Acknowledgements:

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We are proud to report that the Department of Medicine (DOM) has continued its fantastic journey to provide excellent high quality clinical care in an academic environment. In this context, DOM’s different divisions and programs have shown tremendous growth and productivity.

Our medical specialties have seen much growth and progress in 2015. While each of our medical directors will provide details about their own areas, we would like to briefly summarize some of the accomplishments in these areas. Our Geriatrics program continues to provide a robust inpatient service and has also started developing a skilled nursing facility program at Fairfax Nursing Center. Palliative Care continues to grow and has successfully added inpatient hospice beds to their services. In addition, they have taken the lead on bringing Schwartz Rounds to our campus, which has been well received by our health care professionals across our campus. Rheumatology continues to balance inpatient and outpatient care and we are hopeful to add another rheumatologist in 2016. Endocrinology has added an additional physician to our already very busy, robust service and hope to commence the anticipated clinical research program. The CCU restructuring has been an enormous success as our patients receive continuous cardiology coverage and our house staff benefit from their teaching and expertise. Finally, our medical critical care services (MCCS) continues to care for patients in four adult units across our campus and their ongoing participation in patient safety and quality initiatives has been superb. With the leadership of our medical directors and our section chiefs, we will continue to develop our programs and service lines in order to provide the best care to our patients.

On our academic side, we are extremely proud of our young, but highly successful internal medicine residency. We now have eighteen residents in our program and we are in the process of recruiting our next class of interns, which will bring us to a final complement of twenty-seven residents. We continue to educate numerous residents and students from our affiliates and we are thankful for our talented teaching faculty, both from Inova Medical Group and our private practice colleagues.

Additionally, 2015 marked an important year for quality and general medicine programs for the Department of Medicine. Despite being faced with a historically high patient load, the hospitalist team, in partnership with the hospital, was able to deliver improved quality of care for our patients and has become a model physician group in the health system. This was done by creating a new medicine unit that combined several teams in one central location to provide the most effective patient care. Our quality team has reviewed a very high number of error reports and contributed to important improvements in safety for hospitalized patients. These improvements have taken place by continuing to promote Ongoing Professional Practice Evaluation (OPPE) by advancing quality initiatives and standards, as well as continuing the outstanding work of the Department of Medicine’s Quality and Safety Committee in bringing crucial patient safety issues forward for investigation. You will hear about the quality projects our residents have led which
have resulted in improved outcomes for our patients. Finally, with the goal of improving the culture of safety within the DOM, we conducted a “Just Culture Day” in October 2015. During this day, experts on just culture conducted grand rounds and small group sessions with DOM leaders and peer review committees. With all of these successes and new changes taking place, we look forward to the achievement of being national leaders in delivering evidence-based personalized care to the Inova community.

In summary, the Department of Medicine continued to provide superb clinical service, both for general medicine and specialty medicine. Our teaching programs are exemplary and our research programs continue to be one of the strongest on the campus. As we move to 2016, these efforts continue to grow and expand. We consider it a privilege to work alongside such talented, energetic, and dedicated professionals. We look forward to continued growth and success as we all work to improve the lives of our patients and educate the next generation of physicians.

QUALITY AND GENERAL MEDICINE
Chapy Venkatesan, MD
Vice Chair, Quality and General Medicine
VISION

The Department of Medicine at Inova Fairfax Medical Campus (IFMC) will be recognized as a leader in delivering compassionate and personalized patient care by ensuring innovative and superior medical services for its patients and community. We will continue to train future physicians and create an environment that will attract and retain highly talented physicians and staff. We will integrate cutting-edge research into our clinical practice and educational activities.

 GOALS

1. **Clinical and Quality** – Become a national leader in delivering high quality, evidence-based personalized care that provides the highest value to our patients.

2. **Education** – Develop a top-tier Internal Medicine Residency Program and fellowship programs to ensure the development and retention of highly qualified physicians.

3. **Safety** – Improve the culture of safety in the department and Inova by implementing principles of a just culture.

4. **Research** – Develop a patient-focused research portfolio including clinical, translational, and health services research.

5. **Reputation, Growth, and Development** – Expand the depth and reputation of the Department of Medicine programs and services to better integrate and support Inova’s vision and to be recognized for clinical excellence by patients, physicians, staff, and the community.

6. **Physician Relations** – Develop the best physician team which will provide collaborative opportunities with hospital and community-based physicians allowing us to develop and achieve quality and growth objectives despite location of employment.

7. **Fundraising and Philanthropy** – Collaborate and enhance philanthropic efforts for the Department of Medicine in order to fund research, education, and clinical programs.
During 2015, the Department of Medicine Inpatient Medical Services program continued to experience tremendous growth. Over the past several months, we have added four physician extenders who have been geographically assigned to our major units to help with patient experience, safety, and quality outcomes in close partnership with the nursing teams. As always, we have continued to put significant effort in integrating many vital hospital and system-wide roles and initiatives focusing on continuously improving the quality of our patient care. The biggest change for 2015 was the creation of our own 48-bed medicine unit on Tower 10, which has allowed us to work closely with nursing and case management to create a single unified care team with vastly improved communication. We have also overhauled our rounding, admitting, and teaching team structures to become more geographically-based and efficient.

We have worked to refine a standardized rounding model to help make patients more aware and involved in their entire care process; this includes the use of whiteboards, team picture templates distributed to patients so they can more easily identify physician members of their treatment team, and treatment team videos to better integrate patients and their families into their own care plan. A specific area of focus has been daily “trio-rounding” with the MD-RN-patient all together. We have worked very closely with our Patient Experience team to do simulation labs demonstrating proper process and providing real-time auditing and feedback on the floors to make this interaction as effective and successful as possible. Additionally, we have created multidisciplinary rounds and safety/patient experience rounds on key units to help ensure we are all working together as seamlessly as possible. To help keep track of how we are doing in these various areas, we have created a very comprehensive dashboard of metrics that helps monitor our progress and guide further efforts. Overall, we feel we are primed to have a breakout year in 2016 in terms of patient experience and safety outcomes.

I am fortunate to be able to work with Drs. Sam Elgawly and Paul Weisbruch (Associate Medical Directors) and Dr. Anne Summers (Cardiac Hospitalist Medical Director), who are all very devoted to making our group as successful as possible and helping us meet the needs of our Inova community.
CARDBIC HOSPITALISTS
Anne Summers, MD
Medical Director of the Cardiac Hospitalist Program

The Department of Medicine Cardiac Hospitalist service line continues to serve patients in the Inova Heart and Vascular Institute (IHVI) since its formation in November 2014. This service is staffed by a small dedicated group of hospitalists comprised of the rounding teaching teams and non-teaching teams, thus providing more consistency and improved communication with cardiologists, electrophysiologists, advanced heart failure, lung transplant, pulmonologists, and cardiac surgeons in the joint care of these complex patients. There are five rounding teams and two mid-levels working together with the goal of improving clinical parameters including throughput, length of stay, and readmission rate.

This team is led by, cardiologist and Department of Medicine hospitalist, Dr. Anne Summers, who serves as the Medical Director. The team has partnered closely with nursing and case management in daily multidisciplinary rounds on multiple units promoting teamwork. Dr. Summers is a liaison with the section of cardiology and bridges gaps in communication and promoting a collegial environment. Present focus on the cardiac bundle program, set by CMS, has led to developing better processes and protocols for the continuum of care of heart failure and myocardial infarction patients. This includes standardization of discharge instructions follow up, evidence based practice, and documentation. In addition, the patient advancement program (PAP) designed to help transition patients from CCU to PCCU continues to be a strong initiative with PAP having seen about 200 patients from May 2015 to December 2015. HCAHPS scores, hand hygiene, and other safety measurements continue to improve, which points to a cohesive team approach to caring for these critically ill patients.
CNS HOSPITALISTS
Brigid Gray, MD
Medical Director of the CNS Hospitalists

The CNS (central nervous system) Hospitalist or Neuro Hospitalist service line at Inova Fairfax Medical Campus was created in 2010 under the guidance of Dr. Rina Bansal. The team provides specialized care for neurology and neurosurgery patients, 24 hours a day, 7 days a week. The CNS team triages and accepts neuroscience transfer patients from outside hospitals providing care that patients are not able to obtain at outside facilities. In combination with radiation oncology, neurosurgery and other neurologic specialists, the team brings together many best practices on both the neurosciences and stroke unit.

The CNS Hospitalists conduct daily discharge rounds with the nursing and case management leadership to ensure that transition of care is satisfactorily accomplished.

In 2014, the CNS team joined Inova Medical Group (IMG) under the leadership of the Department of Medicine and Department of Neurosciences and has become gradually more integrated.

Currently, Dr. Brigid Gray took over as medical director of the CNS Hospitalists. She had previously served as Director of Primary Care Services at the Northern Virginia Mental Health Institute for several years. Under her experienced leadership the CNS team hopes to continue to improve and provide excellent care for all neuroscience patients.
As we begin 2016, we look back to how the Medical Critical Care Services (MCCS) of Inova Fairfax Medical Campus (IFMC) continues to provide excellent patient care for the critically ill patients, in collaboration with our colleagues through the diverse community that we serve.

In 2015, under the directorship of Dr. Jason Vourlekis, a number of projects were carried out by the MCCS team at IFMC. Under the leadership of Dr. Svetolik Djurkovic, our sepsis mortality rates in the Medical-Surgical ICU are consistently less than expected for our critically ill population. Our utilization of critical care resources and attention to patient care is illustrated by our reduction in ventilator days to 2.55 days in 2015. In addition, the family satisfaction survey describes the care that our physicians provide as “very good” and “excellent.” This ongoing attention to excellent patient care is mirrored by the recognition that our physicians have received by residents and students with regards to teaching excellence: George Washington University Emergency Department Residents Teacher of the Year and Inova Virginia Commonwealth University Medical Students Educator of the Year. Our advanced practice providers, under the supervision of Bobby Cockram, provide ongoing support to our MCCS physicians in the care of critically ill patients and have been instrumental in tracking patient length of stay, readmissions, and developing new clinical practices to improve patient care.

