

## MINUTES OF THE CURRICULUM PLANNING COMMITTEE

September 1, 2010

PRESENT: John Bigbee, Georgia Blackwood, Linda Costanzo, Craig Cheifetz, Bob Diegelmann, Susan DiGiovanni, Alan Dow, Philip Ernest, Margaret Grimes, Pooya Jahanshahi, David Jessee, Richard Krieg, Virginia Pallante, Jeanne Schlesinger, Sahar Lotfi-Emran, David Reines, Polina Rovner, Russ Seneca, Vibin Roy, Jeanne Schlesinger, and Ike Wood

ABSENT: Nirjhor Bhowmik, Kate Bowers, Joel Browning, MaryEllen Cleary, Steve Crossman, Jeff Dupree, Doug Franzen, Frank Fulco, Phil Hylemon, Maryann Martinovic, Charles Nottingham, Kimberly Oh and Evan Reiter.

The meeting was called to order at 3:10 p.m. by Ike Wood, Committee Chair.

Dr. Wood informed the committee that during the meeting the focus would be on three topics:

1. A review of the new curriculum as developed to date.
2. A progress report on the continuity clinic.
3. A presentation on the proposed clinical concentrations and advanced clinical concentrations.

First, a graphic design of the new curriculum was presented by Ms. Schlesinger with the working title: “The C<sup>3</sup> Curriculum”—centered on the needs of the learner; clinically driven; and competency based outcomes.

The Scientific Foundations of Medicine and Applied Medical Sciences were reviewed as developed through the first two semesters of medical school. Concerns raised were:

1. During the Scientific Foundations of Medicine Course, how far should a subject matter be taken before it is resumed in the Applied Medical Sciences (e.g., principles of biochemistry—amino acids, proteins, carbohydrate and fatty acids).
2. Would there be sufficient time to cover the material in the Scientific Foundations of Medicine.

In regard to point #1, Dr. Costanzo indicated that this would need to be worked out as the involved faculty plan the details of course organization and presentation. In regard to point #2, Dr. Wood suggested that new methods of educational pedagogy will need to be used to effectively and efficiently utilize the time available. Dr. Dow also pointed out the need to have clinicians work with the basic scientist about the depth of knowledge needed in areas covered by the Scientific Foundations of Medicine.

Dr. Wood said he would like to appoint subcommittees to begin planning the curriculum for the longitudinal themes. Dr. Dow recommended that four of the themes be combined and the consensus of the committee was to merge the following:

1. Cultural competency and diversity
2. Integrative medicine/complementary medicine

3. Physical and psychological comfort of the patient
4. Social and behavioral context of health and illness

Recommended faculty for developing the curriculum in these areas was:

1. FCM faculty and staff
2. Cheryl Al-Mateen
3. Steve Crossman
4. Melissa Bradner
5. Bennett Lee
6. Mark Cooper
7. Mary Shall
8. Anna Bitner
9. Leanne Yanni
10. Laurie Lyckholm
11. Cheryl Garland
12. Jim Levenson
13. Faculty from the School of Social Work

Other longitudinal themes and recommended faculty are as follows:

- Clinical Skills—FCM faculty and staff
- Communication Skills—FCM faculty and staff
- Ethics and professionalism—Laurie Lyckholm, Kathy Kreutzer, Jim Levenson, Lex Tartaglia
- Evidence based medicine—Saba Masho, Frank Macrina, Elizabeth Marlowe, Mike Edmonds, Jeff Kushinka
- Genetics—Virginia Pallante, Joanne Bodurtha, Arti Pandya, Rachel Baughman Gannaway, John Quillin
- Growth, development and aging—Mike Ryan, Sean McKenna, Peter Boling
- Knowledge management/informatics—Alistair Erskine, Betsy Miller, Colin Banas
- Patient Safety—Alan Dow, Shawna Perry
- Population Health—Mike Edmonds, Saba Masho, Gonzalo Bearman
- Wellness and prevention—NO NAME(S) SUBMITTED
- Career Development—Chris Woleben

Ms. Lotfi-Emran suggested that it would be beneficial to have faculty working on each theme that did not necessarily have expertise in the area to help to balance the actual depth and breath of each theme. Dr. Wood also suggested that there be student membership for each theme committee.

