Note: Process for requesting establishment of a new department at MSU:

- Dean first seeks endorsement of the request from the CAC, then Dean takes proposal to the EVP/Provost.
- EVP/Provost will send the request to the Steering Committee to route through academic governance for consideration and a recommendation (e.g., University Committee on Faculty Affairs; University Committee on Graduate Studies).
- EVP/Provost makes decision to support the request or not and confers with President.
- EVP/Provost takes request and recommendation for approval to Board of Trustees.
- Board of Trustees is required to approve the creation of any new department.

Rationale for a new Pathology Department

Pathology is a core disciple of medicine. Most pathologists engage in clinical care through diagnostic techniques utilizing liquid or solid samples. These diagnostic techniques critically impact almost all aspects of patient care. The field is very broad, ranging from traditional clinical/diagnostic work with patients through more active treatment of patients receiving or suffering from complications of transfused blood products. The MSU department will include all these fields.

The vast majority of faculty in the MSU department of pathology will be based out of the Henry Ford Health Department of Pathology and Laboratory Medicine. Pathology and Laboratory Medicine (PALM) at Henry Ford Health is an integrated system-wide clinical department for 6 acute care hospitals and 40 medical centers under the academic leadership of one system chair. The Henry Ford chair is one of 11 academic departmental chairs in the Henry Ford Medical Group (HFMG), reporting to the CEO and CAO (Chief Academic Officer). The MSU department of pathology will be led by a chair who will report to the dean of the College of Human Medicine on all matters that concern MSU faculty, staff, and students.

The current group of faculty in the Henry Ford department of pathology and lab medicine comprise of a diverse and collegial group of 46 senior staff MD/DO pathologists and 10 PhD senior bioscientific staff clinical scientists. All are board-certified and fellowship trained members of the Henry Ford Medical Group, in the disciplines of clinical laboratory medicine and anatomic pathology, as described below. At the present time, there is one research-focused PhD attending staff. In addition to primary clinical duties, staff are engaged in the departmental, medical group and
hospital educational missions for undergraduate, graduate medical education and allied health programs from area state universities.

The MSU department of pathology will include pathologists from across the CHM system (including the Henry Ford department), who provide educational services for the college’s curriculum and educational and research opportunities for students and faculty. As examples, faculty in several communities provide educational services to the college under contract but are employed by provider pathology groups or hospitals. Because we lack a department of pathology, these faculty currently have appointments outside of their disciplinary area (such as the Office of Medical Education Research, department of physiology or the dean’s office). The creation of the MSU department of pathology will provide an opportunity for all these pathology faculty to be associated in a department of their disciplinary home.

The Henry Ford Medical Group pathology professional staff demonstrate excellence in clinical care in their subspecialty domains of expertise as measured by formal ongoing professional practice evaluations (OPPE), daily professional consultation second opinion reviews, error evaluation schema, and professional feedback from clinicians. Their clinical care contributions and the laboratory operations they oversee contribute a significant revenue to the health system of roughly 12.5% of the $6.8 billion. All clinical faculty are expected to contribute to improvement of their practice, participation in educational activities and requests, and participation in requested collaborative and/or independent research.

Specifics of the contributions and national/international recognitions of the Henry Ford Medical Group faculty are provided in:

Attachment A – Publications
Attachment B – Faculty Awards and Honorifics
Attachment C - Grants

Faculty in the Henry Ford Health Department of Pathology and Laboratory Medicine are highly productive and have consistently contributed to scholarship in pathology. Following is a snapshot of faculty publications in the past few years:

- 2019: 3 books/book chapters and 66 peer-reviewed journal articles
- 2020: 5 books/book chapters and 100 peer-reviewed journal articles
- 2021: 5 books/book chapters and 71 peer-reviewed journal articles

These faculty are also involved in 15 grant funded clinical research studies with federal (5) and non-federal (10) funding sources. We expect this academic activity to grow with this new academic alliance and collaboration opportunities with MSU-based faculty. In sum, this new department will strengthen and expand the academic environment of the college and MSU. Some of the key benefits include:

- Curricular expansion for MSU medical students interested in the field of pathology
• Creation of additional academic homes for the expanding CHM paid and no-pay faculty (across Michigan).
• Expansion and enhancement of graduate medical education (i.e., residency training)
• Strengthened research and clinical programs in the area of pathology
• Improved MSU and CHM ranking based on increased research revenue (from NIH)
• Help achieve 2030 university strategic goal for $1 billion in annual research expenditures
• Increase in MSU faculty honorifics

Alignment with MSU Strategic Plan

The Department of Pathology is very well aligned with the MSU strategic plans for enhancing sustainable health, strengthening commitment to DEIJ, and fostering discovery, creativity and innovation for excellence and global impact. The department is highly advanced, comprehensive, and communicative group of academic laboratory professionals, not only to internal clients but to the residents of the State and nation. Their commitment to the community with recognition of the attendant health disparities and challenges, is long term. Notably, the HF department of pathology was the first hospital lab in MI to perform COVID-19 PCR testing in March 2020 ([https://vpdcs.com/issue/DMN/1Q22/index.html#p=10](https://vpdcs.com/issue/DMN/1Q22/index.html#p=10)). Additional examples of the department’s commitment to sustainable health, include the development of new, rapid and consistent PCR testing platforms to comprehensively support the community during the COVID-19 pandemic. This included supporting vulnerable nursing home residents, dialysis patients, first responders in SE Michigan, critical infrastructure workers, and students and coaches for six universities. In addition, they provided regional testing to TCF Arena (the former Cobo Hall) for patient triage after in-patient discharge to Skilled Nursing Facilities. Many of these individuals were not prior patients so it required significant effort to register, test, and report results to Michigan Department of Health and Human Services. The department also contributed to national security, providing testing to the Air Force National Guard at Selfridge Air Base and the Fermi II nuclear power plant.

The department is actively involved in defining the DEIJ initiatives in alignment with the health system through the newly founded professional staff Pathology DEIJ Committee composed of 10 senior staff pathologists and 1 pathology resident, a native of Nigeria. This committee reports directly to the chair. It is charged with developing a plan that will improve diversity, equity, inclusion, and justice in the Department of Pathology. The expressed mission is to support the foundation upon which Henry Ford Health stands and to reaffirm DEIJ as a highlight in our departmental partnership with MSU.