The Neurosciences Intensive Care Unit (NSICU), under the leadership of Drs. Laith Altaweel and Hussain Dhanani, become one of the busiest ICUs at IFMC, routinely having in excess of 20 patients under our care at any time. The neuro intensivists on our team have made IFMC’s NSICU a tertiary referral center of excellence for those with complex neurologic injuries. To that end, our NSICU was instrumental in achieving national recognition for IFMC: Top 100 of America’s 100 Best Hospitals for stroke care status with over 1,200 stroke cases managed by achieving lower in-hospital stay and 30-day mortality less than expected for this population.

2015 marked the second year of our Coronary Care Unit (CCU) co-management model, under the leadership of Dr. Behnam Tehrani, CCU medical director. Under this new care paradigm, Inova cardiologists and MCCS intensivists conduct multidisciplinary rounds with the medical students, residents, nurses, and other clinicians. We have achieved significant improvements in year-to-year patient harm scores with declines in catheter-associated-urinary tract infections, C difficile infections, venous thromboembolisms, and pressure ulcers.

After years of medical director leadership in multiple capacities, Drs. Ondrush and Vourlekis have transitioned their leadership roles within the Department of Medicine. Dr. Ondrush will be leaving IFMC at the end of the summer, in pursuit of other opportunities, while Dr. Vourlekis again hosted the Pulmonary and Critical Care conference, which provided IFMC with excellent speakers on contemporary topics in the field.

In 2016, we expect to continue the great work of providing safe, high-quality care to our patients, and further supporting IFMC as a tertiary care center of excellence in care for critically ill patients.
THE DEPARTMENT OF MEDICINE AND TRANSITIONS OF CARE
John Paul Verderese, MD
Medical Director of Transitions of Care

Efforts to improve care transitions continue to draw a great deal of focus nationwide as the reimbursement model for healthcare rapidly shifts from fee-for-service to fee-for-value. Under the direction of Dr. John Paul Verderese, the Department of Medicine (DOM) continues to lead this realm of quality improvement at Inova Fairfax Medical Campus (IFMC) and throughout the entire Inova Health System.

During the past two years, the DOM has worked closely with inpatient case management to make sure patients have scheduled follow-up visits with their primary care physician (PCP), or alternatively at the Inova Transitional Services Clinic after discharge, and also making sure discharge summaries are completed in a timely fashion and sent to the PCP. DOM physicians, often times with resident or nurse practitioner (NP) support, also continue to hold bedside discharge appointments for their high-risk patients which consist of a face-to-face review of the Epic after-visit-summary, inclusion of high-yield discharge instructions, and hospitalist contact information for that transition time period, if issues arise. The DOM continues to make efforts to contact PCPs about patients that are hospitalized and continue to use VNA Home Health services to aid in the hospital-to-home transition.

Dr. Verderese continues to serve as Medical Director of the Inova Transitional Services (ITS). ITS provides both health coaching and care management for traditional Medicare, Medicaid, Aetna Innovation Health, and uninsured patients with heart failure (HF), chronic obstructive pulmonary disease (COPD), myocardial infarction (MI), and pneumonia, as well as offering clinic appointments for any patient that does not have timely access to a PCP. The ITS clinic provides care for patients at the highest risk of hospitalization or re-hospitalization who often have complex active co-morbid conditions, or are on intravenous antibiotics or anticoagulants. System-wide readmission rates, acute-care and ER utilization, acute care and ER lengths of stay, as well as provider and patient satisfaction metrics have all been positively impacted since the inception of the ITS Clinic. ITS also offers preoperative and perioperative medical evaluations and services in an effort to improve the quality and throughput for Inova’s surgical patients. ITS and its successes were recently highlighted in the American College of Physician's monthly “ACP Hospitalist” publication.

In addition, Dr. Verderese continues to serve as the Medical Director of Inova VNA Home Health Home services. This organization plays a crucial role in readmission and adverse outcome reduction and complements the many transitional care initiatives that Inova offers. Most home health patients are coming from the acute care setting and are generally sicker and more complicated than in the past, and having direction from a physician well versed in acute care has been invaluable from both the hospital’s and home health organization’s perspectives.

Lastly, he has presented Inova’s transitional care successes nationally and lectures residents and students on care transition topics. The DOM continues to be a regional and national champion of solid care transitions in order to help realize the “Triple Aim” goals for healthcare improvement.
DEPARTMENT OF MEDICINE’S INPATIENT DIABETES AND CONSULTATIVE SERVICES
Stephen Clement, MD
Medical Director of Endocrinology Services

For 2015, we experienced steady growth in demand for our endocrinology inpatient diabetes and consultative services. We are privileged to have unique collaborations with the Cardiothoracic Surgery, Psychiatry, General Surgery, Medical Critical Care Services, and Gynecology Departments in caring for their patients with endocrine problems. We welcome cases that span the spectrum of complexity from calculating the right insulin dose to finding that illusive diagnosis (i.e., “Dr. House” style). In addition, we celebrated the addition of Dr. Michelle Jeffery. Dr. Jeffery hails from Chapel Hill, North Carolina, where she completed her fellowship at University of North Carolina. She was a practicing internist for four years prior to fellowship training. We welcome her to the practice.

The result of our work has made us a regional referral center for complex endocrine problems. It is now routine that patients are transferred to Inova Fairfax Medical Campus (IFMC) from neighboring hospitals because of our expertise in endocrinology. With the growth of our team, we are preparing to launch our clinical research program in the hopes of further providing excellent service to our patients and community in the years to come.

Endocrinology Encounters by Quarter (2014 vs 2015)
Palliative care is a comprehensive, coordinated approach to serious illness which aims to improve quality of life by:

• Providing expertise to manage physical, psychological, and spiritual symptoms
• Discussing treatment options impact on disease trajectory, quality of life, and life expectancy
• Assisting in understanding and documenting goals of care, including advance care planning, and facilitating a comprehensive plan across the care continuum
• Providing expertise in communication that incorporates the unique needs of the individual patient and family to discuss difficult information, including prognosis

Based on the continued progress in medical technology and pharmacology, people of all ages are living longer with chronic progressive illness. With the longer duration of life, we must strive to simultaneously provide the highest possible quality of life. This requires exquisite symptom support and clear communication to determine an individualized care plan that reflects the unique goals of our patients and families.

NEW INITIATIVES IN 2015:

Inpatient Hospice Launch
Inova Fairfax Medical Campus (IFMC) began offering inpatient hospice care in partnership with Capital Caring in November 2015. This service is available for patients with a terminal illness who continue to need intensive symptom management and whose condition prevents them from leaving the hospital to receive hospice services elsewhere. The service provides personalized support to address these patients’ psychosocial, emotional, and spiritual needs supporting their families, including bereavement support for up to 13 months past their loved one’s death. Our approach to this new service is to offer hospice “in-place” this means hospice supportive services come to patients wherever they are cared for in the hospital. Patients remain with their current care team, and hospice adds an additional layer of comfort and support services to patients and families. 64 patients have benefitted from these services to date.

Communications Simulation
Dr. Denise Mohess developed and led an intensive communications workshop for our medicine residents transitioning to second year. She also assists in remediation strategies using the simulation lab. She is in the process of developing a palliative care communications curriculum that will include breaking bad news, interdisciplinary communication, and patient goal determination.

Critical Decisions Task Force
A system wide task force was developed to assist in oversight of complex issues related to critical decision making for patients across the system. The Epic CPR orders and header have been updated for enhanced patient safety and provider clarity, with the new order panel to roll out in March 2016. Additionally, education regarding CMS’s new Advance Care Planning CPT codes has been added to InovaNet and will be sent system-wide.
Geriatrics Integrative Care Service
Winnie Suen, MD
Medical Director of Geriatric Medicine
Inova Fairfax Medical Campus (IFMC) was the first hospital in Northern Virginia to recognize and develop geriatrics as a service to our older adult patients. The Section of Geriatrics, formally established in 2006 in the Department of Medicine at IFMC, consisted of two components in 2015:

1. The Geriatrics Consult Service
2. The Nurses Improving the Care of Hospital Elders (NICHE) program.

Geriatric Consult Services
The Geriatrics Integrative Care Service has offered hospitalized older adults comprehensive geriatrics assessments since 1987. In 2015, the service provided care to over 1,300 patients, growing from 1987 when there were 89 consultations. The service continues to serve as a popular elective rotation site for nursing practitioner students, pharmacy students, medical students, and psychiatry residents. In addition, in 2015, we started serving as a standard internal medicine resident rotation site.

Nurses Improving the Care of Health System Elders (NICHE)
The Nurses Improving the Care of Hospital Elders (NICHE) program initiated at IFMC in 2001 is a nurse driven program that aims to improve care of the older adult using evidence-based practice protocols, guidelines, modifications of order sets, and geriatrics resourced nurses. IFMC has been an exemplar site with NICHE in 2014 and now in 2015.

Other Geriatrics Program Components:

Skilled Nursing Facility Program
In 2015, the Geriatrics Integrative Care Service started a service where providers provided care for 20 to 40 patients per month who were transferred to the rehabilitation centers after their hospital stays.

Elderlink
Elderlink coordinates and manages all elements of patient care (medical, social, legal, and financial), minimizing the stress and confusion families often experience when dealing with multiple service providers. In 2015, Elderlink started a "hospital to home" program that provides support and guidance to patients and families after leaving the hospital who may need to coordinate further services and care plans.

