Department of Anesthesiology

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Departmental Research/Education Focus Areas

- Continue to provide a large arena of clinical education for residents, medical students, MEDEX, undergrads, and SRNA’s.
- Continue the growth of our clinical research and publication infrastructure.

FY 2017 Key Education / Research Accomplishment

**Research:**
- Several projects related to Enhanced Recovery After Surgery (ERAS) care bundles and their outcomes.
  - Retrospective review of protocol compliance predictors.
  - Prospective study related to regional anesthetics

**Key Education / Research Challenge**

**Research:**
- As a relatively recently acquired department, and essentially no research, data-acquisition, manuscript-writing staff, Anesthesiology faces systems/support challenges in study organization and publication.

**Education:**
- Balancing clinical care and education. Growing list of learners impacts efficiency, safety, and quality of experience for the learner. Work in progress.

FY 2017 Education / Research Goal

**Research:**
- Complete ongoing projects. Focus on areas of interest going forward. Establish research relationship with Universities.

**Education:**
- Continue current census of learners while integrating Emergency Department residents. Enhance peer-to-peer education of faculty.
Departmental Research/Education Focus Areas

- ED Operations
- Patient satisfaction
- Resident selection
- Medical student education
- Roadway safety
- Simulation in education
- Cardiopulmonary Resuscitation (CPR)
- Profession burnout
- Physician motivation
- Predictive modeling of disease
- LEAN supply chain

FY 2017 Key Education / Research Accomplishment

Research
- Five IRB approved ongoing studies
- FEMA Grant for community disaster preparedness, 28 national presentations given

Education
- Charter EM residency class of 10 began in July; all require to complete a scholarly project

FY 2018 Education / Research Goal

Research
- Dotan Shvorin PhD, imbedded scholar leading CU student multidisciplinary research project management, 18 undergraduate and 2 graduate. The Research Experience Enrichment Program (REEP) initiating multidimensional advancements in EM health care research
- DAODAS GHS ED FORCE (FAVOR Opioid Recovery Coaching Evaluation) Study
- DHEC GHS ED HIV Surveillance and Referral Program
- Greenville County Schools GHS EM CPR Training in High School Evaluation
- Host for CU Professor Department of Management sabbatical

Education
- 2nd year recruitment of EM residents, goal 30 residents total for 3 year training
- USCSOMG M3 Core EM rotation required, 100 students
- CU Nurse Practitioner clinical training integration
Family Medicine

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Departmental Research/Education Focus Areas

FY 2017 Education/Research Accomplishments

1. Quadruple Aim
   - M.A.P. Hypertension Project
   - CHF Clusters Project
   - D.A.R.T. Diabetes Project

2. Leadership
   - Leadership in Medicine Medical Student Elective

3. Lifestyle Medicine
   - Lifestyle Medicine Medical Student, Resident, and Fellow Education & Electives
   - Analysis of Healthtrack and LoseWell employee data of health

Key Education/Research Challenge

Training learners in an environment that prepares them for the future of Primary Care

FY 2018 Education/Research Goal

1. Quadruple Aim
   - Quality: M.A.P, CHF Clusters, D.A.R.T. roll out to ambulatory practices
   - Access: Greer and Oconee Family Medicine Residency Expansion

2. Leadership
   - Reduce Physician Administrative Burden: Team Care
   - Burnout & Resilience Curricula (From Student to Practicing Physician)

3. Lifestyle Medicine
   - Healthtrack (Impact of Exercise and Healthy Eating on Cardiometabolic Disease)
   - LoseWell (Cost-Effectiveness of Physical-Activity Based Wellness Programs)
   - Physical Activity as a Vital Sign: Does it Work in High-Risk Settings?
Department of Internal Medicine

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Departmental Research/Education Focus Areas

- Population Health
  - Chronic Disease Management
  - Wellness/Prevention
- Healthcare Delivery Models
- Educational Research

FY 2017 Key Education / Research Accomplishment

- Internal Medicine Clinic: Screening, Brief Intervention, and Referral Treatment (SBIRT), JUMP, Primary Care/Behavioral Health, SDM
- Cardiology: STEMI (ST-elevation Myocardial Infarction) Program
- Dermatology: 10 active studies
- Geriatrics: Memory Health Program
- Gastroenterology: 8 studies in hepatology and esophageal disorders
- Hem/Onc: Institute for Translational Oncology Research (ITOR)
- Infectious Diseases: Bacteremia trial
- Neurology: Stroke/Telestroke Program
- Palliative Care: Use of analytics to identify patients in hospital
- Critical Care: Sepsis Protocol

Key Education / Research Challenge

- Education: maintaining quality experiences with increased number of residents and students
- Research: incentivizing, documentation/tracking, infrastructure

FY 2018 Education / Research Goal

Education:
- Maximize/maintain resident and student educational experiences
- Development of subspecialty fellowship programs —— research

Research:
- Development of research and publication infrastructure
- Improve funding sources
Departmental Research/Education

