ANNUAL REPORT
JULY 1, 2017 to JUNE 30, 2018
LEWIS KATZ SCHOOL OF MEDICINE AT TEMPLE UNIVERSITY
DEPARTMENT OF OBSTETRICS, GYNECOLOGY & REPRODUCTIVE SCIENCES

“EXCELLENCE IN SERVICE”
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In FY18 we completed our journey toward Temple University Hospital (TUH) being designated as a Baby-Friendly birth facility. The Baby-Friendly initiative is a global program sponsored by the World Health Organization and the United Nations Children’s Fund and recognizes hospitals and birthing centers that offer an optimal level of care for breastfeeding mothers and their babies. This milestone was the result of the labor of many both in the hospital and the clinics. It was championed by Dr. Gail Herrine, who is the medical director of the postpartum unit and director of lactation services and Dr. Betty Craig our Chief Nurse Executive.

We are pleased with the success of our immediate postpartum long-acting reversible contraception program (LARC). Over 1000 patients received LARC immediately postpartum. Of these 527 were intrauterine contraceptive devices (IUD) and the remaining were subcutaneously implanted progestin eluting implants (e.g., Nexplanon). We continue to see a decrease in the proportion of women who deliver at TUH who are adolescents. In FY18 of women who delivered at TUH 7% were adolescent compared to 17% in FY06.

Since May 2018 we offer nitrous oxide as one of the options for pain management during labor. We are one of the first in the region and the first within the city of Philadelphia to offer laboring women this option. Our L&D unit continued to be staffed 24/7 by anesthesiologist with expertise in obstetrical anesthesia.

We were on our second year of partnership with Wedge Medical Center (a mental health and drug/alcohol treatment facility one-block from TUH). In FY17 we established a Center of Excellence to address opioid addiction during pregnancy. The Center received funding from the
Commonwealth of Pennsylvania. The Center began to welcome patients in January of 2017 under the direction of Dr. Laura Hart of Maternal Fetal Medicine, who is the medical director of the Center of Excellence, and Dr. Mary Morrison of Psychiatry, who is the Center’s psychiatric director.

In 2014 Temple University Hospital established Philadelphia’s first public cord blood donation program. Approximately 200 units are collected every year. Four individuals have received stem cells derived from cord blood harvested at TUH.

We have recruited two faculty members to fill vacancies. Claire Faggons, MD, received her doctor in medicine degree from the University of North Carolina. She completed a residency in obstetrics and gynecology at Tulane University Hospital. Kathryne Sanserino, MD received her doctor in medicine degree from Southern Illinois University. She completed a residency in obstetrics and gynecology at Temple University Hospital where she served as administrative chief resident. Both of them are fluent in Spanish and will have their clinics at our Episcopal Hospital site where there is a large Latino population. The department faculty members participate in numerous intra- and extra-mural committees and hold multiple leadership positions. Ten of our current faculty members were listed in Philadelphia Magazine 2018 “Top Doctors”.

Our residency program is fully accredited and consistently remains citation-free. We received 950 applications for our five PGY1 categorical positions and interviewed 88 highly qualified applicants. We matched in the top quarter of our rank list. Several of our residents presented their research projects at national meetings.

We continue to be a research site for several pharmaceutical industry-sponsored clinical trials. We continue to participate in NIH-funded Gynecologic Oncology Group (now NRG) clinical trials. We are also a member of the Perinatal Research Consortium. Our faculty continues to be academically productive with publications in peer-reviewed journals and presentations at national meetings, which are listed in this report.

Our faculty clinical productivity continues to be high with total RVUs (adjusted for clinical FTE) in FY18 in the 60th percentile of MGMA benchmarks. There were 54,531 patient visits to our clinics in FY18, which is 10.6% better than budget. This number does not include visits to the Fetal Center or to our obstetrical triage unit. Our hospital patients’ average length of stay continues to be low at 2.6 days. We ended the year with a favorable variance of 18% to budget.

In FY18 there were 2501 obstetrical deliveries. The decrease in deliveries at TUH mirrors what is happening nationally. In 2017 the United States reached a record low in the number of births, the lowest in 30 years. The total number of births in the United States has been decreasing for the past 3 years with a 2% drop in 2017 compared to 2016. The most recent statistics from Philadelphia County show that the birth rate in 2014 was 14.3 births/1000 city residents compared to 15.8/1000 in 2008. The largest drop was among Hispanics and adolescents. As stated above the proportion of adolescents that are delivering at TUH is one-half of what it was a decade ago and approximately one-third of our patients are Hispanics. Twenty-nine percent of the obstetrical deliveries at Temple University Hospital in FY18 were by cesarean section, which
is the same as the rate reported by the CDC for Pennsylvania and slightly lower than the national rate. In FY18 there were over 7200 visits to our obstetrical triage unit. The complexity of the obstetrical cases continues to be high with over 1300 visits to our high-risk obstetrical service. Our perinatal diagnostic services continue to grow. In FY18 almost 15,000 procedures were performed at our Fetal Center, 1284 ultrasounds were performed at the Episcopal and Northeastern Ambulatory Care Center and 3157 patients received genetic screening or counseling.