Hospital Elder Life Program
The Hospital Elder Life Program (HELP), funded originally by the Stafford family and now supported by nursing, is a volunteer based program that began in 2006. This program helps to maintain current functional ability and decrease incidence of delirium in the hospitalized older adult population.

The Geriatric Resource Center
The Joanne G. Crantz, MD Geriatrics Resource Center, housed in the IFMC Medical Library, was established in 2010. It offers current, innovative, and interactive geriatrics resources to medical professionals, staff, patients, caregivers, and families with technology specifically adaptive to the geriatric population.
RHEUMATOLOGY CONSULT SERVICE
Lynn Gerber, MD
Medical Director of Rheumatology

The Rheumatology Section of the Department of Medicine consists of the administrative Section Chief and two clinical rheumatologists who serve in the inpatient and outpatient settings managing patients with complicated rheumatic conditions including systemic vasculitis, lupus, inflammatory arthritis, and in addition to, less acute conditions such as osteoarthritis and osteoporosis.

Several noteworthy 2015 accomplishments included the Rheumatology Section collaborating with the orthopedic service line to start a bone health initiative targeting patients with osteoporosis. There was also collaboration with faculty at George Mason University and a National Institutes of Health (NIH) grant application was submitted to fund a study about fatigue in patients with systemic lupus. Additionally, the Medical Director of International Medicine at Inova has inquired about utilizing the services of the Rheumatology Section to facilitate care for their embassy personnel. Furthermore, Inova Fairfax Medical Campus (IFMC) became an approved site for a drug trial in scleroderma. This effort is collaboration between the advanced lung disease and rheumatology service lines and the rheumatologists are sub-Principal Investigators on this study evaluating the efficacy of oral nintedanib treatment in scleroderma patients with interstitial lung disease.

Throughout the year, the rheumatologists work closely with the medical students and residents as they rotate through the clinic and hospital teaching them concepts in rheumatology. They have also given several lectures in medicine grand round lectures as well as noon conference lectures. We also had the opportunity to be a guest speaker at the ACP International Internal Medicine Conference of Costa Rica which discussed treatment updates in vasculitis. In addition, the Rheumatology Section and the Department of Medicine have hosted three successful journal clubs along with section meetings that were open to all local community rheumatologists. After a successful 2015, we hope to further increase the outreach of rheumatology in the community.
In 2015, the Department of Medicine's (DOM) Quality and Safety Program continued its efforts in implementing policies and mechanisms to ensure our patients receive the highest quality care. We have worked to codify all of our processes, but most notably in our management of case referrals to the DOM. We welcomed Karen Adamouski-Marion RN, MSN in November 2015 as she started serving in her role as Clinical Outcomes Specialist for the department. Karen has more than 24 years of experience working in various healthcare leadership roles, managing quality process improvement projects, and improving overall customer satisfaction. In her role, she will be facilitating weekly as well as monthly quality meetings. In addition, she is assisting with the Ongoing Professional Practice Evaluation (OPPE) and Peer Review process and monitoring medical records compliance. With the addition of a new Clinical Outcomes Specialist and our former Medical Staff President and Chief Medical Officer, our quality team is now functioning at maximal performance.

Specifically, over 500 cases were referred to the DOM in 2015, via Safety Always, Patient Relations, other departments, or direct referrals. Each case was investigated, reviewed and when appropriate, feedback was provided to the reporting body. When indicated, certain cases were referred to Peer Review for a potential practice gap issue or initiation of Focused Professional Practice Evaluation (FPPE), while others were escalated to hospital leadership when a systems issue was identified. Specifically, several cases were identified involving inaccurate or incomplete medication reconciliation, which evoked efforts to improve pharmacy oversight of the medication reconciliation process for each new admission to the hospital. In addition, case review in the DOM has triggered other quality improvement processes related to hospital discharge, ordering of anticoagulants and antibiotics, and documentation in the medical record.

The DOM continues to be up-to-date with the Joint Commission’s mandate for OPPE. We have continued to enlist the assistance of our subspecialty section chiefs to identify and report out on various quality metrics specific to each section.

Lastly, the DOM has embarked on a new journey, related to the implementation of Just Culture principles, both in peer review and for any case referrals. With the assistance of David Marx and his company, Outcome Engenuity, the DOM held a one-day introduction to Just Culture, with a follow up session arranged later in the year for hospital and system leadership. We hope to gradually adopt some of these Just Culture principles in the DOM in order to provide the best possible care for our community, as well as promote the growth and well-being of our colleagues.
DEPARTMENT OF MEDICINE CLINICAL SECTIONS

DEPARTMENT OF MEDICINE CLINICAL SECTION CHIEFS

Pictured in the front row, from left to right, are:
Chapy Venkatesan, MD (Vice Chair, Quality and General Medicine),
Zobair Younossi, MD (Chair, Department of Medicine and VP for Research, IHS)
and Madeline Erario, MD (Vice Chair, Academic Affairs and Subspecialty Medicine)

Pictured in the back row, from left to right, are:
Winnie Suen, MD (Geriatrics), Shalika Katugaha, MD (Infectious Disease),
Ahmed Hegab, MD (Gastroenterology),
Albert Kim, MD (Cardiovascular Disease), Richard Rosenthal, MD (Allergy and Immunology),
Eric Libre, MD (Pulmonary),
Jason Vourlekis, MD (Critical Care), Nahrain Alzubaidi, MD (Endocrinology),
J.P. Verderese, MD (General Internal Medicine),
Lynn Gerber, MD (Rheumatology),
Stacy Oshry, MD (General Internal Medicine), and Ranjit Cheriyan, MD (Nephrology)
DepartMent of MeDiCine eDUCation prograMs

Alita Mishra, MD
Director of Education; Program Director for the Internal Residency Program

Department of Medicine (DOM) Education Programs

The Educational Programs in the Department of Medicine (DOM) are thriving under Dr. Younossi’s leadership. Building on the heels of a fantastic inaugural class of our own Inova-based Internal Medicine Residency Program, as well as our decades of commitment to medical education, our first two classes of residents continue to thrive and do well in all aspects of their training. We also continue to host residents and students from our affiliate programs. The enthusiasm, support, and dedication to teaching and mentorship of our faculty members in general medicine, hospital medicine, pulmonary medicine, infectious diseases, gastroenterology, cardiology, nephrology, rheumatology, endocrinology, hematology, oncology, and critical care have been outstanding. We underwent a detailed site visit from the ACGME (Accreditation Council for Graduate Medical Education) in July 2015. The ACGME site visitor was impressed by our curriculum and caliber of our residents for a new program. Most importantly, we just received a formal letter from the ACGME and are proud to report that we are now a fully accredited Internal Medicine Residency training program and received no citations or areas of concern which is a rare event for a newly established program. This is a testament to the skills of our faculty, hospital, and our program. Our core curriculum foundation is based on inpatient training on our inpatient wards, critical care units, and continuity clinics at Inova Medical Group primary care clinics. We are able to augment and individualize electives to include all Internal Medicine sub-specialties and also have a focus on Quality Improvement, Procedural Rotation, Residents as Teachers, Ambulatory Medicine, and scholarly activities. We plan to expand our electives to include a focused Women’s Health rotation, Consultative Medicine, as well as Community Health. All of our residents have faculty mentors in their areas of interest and in addition, some of our residents are also pursuing research in areas of importance to them with their faculty mentors. In partnership with the NIH (National Institutes of Health), we have successfully had three of our residents’ complete rotations in oncology and rheumatology at the NIH in 2015.

In addition to a robust clinical training, our residents have also been involved in many scholarly activities. Currently, they are working on four key quality improvement initiatives led by Dr. Venkatesan: 1) hand hygiene and hospital acquired infections, 2) minimizing interruptions and improving communications across health care teams, 3) high quality discharge appointment, and 4) face sheet – “who is your doctor” sheet. Last year, our Internal Medicine Residency Program was the top prize winner of the annual Inova Graduate Medical Education Quality Improvement Symposium and we eagerly look forward to presenting the current year’s projects in 2016.

Our residents are also involved in many hospital and departmental committees and play an active role in their learning and patient safety. With the leadership and guidance from our leaders at Inova Fairfax Medical Campus and the DOM, our residents are poised for a successful training and career. We had a very impressive applicant pool for our 2016 class of interns and eagerly look forward to welcoming our third class of Internal Medicine residents in June 2016.
Continuing Medical Education (CME)
The DOM continues to be a leader in high quality Medical Grand Rounds series. In 2015, we had an impressive number of our Inova-based physicians as well as national and internationally known faculty give important updates on their areas of expertise. In addition, our new quarterly series on health disparity and health equity continues to be well received. Beginning in January 2016, we will add a monthly Inova Heart and Vascular Institute (IHVI) Cardiology Grand Rounds/visiting professor series which will bring an impressive caliber of nationally well-known cardiologists to our institution.

Our annual DOM Research Day was held in January 2015, which included the invited keynote speaker and a number of oral and poster presentations from DOM scientists and physicians. The DOM also sponsored the Washington, D.C. Dermatological Society Clinical Conference in December. This half day conference included updates on melanoma as well as live patient cases and observations. We also had another successful CME event on Advances in Pulmonary and Critical Care Medicine in March. This full day symposium included many nationally well-known speakers and cutting edge advances in pulmonary and critical care medicine. We hope to continue inviting many more speakers in 2016 that can provide their expertise and education to DOM.
UNDERGRADUATE MEDICAL EDUCATION

Homan Wai, MD
Medicine Clerkship Director for VCU

The Department of Medicine continues to host third and fourth year medical students from Virginia Commonwealth University, Georgetown University, and George Washington University for their clerkship experiences. Dr. Homan Wai assumed the title of Clerkship Director in July as Dr. Gregory Trimble accepted a position as the Assistant Dean of Faculty Development. Meanwhile, Dr. Meena Raj came on board as the new Associate Clerkship Director and Director of the Acting Internship. Kristin Kazem, our Academic Administrator, has just completed her second year and has been instrumental in keeping the clerkship running in a seamless fashion. There are about 20 to 25 students per month rotating through the inpatient wards, intensive care unit (ICU) and coronary care unit (CCU). We are continually blessed with dedicated faculty that provides quality medical education for our students.

