Service Overview:

The Department of Physical Medicine and Rehabilitation (PM&R) includes a faculty of 125, three of which are NJMS PM&R FTEs. We have finalized the hire of a 4th NJMS-paid FTE starting July 1, 2015 and anticipate 1-2 additional hires within the coming year. There are also 14 voluntary faculty members throughout the department’s affiliate sites currently in the appointment approval process. Included in the department are divisions of physiatry (physician services), occupational therapy, physical therapy, speech-language pathology, therapeutic recreation, and cardiac rehabilitation. Physical medicine and rehabilitation services are designed to restore, improve, or maintain the patient’s optimal level of functioning, self-care, self-responsibility, independence, and quality of life. In addition, the services are designed to minimize symptoms and reduce exacerbations of chronic illnesses, impairments, and disabilities. All interventions respect and facilitate the patient’s ability to make choices, develop and maintain a sense of achievement, maximize independence in activities of daily living, and optimize the ability to take responsibility for medical care and life decisions.

PM&R provides the following services: an inpatient consultation service; a unique program of respiratory muscle facilitation to avert or minimize hospitalizations for respiratory impairment and to prevent episodes of acute respiratory failure. The program also extubates and decanulates patients who are “unweanable” from ventilatory support so as to spare them tracheotomy and long-term institutionalization. The department also provides general and specialty outpatient services in the hospital and the DOC; inpatient and outpatient therapy services; and phase I, II, and III cardiac rehabilitation. In addition, PM&R provides diagnostic and therapeutic services such as electrodiagnostic studies and pain management interventional therapies such as epidural injections. Due to New Jersey’s Certificate of Need Law, the University Hospital has no designated inpatient rehabilitation beds. This is a problem for individuals who need rehabilitation but have no payment coverage.

Brief Overview of Clinical Services:

The Center for Noninvasive Mechanical Ventilation Alternatives and Pulmonary Rehabilitation was established in 1992 and cares for patients with neuromuscular weakness and respiratory impairment such as people so long in critical care that they become too weak to breathe without continuous ventilatory support. It is under the direction of John R. Bach, M.D. who also serves as Co-Director for the Muscular Dystrophy Association Clinic. These neuromuscular weakness intervention programs continue to be successful in maintaining the lives of ventilator users at home and without invasive airway tubes rather than in nursing institutions with tracheostomy tubes. An inpatient program for the extubation of patients who are “unweanable” from ventilatory support is provided in coordination with the Departments of Medicine and Pediatrics. The program focuses on extubating/decanulating ventilator users to noninvasive inspiratory and expiratory muscle supports. This greatly reduces institutionalizations and cost, while optimizing quality of life. This is the only program of its kind that satisfies the government’s Olmstead Act for this patient population. This mechanical ventilation alternatives program has successfully extubated 251 unweanable, intubated patients, out of 253 referred. Most were transferred to UH after failing extubation at other U.S. facilities. Some had been transferred from Qatar, Hong Kong, Iceland, Colorado, California, Texas, South Carolina, and Puerto Rico.

Musculoskeletal and Occupational Medicine involves the non-surgical treatment of musculoskeletal and neurological conditions that cause pain and/or functional difficulties with activities of daily living. Some of these include:
• Arthritis
• Carpal tunnel syndrome
• Neuromuscular diseases
• Neck pain
• Peripheral nerve injuries
• Traumatic brain injury
• Extremity & coccyx pain
• Osteoporosis
• Sports injuries
• Back pain
• Work-related injuries and conditions

The outpatient division is under the joint direction of Todd P. Stitik, M.D., Professor, Director, Occupational/Musculoskeletal Medicine and Acting Director of Sports Medicine, and Patrick M. Foye, M.D., Professor, Interim Chair, and Assistant Director, Occupational/Musculoskeletal Medicine.

**Injured workers** accounted for about 20% of total office visits up until December 2014 and included both Rutgers Biomedical and Health Sciences (RBHS) employees at the Newark campus and University Hospital employees who experience a work-related musculoskeletal injury are generally referred to the Newark PM&R faculty practice, where most are seen within 24 hours. Since December 2014, University Hospital has outsourced this service to Concentra which has resulted in a loss of clinical care at UH by our department and others, due to UH sending cases outside the UH system.

At the Newark PM&R faculty practice, workers receive treatment aimed at an early return to work and a reduced risk of re-injury. The PM&R faculty also treat injured workers from a variety of off-Camp this workers compensation referral sources.

Dr. Foye's **Coccyx Pain Center** (tailbone pain center) at NJMS and University Hospital has entered its ninth year and has continued to grow in terms of patient volume, and its wide catchment area. In FY 2014, our Coccyx Pain Center continued to provide evaluations for over 140 new patients with coccydynia, as well as many more follow-up visits, imaging studies within the University Hospital radiology department, and various pain management injections. This Coccyx Pain Center has a national reputation, such that many of these patients fly in from around the country and occasionally from other nations to receive this subspecialty, niche care within the research/publication focus of the Center’s director, Dr. Patrick Foye. This brings not only favorable national reputation to Rutgers, but creates a truly international catchment area for patients receiving outpatient care at University Hospital.