In FY18, 1442 women underwent gynecologic surgery at Temple University Hospital (680 major and 762 minor procedures). This includes 122 major surgical procedures for suspected or documented gynecologic malignancies. One hundred and two abdominal, 126 laparoscopic and 30 trans-vaginal hysterectomies were performed. Sixty-one of the laparoscopic hysterectomies were performed with robotic assistance. A total of 77 gynecologic surgical procedures were performed with robotic assistance at Temple University Hospital. There were 63 procedures for urinary incontinence and/or pelvic reconstructive surgery performed at Temple University Hospital in FY18. In addition to the laparoscopic hysterectomies, there were 164 operative laparoscopy procedures. We also performed 323 hysteroscopies and 151 cystoscopies. There were also 66 postpartum surgical sterilizations performed in the Labor & Delivery operating rooms. These are not included in the Main Operating Room statistical report. The full-time faculty also performs surgical procedures at Holy Redeemer Hospital, Jeanes Hospital and Chestnut Hill Hospital. In FY18, 26 robotic-assisted hysterectomies were performed by our faculty at Chestnut Hill Hospital.

Fourth and third year Ob/Gyn residents spent a 5-week block at the Fox Chase campus where they enhance their educational experience by being exposed to more surgical cases and to the care of hospitalized patients with complex medical situations. In FY18, 671 operations were performed by the gynecologic oncologists at the Fox Chase Cancer Center. Of these 361 were major surgical procedures to include 116 abdominal hysterectomies, 156 laparoscopic assisted vaginal hysterectomies and 61 robotic-assisted total laparoscopic hysterectomies.

In the months, years and decades to come we will continue to strive to completely fulfill our mission:

TO BE A LEADER IN OUR COMMUNITY, CITY AND REGION IN OB/GYN CLINICAL CARE, TEACHING AND RESEARCH AND BY DOING SO BETTER SERVE OUR VULNERABLE PATIENT POPULATION
II. FACULTY

A. SUMMARY

Enrique Hernandez, MD, FACOG, FACS
Abraham Roth Professor and Chairman

1. Full-Time Faculty

Division of Gynecologic Oncology
Karen L. Houck, M.D., (Associate Professor), Director
Enrique Hernandez, M.D. (Professor)

Division of Maternal-Fetal Medicine
Wadia Mulla, MD (Associate Professor), Director
Laura Hart, MD (Assistant Professor)

Urogynecology and Pelvic Reconstructive Surgery
Carol Glowacki, MD, (Associate Professor), Director

Division of Gynecology & General Obstetrics
Juan Diaz, M.D. (Associate Professor), Director
Arleen Ayala, M.D. (Assistant Professor)
Tanise Branche, M.D. (Assistant Professor)
Divya Chillapalli, M.D. (Assistant Professor)
Bruce Carnivale, D.O. (Assistant Professor)
Gloria Diaz, M.D. (Assistant Professor)
Shaliz Dolan, M.D. (Assistant Professor)
Michelle Duncan, M.D. (Associate Professor)
Claire Faggons, M.D. (Assistant Professor)
Gail Herrine, M.D. (Associate Professor)
Stacey Jeronis, M.D. (Associate Professor), Associate Chair
Bruce Mabine, M.D. (Assistant Professor)
Anthony Milicia, M.D. (Assistant Professor)
Sarah Park, M.D. (Assistant Professor)
Marisa Rose, M.D. (Associate Professor), Vice-Chair for Education
Kathryne Sanserino, M.D. (Assistant Professor)

Adjunct
Faith Pullinger, M.D. (Assistant Professor)
Gerald Reme, M.D. (Assistant Professor)
Said Saab, M.D. (Assistant Professor)
Said Saab, M.D. (Assistant Professor)
Shwetha Shrivatsa, M.D. (Assistant Professor)
Todd Stearns, D.O. (Assistant Professor)
Henry Su, M.D. (Assistant Professor)
Clinton Turner, M.D. (Assistant Professor)

Research
Sarmina Hassan, MBBS., PhD (Assistant Professor)

