outpatient clinics, and maintain continuity of medical and surgical care.

3. It is anticipated that there will be no in-house call for the gastroenterology program; however, if this were to occur, no new patients will be accepted after 24 hours of continuous duty. A new patient is defined as any patient to whom the gastroenterology fellow has not previously provided care.

4. At-home call (pager call): The frequency of at-home call is not subject to the every 3rd night, or 24 + 6 limitation. However, at-home call will not be so frequent to preclude rest and reasonable personal time for the gastroenterology fellow. Fellows taking at-home call will be provided with 1 day in 7 completely free from all educational and clinical responsibilities, averaged over a 4 week period. When gastroenterology fellows are called into the hospital from home, the hours fellows spend in-house are counted toward the 80 hour limit.

F. Moonlighting

1. Moonlighting must not interfere with the ability of the gastroenterology fellow to achieve the goals and objectives of the educational program. Internal moonlighting will be considered part of the 80-hour weekly limit on duty hours. Fellows will be required to submit documentation of all internal and external moonlighting activities to the program director for approval.

G. Service vs. Education

1. HUP, PPMC, PVAMC, and CAM will not place excessive reliance on gastroenterology fellows to meet the service needs of the training site. Fellows
will not be required to provide routine intravenous, phlebotomy, or messenger/transporter services. The fellow’s service responsibilities will be limited to patients for whom the teaching service has diagnostic and therapeutic responsibilities. The admission and continuing care of patients by fellows will be limited to those patients on the teaching service.

**H. Grievance Procedures and Due Process**

1. In the event of an adverse annual evaluation, the gastroenterology fellow will be offered an opportunity to address a judgment of academic deficiencies or misconduct before a formally constituted clinical competence committee. There is a written policy that ensures that academic due process is provided.

**VII. Program Requirements for Gastroenterology**

**A. Educational Program**

1. The subspecialty educational program in gastroenterology at HUP, PPMC, and PVAMC will function as an integral component of the accredited specialty program in internal medicine at HUP, PVAMC, and PVAMC. The gastroenterology program will be organized to provide training and experience at a sufficient level for fellows to acquire competency as a specialist in gastroenterology.

2. The gastroenterology program will be 3 years in duration. Fellows entering the program will be required to have completed a 3 year ACGME accredited internal medicine program.

3. All 36 months of the gastroenterology program will include clinical experiences and appropriate protected (block or concurrent) time for research.

4. The Curricular Guidelines for training in gastroenterology recommend a minimum of 18 months devoted to clinical experience, and hepatology should comprise at least 5 months of this experience.

5. The gastroenterology training program will provide opportunities for fellows to develop clinical competence in the field of gastroenterology, hepatology, endoscopy, clinical nutrition, and gastrointestinal oncology. Details about these rotations can be found elsewhere in this manual.
**B. Faculty**

1. The gastroenterology program will accept 5 fellows per year. The program meets the ACGME requirements pertaining to faculty to fellow ratio of 1:1.5 for training. The faculty of the Penn gastroenterology program has a broad base of knowledge in gastroenterology and hepatology as recommended in the Curricular Guidelines for training in gastroenterology.

2. Thomas W. Faust, M.D., M.B.E., will serve as program director and is ABIM-certified in Internal Medicine, Gastroenterology, recertified in Gastroenterology, and certified in Transplant Hepatology. These requirements satisfy ACGME, AASLD, and AST.

**C. Facilities and Resources**

1. HUP, PPMC, PVAMC, and CAM will serve the gastroenterology program.

2. **Liver transplant program**: The transplant program at HUP is a member in good standing of the United Network for Organ Sharing (UNOS) and will be affiliated with the ACGME-accredited gastroenterology program at HUP, PPMC, PVAMC, and CAM. Over 100 transplants are performed annually at Penn.

3. **Imaging**: The gastroenterology program at HUP, PPMC, PVAMC, and CAM works in close collaboration with medical imaging and interventional radiology (IR). IR is capable of performing a multitude of gastrointestinal and hepatobiliary diagnostic and therapeutic procedures.

4. **Surgery and Pathology**: The gastroenterology fellows and faculty will share patient co management responsibilities with surgery attendings and surgery fellows for patients with a variety of gastrointestinal, pancreaticobiliary, and hepatic diseases.

5. **Other facilities, resources, or support services**: Support services including but not limited to pathology, diagnostic radiology, interventional radiology, medical imaging and nuclear medicine, general surgery, and oncology are available at the Penn training program in gastroenterology. Facilities for intensive care of critically ill patients with gastrointestinal, pancreaticobiliary, and hepatic disorders are provided including but not limited to a working relationship with surgery, oncology, pediatrics, radiology, and pathology services.

