

**Case Western Reserve University – University Program Medical School**

**Block 4: Action Plan 2019-2020**

Year 1 (July – May) 2019-2020

<p><b>Becoming A Doctor</b></p> <p>Block 1 (5 Weeks)</p> <p>Population Health, Epidemiology, Biostatistics, Health Disparities</p> <p>Field Experiences Assessment Week</p>	<p>2 Weeks Anatomy Bootcamp</p>	<p><b>The Human Blueprint</b></p> <p>Block 2 (11 Weeks)</p> <p>Endocrinology, Reproduction, Development, Genetics, Molecular Biology, Cancer Biology</p> <p><u>Integrative Week</u> Assessment Week</p>	<p><b>Food to Fuel</b></p> <p>Block 3 (9 Weeks)</p> <p>Gastroenterology, Nutrition, Biochemistry</p> <p>Assessment Week</p>	<p><b>Homeostasis</b></p> <p>Block 4 (14 Weeks)</p> <p>Cardiovascular, Pulmonary, Renal, Cell Physiology and Pharmacology</p> <p><u>Clinical Immersion Week</u> Assessment Week</p>
<p><b>Structure</b> (GARLA and “Systems and Scholarship”)</p> <p><u>Foundations of Clinical Medicine</u> (Tuesday Seminars, Communications, Physical Diagnosis, Patient Based Experiences)</p>				

**1. Course Description:**

The Homeostasis Block (Block 4) integrates the following disciplines: Cellular Physiology, Principles of Pharmacology, Bioethics, Physiology and Pathophysiology of the Heart, Lungs and Kidneys. The content areas are introduced individually and then integrated, primarily through IQ cases and Simulated Case Presentations during Clinical Immersion/Correlation week during the second half of the Block.

**2. Block Co-Leaders:**

Amy Wilson-Delfosse, PhD and Vidya Krishnan, MD MHS

**3. Design Team:**

**Cellular Physiology:** Steve Jones, PhD (section leader)

**Pharmacology:** Jason Mears, PhD (section leader)

**Bioethics:** Mark Aulisio, PhD and Kathryn (Kate) Miller, MD MA (section leaders)

**Heart:** Jim Strainic, MD and Ashish Aneja, MD (section leaders); Jose Ortiz, MD, and Brian Hoit, MD.

**Lungs:** Vidya Krishnan, MD MHS and Ziad Shaman, MD (section leaders); Jeffrey Renston, MD, James Finley, MD PhD, Shine Raju, MD

**Kidneys:** Mimi Lam, MD (section leader)

4. **Block Goals:** Please fill in the table below for your Block Goals.

Competency and Definition	Educational Program Objective (EPO)	Block Goals Block 4	Recommended Changes
<p><b>Knowledge for Practice</b> Demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences as well as the application of this knowledge to patient care</p>	<p>Demonstrates ability to apply knowledge base to clinical and research questions</p> <p>Demonstrates appropriate level of clinical and basic science knowledge to be an effective starting resident physician</p>	Apply principles of cell physiology to understand molecular function of the heart, kidneys and lungs.	none
		Understand how drugs affect the body and how the body handles drugs.	none
		Understand a) normal cardiovascular physiology and cardiac cell function and b) how cardiovascular diseases alter normal cardiac physiology and function at both the organ and cellular levels.	none
		Understand a) normal pulmonary physiology; and b) how pulmonary diseases alter normal pulmonary physiology and function.	none
		Understand a) the role of the kidney in maintaining homeostasis and b) the interaction of the kidneys with other organ systems.	none