The demographics of the existing HFMG pathology faculty are as follows:
Demographics N=57 (16 women (11 MD/1 DO, 4 PhD) 41 men (all MD))

White/Caucasian=17
Goals of the Pathology Department

(a) Research Mission

The research foci of the proposed department will reflect the active research of current faculty in HFMG pathology and are fairly broad. Given the nature of the discipline and despite its focus as a service department, faculty in the HFMG pathology routinely engage in clinical-based investigations, partnering with each other, the pathology residents, clinical and basic science research collaborators within the HFMG and external academic collaborators, as well as vendor sponsored evaluations and trials of new technologies. Creation of MSU Department of Pathology with HFMG pathology faculty will afford many new and rewarding collaborations, especially with basic researchers at MSU. The new MSU pathology faculty’s deep and broad areas of expertise integrate very well with the MSU research foci in cancer biology, neuroscience, GI/GU-Hepatic/Cardiovascular/Pulmonary, immunity and inflammation, environmental toxicology, mass spectrometry, investigative histopathology, diabetes/obesity and drug discovery. These collaborations are already beginning- for example between HFMG gynecologic pathologist, Ghassan Allo, collaborating in an MSU-HFH study on uterine fibroids, led by Jose Teixeira, PhD (MSU) Ganesa Wegienka, PhD (HFH).

(b) Education mission

The goals of the proposed MSU Department of Pathology will focus on post-graduate medical education, undergraduate medical education and allied health program education.

Post-Graduate Medical Education

Post Graduate ACGME Pathology Residency Program, Anatomic and Clinical Pathology
- Fellowship in Pathology Informatics (2 year)
- Fellowship in Laboratory Genetics and Genomics (Cytogenetics) (2 year)
- Pathology rotations, scheduled, for clinical house officers
- Lean Certification Training, Henry Ford Production System, throughout the year
The pathology subspecialty depth and breadth of faculty in concert with the voluminous clinical material from the clinical enterprise provide a rich basis for the educational mission. This includes post-graduate education of pathology resident trainees in a 4-year ACGME anatomic and clinical pathology program (16 residents), other rotating clinical house officers, ACGME fellows in Medical Genetics and Genomics (1) and Pathology Informatics (1), and clinical rotating fellows.

The ACGME Pathology Residency Program is overseen by the professional staff faculty with a Program Director and 2 Associate Program Directors for anatomic and clinical pathology. Additional teaching faculty staff a Residency Program Evaluation Committee and a Residency Clinical Competency Committee.

Undergraduate Medical Education (Medical student clerkships)

A new committee composed of 15 senior staff pathologists, the MSU Medical Student Pathology Clerkship Committee, was formed in 2022 to oversee strategic planning, educational design, scheduling, operation and evaluation of an undergraduate medical student clerkship aligned with the MSU educational case-based learning model. This focus will be case-based problem-solving rotations with lab interactions presented to students to solve within each laboratory discipline. Given a clinical history and clinical laboratory test requests/samples, the student will follow the path of the specimen in each laboratory and follow surgical biopsies through tumor board any one of 18 tumor boards held weekly at HFH or other clinical conferences. The key learning objectives are for the student to understand the meaning and application of laboratory testing that guides clinical decision making, to learn how to prevent the most common laboratory errors, to understand how to interpret a surgical pathology report, to discover how the medical laboratory really functions, and to highlight the roles and possible interactions of pathologists in patient care. The curriculum will identify and fill educational gaps through an engaging curriculum that provides the student with practical laboratory knowledge to become a superior clinician who uses and interacts with the medical laboratory appropriately and efficiently. The core educational team is composed of enthusiastic senior staff, excited to teach, with diverse specialty training across the laboratory.

Allied Health Program Education

- Biomedical Laboratory Diagnostic Sciences Program (Medical Technologist)-medical laboratory scientist internship rotations- Wayne State, Michigan State, occasional students from Grand Valley, UM, EMU at Henry Ford Hospital
- Medical Laboratory Scientist (Medical Technologist) Training Program with Oakland University at Henry Ford Health (in development)
(c) Service and outreach mission

The goal of MSU Department of Pathology in service and outreach mission is to respond to requests from the community or whenever the leadership team, proactively see the need. These may be as simple as providing tours to students, family members or youth organizations, who have never seen the inside of a large specialty laboratory. This will also include support for annual testing in the city of Detroit and suburbs for Prostate Awareness Week and colorectal cancer screening. Requests by research investigators and investigators population health will also be supported.

In addition, the department will continue to provide laboratory services through grant funding for the underprivileged school children in the Detroit School Based Health Initiatives (SBHI) and in southwest Detroit with the Community Health and Social Services Center (CHASS Clinic), serving a largely Hispanic patient population.

Examples of service and outreach activity by HFMG pathology and lab medicine in the past: In June 2022 HFMG pathology hosted a visit by US Congresswoman Rashida Tlaib, who represents their district in Washington, DC. She had never been in a laboratory and was on a learning trip, to better understand services to her constituents, and issues that may impact people in her district. She stayed two full hours listening, asking questions, touring, and looking at a tissue pathology case under the microscope. She had a staff person with her and both were amazed to have this experience.

The department’s community support during the COVID-19 pandemic was comprehensive in response to huge needs from many constituents. They stepped-up to provide testing to vulnerable nursing home residents, dialysis patients, first responders in SE Michigan, critical infrastructure workers, students and coaches for six universities and four professional sports teams. In addition, they provided regional testing to TCF arena for patient triage after in-patient discharge to Skilled Nursing Facilities. Many of these individuals were not prior patients so it required significant effort to register, test, and report results to Michigan Department of Health and Human Services. They also contributed to national security, providing testing to the Air Force National Guard at Selfridge Air Base and the Fermi II nuclear power plant. In the earliest days of the SARS-CoV-2 Pandemic, the pathology leadership heard a news report that six elderly patients had died at the Riverside Terrace nursing facility. They immediately contacted the post-acute care team and urgently suggested the need to test other residents and staff. They performed two phases of testing and completed over 200 Covid tests which likely protected others from harm. During this pandemic the department has received email messages of thanks stating the work being done is saving lives and helping with how to cohort patients in the emergency department and inpatient units.

(d) Clinical mission

For the present time, the clinical goal of the MSU department of pathology will be accomplished by the Pathology and Laboratory Medicine (PALM) at Henry Ford Health
and will not be part of the MSU Health care Inc. PALM is an integrated System-wide Clinical Department (Product-Line) for 6 acute care hospitals and 40 medical centers under the dyadic leadership of one System Chair and one System Vice President. Administrative Offices and Core Laboratories are based at Henry Ford Hospital. The Chair is one of 11 academic departmental chairs in the Henry Ford Medical Group (HFMG), reporting to the CEO and CAO, Dr. Steven Kalkanis.

The department’s primary mission is focused on provision of high quality, rapidly communicated, standardized clinical laboratory and subspecialty pathology services for the health system and external outreach clients. The community hospitals function as rapid response laboratories. Over 71% of system laboratory testing is performed in the Core Laboratories located at Henry Ford Hospital, under the laboratory medical directorship of the System Chair. As a centralized service line, Henry Ford Medical Group pathologists are the professional staff at all hospitals. HFMG pathologists are the sole CLIA laboratory medical directors for the Henry Ford Health System and hold 75 Federal CLIA laboratory license certificates for all hospital-based inpatient, medical center outpatient and outreach medical laboratory testing and pathology services.