In the absence of Dr. Crossman, Dr. Wood presented a summary report on the continuity clinic. This project has been renamed the “Interprofessional Education and Service to the Underserved in a Changing Healthcare Environment.” Dr. Wood reviewed the timeline for the project and indicated that it would involve learners and preceptors from the Schools of Nursing, Pharmacy, Medicine and Social Work. The targeted pilot patient population would be indigent patients with chronic health diseases who participate in the

Virginia Coordinated Care program. A pilot project is anticipated to begin in the fall of 2011 using medical students from the International/Inner City/Rural preceptorship program.

Dr. Wood reminded the committee that when we submit the new curriculum to the AAMC for approval, we will also have to include our methods for evaluating the success of changes, such as the continuity clinic. He explained to the committee that when a similar project was piloted at Harvard for M3 students, the students were divided into three groups: students who wanted the traditional curriculum; students who wanted the continuity experience, but were denied; and students who wanted the continuity experience and completed it. Concerns were raised that using the ICRP students solely in the pilot might bias the results. Discussion ensued and it was suggested that it might be better to follow the Harvard model. In addition, Dr. Dow raised concerns about the long-term feasibility of the clinic and whether a business plan had been developed. Dr. Wood suggested that we table further discussion of the topic until Dr. Crossman could be present.

Dr. Cheifetz and Dow presented the “Clinical Curriculum Proposal.” Guiding principles are:

- Student-driven career development
- Residency-driven curricular tracks
- Increased scholarship (broadly defined)
- The current third-year curriculum generally prepares students well for internship
- Competency-driven advancement

The Core Clinical Clerkships would be in four-week increments by student preferences and allow students with a strong performance in the first four weeks of clerkships requiring 8 weeks to advance to an AI level for the later four weeks. The Core Clinical Clerkships allow for eight weeks of career development electives and four weeks of advanced education/clinical inquiry whereby students would be assigned to clinical teams to research topics relevant to the provision of care to the patients on that team.

During this time, it would be expected that students will also:

- Through mentorship, develop an areas of clinical concentration
- Select a scholarly project
- Continue with the longitudinal themes

The Advanced Clinical Concentrations are driven in concert with an advisor and include specific recommendations for careers tracks that would provide advanced training prior to internships (tracks are yet to be developed). During this time, students will be expected to complete the following:

- Two acting internships
- A critical care month
- A basic science didactics month
- A month for their scholarly project implementation
- A month for interviews

- Sixteen weeks of electives which would include time to study for Step 2 and credit/no credit electives that are consistent with career goals

They will also be expected to complete certificate coursework related to project and concentration: education, research, patient safety, quality, business, etc.

Drs. Cheifetz and Dow, and the team working with them, will continue to flesh out the details of this component of the curriculum. Included in this is clearly defining the teaching experience and changing the elective to “competent/not yet competent.” Dr. Wood suggested that this might be a good time to review the M4 Elective Catalogue to see which electives are most frequently utilized; if there are electives that are not take and should be discarded; and, how specific electives might be defined for specific career tracks.

The next meeting of the Curriculum Planning Committee will be on December 1, 2010 from 3:00-5:00 p.m. In the interim, the remainder of the Applied Medical Sciences will be developed, the Clinical Curriculum Proposal will be elaborated upon and curricula for the longitudinal themes will be advanced.

The meeting was adjourned at 4:30 p.m.