<b>Common to all Blocks:</b>			
<p><b>Knowledge for Practice</b> Demonstrates knowledge of established and evolving biomedical, clinical, epidemiological and social-behavioral sciences as well as the application of this knowledge to patient care</p>	<p>Demonstrates ability to apply knowledge base to clinical and research questions</p> <p>Demonstrates appropriate level of clinical and basic science knowledge to be an effective starting resident physician</p>	<p>Recognize and analyze ethical problems in clinical medicine and biomedical research using the principles of autonomy, beneficence, nonmaleficence and justice.</p>	<p>none</p>
<p><b>Teamwork &amp; Interprofessional Collaboration</b> Demonstrates knowledge and skills to promote effective teamwork and collaboration with health care professionals across a variety of settings</p>	<p>Performs effectively as a member of a team</p>	<p>Develop and practice the knowledge and skills that promote effective teamwork across a variety of settings.</p>	<p>none</p>
<p><b>Professionalism</b> Demonstrates commitment to high standards of ethical, respectful, compassionate, reliable and responsible behaviors in all settings, and recognizes and addresses lapses in behavior</p>	<p>Commonly demonstrates compassion, respect, honesty and ethical practices</p> <p>Meets obligations in a reliable and timely manner</p> <p>Recognizes and addresses lapses in behavior</p>	<p>Understand and practice the behaviors of an ethical, respectful, compassionate, reliable, and responsible physician.</p>	<p>none</p>

<p><b>Interpersonal &amp; Communication Skills</b> Demonstrates effective listening, written and oral communication skills with patients, peers, faculty and other health care professionals in the classroom, research and patient care settings</p>	<p>Uses effective written and oral communication in clinical, research, and classroom settings</p> <p>Demonstrates effective communication with patients using a patient-centered approach</p> <p>Effectively communicates knowledge as well as uncertainties</p>	<p>Understand and demonstrate effective communication skills for learning and clinical practice environments.</p>	<p>none</p>
<p><b>Research &amp; Scholarship</b> Demonstrates knowledge and skills required to interpret, critically evaluate, and conduct research</p>	<p>Analyzes and effectively critiques a broad range of research papers</p> <p>Demonstrates ability to generate a research hypothesis and formulate questions to test the hypothesis</p> <p>Demonstrates ability to initiate, complete and explain his/her research</p>	<p>Analyze, critique and present research studies from the primary literature.</p>	<p>none</p>

**5. In the grid below, please list the specific course changes you made this year based on last year's report.**

What changes were made 2019-2020?	How did the changes work?	What would you like to change next year 2020-2021?
<p>Moved into HEC building for Block 4 curriculum</p>	<p>Excellent acoustics and comfort in lecture hall, excellent A/V support in all rooms</p>	<p>Use HEC building space for more teaching sessions, while maintaining acceptable social distancing and remote learning options</p>

<b>What changes were made 2019-2020?</b>	<b>How did the changes work?</b>	<b>What would you like to change next year 2020-2021?</b>
Used PollEverywhere for interactive sessions	Somewhat complicated to setup PollEverywhere accounts for all faculty, but the interactive question/answer sessions were well received by students	Require at least 2 PollEverywhere (or similar polling software) questions for each didactic session
Recruited Dr. Shine Raju from UH to the Block 4 Design team	This allowed for increased communication and participation in teaching by the UH faculty, compared to prior years	Continue to encourage increased participation of Pulmonary faculty from VA and UH, and MetroHealth. Dr. Frank Jacono from the VA will be giving one of the basic pulmonary physiology talks next year.
Rewrote an IQ case (IQ#12 – Chris Reynolds) to have a gender-neutral patient	Students and facilitators appreciated how this case revealed personal biases in using gendered pronouns in addressing a patient.	Continue using this IQ case and participate in the IQ Diversity project that will add robust, randomly assigned patient identities to all IQ patients in Block 4.