Six subspecialty centers are offered within the DOC faculty practice, reflecting exceptional faculty expertise in research and teaching as well as in clinical practice include:

- **The Osteoarthritic Rehabilitation Center**, which utilizes non-surgical approaches such as viscosupplementation in patients with osteoarthritis of the knee.

- **The Interventional Pain Management Center**, which performs spinal injections and major joint injections under fluoroscopic guidance within the on-site procedure suite in DOC 3200.

- **The Low Back Pain Rehabilitation Center**, specializing in the non-surgical treatment of this common condition. Conditions treated include sprain/strain of muscles and ligaments, spinal arthritis (degenerative joint disease), disc problems, radiculopathy, and painful facet and sacroiliac joints.

- **The Coccyx Pain Center**, specializing in non-surgical treatment of tailbone injuries and tailbone pain.

- **The Musculoskeletal Ultrasound Diagnosis and Treatment Service** (i.e. musculoskeletal-guided injection procedures) is becoming increasingly used in the
diagnosis and treatment of musculoskeletal pathology. One of our attending physicians, Dr. Todd Stitik, has been actively expanding his expertise and scope of practice using this relatively new musculoskeletal tool. A dedicated ultrasound musculoskeletal medicine clinic has been expanded to include four half-day sessions. The hospital-based injection clinic (including viscosupplementation injections) continues to be conducted under ultrasound guidance. In addition, ultrasound guidance is being used throughout the week for a variety of other non-fluoroscopic guided injection procedures. PM&R and Interventional Radiology has recently collaborated to form an ultrasound-based clinic using Tenex (a recent hospital equipment purchase) for the treatment of tendinopathy. Further growth in this area is strongly anticipated as Dr. Stitik’s experience increases and his referral sources specifically for this diagnostic/therapeutic modality expand.

- The Neuromuscular Disease Center is for comprehensive care of patients with neuromuscular conditions under the umbrella of the Muscular Dystrophy Association.

**General PM&R Clinics** are set to partially resume service with the recent hire of a PM&R attending beginning July 1, 2015. These sessions are held in the Orthopedic Clinic (Clinic 8) at University Hospital and in DOC Suite 3300 (UH PM&R space within the DOC). This service was previously provided by Dr. Eric Altschuler who accepted a position at another medical school as of July 1, 2014. This presented a temporary challenge in covering those hospital clinic patients. Patient coverage was provided by a combination of increased clinic care by the remaining PM&R physicians. Recruitment of additional new faculty hires is crucial to satisfy the needs of this clinic population and NJMS's commitment to UH. The recruitment of new faculty hire is currently active and on-going. These physiatry clinics provide non-surgical treatment for a variety of musculoskeletal conditions. Conditions treated include sprain/strain of muscles and ligaments, painful joints, spinal arthritis and disc problems, radiculopathy, and sacroiliac joint dysfunction. In the UH Clinic, PM&R sees new referrals for non-operative management of musculoskeletal conditions, from a variety of referral sources including the ER, UMD Care, rheumatology, trauma, orthopedics, and many outside facilities. The physiatrists in this clinic also provide follow-up care for a wide variety of conditions. The new patient waiting time is has often been five months or more. The clinic could benefit from a physician assistant. Patients with other rehabilitative diagnoses such as stroke, spinal cord injury, neuropathies, and many other disabling conditions are also cared for in these clinics.

**Inpatient consultative services** are provided by PM&R faculty to a diverse inpatient population of patients with neurological or traumatic injuries, including stroke, spinal cord injury, and brain injury and to patients with disabling medical and surgical conditions or complications. Pulmonary and rehabilitation consults and mechanical ventilation are also provided to patients in need of non-invasive ventilation to avert tracheostomy and permit decanulation. The inpatient consult service working in coordination with the case managers play a key role in facilitating the discharge of patients to post-acute rehabilitation. Their contribution to the health care team is crucial to decreasing length of stay (LOS).

**The Northern New Jersey Spinal Cord Injury System** was founded in 1992 under a grant from the National Institute on Disability and Rehabilitation Research, entitled the “Northern New Jersey Spinal Cord Injury System” (NNJSCIS) at University Hospital and continues to care for SCI patients within a broad 13-county area (This grant has been competitively funded and renewed since 1992). The NNJSCIS is a joint effort among University Hospital, Kessler Institute for Rehabilitation, and Kessler Foundation Research, and is one of 14 federally-funded model systems in the U.S. The University Hospital is the site of the acute care component of the system, while Kessler Institute is the site for the remaining aspects of the system. The last round of this grant cycle was successfully funded in 2011 (these are five-year grants).
Acquired Brain Injury Services
Dr. Peter Yonclas, a physiatrist with a secondary appointment in our department, serves as Director of Trauma Rehabilitation at University Hospital. Although lost to our department due to budgetary reductions, he continues to teach PM&R residents and provide PM&R services to the trauma center and works closely with Trauma Surgery and Neurological Surgery to improve the acute care of brain-injured patients and to ensure the success of the New Jersey Trauma Center. Dr. Yonclas also directs an outpatient brain injury clinic to serve the many diverse needs of this population. University Hospital is a site for the National Institute on Disability and Rehabilitation Research’s (NIDRR) “Model Traumatic Brain Injury (TBI) system”. This grant was successfully renewed in September 2012 amid fierce competition.