Respectfully submitted,

Ike Wood, M.D.  
Committee Chair

**MEDICAL SCHOOL CURRICULUM  
SEMESTER #1--SCIENTIFIC FOUNDATIONS OF MEDICINE**

<b>Aug</b>	<b>Sep</b>	<b>Oct</b>	<b>Nov</b>	<b>Dec</b>
<p><b>GROUP 1</b></p> <ul style="list-style-type: none"> <li>Principles of biochemistry (amino acids, proteins, carbohydrates, fatty acids)</li> <li>Membrane structure</li> <li>Organelles, cytoskeleton and their basic processes</li> <li>The cell cycle</li> <li>Gene expression</li> <li>DNA damage</li> <li>Enzymes</li> <li>pH</li> <li>Bioenergetics</li> </ul> <p><b>GROUP 2</b></p> <ul style="list-style-type: none"> <li>Connective tissue</li> <li>Epithelium and cell junctions</li> <li>Cell signaling (second messenger pathways)</li> <li>Membrane transport</li> </ul> <p><b>GROUP 3</b></p> <ul style="list-style-type: none"> <li>Basic embryology (through embryonic folding)</li> <li>Basic vocabulary and orientation of the body</li> <li>Body/organs</li> <li>Pharmacokinetics</li> <li>Drug development</li> <li>Drug evaluation and regulation</li> <li>Factors modifying drugs response</li> </ul> <p><b>GROUP 4</b></p> <ul style="list-style-type: none"> <li>Morphology of the neuron</li> <li>Membrane potentials</li> <li>Action potentials</li> <li>Synaptic and neuromuscular transmission; pharmacology of the neuromuscular junction</li> <li>Skeletal muscle</li> <li>Smooth muscle</li> </ul> <p><b>GROUP 5</b></p> <ul style="list-style-type: none"> <li>The autonomic nervous system, physiology and pharmacology</li> <li>Simple modes of inheritance (Mendelian vs. non-Mendelian)</li> <li>Genetic variations</li> <li>Genetic basis of disease</li> <li>Introduction to clinical genetics</li> <li>Multifactorial basis of common diseases</li> <li>Pharmacogenetics</li> </ul> <p><b>GROUP 6</b></p> <ul style="list-style-type: none"> <li>Introduction to cells and tissues—B and T cells</li> <li>Antigen recognition</li> <li>Innate and adaptive immunity</li> <li>Lymphocyte development</li> <li>Cell signaling—chemokines and cytokines</li> <li>Response to infection</li> <li>Hypersensitivity</li> <li>Principles of autoimmunity</li> <li>Principles of vaccination</li> <li>Bacteria</li> <li>Fungi</li> <li>Parasites</li> <li>Antimicrobial therapy for each</li> </ul> <p><b>GROUP 7</b></p> <ul style="list-style-type: none"> <li>Tools of molecular genetics</li> <li>Cellular injury and death</li> <li>Cellular adaptation</li> <li>Inflammation and repair</li> <li>Hemodynamic disorders</li> <li>Neoplasia</li> <li>Environmental pathology</li> <li>Principles of toxicology</li> <li>Molecular pathology</li> <li>Autopsy/utilization of the clinical laboratory</li> </ul>				
<p><b>Longitudinal Curriculum</b> </p> <ul style="list-style-type: none"> <li>Clinical skills</li> <li>Communication skills</li> <li>Cultural competency and diversity</li> <li>Ethics and professionalism</li> <li>Evidence-based medicine</li> <li>Genetics</li> <li>Growth, development and aging</li> <li>Integrative medicine/complementary medicine</li> <li>Knowledge management/informatics</li> <li>Patient safety</li> <li>Physical and psychological comfort of the patient</li> <li>Population health</li> <li>Social and behavioral context of health and illness</li> <li>Wellness and preventions</li> <li>Career development</li> </ul>				
<p><b>Continuity Clinic/FCM</b> </p>				

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**MEDICAL SCHOOL CURRICULUM  
SEMESTER #2—APPLIED MEDICAL SCIENCES**