Subtotal: 29

2. Part-Time Faculty

Division of Reproductive Endocrinology and Infertility
Arthur Castelbaum, M.D. (Assistant Professor), Co-director
Martin Freedman, M.D. (Assistant Professor), Co-director

Division of Gynecology & General Obstetrics
Anthony Mackaronis, M.D. (Assistant Professor)
Deslyn Mancini, M.D. (Assistant Professor)

Subtotal: 4

3. Secondary Appointments

Department of Internal Medicine
Sharon Herring, M.D. (Associate Professor)

Fox Chase Cancer Center, Behavioral Medicine
Suzanne Miller, PhD (Professor)

Subtotal: 2

4. Affiliate Faculty

Fox Chase Cancer Center
Stephen Rubin, M.D. (Professor), Chief Gynecologic Oncology
Christina Chu, M.D. (Associate Professor)
Cynthia Bergman, M.D. (Assistant Professor)
Stephanie King, M.D. Associate Professor
Gina Mantia-Smaldone, M.D. (Assistant Professor)

Subtotal: 5

5. Adjunct Faculty

Allegheny Health Network
Geisinger Medical Center
Holy Redeemer Hospital
Jeanes Hospital
Lancaster General Hospital
Main Line Health Network
St. Luke’s Hospital

Subtotal: 65

Total Number of Faculty: 107

DIVERSITY AND FACULTY DEVELOPMENT

There are 21 full-time faculty members in the department of which 16 (76%) are women, 5 (24%) are Latino and 3 (14%) are African American.

In FY18 we held 8 sessions known as FRaTS (Faculty and Residents as Teachers) and a narrative medicine session.

Dr. Marisa Rose, Vice-chair for Education (and clerkship director), was funded to attend the Association of Professors of Obstetrics and Gynecology (APGO) faculty development seminar. Dr. Stacey Jeronis, associate department chair and residency program director, attended the APGO annual meeting.

In FY 18 three faculty members were promoted to Associate Professor.

B. NEW FACULTY

Claire Faggons, MD, received her doctor in medicine degree from the University of North Carolina. She completed a residency in obstetrics and gynecology at Tulane University Hospital.

Kathryne Sanserino, MD received her doctor in medicine degree from Southern Illinois University. She completed a residency in obstetrics and gynecology at Temple University Hospital where she served as administrative chief resident.

C. FACULTY DEPARTURES
Laura Goetzl, MD, MPH moved to UT Houston where she will be the vice-chair for research in obstetrics and gynecology. Her husband, a surgical oncologist, accepted a position at Methodist Hospital in Houston.

Amanda Horton, MD moved to Baltimore and joined one of the Johns Hopkins obstetrics and gynecology community practices.

D. HONORS/PRIZES

Cynthia Bergman, MD

Listed in Philadelphia Magazine “Top Doctors” 2018

Bruce Carnivale, DO

Association of Professors of Obstetrics and Gynecology Excellence in Teaching Award

Christina Chu, MD

Listed in Philadelphia Magazine “Top Doctors” 2018

Arthur Castelbaum, MD

Listed in Philadelphia Magazine “Top Doctors” 2018
Listed in Castle Connolly Best Doctors 2017-18

Juan Diaz, MD

Listed in Philadelphia Magazine “Top Doctors” 2018
Board of Trustees Society of Ibero-Latin American Medical Professionals
Appointed Oral Examiner American Board of Obstetrics and Gynecology

Michelle Duncan, MD

Association of Professors of Obstetrics and Gynecology Excellence in Teaching Award

Carol Glowacki, MD

Listed in Philadelphia Magazine “Top Doctors” 2018

Gail Herrine, MD

Listed in Philadelphia Magazine “Top Doctors” 2018
American College of Obstetricians and Gynecologists Representative to the United States Breastfeeding Committee
Board member Breastfeeding Resource Center

Enrique Hernandez, MD

Board of Directors American Cancer Society, Philadelphia Area
Board of Directors Philadelphia County Medical Society and the Society’s Pfahler Foundation
Board of Regents American College of Surgeons
Listed in Philadelphia Magazine “Top Doctors” 2018
Listed in Best Doctors in America 2017-18

Karen Houck, MD

Listed in Philadelphia Magazine “Top Doctors” 2018

Stephanie A. King, MD

Listed in Philadelphia Magazine “Top Doctors” 2018

Stephen Rubin, M.D.