University Hospital, along with Kessler Institute for Rehabilitation and Kessler Foundation is one of only seven sites in the entire country to have both TBI and SCI model systems.

The Prosthetics and Orthotics Clinic is offered weekly. Outpatients requiring braces or artificial limbs are referred for evaluation, prescription, and follow-up. Financial support and/or assistance from Social Work Services is required in order to provide assistive devices to our charity care, uninsured and underinsured population (currently provided only through payments directly to the vendor or through donations). We do provide splints and braces to our charity care population, but not prosthetic limbs.

EMGs and Electrodiagnostic Studies
The PM&R Department continues to provide electrodiagnostic testing (EMG and nerve testing) for patients with a wide variety of symptoms and conditions including numbness, pain, weakness, back pain radiating into the legs (radiculopathy/sciatica, etc), neck pain radiating down into the arms (cervical radiculopathy, brachial plexopathy, etc.), carpal tunnel syndrome, ulnar neuropathy and peripheral polyneuropathy.

In FY15 PM&R performed a total of approximately 74 EMG procedures (annualized). The PM&R Department has multiple physicians credentialed by the American Board of Electrodiagnostic Medicine.

Therapy Services

<table>
<thead>
<tr>
<th>POSITION</th>
<th>INPATIENT</th>
<th>OUTPATIENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administration</td>
<td>1 Practice Manager, 2 Assistant Managers (IP and OP)</td>
<td>Therapy Services (Vacant), 1 Assistant Business Manager</td>
</tr>
<tr>
<td>Cardiac Rehabilitation</td>
<td>(Refer to the right box)</td>
<td>1 Exercise Physiologist who also works inpatient Phase I</td>
</tr>
<tr>
<td>Clerical</td>
<td>1 medical office assistant position</td>
<td>2 medical office assistants, 1 billing technician, 1 patient accounts clerk (vacant), 1 Staff assistant</td>
</tr>
<tr>
<td>Occupational Therapist</td>
<td>Total 6 FTEs: 5 staff OT and 1 Lead OT</td>
<td>Total of 2 FTEs: 2 part-time, 1 full-time OT</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>Total 10.5 FTEs= 7.5 PTs and 2 PTAs, 1 Lead PT</td>
<td>Total 5 FTEs= 3 PTs, 2 PTAs, and</td>
</tr>
<tr>
<td>Rehabilitation Aide</td>
<td>3 Rehab Aides</td>
<td>1 Rehab aide</td>
</tr>
<tr>
<td>Speech-Language Pathology</td>
<td>Total of 2.5 FTEs</td>
<td>Total of 1 FTE, the Lead SLP</td>
</tr>
<tr>
<td>Therapeutic Recreation</td>
<td>3TRs</td>
<td>N/A</td>
</tr>
<tr>
<td>PRN</td>
<td>2 PRN = Physical Therapist</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1 PRN = Speech-Language Pathologist</td>
<td></td>
</tr>
</tbody>
</table>
**1 PRN = Certified Therapeutic Recreation Specialist**

**Hours of Operation:**
Physical Therapy offers 7 days a week and holidays. Occupation Therapy and Speech-Language Pathology offer services 6 days of the week and on-call for Sunday. The contracted Orthotics vendor remains Allied OP through November 30, 2015. The contract is due for renewal this year and will be up for bid.

- **Cardiac Rehabilitation**
  Our 1 Exercise Physiologist is employed full-time and offers outpatient services 3 days a week, starting at 7:00 A.M. Two days a week, the Exercise Physiologist assists PT with the Phase I inpatients on the cardiothoracic unit and performs Phase II new patient evaluations. Phase II and III’s volume has increased this year. Additionally, the lead OT runs 2 exercise groups a week on Psychiatry to cover the vacant TR position.

<table>
<thead>
<tr>
<th></th>
<th>FY 2014</th>
<th>FY 2015 (annualized)</th>
<th>TRENDS</th>
</tr>
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<tbody>
<tr>
<td>Phase I</td>
<td>243</td>
<td>224</td>
<td>Slight decrease</td>
</tr>
<tr>
<td>Phase II</td>
<td>1105</td>
<td>1190</td>
<td>Increased</td>
</tr>
<tr>
<td>Phase III</td>
<td>612</td>
<td>734</td>
<td>Increased</td>
</tr>
</tbody>
</table>

- **Dysphagia Program** – Volume increases were noted with the referrals and MBS (Modified Barium Swallow) studies. A decrease in volume was seen in the use of FEES (Fiber Endoscopic Evaluation of Swallow).