Jan	Feb	Mar	Apr	May
<b>Heme/Onc/MSK</b>		<b>GI/Endocrine/Reproduction</b>		
<b>Hematology/Oncology</b> <ul style="list-style-type: none"> <li>• Introductory lecture with review of normal basic hematopoiesis/hematopoiesis (Histology)</li> <li>• Structure of bone marrow (Histology)</li> <li>• Blood cell types (Histology)</li> <li>• Normal morphology (lab)</li> <li>• Heme synthesis and metabolism—basic overview with more detailed lesson on heme (bilirubin) metabolism in the GI section (Biochemistry)</li> <li>• Oxygen-hemoglobin basics (Biochemistry)</li> <li>• Sickle cell anemia</li> <li>• RBS membrane disorders</li> <li>• Malaria, babesiosis and rickettsia (Microbiology)</li> <li>• Immune-mediated anemias</li> <li>• Porphyrias</li> <li>• Iron metabolism—deficiency anemia/sideroblastic anemia/overload</li> <li>• Thalassemia</li> <li>• Megaloblastic anemias</li> <li>• Transfusion medicine</li> <li>• Platelet phase function and platelet disorders</li> <li>• Coagulation cascade/anticoagulation/fibrinolysis physiology</li> <li>• Hemophylia</li> <li>• Von Willebrand Disease</li> <li>• TTP/HUS/DIC</li> <li>• Thrombolytic states</li> <li>• Benign WBC disorders</li> <li>• Classic myeloproliferative disorders (CML/PV/ET/PMF)</li> <li>• Neoplasia (Pathology)</li> <li>• Leukemias</li> <li>• Lymphomas</li> <li>• Bone marrow transplantation (Immunology)</li> <li>• Graft vs. host (Immunology)</li> <li>• Chemotherapy pharmacology</li> <li>• Anticoagulation therapy</li> <li>• Oncogenes</li> <li>• Cancer immunology and virology</li> <li>• Pediatrics cancers</li> <li>• Radiation oncology</li> </ul>		<b>GI</b> <p><b>Anatomy Section</b></p> <ul style="list-style-type: none"> <li>• wall &amp; inguinal region (appendectomy &amp; hernia)</li> <li>• abdominal/pelvic cavity/peritoneum</li> <li>• organs based on celiac axis <ul style="list-style-type: none"> <li>◦ spleen &amp; pancreas</li> <li>◦ liver &amp; gall bladder</li> <li>◦ gi system (virtual dissection of oral cavity followed by esophagus) up to duodenum</li> </ul> </li> <li>• superior and inferior mesenteric organs <ul style="list-style-type: none"> <li>◦ duodenum to left colic flexure, descending colon, rectum, anus</li> </ul> </li> <li>• posterior abdominal wall &amp; viscera</li> <li>• anal triangle</li> <li>• formation of GI tract (embryology)</li> </ul> <p><b>GI—Follow the Food</b></p> <ol style="list-style-type: none"> <li>1. Oral Cavity <ul style="list-style-type: none"> <li>◦ Histology (teeth, tongue and salivary glands)</li> <li>◦ Salivary glands (digestion) <ul style="list-style-type: none"> <li>▪ Secretions</li> <li>▪ Physiologic role of enzymes</li> </ul> </li> </ul> </li> <li>2. Overview of the tubular GI <ul style="list-style-type: none"> <li>◦ Histology (general structure of the tubular GI tract)</li> <li>◦ Enteric nervous system: GI motility, hormonal pathways involved with digestion, paracrines and neurocrines</li> </ul> </li> <li>3. Esophagus <ul style="list-style-type: none"> <li>◦ Histology</li> <li>◦ Swallowing reflex</li> <li>◦ Pathophysiology <ul style="list-style-type: none"> <li>▪ Motility disorders (Path &amp; Rx)</li> <li>▪ Inflammatory disorders (Path &amp; Rx)</li> <li>▪ Malignancy (Path &amp; Rx)</li> <li>▪ GERD (Gastroesophageal reflux disease)</li> </ul> </li> </ul> </li> <li>4. Stomach <ul style="list-style-type: none"> <li>◦ Histology/functional anatomy (fundus, antrum, cardia, etc.)