**Focus Areas**
- Pregnancy Outcomes
- Infertility
- Full scope of Learners

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**FY 2017 Key Education / Research Accomplishment**

- NIH
  - Centering
  - Endometrial Receptivity
  - MFMU sub site
- Team Based Approach to Resident Research, Year 2
- Long-acting Reversible Contraception (LARC)

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**Key Education / Research Challenge**

- NIH funding
- Maximizing the Clinical Learning Environment (CLE)

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**FY 2018 Education / Research Goal**

- MOMPOD (NIH) Primary site - Diabetes focused
- Maternal-Fetal Medicine (MFM) Fellowship
- Maintain high educational quality with more learners
Departmental Research/Education

Focus Areas

• Drug development
• bone marrow transplant
• engineered T-cell program
• dedicated sickle cell service as collaboration with pediatrics
  • survivorship
• Cancer care delivery research efforts

FY 2017 Key Education / Research Accomplishment

Research:
1. 31 peer reviewed publications and abstracts. 7/27 physicians contributing
2. investigator initiated clinical trial for immunotherapy in rare cancers. First study of its kind.
3. active collaboration on 3 NCI grant funded projects
4. national representation at NCI level for leukemia, gastrointestinal cancers, and survivorship.

Education:
1. continued support of medical education and graduate medical education through rotations in adult oncology and gynecologic oncology.

FY 2018 Education / Research Goal

Research:
1. completion of first 50 patient cohort on rare tumor trial
2. implementation of engineered T-cell program through bone marrow transplant service
3. ongoing representation at national level meetings to set agenda for next treatment and survivorship programs.

Education:
1. creation of dedicated sickle cell program
2. increased participation at the medical school with increased teaching responsibilities.
Department of Orthopaedic Surgery

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Departmental Research/Education Focus Areas

- Comparative Effectiveness (SC Center for Effectiveness Research in Orthopaedics)
- Clinical and Patient-Reported Outcomes
- Biomechanics/Biomaterials
- Prospective Randomized Clinical Trials in trauma, hand, sports, shoulder and elbow, and joint replacement.

FY 2017 Key Education / Research Accomplishment

Research:
- Michael Hunter, MD under the supervision of John L. Sanders, MD and Andrew W. Cross, MD was awarded a Resident Research Grant from the American Foundation for Surgery of the Hand in FY 2017.

Education: We are leaving our footprint on National Orthopaedic Surgery Education.
- In FY 2017, Scott Porter, MD was a 2017 Conference Chair for the Council of Orthopaedic Residency Directors of the American Orthopaedic Association in June 2017.
- Chris Bray, MD presented “Innovative Tools and Approaches to Simplify the Lives of Program Directors” at the AAMC Annual Meeting in Seattle, WA in November, 2016.

FY 2018 Education / Research Goal

Research:
- Continue to engage residents in research, having every resident publish 1-2 papers/book chapters during their 5 years of residency, with an goal of 35 publications a year
- Continue to search out and apply for research funding
- Continued and new collaboration with Clemson University

Education:
- Grow the Bone Health Service, and continue to grow the multidisciplinary team to address challenges in the care of elderly fracture patients
- Expanding orthopaedic knowledge across multidisciplinary fields and pipeline programs to help support healthcare needs within GHS and the state
Department of Pathology
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Departmental Education Focus Areas
• Introduction to pathology and the medical laboratory for MedEx students and undergraduate students...established relationships with Furman, Clemson, and Bob Jones
  • Undergraduate forensic pathology internship
  • M1/M2 education in the classroom
  • M3/M4 pathology elective rotation

Departmental Research Focus Areas
• Student summer research program
  • Interdepartmental projects

FY 2017 Key Education / Research Accomplishments

• M2 Biomedical Sciences Faculty of the Year – Allison Young, MD
• Golden Peach Award for Excellence in M2 teaching – Allison Young, MD
• 23 students through summer research program
  • 17 medical students
  • 6 undergraduate students
• 15 open IRBs, all multidisciplinary
• From July 2016 – June 2017...
  • 8 publications, including an article accepted to Nature for work in collaboration with the department of OB/GYN*
  • 7 posters presented at national meetings
  • 6 posters presented at the 2017 GHS Research Symposium

FY 2018 Education / Research Goal

• Continue to strive toward the appropriate balance with time between clinical responsibilities and quality education and research in a small department
• Continue to attract motivated medical students for a non-paid summer research program
  • Shift from undergraduate predominant model to a model with medical student led teams of undergraduate students
• Expand student experience in the M3/M4 elective rotation
• Continue partnering with clinical colleagues for multidisciplinary projects

Pediatrics
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Departmental Research/Education Focus Areas
- Drug exposed newborns
- Obesity, healthy eating, exercise
- Diabetes
- Eosinophilic Esophagitis
- Asthma; Cystic Fibrosis
- Autism and related dev. disabilities
- Healthy child development; resilience
- Injury and disease prevention
- Interprofessional leadership training