<table>
<thead>
<tr>
<th></th>
<th>FY2014</th>
<th>2015 (annualized)</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>MBS*</td>
<td>190</td>
<td>223</td>
<td>Increased</td>
</tr>
<tr>
<td>FEES*</td>
<td>419</td>
<td>488</td>
<td>Increased</td>
</tr>
</tbody>
</table>

*MBS: Modified Barium Swallow
*FEES: Fiber Endoscopic Evaluation of Swallow

**Therapy Volumes**
UH Inpatient electronic medical records (EPIC ClinDoc) went live in July 2014, in preparation for the go-live and subsequent post go-live need, OP staffing has been used to supplement the IP staffing. Inpatient referral volume has been higher since EPIC live, and productivity of IP staff has been lower since the transition to EMR. We had 4 PT resignations in the past year, three in IP and one in OP, OP PT was shifted to IP to meet the demands on IP until the positions were replaced. The increase of IP volume is largely due to the volume increase of Therapeutic Recreation division which has been fully staffed. The outpatient overall volume decrease is due to shifting of OP PT staffing to assist IP.

The Clinical Manager and IP Lead PT resigned in January 2015, and the positions have been changed to Assistant managers of therapy services (IP or OP), hiring is in progress. Two of the IP PT vacancies have been replaced. We are waiting for the OP new PT to start soon.

We had several clinical staff out for months at times due to work related and non-work related injuries in 2015 in addition to one maternal leave at IP. One of the support staff (OP Rehab Aide) was also out for 6 months. We are constantly shifting staffing to meet the volume.
We had a contract PT from March 2014 to January 2015, but we had to terminate the service due to budgetary financial reasons.

A staffing plan with cost per unit of services analysis was submitted to UH to increase the PT, OT and Rehab Aides staff lines. And the proposals remain pending.

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<th></th>
<th>FY 2014</th>
<th>FY 2015 (annualized)</th>
<th>Trend</th>
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<tbody>
<tr>
<td>Inpatient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visits</td>
<td>49147</td>
<td>52693</td>
<td>Increased</td>
</tr>
<tr>
<td>Procedures</td>
<td>54645</td>
<td>58411</td>
<td>increased</td>
</tr>
<tr>
<td>Outpatient</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visits</td>
<td>19658</td>
<td>17026</td>
<td>Decreased</td>
</tr>
<tr>
<td>Procedures</td>
<td>34323</td>
<td>29579</td>
<td>Decreased</td>
</tr>
</tbody>
</table>

**Staff Demographics:**

- **Occupational Therapists:** 1 Clinical doctorate degree, 4 Master’s degrees, 2 Bachelor’s degrees, and 1 Bachelor’s degree with hand specialty certification
- **Exercise Physiologist:** 1 Master’s degree
- **Physical Therapists:** 9 Clinical Doctorate Degrees, 3 Master’s degrees, 1 Bachelor’s degree with athletic certification.
- **Speech-Language Pathology:** 5 Master’s degrees and the Manager of Therapy Services is specialty board certified for swallowing and swallowing disorders.
- **Therapeutic Recreation:** 3 certified therapists with Bachelor’s degrees.

Marcia Downer resigned as the PT Lead in January and accepted a faculty position at Seton Hall’s School of Physical Therapy but she will stay on as per-diem PT. George Gabriel continues as an adjunct instructor on Mondays at Rutgers’ Health Related Professions School of Physical Therapy. Emmie Milbut and Avani Malankar continue as lab assistants at Rutgers’ Health Related Professions School of Physical Therapy. Tiffany Shuster is a guest lecturer at Kean University.

Linda Tucker served as President of the New Jersey Speech-Hearing-Language Association and Linda Tucker received The Honors of the Association Award from the NJ Speech and Hearing Association for her services.

Lisa Romanetz and Analiise Crosby continue to serve on the Early Ambulation committee to design and start an early ambulation program. The program is ready to be implemented but is waiting for sign off on the policy.

**New Programs**

Three new, formalized Occupational Therapy Programs:

1. Mahalia Solis has initiated a structured program in the outpatient setting for treating patients with Lymphadema. FY2014 there were 15 patients referred to the program. YTD FY2015 we have 20 referrals.

2. Tiffany Shuster has pioneered the Upper extremity amputee program in March 2014, which is a collaborative effort with Dr. Yonclas and the company Handspring. Five patients have been fit with myoelectric pre-prosthetic arms to date.
3. Christine Boardingham attends the Oncology clinic once a week on Thursday mornings to screen oral cancer patients for speech and swallowing disorders. 14 patients have been treated in FY 2014.

**UH Clinic Volumes**
There were no PM&R Ortho and P&O Clinics for FY 2015 due to a faculty member leaving. Acquired Brain Injury and PMR DOC clinics had limited volume, we lost 86% of volume for FY 2015.