</li> <li>◦ Physiology (acid secretion &amp; motility)</li> <li>◦ Pathophysiology <ul style="list-style-type: none"> <li>▪ PUD (peptic ulcer disease)/bleeding/Helobacter pylori (Path &amp; Rx)</li> <li>▪ Malignancy (Path &amp; Rx)</li> <li>▪ Gastronomas (Path &amp; Rx)</li> <li>▪ Pyloric stenosis</li> </ul> </li> </ul> </li> <li>5. Pancreas &amp; Biliary system <ul style="list-style-type: none"> <li>◦ Functional histology</li> <li>◦ Physiology of the biliary system</li> <li>◦ Exocrine pancreas</li> <li>◦ Pathophysiology <ul style="list-style-type: none"> <li>▪ Acute/chronic pancreatitis (Path &amp; Rx)</li> <li>▪ Pancreatic neoplasm (Path &amp; Rx)</li> <li>▪ Gall stones (Path &amp; Rx)</li> </ul> </li> </ul> </li> <li>6. Small Intestine <ul style="list-style-type: none"> <li>◦ Functional histology</li> <li>◦ Digestion and absorption</li> <li>◦ Motility &amp; secretion <ul style="list-style-type: none"> <li>▪ Carbohydrates, proteins, lipids &amp; nutrition</li> </ul> </li> <li>◦ Biochemistry of carbohydrates</li> <li>◦ Pathophysiology <ul style="list-style-type: none"> <li>▪ Diarrhea <ul style="list-style-type: none"> <li>• Whipple’s disease</li> <li>• Bacterial overgrowth</li> <li>• Lactose intolerance</li> <li>• Short bowel</li> <li>• Celiac disease</li> <li>• Mesenteric ischemia</li> <li>• Infections</li> <li>• Path &amp; Rx of above</li> </ul> </li> <li>▪ Malignancy (Path and Rx)</li> <li>▪ Carcinoid (Path and Rx)</li> </ul> </li> </ul> </li> <li>7. Large Intestine <ul style="list-style-type: none"> <li>◦ Functional Histology</li> <li>◦ Motility &amp; secretion</li> <li>◦ Physiology of defecation</li> <li>◦ Pathophysiology <ul style="list-style-type: none"> <li>▪ Irritable bowel</li> <li>▪ Inflammatory bowel</li> <li>▪ Polyps</li> <li>▪ Diverticulosis</li> <li>▪ Diverticulitis</li> <li>▪ Malignancy</li> <li>▪ Ischemc &amp; infectious colitis</li> <li>▪ Hirshprung’s disease</li> <li>▪ Path/Rx of above</li> </ul> </li> </ul> </li> <li>8. Anus/Anal Canal <ul style="list-style-type: none"> <li>◦ Functional histology</li> <li>◦ Pathophysiology</li> </ul> </li> <li>9. Liver <ul style="list-style-type: none"> <li>◦ Functional Histology</li> </ul> </li> </ol>		
<b>MSK</b> <p><b>GROUP 1</b></p> <ul style="list-style-type: none"> <li>• Formation of the limbs (Embryology)</li> <li>• Connective tissue proper (Histology and Dermatology)</li> <li>• Supporting connective tissues: cartilage and bone (Histology)</li> <li>• Bone development and repair (Histology)</li> <li>• Back muscles and laminectomy (Anatomy)</li> <li>• Regional bone and joint problems—spine (Orthopedics)</li> <li>• Back pain (PM &amp; R)</li> <li>• Shoulder and arm (Anatomy)</li> <li>• Regional bone and joint problems—shoulder and elbow (Orthopedics)</li> <li>• Forearm and hand (Anatomy)</li> <li>• Regional bone and joint problems—hand and wrist (Orthopedics)</li> <li>• Thigh and gluteal region (Anatomy)</li> <li>• Leg and foot (Anatomy)</li> <li>• Regional bone and joint problems—hip and knee (Orthopedics)</li> <li>• Regional bone and joint problems—ankle and foot (Orthopedics)</li> <li>• Review of Radiology of the Bones (Radiology)</li> <li>• Sports related injuries (PM &amp; R)</li> <li>• Arthritis (PM &amp; R)</li> <li>• Practical sessions—regional musculoskeletal medicine (PM &amp; R)</li> </ul> <p><b>GROUP 2</b></p> <ul style="list-style-type: none"> <li>• Primer on calcium, Vitamin D and parathyroid hormone (Physiology)</li> <li>• Diseases of Bone—General (Pathology) <ul style="list-style-type: none"> <li>◦ Includes metabolic bone diseases, avascular necrosis, osteomyelitis, osteoporosis</li> </ul> </li> <li>• Bone tumors (Pathology)</li> <li>• Bone pathology lab (Pathology)</li> </ul> <p><b>GROUP 3</b></p> <ul style="list-style-type: none"> <li>• Rheumatoid arthritis (Rheumatology)</li> <li>• Juvenile rheumatoid arthritis (Rheumatology)</li> <li>• Osteoarthritis (Rheumatology)</li> <li>• Seronegative spondyloarthropathies (Rheumatology)</li> <li>• Crytal related arthritis (Rheumatology)</li> <li>• Infectious arthritis (Rheumatology)</li> <li>• Lyme Disease (Microbiology)</li> <li>• Systemic lupus and related connective diseases (Rheumatology)</li> <li>• Systemic vasculitic diseases (Rheumatology)</li> <li>• MSK Pharmacology I—NSAIDs and corticosteroids</li> </ul>				