The department is recognized both within the health system and throughout the world as the laboratory leader in applying and teaching Lean methods of continuous improvement to achieve consistently high levels of service quality, safety, regulatory compliance, client satisfaction and cost effectiveness. This department is recognized as world-class internationally with centers of excellence by Danaher Business Systems for continuous improvement and applications to automated testing, by the College of American Pathologists for being their center of excellence and learning for ISO 15189 laboratory accreditation, by Sakura USA for excellence and innovation in surgical pathology operations and by Sunquest Information System for excellence in pathology informatics.

Following are the clinical specialties/sub-specialties of the department:

**Clinical Laboratory Medicine**
1. Hematology
2. Coagulation, Special Coagulation
3. Clinical Chemistry, Immunohemetics
4. Urinalysis
5. Point of Care Testing
6. Transfusion Medicine
7. Microbiology/ Molecular Microbiology
8. Transplant Immunology/Molecular HLA
9. Pathology Informatics

**Anatomic Pathology**
1. Surgical Pathology, morphologic microscopy, subspecialized disciplines below
2. Surgical Pathology, Pathologists’ assistants (13)
3. Hematopathology, morphologic and molecular
4. Precision Medicine, Molecular Oncology, Molecular Pathology, Cytogenomics & Constitutional Molecular Genetics
5. Morbid anatomy, Postmortem Examination
6. **Subspecialties**
   (a) Breast
   (b) Cardiac
   (c) Cytogenetics
   (d) Cytopathology
   (e) Dermatopathology
   (f) Digital Pathology, Informatics
   (g) Electron Microscopy
   (h) Gastrointestinal
   (i) Genitourinary
   (j) Gynecologic
   (k) Head and Neck
   (l) Hematolymphoid
   (m) Hepatic/pancreaticobiliary
   (n) Immunohistochemistry
   (o) Kidney
   (p) Molecular Genetics
   (q) Musculoskeletal
   (r) Neuropathology
   (s) Placenta
   (t) Pulmonary
   (u) Renal
   (v) Thyroid/Endocrine
   (w) Transplant

**Benefits to Michigan State University**

Overall, this new Department of Pathology will strengthen and expand the academic environment of the college and MSU. Addition of this department will allow for curricular expansion of the College of Human Medicine and create additional academic homes for the expanding CHM faculty (both paid and no-pay faculty) across the state of Michigan. The growth of the program and the faculty will bring several opportunities for strengthening and enriching educational and research activities for CHM, including: The opportunity to develop new areas of curriculum and offer highly desirable student experiences in disciplines not currently represented in other CHM campuses (eg. MSU medical student pathology clerkships). The ability to establish additional required experiences and competencies that would not be possible without the addition of qualified faculty. The enhancement of graduate medical education (eg. post graduate ACGME pathology residency program, anatomic and clinical pathology; fellowship in pathology informatics etc.) throughout our system by the addition of programs in Henry Ford that we cannot currently offer at MSU (*see goals under education mission*). Strengthened subspecialty research, and clinical programs that will provide the necessary platform for translational and population-based research, as well as support the supply of well-trained physicians and physician scientists to meet future recruitment needs in all our communities across the state of Michigan.

The research focus of the MSU pathology department will be broad in various areas of pathology, and this will provide new and additional research training opportunities for undergraduate, graduate and medical students in different biomedical programs at
Importantly, faculty who are in the Henry Ford Pathology department are funded by external funding (including NIH) and are involved in 15 grant funded clinical research studies. Addition of the department to MSU will increase NIH funding (to MSU) via multiple ways: (a) Addition to existing NIH funding from these faculty to MSU grant portfolio; (b) Increased collaborative research programs with existing MSU faculty leading to increase NIH and other external funding. Together this will undoubtedly and significantly improve MSU ranking overall. In addition, it will also help in achieving MSU’s strategic goal for reaching $1 billion in research expenditures by 2030. Faculty in the Pathology Department have received several honors and awards, and this will also significantly increase MSU faculty honorifics (another strategic goal for MSU). Lastly, CHM has an active and on-going relationship with several community partners and philanthropists. The addition of MSU Pathology Department will provide expanded opportunities for new endowments. Overall, creation of the MSU department of pathology to the college of Human medicine will bring about several important benefits to the university and to the state of Michigan.

Programmatic, operational and financial considerations

Alignment with existing departments/units in CHM and MSU

Addition of this Pathology Department will provide research and educational collaborative opportunities across the College of Human Medicine and multiple colleges of MSU. There are already existing funding opportunities for collaborative research and education, through the Henry Ford-MSU partnership. Faculty from both existing MSU departments and Henry Ford departments will be able to apply for internal and external grant programs collaboratively that will strengthen the grant portfolio of MSU faculty and significantly increase research expenditure.

There are multiple units in the college and the university that have faculty and students who do research in the areas of cancer biology, neuroscience, GI/GU-Hepatic/Cardiovascular/Pulmonary, immunity and inflammation, environmental toxicology, mass spectrometry, investigative histopathology, diabetes/obesity and drug discovery. Such collaborations are already taking place (eg. collaboration between gynecologic pathologist in an MSU-HFH study on uterine fibroids between MSU and HFH faculty). Addition of the Department of Pathology creates new opportunities and potential collaborations for these faculty and students. There is nothing about the department that would limit the ability of other colleges or departments from hiring faculty in their respective departments and/or research programs.

Department structure

MSU Department of Pathology will be led by a department chair. This may be the same person who is the chair of the Henry Ford Pathology department or may be a different
person depending on the outcome of the chair search. Addition of this Pathology Department will also be an opportunity for the state’s Medicaid uplift. We expect significant funding to be available through this program, and we have pledged to use this money to support research, education and scholarship in the MSU-Henry Ford collaborative efforts. At the present time, faculty employed in the Henry Ford Pathology and Laboratory medicine department will become part of the MSU Department of Pathology. Thus, the Henry Ford chair of pathology and lab medicine will be the primary supervisor for these Henry Ford employed faculty for Henry Ford related issues. For MSU related issues, chair of the MSU Department of Pathology will be the administrative leader. We would support these chairs at 5-10% either as a dually employed faculty or leased by CHM from Henry Ford. HFH is using the lease model to support the current position as chair (Dr. Rick Leach) for Ob/Gyn at Henry Ford Health. This chair funding by MSU is essentially facilitating partnership development and we would request access to the “mission-support” funding provided through the partnership Definitive Agreement. Depending on the strategic needs of the department, college and the university, the college may fund a few faculty positions in these departments as MSU employed faculty.