<table>
<thead>
<tr>
<th></th>
<th>FY 2014</th>
<th>FY 2015 (annualized)</th>
<th>Trend</th>
</tr>
</thead>
<tbody>
<tr>
<td>PMR DOC/ ACC Clinic</td>
<td>318</td>
<td>290</td>
<td>Slight decrease</td>
</tr>
<tr>
<td>P&amp;O Clinic*</td>
<td>65</td>
<td>0</td>
<td>No clinic</td>
</tr>
<tr>
<td>Acquired Brain Injury</td>
<td>149</td>
<td>150</td>
<td>Increase</td>
</tr>
<tr>
<td>PMR Daily Clinic</td>
<td>2685</td>
<td>0</td>
<td>No clinic</td>
</tr>
<tr>
<td><strong>TOTAL:</strong></td>
<td>3217</td>
<td>440</td>
<td></td>
</tr>
</tbody>
</table>

*The P&O Clinic often involves obtaining an orthotic or prosthetic from a company for patients without insurance or the ability to purchase one themselves, P&O issues are often also discussed during regular PM&R visits.

**Clinical Faculty and Residency / Fellowship Highlights:**

**NOTE:** Since FY03, the Department of PM&R has gone from 8.5 FTE on-campus faculty members to 3 FTE (which will be increasing via new hires in FY 2016).

**Faculty**
The Department of Physical Medicine and Rehabilitation consists of 125 faculty members practicing across northern New Jersey. Only three of these faculty positions are based in Newark and are paid by Rutgers New Jersey Medical School.

Collectively this past year, our 125 teaching faculty trained 25 residents, 7 clinical fellows, 6 postdoctoral fellows, 170 fourth year students, and a multitude of third year, fourth year, and visiting students on 86 elective rotations (many students rotate numerous times throughout our department as we offer 13 distinct course titles/rotations) at 8 affiliated patient facilities (Kessler Institute for Rehabilitation—West Orange, Saddlebrook, and Chester; Consultants in Rehabilitation and Pain Medicine (private practice); Pain & Disability Institute, PC (private practice); the Center for Advanced Pain Management and Rehabilitation (private practice); Northwest Rehabilitation Associates (private practice); University Hospital/DOC; East Orange VA/Lyons VA; Children's Specialized Hospital; and Kessler Foundation.

The distribution of the PM&R faculty by rank is as follows:

<table>
<thead>
<tr>
<th>Faculty Rank</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Full-Title</td>
<td></td>
</tr>
<tr>
<td>Professor Emeritus</td>
<td>1</td>
</tr>
<tr>
<td>Professor</td>
<td>12</td>
</tr>
</tbody>
</table>
The affiliated hospitals/facilities in the system include the Kessler Institute for Rehabilitation, NJ Veterans Affairs Health Care System, Children’s Specialized Hospital and Mountainside Hospital.

**Departmental Honors**

The 2014 Kessler Foundation’s Joel A. DeLisa, MD Award for Excellence in Research and Education in the Field of Physical Medicine and Rehabilitation (first introduced in 2010) and presented annually for 20 years to a physician and/or scientist who has demonstrated a significant impact in the field of PM&R, particularly as it relates to the translation of research and education in patient care was awarded to George H. Kraft, MD, Director of the Western MS Center, who received the annual prize of $50,000. Previous winners include Walter Frontera, M.D., Ph.D., of Vanderbilt University, in 2011, and John Whyte, M.D., Ph.D., founding director of Moss Rehabilitation Research Institute, in 2012, and Ross Zafonte, D.O. of Harvard Medical School last year.

Although Dr. DeLisa retired from his position as Chair in June of 2012, he has since been appointed to the title of Professor Emeritus and is the only Emeritus Professor in the Department of PM&R at NJMS.

Steven Kirshblum, MD, Medical Director and Director of Spinal Cord Injury Rehabilitation at Kessler Institute for Rehabilitation, is currently President of the Academy of Spinal Cord Injury Professionals (ASCIP) (2011- 2013, 2013 -present) and Chair-elect of the CNS Rehabilitation Council, AAPM&R.

This past academic year, NJMS students nominated 11 PM&R Golden Apple Teaching awards including five housestaff (Drs. Michelle Didesch, Alice Hon, Leroy Lindsay, Ondrea McKay, and Jayne Donovan) and six attendings (Drs. Peter Yonclas, JenFu Cheng, Benjamin Levy, Barbara Benevento, Jeremiah Nieves, and Mooyeon Oh-Park).

PM&R Faculty are active members in the following reported Honorific Societies:

- American Academy of Physical Medicine and Rehab (AAPM&R)
- Association of Academic Physiatrists (AAP)
- New Jersey Society of Physical Medicine and Rehab (NJSPM&R)
- American Institute of Ultrasound in Medicine (AIUM)
Physician RVU's declined 28% from last year's data due to the loss of a faculty member, loss of University Hospital worker’s compensation cases, declines in the RVUs associated with electrodiagnostic testing (EMG and nerve studies) and fluoroscopically-guided pain management injections. Specifically, CPT coding and associated RVUs for electrodiagnostic testing was revised nationwide, resulting in groups of nerve studies being "bundled" together and an overall decrease in RVUs generated per patient. Similarly, fluoroscopic guidance (CPT 77003) nationwide has been "bundled" into some of the spinal injection procedures, again resulting in an overall decrease in RVUs generated per patient. Thus, in both of these cases the same amount of physician work is producing less RVUs than previously.