<p>(Pharmacology)</p> <ul style="list-style-type: none"> <li>MSK Pharmacology II—Disease modifying anti-rheumatic drugs (DMARDs) (Pharmacology)</li> <li>Practical sessions on diagnosis and therapy of arthritic syndrome (Rheumatology)</li> </ul> <p><b>GROUP 4</b></p> <ul style="list-style-type: none"> <li>Basic structure and function of skin (Dermatology)</li> <li>A review of basic dermatology—lecture (Dermatology)</li> <li>Descriptive dermatology (Dermatology)</li> <li>Common dermatologic problems (Dermatology)</li> <li>Dermatologic problems in systemic diseases (Dermatology)</li> <li>Joint and skin Pathology lab (Pathology)</li> </ul>	<ul style="list-style-type: none"> <li>Liver structure &amp; metabolism (drugs, bilirubin)</li> <li>Pathophysiology <ul style="list-style-type: none"> <li>Metabolic &amp; vascular diseases of the liver <ul style="list-style-type: none"> <li>Hemochromatosis, Wilson's disease &amp; alpha-1a antitrypsin deficiency, Budd-Chiari syndrome</li> </ul> </li> </ul> </li> <li>ETOH &amp; drug induced liver injury</li> <li>Autoimmune disease <ul style="list-style-type: none"> <li>Hepatitis</li> <li>Primary biliary cirrhosis</li> <li>Primary sclerosing cholangitis</li> </ul> </li> <li>Liver cirrhosis &amp; complication</li> <li>Viral hepatitis</li> <li>Glycogen storage disease</li> <li>Liver transplant</li> </ul> <p>Interdigestive system</p> <p>10. Imaging studies of the GI system (to include obstruction, volvulus, intussusception)</p> <p><b>Endocrine</b></p> <p><b>HTH-PIT Axis</b></p> <ul style="list-style-type: none"> <li>Embryology/Anatomy/Histology</li> <li>Review of second messengers</li> <li>HTH-PIT-End organ pathways <ul style="list-style-type: none"> <li>Normal posterior pituitary function</li> <li>Normal control of growth hormone secretion and growth <ul style="list-style-type: none"> <li>Acromegaly</li> <li>Growth disorders in children</li> </ul> </li> <li>Normal control of prolactin secretion <ul style="list-style-type: none"> <li>Breast histology and functional stages</li> <li>Lactation</li> <li>Prolactinoma</li> <li>Benign and malignant breast disorders</li> </ul> </li> <li>Normal HTH-PIT Thyroid Axis <ul style="list-style-type: none"> <li>Histophysiology <ul style="list-style-type: none"> <li>Synthesis of thyroid hormones</li> <li>Physiology of thyroid hormones</li> </ul> </li> <li>Pathophysiology <ul style="list-style-type: none"> <li>Hyperthyroid</li> <li>Thyroiditis</li> <li>Hypothyroid</li> <li>Thyroid nodules and goiter</li> </ul> </li> </ul> </li> <li>Normal HTH-PIT Adrenocortical Axis and Adrenal Medulla <ul style="list-style-type: none"> <li>Histophysiology <ul style="list-style-type: none"> <li>Synthesis of Adrenal hormones</li> <li>Physiology of Adrenal hormones</li> </ul> </li> <li>Pathophysiology <ul style="list-style-type: none"> <li>Adrenal cortex <ul style="list-style-type: none"> <li>Adrenal insufficiency</li> <li>Cushings</li> </ul> </li> <li>Adrenal Medulla <ul style="list-style-type: none"> <li>Pheochromocytoma</li> </ul> </li> </ul> </li> </ul> </li> <li>Calcium metabolism <ul style="list-style-type: none"> <li>Histophysiology</li> <li>Pathophysiology <ul style="list-style-type: none"> <li>Hypocalcemia</li> <li>Hypercalcemia</li> <li>Osteoporosis?