6. **Patient population**: The Penn gastroenterology fellowship program will afford the fellow intense inpatient and outpatient exposure to patients with a wide variety of gastrointestinal, pancreaticobiliary, and hepatic diseases at HUP, PPMC, PVAMC, and CAM.
7. **Diagnostic laboratory services**: There are procedure laboratories completely equipped to provide modern capability in gastrointestinal procedures at HUP, PPMC, PVAMC, and CAM. This equipment includes but is not limited to up-to-date diagnostic and therapeutic instruments and accessories and esophageal motility instrumentation. Facilities for parasitology testing are provided.

### D. Specific Program Content

1. **Clinical experience**: Gastroenterology fellows will have formal instruction and clinical experience at HUP, PPMC, PVAMC, and CAM. They will demonstrate competence in the evaluation and management of the following disorders: diseases of the esophagus, acid peptic disorders of the gastrointestinal tract, motor disorders of the gastrointestinal tract, irritable bowel syndrome, disorders of nutrient assimilation, inflammatory bowel diseases, vascular disorders of the gastrointestinal tract, gastrointestinal infections including retroviral, mycotic, and parasitic diseases, gastrointestinal diseases with an immune basis, gallstones, and cholecystitis. Gastroenterology fellows will also be exposed to a wide variety of liver diseases including but not limited to alcoholic liver disease, cholestatic syndromes, drug-induced liver injury, hepatobiliary neoplasms, chronic liver disease, HIV-related diseases, acute and chronic hepatitis, cirrhosis and portal hypertension. Fellows will also be exposed to biliary and pancreatic diseases, women's health issues in digestive diseases, geriatric gastroenterology, gastrointestinal bleeding, genetic and inherited disorders, medical management of patients under surgical care for gastrointestinal disorders, and management of gastrointestinal emergencies in the acutely ill patient.

2. **Technical and other skills**: Gastroenterology fellows will have formal instruction and will demonstrate competence in the performance of the following procedures. A skilled preceptor will be available to teach and supervise the fellows in the performance of these procedures which must be documented in the fellow’s record giving the indications, outcomes, diagnoses, and supervisor(s). Assessment of procedural competence should not be based solely on a minimum number of procedures performed, but on a formal evaluation process. These evaluations will include objective performance criteria (e.g. rate of successful cecal intubation for colonoscopy). Fellows will become proficient in the performance of esophagogastroduodenoscopy (EGD) and they must perform a minimum of 130 supervised studies. Fellows will become proficient in esophageal dilation and they must perform a minimum of 20 supervised studies. Fellows will become proficient in flexible sigmoidoscopy and they must perform a minimum of 30 supervised studies. Fellows will become proficient in colonoscopy with polypectomy and fellows must perform a minimum of 140 supervised colonoscopies and 30 supervised polypectomies. Fellows will become proficient in percutaneous liver biopsy and they must perform a minimum of 20 supervised studies. Fellows will become proficient in percutaneous endoscopy gastrostomy (PEG) and they must perform a minimum of 15 supervised studies. Fellows will
become proficient in biopsy of the mucosa of the esophagus, stomach, small bowel, and colon as well as demonstrate proficiency in gastrointestinal motility studies and 24-hour pH monitoring. Fellows will become proficient in upper and lower gastrointestinal non-variceal hemostasis and they must perform 25 supervised cases including 10 cases with active bleeding. Fellows will become proficient in variceal hemostasis and they must perform a minimum of 20 supervised cases including 5 cases with active bleeding. Fellows will become proficient in other diagnostic and therapeutic procedures utilizing enteral intubation. Fellows will become proficient in moderate and conscious sedation. The gastroenterology program at HUP, PPMC, PVAMC, and CAM will provide formal instruction and clinical experience in the interpretation of the following diagnostic and therapeutic techniques and procedures: gastric, pancreatic, and biliary secretory testing, enteral and parenteral nutrition, pancreatic needle biopsy, ERCP in its diagnostic and therapeutic applications, imaging of the digestive system including but not limited to ultrasound, endoscopic ultrasound, computed tomography, magnetic resonance imaging, vascular radiography, contrast radiography, nuclear medicine, and percutaneous cholangiography.

3. **Formal instruction**: The Penn GI fellowship program will include emphasis on the pathogenesis, manifestations, and complications of gastrointestinal disorders, including the behavioral adjustments of patients to their problems. The impact of various modes of therapy and the appropriate utilization of laboratory tests and procedures will be stressed. In addition to formal instruction in the areas outlined above, specific content areas that will be included in the formal educational program (lectures, conferences, seminars, and journal clubs) include the following: anatomy, physiology, pharmacology, pathology and molecular biology related to the gastrointestinal system including the liver, biliary tract, and pancreas. Additional areas include but are not limited to the natural history of digestive diseases, factors involved in nutrition and malnutrition, surgical procedures employed in relation to digestive system disorders and their complications, prudent cost-effective and judicious use of special instruments, tests, and therapy in the diagnosis and management of gastroenterologic disorders, liver transplantation, sedation and sedative pharmacology, and interpretation of abnormal liver chemistries.
VIII. Selected References