Faculty appointments

Faculty will be appointed in multiple ways. Faculty that are already in the Henry Ford Pathology and Lab medicine department will be appointed as no-pay faculty in one of the following tracks depending on their role and contribution to the education and research missions of the college: Prefix, non-prefix and research tracks. For these various faculty tracks, we will follow the same process we currently follow in the college. When funding is available for new MSU-based faculty positions, these will be done using existing faculty hiring processes. In addition to clinical and non-prefix faculty from Henry Ford Health, there will be clinical and non-prefix faculty in the discipline joining from other communities, including Lansing and Grand Rapids. Most of these faculty are engaged in elective clerkships for MS3 and MS4 students in our eight campuses across the state.

(New paragraph added in response to CAC request at their October 17, 2022 meeting). Upon establishment, new departments may initially not have voting-eligible, full-time faculty sufficient to participate as regular representatives to the CHM College Advisory Council (see CHM Bylaws Section 1.1.5.2.4. and 1.1.5.2.5. with referred definitions 1.1.1.). Departments with no eligible faculty with university level voting rights will send a CAC representative who will be granted voice but no vote, until such a time as they have eligible faculty to serve. It is expected that full-time MSU faculty will be added over time through enhanced Medicaid funding returned to MSU as well as new Henry Ford Health – MSU Health Science Center (HSC) funding. The college expects there will be 20-40 hires through these mechanisms. Priority will be given to addition and retention of at least two eligible faculty with university level voting rights (see CHM Bylaws Section 3.1.2.3.) within each department.
Chair selection

With creation of the MSU Department of Pathology, the dean will first appoint an interim chair. After initial establishment of the department with faculty appointments, the dean (or designate) will work with the faculty and the interim chair to develop departmental bylaws that will go through appropriate approvals at the college and university levels. Once the bylaws are in place, the dean will work with the department to formulate a search for a founding chair and subsequent chairs using existing university guidelines. Depending on the strategic needs of the department and the faculty some of these searches will be national and some may be internal.

Department operations, governance, bylaws and RPT criteria

The department will operate in a manner consistent with other departments in the College of Human Medicine and will adopt a shared governance model. Shared governance with the existing faculty, staff, and students will follow the MSU Academic Governance policies. The interim chair will work with the dean to appoint a bylaws committee. The bylaws committee will include five faculty members and one outside faculty member with expertise in reviewing bylaws. Bylaws will be voted on and approved by a majority of department faculty before ratification. A scaffolding of the bylaws and major sections have already been identified and minimally will include sections on organization; governance; committees; RPT; grievances and complaints; and faculty (e.g., composition, meetings, appointment, reappointment, promotion, tenure, responsibilities, etc.). Reappointment, promotion, and tenure criteria will align with the College of Human Medicine criteria which are written, well-specified, and available on the CHM Faculty Affairs website. An RPT committee will be established within the Department of Pathology to work with the chair to manage the RPT processes.

Department Finance

Current Funding Status, Allocation, and Reserve Funds

The college is proposing a series of new departments based on faculty joining MSU and CHM from Henry Ford Health that complement the work of the college and university and highlight unique strengths of the HFH faculty. The health system, college, and partnership will provide support for the faculty and administration of the department. Most support will be in the form of faculty salary, which will come from the medical group within the health system. The Office of Health Sciences has committed financial resources from the overall MSU-HFHS partnership effort to support creation of departments. Discretionary funding will be used to support a small part of the salary and an administrative increment for the chair’s MSU employment. As the department integrates into the college, the department will enter the Medicaid uplift program providing additional support for the department and funding additional MSU faculty in the department. The department will accrue reserves and start-up funds as all other
departments in the college do. The college currently supports a Division of Pathology within the Department of Physiology. There was a Department of Pathology at one time, but that unit was diminished to a division to reduce costs and in response to reductions in faculty numbers. For the time being, the college will continue its faculty support of the division and the existence of the division within the Physiology department. The long-term disposition of CHM’s portion of that division will depend on conversations with the faculty themselves, the Department of Physiology, and the new pathology department.

Projected financial needs and how financial obligations of the department, including administrative costs will be met

Projected financial needs are centered around ongoing recruitment and retention of high-caliber faculty to support our education, research, and service missions. The college will direct Medicaid uplift derived from HFH to use in the departments based out of HFH to fund new positions and programs in the departments and college.

The current college allocation and reserve funds more than meet the projected financial needs and financial obligations of the proposed department, including administrative costs. The college and the department expect additional philanthropy as well.

Oversight of the curriculum

The department will participate in the college’s educational programs as all other departments do. Electives and rotations in the MD curriculum will be approved and supervised by the CHM MD Curriculum committee. All other courses and educational programs will be reviewed by the college’s Graduate Studies curriculum committee. The department’s residency and fellowship programs operate with oversight from the departmental residency committees consistent with the ACGME accreditation of Henry Ford Health. The department will have a clerkship committee to oversee its medical student and any other educational programs not a part of the residency programs. For additional information on clerkships and residencies, see “Educational mission” under “Goals of the pathology department”.

Evaluation of departmental effectiveness

The new MSU department of pathology will enter the standardized process for assessing departmental effectiveness consistent with all departments at CHM. There will be the usual five-year department and chair review as well as annual chair reviews. Note that HF pathology department already has a defined structure for departmental effectiveness as follows:
Systems for Effectiveness of Departmental Operations

As an outcome tight management in Lean culture, the department leadership relies on roughly 240 key performance indicators (KPI) to assess monthly performance and guide actions relative to the laboratory strategic plan for each core laboratory division and acute care hospital. These KPIs are reported to the leadership Office of the Chair monthly by the dyad of medical and administrative leaders. Key areas assessed are 1) Clinical performance metrics, 2) innovations, improvements and major projects, 3) regulatory compliance, 4) human development, education and engagement in improvements, 4) new or spiking deviations. Over the past 18 years, they have created 10 management systems that create stability and consistency of execution. In addition, for select areas they established stretch growth goals that span a multi-year strategic plan that is referred to as policy deployment, enabling them to build new and successful operations.

Systems for Effectiveness of System Laboratory Finances

This assessment is conducted monthly by the System Lab VP partner of the System Chair, reporting to the HFH Hospital president, VP of Finance and COO of Hospital Operations. Since 2015, the department participates in a national financial peer group benchmarking survey and has distinguished itself each year as the benchmark low cost per unit laboratory. Oversight also extends to anticipating both up and down trends in operating budgets, careful oversight of capital budget funds, and review of grant accounts. There is anticipated planning and growth of new sites and reductions and closure, when necessary. Supply chain management involves the review and administration of over one hundred contracts and work with our national group purchasing organization. An important element of laboratory finance relates to onboarding and off boarding people, and attention to ensure they have internal and external equity in base compensation and variable compensation (bonus or incentive) plans.