</li> </ul> </li> </ul> </li> <li>Multiple Endocrine Neoplasia (MEN)</li> <li>Polyglandular Autoimmune Disorder</li> </ul> <p><b>Metabolism</b></p> <ul style="list-style-type: none"> <li>Histophysiology of the Endocrine Pancreas <ul style="list-style-type: none"> <li>Insulin secretion and action <ul style="list-style-type: none"> <li>Insulin receptors</li> <li>GLUT transporters</li> </ul> </li> <li>Glucagon secretion and action</li> </ul> </li> <li>Biochemistry of lipid metabolism – Dr. Diegelmann/Dr. Grogan</li> <li>Pathophysiology of Diabetes <ul style="list-style-type: none"> <li>Type 1 <ul style="list-style-type: none"> <li>DKA</li> </ul> </li> <li>Type 2</li> <li>Systemic complications</li> <li>Pharmacology of Diabetes drugs</li> <li>Management</li> </ul> </li> <li>Hypoglycemia</li> <li>Obesity <ul style="list-style-type: none"> <li>Normal control of appetite</li> </ul> </li> <li>Hyperlipidemia – Coordinate with Cardiovascular</li> </ul> <p><b>Reproduction</b></p> <ul style="list-style-type: none"> <li>Normal HTH-PIT Gonadal <ul style="list-style-type: none"> <li>Anatomy of the perineum and pelvis <ul style="list-style-type: none"> <li>Urogenital triangle</li> <li>Pelvic wall, diaphragm, and vessels</li> <li>Pelvic viscera</li> </ul> </li> <li>Clinical pelvic anatomy</li> <li>Embryology and sexual differentiation</li> <li>General principles of the axis</li> <li>Histophysiology</li> </ul> </li> </ul> </li></ul>
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- Male
      - Testis
      - Ducts and glands
      - Penis and erectile function
    - Female
      - Ovarian cycle
      - Uterine cycle/menstrual cycle
      - Histology of the normal Endometrium & Myometrium
  - Puberty – male and female
    - Normal puberty
    - Precocious puberty
    - Delayed puberty
    - Hypogonadism
    - Small group REI/OB viewpoint
  - Infertility – male and female
    - Pharmacology treatment for infertility
  - Menopause
    - Pharmacology treatment for menopause
  - Normal human sexual response cycle
    - Sexual disorders
    - Treatment of sexual disorders
    - Alternative sexual practices
  - Contraception, sterilization & abortion
  - Pathophysiology
    - Female
      - Benign uterine disease
      - Benign ovarian disorder
        - Benign pathology
      - Abnormal uterine bleeding
      - Endometriosis
      - Urogynecology
      - Cancer
        - Adnexa
        - Vulva and vagina
        - Cervix
        - Uterus
        - Gestational trophoblastic disease
    - Male
      - Hypospadias
      - Testicular disorders
        - Testicular torsion
        - Undescended testis
        - Testicular cancer
      - Disorders of the epididymis
      - Prostatic disorders
        - Benign prostatic hypertrophy
        - Prostatic cancer
      - Retrograde ejaculation
    - Infectious disease
      - Gyn infections & genital ulcer disease
- Pregnancy
  - Disorders of early pregnancy
  - Teratogens
  - Placental histophysiology
  - Hormones of pregnancy
  - Fetal physiology
  - Placental pathology
  - Labor
    - Normal
      - Pharmacology of induction
    - Abnormal
      - Pharmacology of the tocolytics
      - Preterm labor
  - Infections
  - Hypertension
  - Physiology of pregnancy
  - Breastfeeding
  - Isoimmunization, multiple gestation, and Intrauterine Fetal Demise
  - Endocrine disorders of pregnancy
  - Cardiovascular disorders of pregnancy
  - Prenatal diagnosis
  - Ultrasound
  - Obstetrical hemorrhage
- Intimate partner violence