Additional challenges to faculty RVUs include the increased number of insurance plans which are now generally "out of network" for NJMS physicians (including PM&R), such as United, CIGNA, Oxford, Aetna US Healthcare, Empire BCBS, etc. Many patients either do not have out-of-network benefits, or their out-of-network benefits are substantially more expensive for them, making the patients less eager to come here for their pain management injections and other medical care.

Meanwhile, the overall trend has shown mildly decreasing departmental RVUs per year, but overall in recent years this is holding up relatively well compared to the substantial decreases in the number of PM&R faculty FTEs.

**Residency Program**
The Rutgers-NJMS physiatry residency program is considered one of the top two physiatry residencies in the United States and probably the top program on the East Coast. However, the Spaulding/Harvard program is now matching students that previously we would have received. The NYU (Rusk) and the Columbia/Cornell programs have recruited new Chairs in the last few years and with the additional resources added to these programs, are becoming more competitive. The North Shore–Long Island Jewish Health System also added a new chair who is markedly upgrading that program.

Dr. Garstang, the Residency Program Director and member of the ACGME Residency Review Committee for PM&R, left NJMS September 1, 2009 for the NJ VA Health Care System and now serves as Residency Training Director for the VA. She has been succeeded as Residency Program Director for our department by Dr. Monifa Brooks. Despite the continued loss of University resources, the Department in August 2009 was awarded by the ACGME RRC a five-year accreditation with NO Citations and received COMMENDATIONS from the RRC. Specifically, they stated “The Review Committee commended the program for its demonstrated substantial compliance with the ACGME’s Requirements for Graduate Medical Education without citations. The committee particularly commended the program for their extensive and excellent educational curriculum, use of OSCE for competency assessment, the emphasis on scholarly activity among their faculty (especially among their residency staff), and their outcomes regarding ABPMR Board scores.”

As per the ACGME letter dated 7-1-13, the Rutgers NJMS PM&R Residency program will fully implement the Next Accreditation System (NAS) in July 2014. The next regularly scheduled visit is being replaced with a Self-Study Visit in the NAS, which is tentatively scheduled for 8/1/2019.

In 2011, the Pediatric Rehabilitation Fellowship was given Initial Accreditation. In 2014, the RRC conducted a site visit of the Pediatric Rehabilitation Fellowship. The Fellowship was granted Continued Accreditation after this visit. The SCI fellowship remains fully ACGME-accredited as well. Both ACGME accredited fellowships, and the core PM&R Residency program are due to undergo a “Self-Study” accreditation visit next in 2019.

For the most recent Match cycle (Residency Class of 2019), the department received over 400 applications for a total of 7 positions, of which we ranked 79 and filled all seven slots via the Match. 13 students from New Jersey Medical School’s graduating Class of 2015 chose PM&R as a specialty, two of whom Matched into our own residency program. Our residency is typically considered to be one of the top two PM&R residency programs in the United States. Many of our candidates have been elected to AOA, have received USMLE scores of above 225, and have authored research publications. Our residents have made numerous academic presentations at national meetings and have had numerous peer-review publications.

Our residents perform well on both Part I and Part II of the PM&R Board examinations. 100% of our graduates in the past 4 years have passed their written boards on first attempt. We have had a 98% first-time pass rate on the written portion of the Certification Boards since the establishment of our residency in 1989. Our residents have been awarded the Elkin’s Award (highest written Board Exam score in the United States in PM&R) nine times which is far more frequently than any other PM&R training program. (The next highest is four).

Our graduating residents have been, and continue to be extremely successful in securing competitive fellowship positions in the specialty of their choice as indicated below (Six of our eight graduating residents will be entering competitive fellowships):
This past year (FY15), the number of trainees in our various postgraduate programs was as follows:

<table>
<thead>
<tr>
<th>Level</th>
<th>Number of Trainees</th>
</tr>
</thead>
<tbody>
<tr>
<td>PGY-2</td>
<td>8</td>
</tr>
<tr>
<td>PGY-3</td>
<td>7</td>
</tr>
<tr>
<td>PGY-4</td>
<td>9</td>
</tr>
<tr>
<td>Clinical Fellows</td>
<td>7</td>
</tr>
<tr>
<td>Postdoctoral Fellows</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Trainees</strong></td>
<td><strong>37</strong></td>
</tr>
</tbody>
</table>

Of the 25 resident positions currently offered in the department, **only four are paid by University Hospital**. These four positions represent the number of residents who are on-site in Newark throughout the year. The overall funding of PM&R residency slots by individual facility is indicated below:

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<td>Kessler Institute for Rehabilitation</td>
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<tr>
<td>NJ Veterans Affairs Healthcare System</td>
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<tr>
<td><strong>Total Resident Slots</strong></td>
<td><strong>28</strong></td>
<td><strong>28</strong></td>
<td><strong>27</strong></td>
<td><strong>25</strong></td>
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<td><strong>22</strong></td>
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Unfortunately, the University Hospital has notified the PM&R department of a 100% cut in all resident lines over the next two years. This will require both downsizing of the residency program overall (unless additional sites can be created at other hospitals), and will result in a shift of teaching activities away from the UH and Rutgers NJMS. This loss of on-campus residents will present a substantial challenge for the department's ability to continue providing the same level of patient care within the hospital clinics, and may adversely affect faculty clinical and academic productivity.