Systems for Effectiveness within HFMG

The CEO, COO, CFO of HFMG meet with the department leadership of chair and VP quarterly for updates and review of goal achievement and finances. The chair and VP attend bimonthly Chair Council meetings with the CEO, COO, CFO, fellow HFMG chairs and other medical group leaders.

Systems for Effectiveness of Residency Teaching Program

The residency program is supported by a pathologist program director, 2 associate program directors, a GME coordinator and 2 committees: Residency Program Evaluation Committee and Residency Clinical Competency Committee.
AP/CP residents are evaluated after each month-long rotation. Rotation directors meet with residents to discuss the evaluation and define opportunities for improvement and/or define a learning plan. All evaluations are housed in an online database, called 'MedHub,' an institution-wide resource paid for and maintained by the graduate medical education (GME) office. All faculty members and trainees have access to MedHub to file evaluations of team members and review evaluations adjudicating their performance.

Residents are asked to file rotation-specific evaluations that are largely independent of faculty teaching performance. These evaluations are designed to uncover curricular and/or operational gaps. Evaluations are collated to ensure anonymity of the residents and forwarded to rotation directors every six months. If needed, rotation directors adjust their curricula and/or rotation operations after discussing the proposed changes with the program director and presenting them to the program evaluation committee (PEC) for review and approval.

Once every academic year, residents file anonymous teaching evaluations for all faculty. The program director asks that teaching faculty read these evaluations and examine their teaching performance for areas of improvement. Feedback in the following domains is elicited: (1) professionalism, (2) interest in the education of residents, (3) encouragement of inquiry, (4) supervision, (5) participation in organized clinical discussions, rounds, journal clubs, and conferences, (5) commitment to the delivery of safe, quality, cost-effective, and patient-centered care, (6) review of goals and objectives at the beginning of the rotation, (7) adequacy of instruction, (8) opportunities for improvement.

The program director independently reviews all teaching evaluations and approaches faculty members individually with concerns that were brought forth during review of faculty evaluations. Interventions include review of agreed upon teaching standards and priorities of resident service obligations and exceedingly rarely involve including departmental leadership.

The AP/CP program relies heavily on the 'Instructional Design Team,' a group of PhD-level educational professionals hired by the GME office, to support faculty instruction in teaching methods. Pre-COVID, quarterly session on topics of professionalism, cultural sensitivity and high impact education of the adult learner were held and all faculty encouraged to attend. Program leadership is eager to re-implement this initiative as we emerge from pandemic-related restrictions.

Residency Accreditation Description

Pathology Residency Program

The Anatomic and Clinical Pathology (AP/CP) Residency Program at Henry Ford Hospital (HFH) is in the last three years of a ten-year accreditation cycle ending in 2025,
when an ACGME site visit is expected. Since the new leadership team has taken charge of the AP/CP Program in 2019, it has maintained continuous accreditation status without citations, confirmed on an annual basis by the ACGME Accreditation Council.

Our rolling three-year board passing rate is 90% for AP and CP. When surveyed anonymously by ACGME, 94% of our residents have a 'very positive' opinion of the AP/CP Program at HFH and 81% would 'definitely choose' the program again, if given the opportunity.

Laboratory Genetics and Genomics Residency Program

In 2014, Pathology inherited Cytogenetics with the termination of the Medical Genetics department. It is now part of the Division of Molecular Pathology and Genomic Medicine under Anatomic Pathology. Historically, the genetics laboratory at HFH is one of the oldest in the nation. The cytogenetics laboratory was created under the Department of Medical Genetics in 1967 and is recognized for early publication of a groundbreaking research article, “Ring 1 Chromosome and Dwarfism - A Possible Syndrome” in that same year. In 1970 the lab identified a genetic defect that contributes to a type of muscular dystrophy. The cytogenetics training program at HFH has been in existence since 1985.

The Laboratory Genetics and Genomics (LGG) program was previously under the purview of the American Board of Medical Genetics and Genomics (ABMGG). The ACGME accreditation of the Laboratory Genetics and Genomics (LGG) Fellowship Program at Henry Ford Hospital (HFH) is new following our 2019 application to fall under the ACGME. The program is now in year two of the initial accreditation and an ACGME site visit expected in the near future.

The ACGME accredited LGG program is currently approved for two fellows/residents, and recently welcomed their first ACGME fellow from MD Anderson Cancer Center. The program has a track record of successfully training numerous fellows and has a 100% board pass rate. Although the program does not have data from anonymous surveys provided by the ACGME, fellows have a positive view of the program overall. The current Cytogenomics laboratory director and the Molecular laboratory director are graduates of this LGG training program.

Existing system for annual performance reviews of faculty and staff:

Clinical Staff Evaluation Reviews

1. Professional clinical competence (to satisfy the Joint Commission medical staff requirement)
a. This evaluation process is overseen by the System Chair and initial reviews delegated to senior staff leaders (division heads, vice chairs) and service chiefs of hospitals.

b. Focused Professional Performance Evaluation (FPPE), initiated for competence documentation at onboarding and newly requested or re-evaluated privileges

c. Ongoing Focused Professional Performance Evaluation (OPPE), a biannual assessment of professional competence in the 6 domains of clinical skill peer-reviewed challenges, continuous medical education, clinical conference participation, interpersonal and communication skills, professional complaints/disciplinary actions, systems-based practice participation.

d. These documents are retained in each faculty’s profile in the ESR OPPE electronic professional repository.

e. A peer review committee, Pathology Professional Practice Evaluation Committee, PPPEC, oversees peer review and resolution of discordant primary diagnoses and professional complaints.

2. Professional Goals and Objectives

a. Biannual performance review of each staff’s annual goals and objectives are performed by their professional medical leader (chair, vice chair, division head, hospital service chief)

b. These documents are retained in the ESR Provider HR Evaluations tab retained in each faculty’s profile.

Educator Staff Evaluation Reviews

See Systems for Effectiveness of Residency Teaching Program

Overall, the MSU department of pathology effectiveness will include measures of programs, faculty, students, staff, and community partners across all missions. Minimum measures will include:
- Faculty success – time in rank, tenure, promotion, research grants/awards.
- Student success – student evaluations from elective experiences, resident/fellow completion rate, program satisfaction.
- Staff success – retention, performance evaluations, staff feedback.
- Education/Curriculum success – continued growth, expansion, and impact.
- Financial performance based on college funding formulas, and reserve analysis.
- Outreach/engagement/service success – percentage of funds deployed to community, annual feedback from community stakeholders, faculty, and staff engagement in service work.
Assurances

For the university and college, the creation of the Department of Pathology will help solidify and expand the scholarly opportunities for students and faculty across the institution. With the addition of the department to MSU, it is expected that the unit will grow, adding to NIH funding in support of AAU metrics and building on the reputation of the existing faculty and programming. The leadership of the college has discussed the creation of the department with related departments and units including meetings with leadership and faculty. Many people across the university do work related to cancer biology, neuroscience, GI/GU-Hepatic/Cardiovascular/Pulmonary, immunity and inflammation, environmental toxicology, mass spectrometry, investigative histopathology, diabetes/obesity and drug discovery, similar to many people across the university that do work related to other areas of medicine. The addition of department of pathology does not limit the scholarly opportunities of others in the university, and this department will not change or limit the activity of faculty interested in the above-mentioned research areas across the institution. In fact, the success and expansion of this department increases opportunities for all.