### Longitudinal Curriculum

- Clinical skills
- Communication skills
- Cultural competency and diversity
- Ethics and professionalism
- Evidence-based medicine
- Genetics
- Growth, development and aging
- Integrative medicine/complementary medicine
- Knowledge management/informatics
- Patient safety
- Physical and psychological comfort of the patient

- Population health
- Social and behavioral context of health and illness
- Wellness and preventions
- Career development

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**Continuity Clinic/FCM**

Interprofessional Education and Service to the Underserved  
in a Changing Healthcare Environment  
VCU Schools of Medicine, Nursing, Pharmacy and Social Work  
VCU Health System

PILOT PROGRAM EXECUTIVE SUMMARY

The Interprofessional Education and Service (IPEdS) Program is designed to provide education to health professional and social work students while at the same time providing service to chronically ill medically underserved patients. The following summary highlights the details regarding this innovative, interdisciplinary project.

Targeted Pilot Students:

- ◆ Medical students in the International / Inner City / Rural Preceptorship program administered through the Department of Family Medicine
- ◆ Advanced practice nursing students
- ◆ Students enrolled in the Masters of Social Work program
- ◆ Pharmacy students

Targeted Pilot Patient Population:

- ◆ Indigent patients with chronic health diseases (especially hypertension and diabetes) who are participants in the VCU Health Systems Virginia Coordinated Care (VCC) program.

Timeline:

- ◆ Model clarification and application for external funding – Fall 2010
- ◆ Faculty recruitment – Fall 2010
- ◆ Faculty development – Winter/Spring 2011
- ◆ Student recruitment – Winter/Spring 2011
- ◆ PCP recruitment – Spring 2011
- ◆ Initiation of Pilot – Fall 2011

Key Elements of Project Design:

- ◆ Interprofessional student teams will provide intensive case coordination and clinical services to a subset of VCC patients with uncontrolled chronic disease states who are referred to the program by their primary care physician (PCP)
  - Review of all pertinent clinical and social information prior to first contact with patient, any gaps will be filled in by pre-appointment telephone interview
  - Holistic in-depth intake session
  - Regular points of contact with patient
    - Follow-up visits
    - Home visits

- Reminders for and follow-up on lab work, follow-up appointments, specialty appointments, other diagnostic testing
- Continued telephone follow-up and chart reviews after patients disease state control reaches goal
  - Focus on prevention, as well as treatment
- ◆ Interprofessional faculty teams will oversee and mentor student teams
- ◆ Regular communication with the patient's PCP will ensure seamless transitions
- ◆ Patient outcomes will be tracked to document program effectiveness
- ◆ Results of PCP and patient satisfaction surveys will be tracked to document acceptance of program and areas for improvement
- ◆ Student evaluations/surveys will address learner perception of the model

## Clinical Curriculum Proposal

### Guiding principles:

- Student-driven career development
- Residency-driven curricular tracks
- Increased scholarship (broadly defined)
- The current third-year curriculum generally prepares students well for internship
- Competency-driven advancement

<b>Core Clinical Clerkships</b> (60 weeks: March-June) – required experiences, order in four week increments by student preference. Student may advance to AI level with strong performance in first four weeks of clerkships requiring 8 weeks		<b>Advanced Clinical Concentrations</b> (40 Weeks: July-May) – concentration driven in concert with advisor
Surgery Core	4 weeks surgery 1 4 weeks surgery 2	4 weeks concentration-directed AI 1 4 weeks concentration-directed AI 2 4 weeks critical care
Inpatient Medicine Core	4 weeks inpatient internal medicine 1 4 weeks inpatient internal medicine 2	
Outpatient Medicine Core	4 weeks outpatient internal medicine (primary care and/or subspecialty) 4 weeks family medicine	4 weeks basic science didactics 4 weeks project implementation 4 weeks interview time
Pediatrics Core	8 weeks inpatient pediatrics/outpatient pediatrics/newborn nursery	
	8 weeks of OB/Gyn (6 wks) and emergency medicine (2 weeks)	
	8 weeks integrated brain and behavior (neuro, psych, other)	
	8 weeks of career development electives	16 weeks electives: includes board study time, primarily credit/no-credit
	4 weeks advanced education/clinical inquiry	
Longitudinal Components	Concentration development and mentorship	Continuity experience in concentration
	Scholarly project selection	Scholarly project implementation
	Longitudinal curriculum in ethics, humanism, evidence-based practice, patient safety, and clinical skills	Certificate coursework related to project and concentration: education, research, patient safety, quality, business