Listed in Philadelphia Magazine “Top Doctors” 2018
Board of Directors, American Board of Obstetrics and Gynecology

III. RESEARCH
A. Research Grants

1. Peer-Reviewed

Laura Goetzl, MD
Principal Investigator for R01HD069238: Gestational Age Variation in Human Placental Transport Mechanisms Goal: To elucidate gestational age changes in placental transport proteins and to correlate with fetal levels of psychoactive substances. NIH/NICHD

Laura Goetzl, MD and Laura Hart, MD
Principal Investigators for Commonwealth of Pennsylvania Grant: Opioid Use in Pregnancy, Center of Excellence. This program is a collaboration between Temple and the Wedge Center, a community-based drug and alcohol treatment facility.

Laura Goetzl, MD and Wadia Mulla, MD
Principal Investigators for Perinatal Research Consortium (PRC) Grant: Chronic Hypertension and Pregnancy (CHAP) Project.

Wadia Mulla, MD
Principal Investigator for Perinatal Research Consortium (PRC) Grant: Optimization of Management of Type 2 Diabetes Complicating Pregnancy (MOMPOD).

Laura Hart, MD
Principal Investigator for Perinatal Research Consortium (PRC) Grant: Morbidly Adherent Placenta: A Pilot Retrospective Cohort Study

Sarmina Hassan, MBBS., PhD
Co-PI for NIH R21 Grant with Department of Public Health: Factors Predicting Ineffective Contraceptive Use.

Enrique Hernandez, MD
Principal Investigator at Temple for Gynecologic Oncology Group clinical trials), July 2000 to present.

2. Commercial/Industrial/Governmental

Enrique Hernandez, MD
Principal Investigator: YO39523: A Phase III, Multicenter, Randomized, Study of Atezolizumab Versus Placebo Administered In Combination With Paclitaxel, Carboplatin, And Bevacizumab To Patients With Newly-Diagnosed Stage III or Stage IV Ovarian, Fallopian Tube, or Primary Peritoneal Cancer.

Arleen Ayala-Crespo, MD
Principal Investigator: ESN364_HF_205: A Randomized, Placebo-Controlled, Double-Blind, Dose-Ranging, Phase 2B Study to Investigate the Efficacy of ESN364 in Postmenopausal Women Suffering From Vasomotor Symptoms.

B. TOTAL RESEARCH DOLLARS EXPENDED $597,250 ($500,000 Opioid use in Pregnancy Grant, $97,250 other)

C. DEPARTMENT MEMBERS SERVING AS GRANT/AWARDS REVIEWERS

Laura Goetzl, MD, NIH Study Sections (Translational Research in Pediatrics and Obstetric Pharmacology, Behavioral Genetics and Epidemiology)

D. Journal Reviewers/Editorial Board

American Journal Obstetrics and Gynecology
Obstetrics and Gynecology
Journal of Reproductive Medicine
Gynecologic Oncology
Pediatrics
American Journal of Perinatology
Anesthesiology
Anesthesia & Analgesia
British Journal of Obstetrics & Gynecology
International Journal of Gynaecology and Obstetrics
European Journal of Obstetrics, Gynecology and Reproductive Biology
Obstetrics and Gynecology International (Editorial Board, Dr. Hernandez)
Topics in Obstetrics and Gynecology (Editorial Board, Dr. Hernandez)
International Journal of Gynecologic Cancer
Medical Journals, Gynecology and Obstetrics: Open Access (Editorial Board, Dr. Hernandez)
Frontiers in Pharmacology (Editorial Board, Dr. Goetzl)
Reproductive Toxicology
Translational Behavioral Medicine (Editorial Advisory Board, Dr. Hernandez)
Journal American College of Surgeons
Journal Surgical of Oncology
Archives of Gynecology and Obstetrics
IV.  TEACHING PROGRAM

1. Medical Students

This program is directed by Dr. Marisa Rose with Dr. Shaliz Dolan as the Associate Clerkship Director. The site program directors contribute to program development, and other related matters. The final examination is given in the standardized format (shelf-exams). The students' performance in OB/GYN in the USMLE is satisfactory, and residency placement is excellent.