Distribution of proposal for endorsement, assurances, or concerns:

Pathology (All communication by email unless otherwise indicated)
Dean Amalfitano (September 9, 2022) See Attachment D
Dean Duxbury (September 9, 2022) – The proposal has been distributed among departments, centers, and units. CNS expects to report back by the week of Sept. 26.
Interim Chair Karl Olsen (Physiology) (September 9, 2022)
  • Dr. Olson requested the transfer of CHM lines in the division of pathology into the Department of Physiology, and CHM agrees to this.
  • Dr. Olson requests that COM pathology faculty in the division of pathology be considered for joint appointments in the new department if that is their interest. That is fine with CHM. He is concerned about the home of COM pathology teaching with the new department. The division of pathology will continue within PSL to provide academic homes for those interested in being in the division. This is similar to many other departments for which the colleges have no parallel Physical Medicine & Rehabilitation (COM) and Emergency Medicine (CHM) are examples. The new department will welcome secondary appointments from pathology regardless of their home department or college as happens across the university.
  • Dr. Olson requests a discussion regarding the Investigatory Histopathology Laboratory (IHL), which is now the financial responsibility of the department. Dr. Olson requests a meeting about the future of the IHL. That meeting is being scheduled.

Director John Gerlach (Biomedical Laboratory Diagnostics Program) (September 13, 2022)
Drs. Gerlach, Zarbo and I have had an email conversation and concluded that there are areas for collaboration. The college and new department will not start its own biomedical laboratory major or undergraduate certificate in competition with BLD. HFH already collaborates with BLD and those opportunities would expand with the creation of the department.
College Advisory Council Summary

- Recommendation/endorsement

The CHM CAC unanimously endorsed the proposal for a new Department of Pathology on November 21, 2022.
**Text Book Publications (textbook chapters and books)**


**Publications in Peer Journals (manuscripts)**

**2019**


27. Houghton K, Umar B, Schairer J. Successful treatment of hereditary hemorrhagic telangiectasia with octreotide. ACG Case Reports Journal 6(6), 2019. PM31616764


66. Zervos TM, Macki M, Cook B, Schultz LR, Rock JP, and Craig JR. Beta-2 transferrin is detectable for 14 days whether refrigerated or stored at room temperature Int Forum Allergy Rhinol 8:1052–1055, 2018; Epub ahead of print PMID: 29722921

2020


74. Sharma G. Critical Values, Newsletter of American Society of Clinical Pathology, September 2020

75. Sharma G. Stoicism in the Times of SARS-CoV-2: Laboratory Leadership Lessons Newsletter of American Society of Clinical Pathology, December 2020


2021


23. Cloutier JM, Charville GW, Mertens F, Sukov W, Fritchie K, Perry KD, Edgar M, Rowsey RA, and Folpe AL. "Inflammatory Leiomyosarcoma" and "Histiocyte-rich Rhabdomyoblastic Tumor": a clinicopathological, immunohistochemical and genetic study of 13 cases, with a proposal for reclassification as "Inflammatory Rhabdomyoblastic Tumor". Mod Pathol 2021; 34(4):758-769. PMID:33318583


Myelodysplastic syndrome with t(6;9)(p22;q34.1)/DEK-NUP214 better classified as acute myeloid leukemia? A multicenter study of 107 cases. Mod Pathol. 2021;6:1143-1152 PMID: 33558656


2022

1. Abou Shaar R, Perry KD, and Otrock ZK. Hemophagocytosis on ascitic fluid cytology: Diagnosis of HLH. Diagn Cytopathol 2022; 50(8):414-416. PMID: 35674130


23. Yuan L, Nasir C, Benia JF, and Elsheikh TM. Hürthle cell-predominant thyroid fine needle aspiration cytology: A four risk-factor model highly accurate in excluding malignancy and predicting neoplasm. Diagn Cytopathol 2022; Epub ahead of print. PMID: 35674254

Faculty Awards

**Hour Detroit Magazine Top Docs 2022**

Ghassan Allo, MD  
Dhananjay Chitale, MD  
Kedar Inamdar, MD  
Christian Keller, MD  
Richard Zarbo, MD

**Hour Detroit Magazine Top Docs 2021**

Ghassan Allo, MD  
Dhananjay Chitale, MD  
Kedar Inamdar, MD  
Christian Keller, MD  
Richard Zarbo, MD

**The Best Doctors in America 2021**

Dhananjay Chitale, MD  
Kedar Inamdar, MD  
Richard Zarbo, MD

**Other Recognitions 2021**

Gaurav Sharma, MD  
2021 Choosing Wisely Champion, American Society for Clinical Pathology  
2021 Joseph J. Weiss Memorial Essay Contest, Wayne County Medical Society of South East Michigan

Christian Keller, MD  
2020 Outstanding Teaching Award in Anatomic Pathology, Henry Ford Hospital Pathology Residency

**Major Offices and Roles in National Organizations 2021**

Allo, Ghassan  
Board of Trustees, Michigan Society of Pathologists.  
Delegate, House of Delegates, College of American Pathologists (CAP)  
Delegate, Michigan State Medical Society  
Delegate, Wayne County Medical Society of Southeast Michigan (WCMSSM)  
Assistant Editor, Gynecologic Pathology, American Journal of Clinical Pathology
Member, Project ECHO (Extension for Community Healthcare Outcomes), Kenyan and Pan-Arab Associations for Gynecologic Oncologists

Chitale, Dhananjay
Panelist, CAP/IASLC/AMP Lung Biomarker Guideline Advisory
Member, HFHS-MSU Cancer Genetics Task Force

Lopez-Plaza, Ileana
Member, American Society for Apheresis Research Committee
Member, American Society for Apheresis TTP/TMA subcommittee
Member, American Society for Apheresis Choosing Wisely subcommittee
Assessor, Foundation for the Accreditation of Cellular Therapy

Otrock, Zaher
Board Member, Michigan Association of Blood Banks (MABB)
Chairman, Publication Committee, MABB
Chief Editor, MABB Newsletter, “In A Different Vein”
Member, Editorial Board, Journal of Hematology & Thromboembolic Diseases
Member, Editorial Board, International Journal of Chronic Diseases Sciences
Member, Editorial Board, Journal of Hematology