The VCU Inova campus continued to participate in a pilot project related to the Core Entrustable Professional Activities (EPAs), a five-year endeavor started in 2014. We are continually exploring the new ways to supplement the education of our students, including utilizing online resources and taking advantage of the Inova Center for Advanced Medical Simulation (ICAMS) that opened last year here at Inova Fairfax Medical Campus (IFMC). For the later part of 2015, the department has also been preparing for a site visit from the Liaison Committee on Medical Education (LCME) for the VCU School of Medicine, currently scheduled for Feb. 21 to Feb. 24, 2016. LCME is the nationally recognized accrediting authority for medical education programs and the reviews take place every eight years. This is a wonderful opportunity for our program to conduct self-evaluation and identify areas that we could improve on. We are excited to show the site visitors the robust experience we provide for the students here.
DEPARTMENT OF MEDICINE EDUCATION PROGRAMS

INOVA FAIRFAX MEDICAL CAMPUS INTERNAL RESIDENCY PROGRAM

RESIDENT CLASS OF 2018

RESIDENT CLASS OF 2019
HEALTH INFORMATION TECHNOLOGY

Maruf Haider, MD
Medical Director of Clinical Integration

Health information technology has progressed in operationalizing data to be utilized for many functions in the Department of Medicine (DOM). The team has developed additional dashboards to help the DOM focus on unit-based care and improving quality metrics. In total, we have six dashboards which leaders have used in managing clinical and operational performance. These can be used for data mining and analysis. The process for creating and maintaining these dashboards is very complicated, and this year the process has been streamlined by transitioning the dashboards from Microsoft Excel to Oracle. The team has internal staff who have become experts in obtaining and synthesizing data from a variety of resources which include Epic, Premier (quality metrics), and Press Ganey (patient satisfaction). In November 2015, we started formalizing our DOM Informatics team which will deliver and advise the department of data and information requests.
JUST CULTURE INITIATIVE
Joseph Hallal, MD

The single greatest impediment to medical error prevention in the healthcare industry today continues to be a “blame culture” in which people are punished for making mistakes. Last year, as you may recall, the Department of Medicine (DOM) embarked on a Just Culture initiative which at its core creates an environment in which we fairly balance system and individual accountability. 2015 marked the first full year of our journey to a Just Culture and we are proud of the progress we have made.

Several members of the leadership team including Drs. Garg, Venkatesan, and Vourlekis attended a three-day, physician-based leadership training to become certified in Just Culture principles and implementation. Also, the team developed and implemented a DOM Just Culture survey to help measure the internal safety culture. The survey results showed that we had opportunity to improve in the realms of near miss reporting, punitive response to error, and allowing the outcome (rather than the risk) affect how we address events. As a result of this survey, in October, the group brought in John Westphal from Outcome Engenuity to conduct a Just Culture educational day. This day consisted of a well-attended grand rounds session and small group interactive sessions with DOM leaders and peer review members. In addition, we have begun using the Just Culture algorithm in the Internal Medicine physician peer review process and plan to use it for our sub-specialties as well. We hope to begin a pilot project on one of the medical units using Just Culture principles in 2016.
Barry Strauch, MD  
Chair Emeritus and Consultant to the Department of Medicine

Dr. Barry Strauch, in his role as Chair Emeritus and consultant to the Department of Medicine (DOM), has provided valuable input and guidance for our quality program. Using his years of experience and expertise in quality and safety, Dr. Strauch has performed independent assessments of quality and peer review for the cardiology and gastroenterology sections. These assessments have allowed the DOM to adjust our approach to quality in these sections. Furthermore, Dr. Strauch is a regular attendee at the Morbidity and Mortality Conference, providing valuable input about quality and safety to our trainees and faculty through his insights.

Richard Binder, MD  
Physician Liaison Program

The Physician Liaison Program continued in 2015 to interface with the wide variety of physicians that make up the Department of Medicine (DOM) which include both community and employed physicians. The program is designed to be a resource and support physicians so that they have an avenue for feedback and enhanced communication. 2015 marked the first full year that the Inova Simulation Center has been open. This facility has been used by both community and employed physicians to refresh and enhance their medical skills as well as build competence in new skills. Also, the free standing Internal Medicine Program had its first two classes of residents and the presence of these talented residents have enhanced the quality of care of both inpatients and outpatients. They continue to be mentored by voluntary staff, particularly in the subspecialty areas, as well as, by our hospitalist teams. In addition, the hope is to develop specialty fellowships in the near future.
PATIENT EXPERIENCE
Denise Mohess, MD
Palliative Care Physician; Leader of Patient Experience Initiative for the Department of Medicine

Communication is the most common procedure performed in medical practice, and yet physicians receive less training, practice, and feedback in this than other less common procedures.

Patient and family-centered care has become vital to improving the patient experience and clinical outcomes. The voices of patients and families inform and guide our practice and provide vital insights into the way in which we impact quality, safety, and service.

Enhanced team communication and collaboration is also essential and leads to improved patient experiences, better clinical outcomes, and reduced patient complaints. As team members learn to attend to the needs, strengths, and diverse backgrounds of colleagues, they enhance collaborative team performance. Effective teams also experience heightened morale among team members and increased staff retention.

In 2015, Care Delivery Model behaviors were implemented that are proven to increase levels of satisfaction. Patients were geographically cohorted to the Department of Medicine (DOM) hospitalists on Tower 10 (10 North and 10 South medical units) with the primary purpose of having a more unified team of MD/RN/case management in close communication to be able to provide better patient care. To help patients identify and keep track of their care team, we used tools such as picture business cards, names on whiteboards, and monthly team picture sheets. “Who is the care team,” is a three minute video that teaches patients and families the role of the different members of the team.

One of the most important parts of the Care Delivery Model is trio rounding, which is bedside rounding that includes the physician, nurse (MD-RN rounding), and engaging the patient. This initiative was started in July 2015 and done daily for all patients covered by the Tower 10 through intense collaboration by the DOM hospitalists, nursing, and the Patient Experience leadership. They worked on standardizing the MD-RN interaction with the patient and being more explicit about what was being done. The Patient Experience team helped to improve the process by incorporating simulation lab training (hospitalists/PAs/NPs) and regular auditing with direct observation and feedback with the goal to improve and standardize the process.

To test the validity of this new approach, Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) scores were compared before (baseline) and three months after. Improved HCAHPS scores were noted on the pilot units. Results indicate an increase in top box HCAHPS scores in MD communication by 14.4%, RN communication by 8.4%, and pain management by 41.1%.

Next steps will include enhanced skills in family engagement and development of relationship-centered care. Efforts will be made to improve the way we engage with patients and families and to address the patients who have limited capacity to understand or communicate adequately/effectively through multidisciplinary approaches.
Global Health Research and Education Initiative
Ian Shenk, MD

We continue to be actively involved in global health research projects with undergraduate and post-graduate students from various affiliated universities to help highlight the major global health issues present in the world today that are contributing to mortality rates for diseases that we are seeing a resurgence of. In addition, we are discovering new ones and the international response in dealing with these diseases. Some of our new research projects revolve around the assessment of the global obesity epidemic and its sequelae. We have new members of our faculty who have extensive connections with international and global health organizations.

We are currently initiating a global health journal club which we expect to be a forum for open discussion, debate, and education of our multi-national medical community. We are also coordinating with international organizations to arrange for opportunities for members of our medical community to participate in global health community and disaster relief services to help garner awareness for the global health initiative amongst the Inova community.
The number of active protocols and research funds make the Department of Medicine Research program the most active and well-funded department.
Establishment of the Beatty Liver & Obesity Research Program

As one of the most critical departments at Inova Fairfax Medical Campus, the Department of Medicine boasts a varied and innovative research program. The connection between the bedside and the bench allows our investigators to bring together cutting-edge personalized research protocols to our patients, our institution, and our community, as well as offer research and education opportunities for our students, residents, and fellows.

The Department Medicine research program includes the Beatty Liver & Obesity Research Program, Liver Pathology Research Program, Advanced Lung Research Program, and Infectious Disease Research Program. The following is a summary description of the Beatty Liver & Obesity Research Program.

The urgency for obesity research is clear. Obesity-related liver disease currently affects about 30% of the U.S. population and that number is expected to climb dramatically in the years ahead. Our investigators are shedding new light on this disease and sharing their findings on the world stage. In the last few years, they have presented at numerous international conferences and written articles which have been published in important peer-reviewed journals. Such exposure adds to the body of research and positions Inova as a major player in this critical area of investigation.

The Beatty Liver & Obesity Research Program has pioneered clinical and translational research in chronic liver diseases and obesity. It is comprised of several core areas: Clinical Trials, where numerous phase II and phase III trials are conducted; Liver Pathology, where investigators are conducting research in the pathogenesis of chronic liver diseases by providing accurate assessment of patient clinical samples from participants in translational research; and the Basic Science Laboratory, where techniques such as gene expression technologies, ELISA-based protein assays, cell culture, and immunology assays are used to investigate numerous components of obesity related liver disease. The investigators generate original discoveries and pursue clinical trials for new pharmaceutical interventions and aid in the development of novel biomarkers for the diagnosis and treatment of non-alcoholic fatty liver disease. In addition, detailed quality of life data is accrued correlated to liver histopathology and outcome measures to aid in assessing quality of life and functional measures. Furthermore, the program has a large specimen bio-repository specifically designed to house -80°C freezers in a temperature controlled environment with backup electricity and a sophisticated electronic freezer temperature monitoring system.