**Fellowship and Post-doctoral Programs**

The department offers physician fellowships in seven subspecialty areas. **None of these fellowships are funded by Rutgers**, but clinical experiences are provided at RUTGERS-NJMS and its affiliates.

1. Spinal cord injury medicine*
2. Musculoskeletal/pain medicine
3. Traumatic brain injury
4. Stroke
5. Pediatric rehabilitation medicine*
6. Research – Neuropsychology & Neuroscience**
7. Research – Medical Rehabilitation Outcomes & Intervention Effectiveness**

*The Spinal Cord Injury Medicine fellowship is one of only 18 in the nation that has been accredited by the ACGME. The Pediatric Rehabilitation Medicine fellowship is one of only 17 in the nation that has been accredited by the ACGME.

**NIDRR and Multiple Sclerosis training grants.
Note that Fellows in Brain Injury, Spinal Cord Injury, and Musculoskeletal/Pain management work in The University Hospital and clinics as well as the DOC, even though neither the hospital nor the Medical School provides their salary support. Rather, they are paid from grants and clinical practice revenues in collaboration with our other teaching sites at which they rotate. All postdoctoral fellows in the department are currently paid and their training supported by federal training grants obtained through Kessler Foundation Research Center.

The 27th Annual Resident, Fellow, and Postdoctoral Fellow Research Day was held on June 4, 2015. There were 17 platform presentations. Dr. Matthew N. Bartels, Chair of the Rehabilitation and Physical Medicine department at Montefiore and Albert Einstein College of Medicine was selected as our Graduation Speaker and presented a keynote address on the history and future of Cardiopulmonary Rehabilitation.

**Continuing Medical Education**
In collaboration with the Kessler Institute for Rehabilitation, the Rutgers NJMS Department of PM&R put on its 28th annual Board Review Course on **April 1 through April 8, 2015**. We had over 100 participants which traveled from 15 states (New Jersey had the greatest number of participants) and Canada. It is the largest PM&R Board Review course in the nation.

**Medical School Education**
Our department remains actively involved in teaching within all four years of the medical school curriculum. For first-year medical students, we have taught clinical correlations within the Anatomy course (including correlations with musculoskeletal ultrasound). For second-year medical students, we teach within both the lectures and the hands-on workshops for the musculoskeletal physical exam skills as part of the CORE-2 course. This involved having nine to ten PM&R physicians per afternoon to run the musculoskeletal workshops. For third-year medical students, students do elective rotations within our department as well as obtain exposure to our department during their rotations within other departments. For fourth-year medical students, our department has a mandatory two week clerkship. Last year we also had 110 elective clerkships (two to four weeks) focused on the following subspecialties within PM&R, such as: Pediatrics, Research, Musculoskeletal Medicine, Interventional Pain, Neuromuscular and Pulmonary Disease, Brain Injury, Spinal Cord Injury etc. We have continued our implementation of a check-list that documents each medical student’s competencies in musculoskeletal, physical exam skills. The Medical Student PM&R Student Interest Group is very active. Many students attend our monthly New Jersey Society of PM&R meetings.

**Grants and Research**
The department has no dedicated research space on the Newark campus. However, Kessler Foundation, an affiliate, has a 42,000 square foot research center in West Orange, NJ. There are 19 full-time PhD researchers, three full-time MD researchers, one full time MD/PhD and one full time PhD/MPH researcher.

The research organization has a total of 88 employees and a $12 million annual budget with approximately $5.5 million annually from external grants.

**Therapy Services Student Affiliations**
- Occupational Therapy- 8 students.
- **Physical Therapy services- 9 doctoral level students and 6 physical therapist assistant students.**
- Speech Language Pathology – 6 students.

**Quality MONITORS**
Quality Improvement Program:
Our routine monitors for Risk Management are continued.
Patient Injury during treatment or diagnostic procedure: 0
Patient falls during therapy visit: 0
Medical emergencies occurring during treatment &/or diagnostic procedures: <1%

Physician Outcome Measures:
The outcomes of high volume and/or high risk outpatient interventions are being followed for physicians on an ongoing basis with data updates every three months for credentialing purposes along with ongoing peer review for all attending physicians. In addition, a high risk physician inpatient intervention is being monitored for QI: the efficacy of successful extubation of patients admitted/transferred to UH specifically for having failed extubation elsewhere.