Pimentel, Jason
Member Virtual Slide Library Committee, American Society for Dermatopathology
Member, College of American Pathologists, Michigan House of Delegates

Saleh, Husain
Member, Editorial Review Board, CytoJournal
Member, Editorial Review Board, Journal of Gastrointestinal and Liver Diseases

Samuel, Linoj
Chair, American Society of Microbiology (ASM) Committee on Postgraduate Educational Programs (CPEP)
Vice Chair, Clinical Microbiology and Public Health Committee (CPHM), American Society for Clinical Microbiology (ASM)
Co-Chair, Education Committee, Pan American Society for Clinical Virology (PASCV)
Ex-Officio member, Public and Scientific Affair Committee, American Society for Microbiology
Ex-Officio member, Microbiology Resource Committee, College of American Pathology (CAP)
Member, ASM Clinical and Public Health Microbiology Committee (CPHMC)
Member, South Central Association for Clinical Microbiology (SCACM), Board of Directors
Council Member, Pan American Society for Clinical Virology (PASCV) Education Committee
Member, ASM Program Evaluation Committee (APEC)
Section Editor, Quality Control and Assurance, Clinical Microbiology Procedures Handbook, 4th edition
ASM representative, Program Planning Committee, International Conference on Emerging Infectious Diseases
Invited Participant, ASM Clinical Microbiology and Public Health (CPHM) Retreat
Invited Participant, ASM CPHM Congressional Hill Day
Sharma, Gaurav
Chairman, CAP 15189 Committee, College of American Pathologists
Member, Council on Accreditation, College of American Pathologists

Shaw, Brandon
Member, Advocacy and Government Affairs Committee, American College Medical Genetics and Genomics (ACMG)
Member, Privacy in Genetics Working Group. American College Medical Genetics and Genomics (ACMG)

Theisen, Brian
Member, CAP 15189 Committee, College of American Pathologists

Tibbetts, Robert
Member, ASM Clinical Research Awards Selection Committee, American Society for Microbiology
Member, Board Exam Development Committee, American Board of Medical Microbiology

Tuthill, Mark
Member, CDC, Clinical Laboratory Improvement Committee (CLIAC)
Member, ACGME, Clinical Informatics Milestone Committee
Delegate, ASCP, Resident in Service Exam Committee
Delegate, CAP House of Delegates
Conference Director, Pathology Informatics Summit, Association for Pathology Informatics
Chair, Program Committee, Association for Pathology Informatics
Telepathology Workgroup, American Telepathology Association
Member, Editorial Board, Journal of Pathology Informatics

Waugh, John
Board Director, The Compass Group
Member Administrative Committee, Michigan Co-Tenancy Laboratories
Board Member, Oakland University School of Health Sciences

Winston-McPherson, Gabrielle
Membership Chair, Michigan local section of The American Association of Clinical Chemistry
Associate Guest Editor, Journal of Applied Laboratory Medicine (JALM) Health Disparities Special Issue

Zarbo, Richard
Board Director, Project Santa Fe Foundation, Clinical Lab 2.0
Member, Executive Advisory Board, Archives of Pathology and Laboratory Medicine
Member, Editorial Review Board, American Journal of Clinical Pathology
Member, Editorial Review Board, Applied Immunohistochemistry
Member, Editorial Review Board, International Journal of Surgical Pathology
Member, Editorial Review Board, Modern Pathology
Member, Editorial Review Board, Head and Neck Pathology
Member, Editorial Review Board, Advances in Anatomic Pathology
Member, Editorial Review Board, The American Journal of Surgical Pathology
Member, Editorial Review Board, Otolaryngology – Head and Neck Surgery
On Friday, October 14, Dean Amalfitano sent the email copied below in response to the CHM submissions for Departments of Neurosurgery and Urology. To help clarify our response to the questions, we have inserted bold numbers before the questions. Our responses follow the email.

“Afternoon Aron, Nara, Carol, and members of the CHM CAC. I have also cc’ed Dr. David Kaufman, Asst.VP of Clinical Affairs in the Office of Health Sciences, as there are clinical implications related to the new department request(s), as noted below.

We again appreciate the opportunity to participate in the “assurances” portion of your processes. We have had several questions and suggestions generally arise in regard to the proposed departments, which I’ve again pasted below for your team’s consideration.

[1] Questions as to adding these departments (some of which are clearly duplicative of existing depts/divisions-with vague plans as to how to reconcile these duplications in the future) will create confusion as to which departments are East Lansing based, vs Providence based, vs HF based, and where faculty will be residing primarily, in particular when initially responding to job postings etc. [2] This also touches on referral pattern confusion, for example if we have Neurosurgeons/Spine Surgeons in the COM Osteopathic Surgical and Orthopedic Specialties depts at MSU-HCI in East Lansing, yet there is another “Neurosurg” dept, practicing in South East Michigan, and another at Providence Hospital as well.

[Variation for the urology proposal also emailed on October 14, “This also touches on referral pattern confusion, for example if we have Urologists in the COM Osteopathic Surgical Specialties dept at MSU-HCI in East Lansing, yet there is another Urology dept, practicing in South East Michigan.”]

[Variation for the Dermatology proposal emailed by Dean Amalfitano on September 19, 2022, “Morning Aron, and members of the CHM CAC.
We appreciate the opportunity to participate in the “assurances” portion of your processes. We have had several questions and suggestions generally arise in regard to the proposed 4 new departments, which I’ve basically pasted below for your team’s consideration. Thank you. AA

This also touches on referral pattern confusion, for example if we have ENT’s at MSU-HCI in East Lansing, yet there is another ENT dept, practicing in South East Michigan.”]

[3] Will any research done by the no-cost faculty becoming part of these depts., be attributed to MSU generally, MSU CHM or strictly to the jointly funded Health Sciences Center at Henry Ford?. [4] Will future investments in research faculty be shared across colleges, should they reside in a HF located dept?

[5] In line with the above, a general theme is questioning why these departments, and the faculty assigned to them, could not be shared between the medical schools, just as several other departments already are. We note that in the creation of the most recent dept on the MSU East Lansing campus., the Dept. of Orthopedics, this premise was highly desired by both colleges, and indeed the current Dept of Orthopedics is shared between COM and CHM.
[6] Is there a mechanism or plan for clinically active HF faculty to also be appointed through the MSU HCI?

[7] We are concerned with the lack of acknowledgement of COM education or role in some of these proposed new departments. For example, it is critical that the new Urology dept. chair recognize two completely different educational approaches in CHM and COM and joint appointments might be considered to recognize these dichotomies, especially as both COM and CHM students are being trained currently at Henry Ford System hospitals.