The staff includes PhD-trained scientists, data analysts, clinical trial research coordinators, and other research support staff. A large number of graduate and undergraduate students are trained at this center. In 2015, the group has presented more than 83 abstracts and published more than 47 manuscripts in internationally peer reviewed journals.

Additionally, the Beatty Liver & Obesity Research Program support staff members include: Manirath Srishord (Senior Director); Trevor Gogoll (Director); Deena Hallaji (Executive Assistant); Gerry Rice (Program Manager); Aimal Arsalla (Program Manager); Puneetinder Kaur Mann (Project Manager & Research Coordinator); Brian Lam (Physician Assistant); and Kathy Terra (Nurse).
Elzafir Elsheikh Abdelrahman, PhD

Non-alcoholic fatty liver disease (NAFLD) has been associated with increased incidence of cardiovascular disease (CVD) such as coronary artery disease, stroke, and heart failure. Furthermore, CVD is the most common cause of death among NAFLD patients. Understanding how NAFLD led to the presence of CVD will help to find novel medical management that is capable of controlling the adverse impact of NAFLD on CVD risk to improve clinical outcomes of these patients.

In the Center for Liver Diseases, we are working hard to solve this mystery. There is speculation that NAFLD contributes to the increase in levels of bad lipid (LDL: low-density lipoprotein) in the blood and vascular vessels walls. This leads to narrowing of the blood vessels which leads to CVD.

The liver secretes several proteins that play important roles for lipid regulation in the blood. We investigated the levels of liver-secreted proteins as the possible link between the NAFLD and increased CVD risk. We found that the levels of some liver proteins were lower in NAFLD patients with CVD. This may explain the association of increased risk of CVD in NAFLD patients due to decreased levels of lipid regulating proteins that are produced by the liver. Improving liver function by increasing liver-secreted proteins could be the key role in the protection of NAFLD patients from CVD.

Currently, we are working with the study to assess the relationship between lipids sizes and CVD events in NAFLD patients. The LDL particle population has been shown to be different in size, density, electric charge, and lipid composition. There is a threefold increased risk of CVD in subjects with small sizes of LDL particles. In this study, we hypothesized that the presence of NAFLD may increase the levels of LDL small sized particles leading to increased CVD risk (see image below).
Aybike Birerdinc, PhD

The last decade has highlighted the importance of visceral adipose tissue (VAT) and has redefined this fat depot as an active endocrine organ, releasing adipokines and free fatty acids (FFA) that act on diverse tissues and affect numerous metabolic processes including, the regulation of food intake, energy homeostasis, and insulin sensitivity. Thus, the central theme of these research projects is the cross-talk of VAT with other organs and the influence of adipokines on various disease states including NAFLD (Figure 1).

In order to understand the role of the balance of pro-inflammatory and anti-inflammatory cytokines released from VAT in the development of depression in morbidly obese NAFLD subjects, we are assessing these classes of cytokines both in sera and in tissue. In a corollary study examining the components of the VAT depot, having already detected Brown Adipose tissue (BAT) in VAT, we are assessing the amount of BAT tissue in a novel manner by bypassing the use of UCP1 mRNA expression (which is the gene most commonly used to determine the presence of BAT) and using the ratio of total mitochondrial DNA versus Genomic DNA to determine whether or not the presence of BAT in the VAT has an impact both on energy homeostasis as well as the chronic conditions associated with excess adiposity and metabolic syndrome. Concurrently, we have found novel adipokine signaling patterns in our study of NAFLD subjects with Poly-Cystic Ovary Syndrome (PCOS). With the presence of leptin receptors on ovarian thecal cells, as well as the hallmark of insulin resistance in this disorder, we have targeted our research to determine whether or not PCOS can be seen as the ovarian manifestation of metabolic syndrome. In this complicated network of signaling, we are also assessing the role of VAT in the progression of NAFLD and the development of fibrosis by quantifying cytokines from sera and adipose tissue using a novel quantitative method to extract proteins from tissue for use with the BioPlex multiplex platform.
Michael Estep, PhD

This past year of scientific research has been an exciting one in the Beatty Liver and Obesity Research laboratory. The studies that I was privileged enough to be involved in were personally stimulating in how they varied in subject and scope, and had the greatest degree of collaboration between scientists, physicians, statisticians, and other research support staff to date. But, most importantly, our research in 2015 yielded results that have the potential to directly impact the lives of patients. For example, one of the studies I was involved in elucidated metabolic derangements caused by a particular strain of the hepatitis C virus (HCV genotype 3), which showed findings that not only add to the understanding of strain specific complications, but may also lead to strategies for improving treatment outcomes for patients with this specific strain. Additional research with HCV patients investigated patient genotypes for relevant genes, as well as circulating molecules to identify the subset of the patient population most likely to develop specific complications during treatment. Research into fatty liver disease in 2015 led to the refinement of a new technique for identifying and quantifying particular liver lesions that could aid in the grading and staging of fatty liver disease, and also the discovery of gender specific distinctions in the development of disease that could eventually lead to targets for pharmaceutical intervention.
Azza Karrar, PhD

Projects on Immunopathogenesis of non-alcoholic fatty liver disease (NAFLD) is an area of research started in 2012 and is led by Azza Karrar, PhD. Dr. Karrar has several years of experience working on immunopathology of liver disease. The significance of these projects is that they may reveal new pathogenic pathways that may influence individualized patient response that will help improve personalized medicine. These projects have been able to develop robust knowledge, education, and training for research students that will also help benefit the community.

Some of the main projects we focused on 2015 were:

**Humoral Immunity**
Serum Amyloid A (SAA) is an acute phase protein produced mainly by the liver. It assists in the delivery of lipids to sites of injury for use in tissue repair. SAA is also involved in cholesterol transport. The overall aim of this study is to assess the role of SAA in the pathogenesis of NAFLD. SAA is found to be strongly associated with high cholesterol and obesity. In addition, obesity alters the liver’s normal function in lipid metabolism causing liver cell changes such as steatosis (fatty liver). SAA may play a role in increasing liver cells fat vesicles (storage) resulting in steatosis (fatty liver) that parallels increased BMI (body mass index) in obesity-related NAFLD.

**Cellular Immunity**
The inflammatory infiltrate in the liver may contribute to regulating the balance between liver repair and fibrogenesis (liver injury) in patients with NAFLD. This study aims at studying three types of inflammatory cells namely T helper cells, T cytotoxic cells, and macrophages (MQ) in patients with NAFLD. T helper cells in the liver are found to be independently associated with liver inflammation. T cytotoxic cells and MQ are associated with fibrosis. Therefore, T helper cells are key inflammatory players while MQ and T cytotoxic cells are key cells in NAFLD progression. Understanding the cellular composition of the inflammatory infiltrate may explain the cellular mediators in the progression of NAFLD.

**Immunogenetics**
Natural killer (NK) cells have an antifibrotic (i.e. blocking or preventing tissue scarring) activity through the killing of activated hepatic “stellate cells”. In a liver injury, the NK cell expression of activating/inhibitory (aKIR/iKIR) receptors is significantly increased. The aim of this project is to study the association of KIR genes with advanced liver changes in patients with NAFLD. This study shows that activating gene (aKIR 3DS1) is associated with non-alcoholic steatohepatitis (NASH) and strongly predictive of advanced liver disease such as fibrosis, cell death, and inflammation, while inhibitory genes (iKIR 3DL1) are associated with lower risk for fibrosis. The conclusions for this study are activating and inhibitory KIR genes are associated with liver injury in patients with NASH and (aKIR/iKIR) genes may have implications for novel immunological therapeutic strategies in patients with advanced liver disease.
Rohini Mehta, PhD

Dr. Mehta’s research interest is in exploring cellular pathways underlying non-alcoholic fatty liver disease (NAFLD). In NAFLD, there are several pathways that are involved in the disease development and progression. The extensive crosstalk among these pathways makes it difficult to isolate and study the association of any one particular pathway with NAFLD (Figure 1). Thus, the approach is a multipronged approach in understanding the development and progression of NAFLD. Currently, her research focus is on understanding how fats (lipids) are stored or broken down in different tissues and the role of nuclear and mitochondrial genome variations in patients with NAFLD. In a system with normal energy balance, anabolic (synthesis) process, such as uptake of fat will be balanced with catabolic (breakdown) processes, such as lipolysis and organized lipid droplet breakdown (lipophagy) and mitochondrial increased breakdown of fat (beta-oxidation) in order to maintain cellular reserves of fat. However, under conditions of chronic energy excess and dysfunctional energy balance, it has been shown that enhanced uptake of fat is not compensated by increased breakdown of fat (beta-oxidation) or increased secretion of fat. This could result in increased accumulation of fat in the liver and other tissues. Dr. Mehta’s research focuses on whether altered lipid droplet breakdown is responsible for hepatic (liver) fat accumulation.

Further, she is exploring responses of the mitochondria (powerhouse of the cell) to different lipid species and the role of variation in mitochondrial genome sequence in NAFLD. The mitochondrial organelle plays a critical role in energy balance in a tissue. It is the site of energy generation. Thus, the ability of the tissue to serve as a source of energy or reservoir of energy critically depends on the mitochondria. Given the role of mitochondria in metabolic pathways and energy balance, her central hypothesis is that mitochondrial along with a susceptible nuclear genetic background may be involved in predisposing individuals to NAFLD and NASH (non-alcoholic steatohepatitis).