<b>What changes were made 2019-2020?</b>	<b>How did the changes work?</b>	<b>What would you like to change next year 2020-2021?</b>
<p>Transitioned to 100% online learning</p>	<p>Steep learning curves for faculty and staff to learn how to create and conduct zoom sessions for lectures for full class, IQ sessions for smaller groups, breakout sessions for TBL's and Clinical Correlation week Friday case. Additionally, prior year video-taped lectures were made available to students.</p> <p>Review sessions were re-formatted to be case-based learning opportunities, as well as question/answer sessions.</p> <p>Two lectures in Pulmonary relied exclusively on prior year lectures (1 due to COVID-19 pandemic-related scheduling conflicts, another due to A/V malfunction). These 2 sessions were the least well-received in the pulmonary block.</p> <p>TBL sessions were converted to virtual. By the end of the block, these sessions ran smoothly and were reasonably well received.</p>	<p>Continue option for online learning.</p> <p>Continue live lectures – possible option for in-person and remote learning.</p> <p>Format review sessions into case-based learning opportunities to review key concepts.</p> <p>Optimize virtual TBL to better promote discussion in the large group and better simulate use of the scratch-off forms for the GRAT.</p>

<b>What changes were made 2019-2020?</b>	<b>How did the changes work?</b>	<b>What would you like to change next year 2020-2021?</b>
Clinical Immersion Week converted to Clinical Correlation Week. Sessions were optional, except for the Friday Clinical Case.	Being unable to give students the hands-on practical experiences of our traditional Clinical Immersion Week due to the COVID-19 pandemic, we provided 1-2 hour online practical sessions with case presentations, patient interviews, orientation to echocardiography lab, cardiac cath lab, spirometry lab, dialysis unit, and practical instruction on prescription writing. The Block 4 faculty realized the value of Clinical Immersion week by having students hear patients' own stories, and how this experience gives students a better appreciation of the interface between normal physiology and the practical aspects of patient management.	If feasible, the hands-on practical experiences of Clinical Immersion Week will resume.
A new final IQ case was created (IQ #21 – Joe Pickwick), to serve as an overarching review of cardiology, pulmonary, renal, pharmacology and bioethics concepts	The feedback from the IQ facilitators was that the new IQ case was a good review of concepts from the block and students were able to reach learning objectives. This case integrated a patient and learning objectives related to intellectual disabilities.	Keep new IQ case #21 as final IQ case of block. Write a script to allow students to practice case presentation for this case.
Dr. Lam trialed a “virtual office hours” before a review session.	She found multiple students (25-30) had logged into the session to ask questions. End of block feedback suggests the students valued the one-on-one teaching time, that cannot be filled in a whole-class session.	Expand virtual office hours to all subjects in Block 4. Possible ways to implement: 1) add 30 min optional sessions during the week; 2) restrict sessions to 10-15 students asking questions; 3) have students submit questions prior to office hours.

## 6. What changes do you anticipate making to the Block next year (AY 2020-2021)

Our experience with transitioning the curriculum to 100% online learning will result in some significant changes to our approach to Block 4 AY2020-2021. Particularly if social

distancing is required and in-person lectures cannot take place safely, then we will be prepared for a fully online curriculum for next year (including the first 3 weeks of Block 4, which this year were given in-person).

We are happy to welcome Eva Orszag as a co-course manager, along with Nivo Hanson for Block 4. Nivo and Eva were key staff members who helped with the transition to 100% online learning. We sincerely thank Minoos Darvish for her assistance in managing the formative and summative assessments for Block 4 and also are particularly grateful to the Media Vision group of UTech (Victor Guinto, Paul Salzgeber and Megan Slabach) who assisted in outstanding technical delivery of the virtual Block 4 curriculum.

We annually review the success and feasibility of the Clinical Immersion week (this year in the form of Clinical Correlation week). Although we believe that student feedback is overly critical, we do believe that this week continues to be a good dedication of time and effort. We will make every effort to return Block 4 Clinical Immersion week in AY2020-2021.

**7. What successful, innovative components of your block that are best practices that you would like to share with the other Blocks?**

We continue to be pleased with our real-time evaluation results from our TBL sessions but will continue to work to optimize application exercises and facilitator training.

We continue to believe that our end of week Summary & Integration sessions that extensively utilizes an audience response system (currently using PollEverywhere) is a best practice of the block.

We use student feedback to create new CaseMed Minute series videos to supplement key concepts.