Thank you for your thoughtful consideration of these comments and questions.

AA"

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The College of Human Medicine responds:

As to [1]

It is true that we have some existing divisions (e.g., Neurosurgery division which is not a department). Divisions are constructs of the dean’s office and are not recognized by the university. Our proposal here is to create statewide departments, as all CHM departments are. In general, if there are existing divisions, structurally these will be incorporated into the appropriate departments either as a sub-entity or as a merger (depending on faculty needs and wishes). It is true that some departments have more faculty based in East Lansing (e.g., Medicine) or Grand Rapids (e.g., Pediatrics and Emergency Medicine), but that does not define the department, and faculty from all over the state can be in the department. It is also true that the collaborations in each department can be complex, but all departments in the university that engage with the community deal with complexity at some level. The college does not specify where faculty have to live as long as they can fulfill their role. Also note, we are purposely not creating duplicative departments.

As to [2]

Inclusion in MSU HealthCare, Inc. practices (and referrals to MSU physicians) is a separate issue than membership in a department. In this sense, these new departments will be the same as existing departments that include non-HCI faculty, including non-prefix faculty, from Flint, Grand Rapids, Detroit, the Upper Peninsula, or other communities across Michigan. Clinical integration partnerships between MSU and hospital systems, including joint ventures in radiology, or non-clinical relationships, including a statewide residency consortium, create more areas for confusion than these departments will. As a particular example, the neurosurgeons based at Ascension Providence are faculty for both CHM and COM, yet both colleges have decided that any confusion clinically is tolerable given the benefits to students.

As to [3]

The creation of this department will not change the eventual attribution of research funding. As a matter separate from the creation of these departments, we believe MSU, the Health Science Center, applicable college and department will all have attribution, but that system has not been implemented.
As to [4]
Investments from the college to departments will continue as they have for all departments, whether they are joint or in a single college. The attribution and indirect costs follow the appointments and investments as they do now, regardless of the geographical location of the department. For example, for departments located in Grand Rapids and Flint and invested in by CHM- research attribution and indirect costs will flow through CHM. Similarly, for departments located in East Lansing and jointly invested by COM- research attribution and indirect costs flow through the respective college in which the faculty is appointed. CHM has no interest in overturning the current system.

As to [5]
Neither the College of Human Medicine nor the collaborating physicians at Henry Ford Health envision these as joint departments. Some joint departments have been successful, but they are more difficult to administer. The orthopedics department is an interesting example, because administration of that unit has been a challenge and not an experience to be replicated. As in all of our departments, we will welcome faculty from other departments and colleges who are interested in secondary appointments in the new departments.

As to [6]
As of October 16, 2022, there is no pathway for Henry Ford Medical Group faculty to be appointed in MSU HeathCare, Inc., and any decisions to create such a pathway are separate from the department decisions. This is analogous to the CHM Emergency Medicine department created a decade ago; faculty employed by ECS are not “appointed” or credentialed in MSU HCI.

As to [7]
We expect the new department will only increase options available to COM students. The college and the new department are open to cross-listing classes as happens now across the university, and we will ensure the courses of the new department will be available to medical students regardless of college. Finally, there is nothing in the creation of the department that disturbs the existing curricular courses used by COM students. In fact, these additional departments enhance research, educational and clinical opportunities for COM students.
Federal NIH/NCI Grant Awards


**Allo, Ghassan**, Co-Investigator (5%). Epidemiological study of volatile organic compounds and preterm birth in Detroit, Center for Leadership in Environmental Awareness and Research (CLEAR). Source: NIH (P42 Runge-Morris and Miller); Straughen and Cassidy-Bushrow (PI). Grant Award: $1,843,625. 04/2022-6/2027.

**Chitale Dhananjay**, Co-investigator, (3%). Principle Investigator: Thomas Rohan, Albert Einstein College of Medicine, Inc, Bronx, NY, Title: Molecular Markers of Risk of Subsequent Breast Cancer in Women with Ductal Carcinoma in Situ, Supporting agency: National Cancer Institute, Project No.: 1R01CA218429, Grant Award: $1,513,571, Internal Grant Number (B40736), 9/15/2017-7/31/2022.


**Stark Azadeh**, PI-Subcontract (25%). Overall PI Thomas Rohan, MD, PhD. RNA and miRNA Markers of Progression of Ductal Carcinoma in Situ to Invasive Cancer. NIH/NCI R01. Grant Award $656,000, 9/1/2017-8/31/2022.

Non-Federal Grant Awards


**Cook, Bernard**, Principal investigator, Laboratory Validation of SARS-CoV-2 IgG and IgM Serologic Assays on an Automated Immunoassay System. Beckman Coulter. $88,754. Internal Grant Number (E13839).

**Cook, Bernard**, Principal investigator, Initial and Sustained Immunity to SARS-CoV-2 Measured by Serologic Assays on an automated Immunoassay System (natural and post-vaccination arms). Beckman Coulter. $109,937. Internal Grant Number (E13978).

Lopez-Plaza, Ileana. HFH site Principal investigator, Cerus Corporation multicenter clinical trial: Randomized, Double Blinded, Controlled, Parallel Group, Non-Inferiority, Phase III Study to Evaluate the Efficacy and Safety of the INTERCEPT Blood System for Red Blood Cells in Patients undergoing Complex Cardiac Surgery Procedures. Sponsor grant $262,494.93 (2020-2023), IRB #130845.


Tibbetts, Robert, Principal investigator, (100%). Clinical validation of the molecular-based Revogene® Enteric Panel assay for the detection and identification of Salmonella enterica and bongori, Shigella/Enteroinvasive Escherichia coli (EIEC), Campylobacter jejuni, coli and upsaliensis, Vibrio cholerae, parahaemolyticus and vulnificus from Cary-Blair preserved stool specimens from individuals with signs and symptoms of gastrointestinal infection. Supporting agency: Meridian Biosciences, Inc. Project No.; GPC07-002 5/07/2021 – 5/06/2022, Grant award: $75,737.50, Internal Grant Number (E20168).

Tibbetts, Robert, Principal investigator (100%). Clinical validation of the molecular-based Revogene SMART RP assay for the detection and differentiation of influenza virus (A and B) respiratory syncytial virus (A and B), human metapneumovirus, parainfluenza virus (1 to 4) and adenovirus. Supporting agency: Meridian Biosciences, Inc. Project No.; GPC06-002 06/18/2021 – 06/17/2022, Grant award: $66,343.75, Internal Grant Number (E20137).

Zarbo Richard. Principal investigator (100%). Sakura Finetek USA Research and Development Collaboration Agreement with Henry Ford Health System Laboratories. 10/18/2018-10/18/2023. Grant Award: $750,000. Internal Grant Number (E18180). Renewed 2022-2023 - $500,000