Figure 1: Pathways in non-alcoholic fatty liver disease (NAFLD). There are several pathways with extensive crosstalk amongst them that are known to be involved in NAFLD.
BEATTY LIVER & OBESITY RESEARCH PROGRAM – TEAMS

CLINICAL GENOMICS TEAM
The collection of biological specimens and clinical data remains the most important part of the ongoing lab projects in clinical and translation research. In 2015, the team enrolled over 260 subjects across three active protocols and collected close to 10,000 biological samples. Specimens include serum, plasma, and whole blood, as well as adipose and liver tissue. The translational research protocol allows for the collection of biological samples and clinical data from a wide population of subjects with chronic diseases, along with healthy controls who are not diagnosed with a chronic disease. Subjects consist of obese patients undergoing bariatric surgery, individuals diagnosed with arthritis and undergoing orthopedic surgery, individuals diagnosed with chronic kidney disease, or individuals diagnosed with a chronic liver disease such as hepatitis C virus (HCV), hepatitis B virus (HBV), or non-alcoholic fatty liver disease (NAFLD). A separate protocol in place assesses the molecular relationship between NAFLD and coronary artery disease. Subjects are enrolled prior to undergoing a cardiac catheterization and subsequently have biological samples collected during the procedure. Lastly, in light of recent advances in the treatment of hepatitis C, there is a protocol in place that examines response to treatment as well as quality of life. Subjects have research visits throughout their treatment and follow-up (approximately eight time points). We have currently enrolled over 2,500 subjects across all our protocols. This has resulted in over 49,000 samples collected which are stored in ten freezers located in our biorepository.

Members of the team include: Zahra Younoszai (Program Manager); Sean Felix (Research Project Associate); Thomas Jeffers (Research Project Associate); and Leo McLaughlin (Research Project Associate).

CLINICAL TRIALS RESEARCH TEAM
The clinical trials team is led by James Cooper, MD as the Principal Investigator. The team has effectively conducted numerous phase II and phase III clinical trials over the past year. In 2015, great progress was made in hepatitis C treatment when Daclatasvir was approved. This is the first ever FDA approved Interferon and Ribavirin free regimen for genotype 3 hepatitis C patients. Before this approval, the only treatment available was Sofosbuvir and Ribavirin, which had a low threshold for achieving the desired outcome. Our clinical trials team helped contribute to this amazing improvement. The team has also begun conducting numerous studies for the treatment of non-alcoholic steatohepatitis (NASH). Physicians are currently recommending lifestyle changes such as diet and exercise to reduce body weight to prevent progression of NASH. Our studies are currently using medications that may have potential antifibrotic (i.e. blocking or preventing tissue scarring) effects. This is a great advancement because at the present time, there are no approved therapies for treating NASH.

Members of the team include: James Cooper, MD (Principal Investigator); Rebecca Cable (Clinical Research Associate Lead); Mariam Afendy (Clinical Research Associate); Huong Pham (Research Project Associate); and Issah Younossi (Research Project Associate)
DATABASE AND DATA ANALYSIS TEAM

The data management team includes three database administrators, three statisticians, and a research investigator who work to support the Beatty Liver & Obesity Research Program data initiatives, as well as the Department of Medicine (DOM) research endeavors.

The database administrators have developed many new processes and databases providing new opportunities for improved data control and availability. In addition to the integrated clinical and genomics specimen data system that supports all liver and obesity research, the senior database administrator and the team manager developed a new system this past year that incorporates all scientific laboratory testing results to enhance research data availability and compatibility. A clinical database was designed and implemented for specimen storage for the Advanced Lung team to provide better inventory control. Additionally, a project database was developed to help track the many team and department projects and provides operational reports. Finally, there was collaboration with DOM on creating the DOM dashboard/database applications that the administrators, clinicians, and staff utilize for quality or research. Lastly, the data management team is further developing the post database applications and data processes for all databases including the publications database that supports the tracking of all presentations and publications.

The data management team also includes the biostatistics specialists that are responsible for validating, processing, analyzing, and reporting against a wide range of biomedical datasets for both Beatty Liver & Obesity Research Program and the DOM. They also interface with the scientists to develop data analysis protocols, methodology, and apply data management and quality surveillance. They are responsible for the development of statistical analysis methods, bioinformatics algorithms, data mining techniques, data design implementation, annotation of programming code for data analysis, and provide interpretation and presentation of the results of analysis of biomedical data as needed. Furthermore, they each specialize in epidemiological research using national health surveys or health care data such as the National Health and Nutrition Examination Survey (NHANES), Nationwide Inpatient Sample (NIS), and Medicare databases, as well as the national cancer database called Surveillance, Epidemiology, and End Results (SEER). Their efforts have resulted in co-authorship in over 25 published manuscripts in 2015 and over 50 presented abstracts. In collaboration with the statisticians, our research investigator works with the physicians in designing research studies, analyzing the clinical data, describing the results, and in writing the manuscripts. The team also supports large pharmaceutical Patient Reported Outcomes (PROs) investigations that have earned national and international recognition for these endeavors.

Members of the team include: Andrei Racila (Informatics Manager); Munkhzul Otgonsuren (Research Statistician); and Yun Fang (Database Administrator).
LIVER PATHOLOGY RESEARCH
Zachary Goodman, MD
Director of Liver Pathology Research

The Liver Pathology Research team conducts investigations into the pathogenesis of chronic liver diseases. The team supports the activities of the Beatty Liver & Obesity Research Program and other programs by providing accurate assessment of patient material from participants in translational research and clinical trials, and it collaborates with other academic institutions and industry as the central reference laboratory in multicenter clinical trials. Techniques employed include qualitative and quantitative histopathologic assessment of liver and adipose tissue, immunohistochemistry for identification of tissue components, and computer-assisted morphometry for quantification of targeted tissue components.

Members of the team include: Zachary Goodman, MD (Pathologist); Fanny Monge (Program Manager); Lakshmi Alaparthi (Image Analysis Scientist); Irfan Ali (Research Project Associate); and Dinan Abdelatif (Research Project Associate)

Current projects include:

1. Evaluation of hedgehog signaling as a marker of hepatocellular injury in nonalcoholic fatty liver disease
2. Identification of hepatic and adipose tissue inflammatory cells in nonalcoholic fatty liver disease
3. Multicenter trial of simtuzumab as a potential antifibrotic agent in nonalcoholic fatty liver disease
4. Multicenter trial of simtuzumab as a potential antifibrotic agent in primary sclerosing cholangitis
5. Multicenter trial of GS-4997 plus simtuzumab as a potential therapy in nonalcoholic fatty liver disease
6. Multicenter trial of IDN-6556 as a potential antifibrotic agent in post-transplant patients with sustained virological response after recurrence of hepatitis C
7. Multicenter trial of IDN-6556 as a potential therapy in nonalcoholic fatty liver disease
8. Multicenter trial of cenicriviroc as treatment for nonalcoholic steatohepatitis
9. Multicenter trial of seblipase alfa as treatment for congenital lysosomal acid lipase deficiency
10. Multicenter trial of obeticholic acid as a potential therapy in nonalcoholic fatty liver disease
11. Multicenter trial of solithromycin as a potential therapy in nonalcoholic fatty liver disease
12. Multicenter trial of GR-MD-02 as a potential antifibrotic agent in nonalcoholic fatty liver disease
OUTCOMES RESEARCH PROGRAM

The goals and objectives of the Outcomes Research Program of the Center for Integrated Research are to investigate contributors to functional outcomes that are needed and desired by patients with liver disease and obesity. These measures are utilized to determine an individual’s performance, perceptions, and overall quality of life as they pertain to general human physical, social, and psychological activities.

Members of the Outcomes Research Program are performing clinical research in two major areas. The first area has been to explore fatigue from the perspective of how the patient is doing, including their activities and their perception of how it impacts their lives. We also measure biological markers to learn about whether there are metabolic or inflammatory problems associated with this. We have identified two types of fatigue. One is associated with physical activity (physical fatigue) and the other relates to motivation and the ability to concentrate (central fatigue). For patients with hepatitis C, there is evidence of both. Both improve with eradication of the virus, but there are some whose fatigue persists and we continue to study this. In patients with obesity and fatty liver, physical fatigue is more prevalent and seems to be related to their ability to metabolize glucose and convert it to energy. Focus groups have been conducted to interview patients to obtain input about how they experience fatigue and which questions are best to ascertain their difficulties. The analysis of these interviews will inform us about devising a questionnaire.

The second area of investigation is trying to understand which approaches are successful in helping people achieve lifestyle changes. Behavioral change is one of the most significant challenges for the health care community. We have devised a personalized method that incorporates a unique educational and problem solving approach to nutritional management. We are incorporating an activity based approach to exercise that teaches patients to target heart rate in the moderate range to try to assure ongoing participation in a long term commitment to exercise.

In addition to the two major areas of clinical research, the team has submitted a $275,000 grant application to National Institutes of Health (NIH) with co-workers from George Mason University. The project entitled “Physical and Mental Performance Fatigability: Does Intensity Level Affect Fatigability” is designed to test fatigability in the elderly using the approach developed for patients with hepatitis C and fatty liver, as described above. This grant will enable us to determine whether a standardized physical or mental performance challenge will produce a reduction in performance concomitant to the person’s perception of their fatigue and decrease in their performance level. Further, we will determine if these decrements in performance correlate with each other, with physiological measurements that will be collected before and during the tasks, and with self-reported measurements.

Members of the team include: Lynn Gerber, MD (Medical Director of Research); Carey Escheik (Program Manager); Jillian Price (Program Manager); Patrick Austin (Clinical Research Associate); and Sophie Afdhal (Research Project Associate).
ULTRASOUND RESEARCH
A real time ultrasound examination is an important aspect of research studies. For many years, the United States has played a major role in the diagnosis and management of chronic liver diseases. The US can provide diagnostic and prognostic data, as well as enable the detection of liver complications.