We changed one of our IQ cases to have a gender-neutral patient. Students and facilitators appreciated this case for demonstrating their own biases in choosing pronouns when referring to patients, and for providing a more inclusive curriculum regarding communication with patients. We look forward to providing new identities to our patients as part of the “IQ Diversity” project that will begin in Block 2 during the 20-21 academic year.

**8. What specific changes (lectures, TBL, IQ cases, other) do you plan to make to the course next year?**

<b>Changes anticipated for next year</b>	<b>Reason for changes (evidence)</b>
Standard yearly updates to IQ cases	Normal procedure
Improved approach to oral presentation in IQ case content	Continuous improvement of curriculum
Providing online options for all sessions, as well as opportunity for in-person learning sessions	COVID-19 social distancing



At least 2 PollEverywhere questions in each lecture (or other interactive technique, e.g., pair and share exercise).	Better faculty and student engagement during interactive sessions.
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**9. Describe how faculty teaching quality was reviewed for your block. What faculty development opportunity was offered in response to student feedback?**

Section Leaders attend as many of the lectures in their sections as possible (this was made easier this year through online sessions). They also review Block 4 faculty teaching evaluations (lecture and TBL) and if faculty are rated poorly, the possible reasons for this are considered. Faculty in need are referred to the Center for the Advancement of Medical Learning for coaching. Workshops on lecture skills are particularly encouraged. If teaching is particularly poor or efforts to align the lecture content with expectations of the curriculum cannot be achieved, then replacement teachers will be sought.

**10. Response to PEAC Report**

No new recommendations from PEAC were received since the report referenced in the 2019 Block 4 Action Plan.

**11. Acknowledgements:**

Block 4 continues to be extremely well managed by our course managers. Nivo Hanson and Eva Orszag deftly managed Block 4 in AY2019-2020. We sincerely thank Minoo Darvish for her assistance in managing the formative and summative assessments for our block. We continue to be appreciative of Yifei Zhu for program evaluation, Celinda Miller for outstanding IQ program support, and others in the Office of Curricular Affairs for assistance with TBLs. A special thank you to Nivo Hanson and Eva Orszag who took on the additional role of scheduling the Clinical Correlation week activities. Nivo and Eva are also appreciated along with Victor Guinto, Paul Salzgeber, Megan Slabach and Deidre Gruning, who all contributed to the development and implementation of the Block 4 virtual curriculum and the training of all faculty who participated in this new teaching format. Special appreciation also goes to Celinda Miller who worked tirelessly to ensure that remote IQ groups were set up flawlessly and Block 4 IQ faculty were trained in both method and technical approach to remote facilitation. We also wish to acknowledge the entire Office of Curricular Affairs for their unprecedented collaborative spirit that converted a complex, highly interactive curriculum into a highly effective virtual curriculum in just 5 days. All of the staff who support our curriculum are valued each year, but their efforts in 2020 are unsurpassed by anything we have experienced before. They are all invaluable and we could not put forth a quality Block 4 without them, in-person or remotely!

**Class of 2023 was asked questions of Block 4 components. Results are reported below as compared to results of previous three years. Responses/Expected: 92/93 (99%)**

Percentage of Students who rated “Very Good” or “Excellent”

<b>Block 4: Homeostasis</b>				
<b>General Block Aspects</b>				
Block Components	2016-17* %	2017-18 %	2018-19	<b>2019-20</b>
Overall quality of this Block	100	85	85	<b>83</b>
<b>Block Concepts/Integration of Block Concepts and Longitudinal Themes</b>				
Pharmacology	85	71	59	<b>62</b>
Cell Physiology	72	59	65	<b>65</b>
Cardiovascular	80	83	87	<b>75</b>
Renal	100	92	98	<b>92</b>
Pulmonary	91	79	85	<b>76</b>
Gross Anatomy	44	44	31	--
GARLA	--	--	--	<b>54</b>
Histopathology	70	82	81	<b>76</b>
Bioethics	67	58	61	<b>67</b>

Rating scale for AY 2016-17 was “Good” or “Excellent”