FY 2017 Key Education / Research Accomplishment

- Early Treatment of Neonatal Abstinence Syndrome (NAS – MAiN Program)
- Research at Bradshaw Institute related to pediatric population health

Key Education / Research Challenge

- Expanding infrastructure of support for faculty (especially junior faculty) in research design, biostatistics and medical editing/publishing while balancing clinical demands

FY 2018 Education / Research Goal

Education
- Effectively serve increasing numbers of health profession trainees in our clinical learning environment

Research
- Expand research in Diabetes prevention and management
- Expand infrastructure for child population health research through the Bradshaw Institute for Community Child Health and Advocacy
Department of Perioperative Services
Perioperative Services Research Engineer – Robert Allen, PhD
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Phone: 864-430-1592

Departmental Research/Education Focus Areas:

Evidenced Based Management of Perioperative Services

FY 2017 Key Education / Research Accomplishment

Research:

Perioperative Services now has a full-time research FTE for expanding and coordinating new research opportunities within the Perioperative Services Department and supporting services. See care areas below.

Education:

Expanded opportunities for and facilitated undergraduate and graduate students conducting research.

FY 2018 Education / Research Goal

Research:

Perioperative Care Areas:

- Preoperative Care
- Operating Room
- Sterile Processing Department
- Material Supply Services
- Surgical / Procedure Scheduling
- Billing and Claims
- Pre-assessment Clinic

- Perioperative Home Care
  - Recovery
  - Anesthesia Services
  - Nursing Care
  - Anesthesiology
  - Gastro-intestinal Lab
Psychiatry

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Departmental Research/Education Focus Areas

- Mental Health in the Community
  - Mental Health Integration in Primary Care
    - ECHO education
    - Outcomes development

FY 2017 Key Education / Research Accomplishment

- The second annual Southeastern Symposium on Mental Health co-sponsored by GHS/community partners and driven by GHS/Clemson Research faculty
- Presentations nationally and publications on unique Psychiatric education models.
- Alignment of Annual Research Showcase with GHS Research day
- Establishing Monthly Research Group

Key Education / Research Challenge

- Small Department with limited to no administrative support due to our size
- Psychiatry clinically or academically focus (not focus on theoretical/bench research)
- Not motivated by grants/personal monetary gain, tenure, or academic rank
- Success measured by practical solutions to problems/outcomes

FY 2018 Education / Research Goal

- Cultivate a culture of curiosity and commitment to excellence in research.
- Developed leadership that will focus on patient-centered outcomes, research, practice and policy in mental health.
- Expand Weekly Grand Rounds process to be supported by regional leaders in academics and research
- Enhance the care of patients through joint ventures, partnerships, academic and research collaborations.
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Departmental Research/Education Focus Areas

• Imaging Appropriateness Criteria
• Cost Effective Care in Radiology
• Lung Cancer Screening Disparities
• Clinical and Interventional Radiology

FY 2017 Key Education / Research Accomplishment

Research:
Simulation study to determine factors that influence ordering of Head CT exams
GHS Transformative Seed Grant recipient
Comparing Y-90 Radioembolization and DEB-TACE for Unresectable Hepatocellular Carcinoma
Usefulness of Nephrometry Scoring Systems for Predicting Outcomes and Complications of Percutaneous Cryotherapy and Microwave Ablation Therapy at a Regional Medical Center

Education:
Radiology-TEACHES pilot study participant

FY 2018 Education / Research Goal

Research:
The Port Study IR vs OR
Reducing variation in Radiologist measurement of malignant lesions in CT images
Low dose CT Lung Cancer Screening disparities at GHS
Assessment of cortical thickness in multiple sclerosis as a function of disability

Education:
Radiology-TEACHES Beta site participant
Department of Surgery
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Departmental Research/Education Focus Areas
Bariatric surgery macro-economics, inequalities, & access to care
Hernia surgical outcomes
Hernia mesh fixation and explant analysis
Anti-inflammatory hernia mesh coatings
OR traffic effect on air flow and microbial load
Vascular access surgery (AV Fistula) for hemodialysis
AV fistula cannulation simulation
Vascular aneurysm tissue bank analysis
Shock and sepsis
Tissue adhesives
Robotic OR lighting
Microvascular stent/fixation devices for facial bone reconstruction
*Clemson Bioengineering Senior Design Project

FY 2016 Key Education/Research Accomplishment

• Achieving academic/scholarship balance through targeted hiring
• Forging relationships with Clemson University faculty
• David Cull, MD and Joseph Singapogu, PhD awarded a 5-year NIH K-1 award

Key Education / Research Challenge

• Invigorating current faculty to perform research
• Understanding and navigating research funding
• Providing adequate research support to young faculty for prospective research projects

FY 2017 Education / Research Goal

• Stimulate faculty involvement
• Ensure all new recruits have research interests
• Pair surgery residents and fellows with Clemson faculty
• Increase number of sponsored clinical trials