In recent years, interest has intensified in the area of elastography because of its ability to provide non-invasive information about the stage of liver fibrosis. Accordingly, due to recent advances in digital technology and US imaging software, a variety of new computer protocols have been incorporated in new US equipment. One such protocol is the FibroScan, which leverages the technology of Vibration-Controlled Transient Elastography (VCTE). FibroScan is unique in that the examination is non-invasive, fast, painless, and no known side effects. VCTE allows for measurement of tissue elasticity with quantitative, reproducible, and real time results. In addition, the FibroScan examination is a technique used to measure the liver stiffness measured in kPa correlated to fibrosis.

The exam consists of having the patient lie on his or her back with the right arm raised behind the head. The procedure is done by applying a water-based gel to the skin and positioning the probe in an intercostal space near the right lobe of the liver, with slight pressure taking 10 to 15 consecutive measurements made at the same location. The patient feels a slight vibration on the skin at the tip of the probe. The device then measures the velocity of the shear wave.

Number of exams performed in 2015:
- 191 FibroScans
- 265 Ultrasounds

FibroScan exams were performed with almost 100% accuracy. FibroScan is indicated for non-invasive measurement of shear wave speed and equivalent stiffness in the liver. The shear wave speed or stiffness may be used as an aid to clinical management of liver disease. Due to these advancements, the increased ability of the US to better characterize the liver texture has enabled researchers to identify subtle changes in the liver texture. This timely and non-invasive protocol produces instantaneous results that enable diagnosis and monitoring of disease evolution in conjunction with treatment. Exam results can help to anticipate various complications, as well as to monitor and assess the damage caused by different conditions, all during the patient’s visits.

Members of the team include: Hussain Allawi (Clinical Research Associate).
THEINOVAADVANCEDLUNGDISEASE&TRANSPLANTPROGRAM

StevenNathan,MD
MedicalDirectorofTransplantLung

TheInovaAdvancedLungDiseaseandTransplantProgramenjoyedanothersuccessful
yearwith19lungtransplantsperformedin2015. Our post-lung transplant survival statistics
continue to be very good; one month survival of 98.44% versus an expected survival of
96.85%, one year survival 91.64% versus an expected survival of 86.54%, but our three
year survival is a little lower than what we would like at 64.81% versus the national average
of 68.23%. This latter statistic likely reflects our willingness to take on sicker and older
patients. The median wait time for a lung transplant at Inova Fairfax Medical Campus (IFMC)
remains very short at 45 days (versus 36 days in 2014).

Our program continues to grow and evolve. We are now an accredited Comprehensive Care Center for Pulmonary
Hypertension, an accredited Pulmonary Fibrosis Foundation Care Center Network site, and an Alpha-One Antitrypsin
Center of Excellence. We are actively working on our application to become a Cystic Fibrosis Care Center, which will
be one of our goals for 2016. From January 1, 2015 to December 1, 2015, we received 508 new referrals, which is
a 7.2% increase
over the previous
year. Of these, we
evaluated 342 new
patients (versus
348 in 2014). About
one third of our
new evaluations
travel more than
fifty miles to see
us and about
10% live more
than 200 miles
away, reflecting
our standing as
a regional and
national referral
center. Between all
our programs, we
follow over 1,000
patients.

We are actively
involved in
education with fellows and residents rotating through our program from all the major teaching facilities in the
Washington, D.C. metropolitan area (and beyond) including Georgetown, George Washington, Howard, Walter Reed,
Washington Hospital Center, Carilion Health System, and the Eastern Virginia Medical School. We hold twice weekly
patient care and selection committee meetings, monthly journal clubs, monthly quality meetings, biweekly research meetings, as well as monthly multidisciplinary clinical meetings for both interstitial lung disease and pulmonary hypertension. In addition to our rotating cadre of pulmonary fellows, the program will be offering a one year Advanced Lung Disease and Transplant fellowship beginning July 2016.

Our research remains robust, multifaceted, and highly productive. In 2015, our publications included 14 original research manuscripts, four reviews, one editorial, three book chapters, as well as 26 abstract presentations and 11 talks at international meetings.

Members of the team include: Princess Waring (Medical Tech); Stephanie Toczylowski (Research Coordinator); Deanne Starbird (Referral Coordinator); Sarah Scott (Office Manager); Carlos Coronel (Admin Assistant); Adam Cochrane (Transplant Pharmacist); Chris King, MD; Shahzad Ahmad, MD; Sarah Kelly (Dietician); Sydney Stayrook (Research Assistant); Renee Brenner (Research Coordinator); Jennifer Cumberland (Medical Tech); Margaret Fregoso (NP, Post-Transplant Coordinator); Jane Harrison (Social Worker); Heather Cook (Post-Transplant Coordinator); Maria Altan Mejia (Clinic Nurse); Astrid “Julieth” Munoz (Admin Assistant); Denise Lewis (ALD and Transplant Coordinator); Tina Thronson (Quality Manager); Lori Hill (Financial Coordinator); Edwinia Battle (Research Manager); Debbie Campbell (Transplant Director); Angela Scully (ALD Coordinator); Alicia Banks (Patient Registration); Steven Nathan, MD; Nargues Weir, MD; Whitney Brown, MD; Oksana Shlobin, MD; Keisha Cardenas (Patient Registration); and Melissa Bowen (Pre-Transplant Coordinator)
One of the most important outcomes of an academically active department is the number of high-caliber publications and presentations that are generated by the members of the department. Authorship, especially first or senior authorship of articles published in peer-reviewed, high-impact journals, provide validity of the academic standing of the department and its members. Additionally, research presentations to national and international scientific meetings will bring immense recognition to the department, the faculty, and the institution. Finally, delivering faculty lectures during these international meetings is a great honor that recognizes our faculty as the top leaders in their fields. This productivity is not only invaluable to the department, but also brings great value to Inova Health System.

In 2015, members of the Department of Medicine enjoyed tremendous success and academic productivity by publishing articles in high-impact journals and presenting their research to a number of international meetings. Furthermore, a number of our faculty had opportunities to discuss their research findings in the media. Also, in 2015, a number of members of our department were listed as top doctors in their fields by the U.S. News and World Report. Finally, in 2015, our faculty served on the editorial board of several important journals. In fact, Dr. Younossi is now a co-editor of Liver International which is the official journal of the International Association for the Study of the Liver (IASL).
DEPARTMENTAL ACADEMIC PRODUCTIVITY

BEATTY LIVER & OBESITY RESEARCH PROGRAM PUBLISHED MANUSCRIPTS


DEPARTMENTAL ACADEMIC PRODUCTIVITY


42. Zobair M Younossi, Linda Henry. Contribution of alcoholic and nonalcoholic fatty liver disease to burden of liver related morbidity and mortality, Gastroenterology.

DEPARTMENTAL ACADEMIC PRODUCTIVITY


46. Zobair M Younossi, Maria Stepanova, Henry Lik Yuen Chan, Mei Hsuan Lee, Yock Young Dan, Moon Seok Choi, Linda Henry. Patient-Reported Outcomes in Asian Patients with Chronic Hepatitis C Treated with Ledipasvir and Sofosbuvir, Medicine.

47. Zobair M Younossi. Performance and Validation of Chronic Liver Disease Questionnaire-Hepatitis C Version (CLDQ-HCV) in Clinical Trials of Patients with Chronic Hepatitis C, Value in Health.

BEATTY LIVER & OBESITY RESEARCH PROGRAM ACCEPTED ABSTRACTS AND PRESENTATIONS


7. Zobair M Younossi, Maria Stepanova, Mark S. Sulkowski, Susanna Naggie, Linda Henry, Sharon Hunt. Sofosbuvir (SOF) and Ledipasvir (LDV) Improves Patient-Reported Outcomes (PROs) in Patients Co-infected with Hepatitis C Virus (HCV) and Human Immunodeficiency Virus (HIV), American Association for the Study of Liver Diseases. San Francisco, November 13, 2015.


10. Zobair M Younossi, Maria Stepanova, James M. Estep, Azza Karrar, Bibiana Oe, Elzafir Elsheikh Abdelrahman, Siddharth Hariharan, Kazi Ahmed, Patricia Tran, Fatema Nader, Linda Henry, Ali Weinstein, Lynn Gerber. TNF-alpha is the Most Consistent Predictor of Impairment of Mental Health-Related Patient-Reported Outcomes (PROs) in Patients with Chronic Hepatitis C (CH-C) Treated with Ledipasvir (LDV) and Sofosbuvir (SOF) with or without Ribavirin (RBV), American Association for the Study of Liver Diseases. San Francisco, November 13, 2015.


DEPARTMENTAL ACADEMIC PRODUCTIVITY


22. Maria Stepanova, Robert John Wong, Aybike Birerdinc, Bashir Noor, Nina Badoe, Zobair M Younossi. In Female Patients with Non-alcoholic Fatty Liver Disease (NAFLD), Presence of Type 2 Diabetes (DM) and Chronic Kidney Disease (CKD) are Independently Associated with the Risk of Mortality, American Association for the Study of Liver Diseases. San Francisco, November 13, 2015.


27. Pegah Golabi, Mehmet Sayiner, James M. Estep, Elzafir Elsheikh Abdelrahman, Brian Lam, Huong T. Pham, Maria Stepanova, Zobair M Younossi. Treatment of Hepatitis C Virus with Direct Acting Antivirals (DAA) and Ribavirin (RBV) is Associated with Changes in Serum Apolipoprotein and TNF-alpha Levels, American Association for the Study of Liver Diseases. San Francisco, November 13, 2015.


43. Maria Buti, Maria Stepanova, Zobair M Younossi. Impact of Sofosbuvir/Ledipasvir treatment on the economic burden associated to productivity loss due to chronic hepatitis C in Spain, ASOCIACIÓN ESPAÑOLA DEL ESTUDIO DEL HÍGADO.