Therapy PI monitors: These measures are monitored for purposes of Medicare, Joint Commission and clinical practice requirements. Annual averages for the measure are documented below:

1. All inpatients are evaluated within the guidelines set by the Department of Health (48 or 72 hrs) – 98.8% for 2014 and 95.7% for 2015; goal is to be 100%. Staffing plan submitted to increase staffing lines, proposal remained pending.
2. Documentation meets standards – 95.9% for 2014 and 96.5% for 2015; we met the 95% goal.
3. All typically utilized equipment has a safety check – 100% for 2014 and 2015.

Clinical Goals / Plans / Programs for 2015 and 2016:

1. In conjunction with the Department of Anesthesia and University Hospital’s Medical Special Procedure’s unit, PM&R is performing geniculate nerve radiofrequency ablation (RFA) for recalcitrant osteoarthritic knee pain who are not candidates for knee replacements.
2. Maintain/improve current therapist staffing levels: The vacancies have been re-filled rather quickly for the past year. However, resignation and FMLA remain the major barriers to the operation. Temp staffing is not an option due to the expense. Will re-visit the staffing plan previously submitted once our productivity and volume improve.
3. Redesign PI monitors- We retired the monitor for stroke patient’s improvement in the motor and swallow function since the scales used was deemed not sensitive to stroke recovery in the acute care setting. New monitor added that stroke patients received swallow assessment within 24 hours of referral. Another new PI monitor for Liver program is being developed.
4. Achieve and maintain new documentation requirements from Medicare (Functional G-codes and Severity Modifiers – ongoing, less back-end corrections now.
5. Working with EPIC group to improve /correct the flowsheets errors and implement templates to reduce the documentation time.
6. Increase the number of Oncology patients Speech serves, lymphedema program, and UE amputee program: current volume is limited.

Departmental / Physician Goals for 2015-2016:

- Finalize recruitment of PM&R physicians (replacement hire) to maintain and/or increase UH clinic volumes to the extent consistent with UH priorities.
• Further collaborate with the Department of Neurosurgery to provide physiatrists to attend Neurosurgery Clinics as well as provide PM&R services at other sites.
• Further expand the injured workers program by increasing volume of outside referrals, while maintaining internal referrals.
• Increase volume of musculoskeletal diagnostic and therapeutic ultrasound procedures as well as continue growth of the Coccyx Pain Center with additional out-of-state patients for procedures performed throughout the NJMS/UH/Rutgers Biomedical Health Sciences campus.
• UH traditionally has not done much to market the Model TBI and Model SCI programs. We are one of only seven sites in the entire country to have both Model Systems. We recommend that these programs be marketed to bring positive publicity to UH and to the Trauma Program.
• Solicit the Department of Health and Senior Services and other Trenton departments and medical insurance companies to take advantage of the unique skills of UH physicians to develop a program to extubate permanently ventilator dependent individuals without resort to tracheotomy or long-term institutionalization. This has been estimated to have the potential to save $250,000/patient/year and the State of New Jersey over $10 million per year (*See References 1,2, below) and is consistent with Rutgers Health Care goals of creating a statewide consortium for highly specialized medical programs.

[The ability to extubate and decannulate respirator unweanable patients to noninvasive management permits most of them to wean to nocturnal-only use when they otherwise would remain continuously respirator dependent. This permits them to return home at 1/7th to 1/3rd the cost of institutionalization. With administrative support to contact insurers, Medicaid, and other state officials, it is possible to arrange for optimal noninvasive management for these patients at UH at cost savings to taxpayers of over $1 million per patient over the course of a lifetime. The administrative support needs to be made available to organize the education of insurers to support this service which could be a pioneering program for humane and cost effective ventilator management in the U.S.].


Work to establish a ventilator step down unit for all UH ventilator patients and use the unit as a magnet for an extubation-decanulation program.

**Outstanding Issues:**

**Replacement faculty hire:** Continue recruitment of PM&R faculty to cover the UH PM&R role within the Orthopedic Clinic (Clinic 8). As per NJMS-UH medical service agreement, there is a need for NJMS to continue staffing the eight sessions per week of hospital-based PM&R clinics.

**Space:** Resolve longstanding space constraints and/or renovate existing space. The department is fragmented with academic and clinical space in three locations: The University Hospital, the Doctors Office Center and some storage space within the ADMC. The only storage location for faculty and resident files is currently in the ADMC.
across campus from the Chair’s administrative office. This creates an administrative burden for resident and fellow verifications. The PM&R clinic in DOC 3300 has notable space challenges.

- **Loss of on-campus resident physicians:** The current trajectory towards complete 100% loss of on-campus PM&R resident physicians within the next two years will have a profound effect on the department. The loss of the clinical training experiences jeopardizes the resident educational program overall, creating risks for violations in residency accreditation and risks to the national reputation of what has until now been considered one of the most highly regarded PM&R residency programs in the nation. We will continue looking for alternate replacement sites for resident training off campus. Meanwhile, the loss of on-campus residents will also present profound challenges for the ability of PM&R faculty here to maintain their clinical productivity, so we will be investigating creative ways to address these issues.