45. Zobair M Younossi, Maria Stepanova, Henry Lik Yuen Chan, Mei Hsuan Lee, Ming Lung Yu, Yock Young Dan, Moon Seok Choi, Linda Henry. Patient Reported Outcomes (PROs) in Asian Patients with Chronic Hepatitis C (CH-C) Treated with Ledipasvir (LDV) and Sofosbuvir (SOF), Asian Pacific Digestive Week.

DEPARTMENTAL ACADEMIC PRODUCTIVITY


49. Zobair M Younossi, Maria Stepanova, Fatema Nader, Brian Lam, Mariam Afendy, Rebecca Cable, Sharon Hunt. Improvement of Patient-Reported Outcomes in Older Patients with Chronic Hepatitis C (CH-C) Treated with Interferon- and Ribavirin-Free Sofosbuvir (SOF)-Containing Regimens, Digestive Disease Week. Washington, D.C., May 16, 2015.


74. Zobair M Younossi, Maria Stepanova, Stanislas Pol, Jean-Pierre Bronowicki, Patrizia Carrieri, Marc Bourliere. The Impact of Ledipasvir (LDV)/Sofosbuvir (SOF) Combination on Health-Related Quality of Life (HRQL) and Patient-Reported Outcomes (PROS) in Cirrhotic Patients with Chronic Hepatitis C (CH-C): The SIRIUS Study, European Association for the Study of the Liver. Vienna, Austria, April 2015.

DEPARTMENTAL ACADEMIC PRODUCTIVITY

76. Zobair M Younossi, Maria Stepanova, Linda Henry, Fatema Nader. The Quality of Life Journey for Patients with Chronic Hepatitis C: From Interferon and Ribavirin to Interferon-Free and Ribavirin-Free Regimens, European Association for the Study of the Liver. Vienna, Austria, April 2015.


80. Naoky Tsai, Kris V. Kowdley, Bruce R. Bacon, Steven L. Flamm, Eric Lawitz, Scott Milligan, Zobair M Younossi, Douglas T. Dieterich. Comparison of Sofosbuvir +/- Simeprevir in Heterogeneous Real-World Populations of HCV Patients Over 70 Years of Age vs Younger HCV Patients: Data From the TRIO Network, European Association for the Study of the Liver. Vienna, Austria, April 2015.


LIVER PATHOLOGY RESEARCH PUBLISHED MANUSCRIPTS


DR. ZOBRAIN YOUNOSSI NATIONAL AND INTERNATIONAL MEETINGS AND LECTURES


5. Farnesoid X Receptor Agonists in NASH: Clinical Data as an Input to the Session on NAFLD, NASH, and NASH Cirrhosis. Frankfurt, Germany. September 2015.


8. Translating efficacy to effectiveness; the importance of patient related outcomes. Melbourne, Australia, March 3, 2015.

9. Translating efficacy to effectiveness; the importance of patient related outcomes. Auckland, New Zealand, March 9, 2015.


11. Patient-reported outcomes: Overview of SOF-based regimens’ clinical trial. Milan, Italy 2015


27. Patient Reported Outcomes. Vienna, Austria. April 2015

28. NASH Disease State/Pathophysiology. New York, NY. December 2015
DEPARTMENTAL ACADEMIC PRODUCTIVITY

DEPARTMENT OF MEDICINE PUBLISHED MANUSCRIPTS


DEPARTMENT OF MEDICINE ACCEPTED ABSTRACTS AND PRESENTATIONS

1. Westin J1, Maris M.2, Al-Katib A.3, Lakhani N.4, Patel P.5, Harb W.6, McCaul K.7, Patel-Donnelly D.8, Messmann, R.9, Kiencke, B.9. M.D. Anderson Cancer Center, Houston TX1; Colorado Blood Cancer Institute, Denver CO2; St. John Hospital and Medical Center, Grosse Pointe Woods MI3; Mercy Health St. Mary’s, Grand Rapids MI4; UT – Southwestern Medical Center, Dallas, TX5; Horizon Oncology Research, Inc., Lafayette IN6; Avera Cancer Institute, Sioux Falls SD7; Virginia Cancer Specialists, Fairfax VA8; ProNAi Therapeutics, Inc. Plymouth, MI9. A Phase 2 Study of PNT2258 in Patients with Relapsed or Refractory (r/r) Diffuse Large B-cell Lymphoma (DLBCL): An initial report from the Wolverine Study. ASH abstract 2016.


6. A randomized phase III study of trabectedin (T) or dacarbazine (D) for the treatment of patients (pts) with advanced liposarcoma (LPS) or leiomyosarcoma (LMS). George D. Demetri, Margaret von Mehren, Robin Lewis Jones, Martee Leigh Hensley, Scott Schuetze, Arthur P. Staddon, Mohammed M. Milhem, Anthony D. Elias, Kristen N. Ganjoo, Hussein Abdul-Hassan Tawbi, Brian Andrew Van Tine, Alexander I. Spira, Andrew Peter Dean, Nushmia Z. Khokhar, Youn Choi Park, Roland Elmar Koblauch, Trilok V. Parekh, Robert G. Maki, Shreyaskumar Patel. J Clin Oncol 33, 2015 (suppl; abstr 10503).


DEPARTMENTAL ACADEMIC PRODUCTIVITY

8001). Antileukemic Activity and Tolerability of ASP2215 ≥80 mg in FLT3 Mutation-Positive Subjects with Relapsed or Refractory Acute Myeloid Leukemia: Results from a Phase 1/2, Open-Label, Dose-Escalation Dose-Response Study. Jessica K. Altman; Alexander E. Perl; Jorge Cortes; Mark Levis; Catherine Smith; Mark Litzow; Maria R. Baer; David Claxton; Harry Erba; Stan Gill; Stuart Goldberg; Joseph Jurcic; Richard A. Larson; Charles Liu; Ellen Ritchie; Briana Sargent; Gary Schiller; Alexander Spira; Stephen Strickland; Raoul Tibes; Celalettin Ustun; Eunice S. Wang; Robert Stuart; Claudia Baldus; Christoph Röllig; Andreas Neubauer; Giovanni Martinelli; Erkut Bahceci. European Hematology Association, June 2015.


DEPARTMENTAL ACADEMIC PRODUCTIVITY

DEPARTMENT OF MEDICINE - INTERNAL MEDICINE RESIDENT ACCEPTED ABSTRACTS AND PRESENTATIONS

1. Dr. Zainab Wasti: Resident led discharge appointment, a quality improvement initiative, Podium Presentation - top prize winner of the annual Inova Graduate Medical Education Quality Improvement Symposium, May 2015.

2. Trevor Locklear, MD; Anh Truong, BS; Homan Wai, MD. An Unusual Case of Amyloidosis secondary to Multiple Myeloma. Poster Presentation at the American College of Physicians (ACP) DC Chapter Annual Resident and Fellow Abstract Competition, May 2015.

3. S. Zainab Wasti, MD; John Meriwether, MD; Shari-Maletsy-Smith, MD. Palpable Purpura and Neuropathy - A classic presentation of EGPA (Churg Strauss syndrome). Poster Presentation at the American College of Physicians (ACP) DC Chapter Annual Resident and Fellow Abstract Competition, May 2015.


5. Footman, Eleni, MD; Mishra, Alita, MD; Venkatesan Chapy MD; Kalwaney, Shirley, MD.


7. Sarah Elfeky, MD; Katie Cramer, MD; Julie Gribetz, MD; Gregory Trimble, MD. Milk Alkali Syndrome and Bulimia: A Case of Acute on Chronic Renal Failure. Poster Presentation at the American College of Physicians (ACP) DC Chapter Annual Resident and Fellow Abstract Competition, May 2015.


9. Amanda Morgan, MD and Sarah Elfeky, MD “Hospitalist Diabetes Discharge: Using the Teach Back Method to Transition Patients from Hospital to Home” poster presentation. Society of Hospital Medicine Annual meeting 2015


11. Dr. Larry Istrail. Invited speaker at Internal Medicine Section Meeting at IFMC - New Perspectives on Methods for Sustained Weight Loss: Lessons from 4,000 People in 72 Countries in March 2016 and Department of Medicine, Internal Medicine Grand Rounds Presentation – on the same topic – in January 2016.
DEPARTMENTAL ACADEMIC PRODUCTIVITY


ADVANCED LUNG RESEARCH PROGRAM PUBLISHED MANUSCRIPTS


21. Shlobin OA, Nathan SD. Rare ILD and PH. For Pulmonary Hypertension and Interstitial lung disease. Edited by Robert P. Baughman, Roberto G. Carbone and Steven D. Nathan.

ADVANCED LUNG RESEARCH PROGRAM ACCEPTED ABSTRACTS AND PRESENTATIONS


DEPARTMENTAL ACADEMIC PRODUCTIVITY


ADVANCED LUNG RESEARCH PROGRAM NATIONAL AND INTERNATIONAL MEETINGS AND LECTURES

1. When to treat PH in association with IPF. International Society for Heart and Lung Transplantation, Nice, France. April 15th, 2015.


3. Pulmonary hypertension in Lung Disease. 10th annual Bayer Pulmonary Hypertension Symposium, Berlin, Germany April 25th, 2015


6. Role of lung transplantation in connective tissue diseases. May 2015 ATS 2015, Denver, USA


8. Benefit of continued pirfenidone treatment following hospitalisation within the first 6 months of treatment—ad hoc analysis from three Phase 3 trials in patients with idiopathic pulmonary fibrosis. Podium presentation at European Respiratory Society meeting, Amsterdam September 29th, 2015.
9. Effect of Pirfenidone (PFD) on Treatment-emergent (TE) All-cause Mortality (ACM) in Patients with Idiopathic Pulmonary Fibrosis (IPF): Pooled Analysis of Data from ASCEND and CAPACITY. Podium presentation at European Respiratory Society meeting, Amsterdam September 29th, 2015.