Clinical Affiliates Used for Teaching Medical Students

<table>
<thead>
<tr>
<th>Vahideh Ameri, M.D.</th>
<th>Catherine Bernardini, D.O.</th>
</tr>
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<tbody>
<tr>
<td>Course Director</td>
<td>Course Director</td>
</tr>
<tr>
<td>Holy Redeemer Hospital</td>
<td>Bryn Mawr Hospital</td>
</tr>
<tr>
<td>1648 Huntingdon Pike</td>
<td>130 S Bryn Mawr Avenue</td>
</tr>
<tr>
<td>Meadowbrook, PA 19046</td>
<td>Bryn Mawr, PA 19010</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>James Anasti, M.D.</th>
<th>Andrew Sword, M.D.</th>
</tr>
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<tbody>
<tr>
<td>Program Director</td>
<td>Course Director</td>
</tr>
<tr>
<td>St. Luke’s Hospital</td>
<td>Bryn Mawr Hospital</td>
</tr>
<tr>
<td>801 Ostrum Street</td>
<td>130 S Bryn Mawr Avenue</td>
</tr>
<tr>
<td>Bethlehem, PA 18015</td>
<td>Bryn Mawr, PA 19010</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Paul Swanson, M.D.</th>
<th>Kathryn Abello, M.D.</th>
</tr>
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<tbody>
<tr>
<td>Course Director</td>
<td>Course Director</td>
</tr>
<tr>
<td>Geisinger Medical Center</td>
<td>Lancaster General Hospital</td>
</tr>
<tr>
<td>100 N. Academy Ave.</td>
<td>964 Good Drive, Suite 11</td>
</tr>
<tr>
<td>Danville, PA 17822</td>
<td>Lancaster, PA 17604</td>
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</tbody>
</table>
a) Program Accomplishments:

1. FY18 saw the introduction of an online discussion board for using bioethical principles with evidence based medicine to sort through controversial topics in Ob/Gyn.
2. The web-based self-study modules and practice questions provided by the Association of Professors of Obstetrics and Gynecology are available to all our students.
3. At the end of the FY18, the Blackboard site was converted over to Canvas. The Canvas site is newly designed and regularly updated to provide a central clearinghouse for all students enrolled in the MS-3 Ob/Gyn Clerkship. Links to the course syllabus, clerkship objectives, orientation training, educational materials, lecture slides, discussion groups, and online learning modules ensure comparability in student education between sites.
4. A longitudinal faculty outpatient experience for the MS-3 clerkship was piloted in 2015 and rolled out in 2016 and continues to be a success in 2018. Faculty members from Lewis Katz School of Medicine (LKSOM) at Temple University and Temple University Hospital participate at multiple office sites.
5. Lunch-time teaching sessions are held with the students and have expanded to every Monday, Wednesday, and Thursday at Temple University Hospital.
6. Faculty members from the LKSOM at Temple University Hospital lead the core lecture series every Friday afternoon at LKSOM. The students in their OB/GYN block who are in Southeast Pennsylvania attend. The lectures are also available via video conferencing to all distant sites.
7. Seven students from the class of 2018 applied for an Ob/Gyn residency. The following LKSOM students were accepted into an Obstetrics and Gynecology residency in 2018:

<table>
<thead>
<tr>
<th>Name</th>
<th>Matched</th>
</tr>
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<tbody>
<tr>
<td>Brian Druyan</td>
<td>Emory University</td>
</tr>
<tr>
<td>Jonathan Hunt</td>
<td>Cleveland Clinic</td>
</tr>
<tr>
<td>Abraham Khan</td>
<td>U Maryland</td>
</tr>
<tr>
<td>Jennifer Lewis</td>
<td>Lankenau Hospital</td>
</tr>
<tr>
<td>Angela Liu</td>
<td>Temple University Hospital</td>
</tr>
<tr>
<td>Richa Pursnani</td>
<td>Temple University Hospital</td>
</tr>
<tr>
<td>Gabriela Ross</td>
<td>Temple University Hospital</td>
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</table>

b) Program Course Offerings:
The following electives are available at the LKSOM and its affiliates:
i) Temple University Hospital:
   Women’s Health
   Gynecologic Oncology
   Maternal Fetal Medicine
   Obstetrics and Gynecology Sub-internship
   Urogynecology
ii) Holy Redeemer Hospital:
    Reproductive Endocrinology & Infertility
iii) St. Luke’s Hospital:
    Maternal Fetal Medicine
    Gynecologic Oncology
    Urogynecology
    Obstetrics and Gynecology Sub-internship
iv) West Penn Medical Center:
    Gynecologic Oncology
    Maternal Fetal Medicine
    Reproductive Endocrinology
    Obstetrics and Gynecology Sub-internship
v) Fox Chase
    Gynecologic Oncology

2. Department of OB/GYN/RS’s Involvement with Other Professional Programs

a. Internal Medicine of Temple University Hospital residency program spends time in our clinics. Emergency Medicine residents spend time in the labor and delivery unit.

b. Training site for Arcadia University Master of Genetic Counseling program.

c. Temple University Physician Assistant Program. The PA students are integrated into the medical clerkship through an innovative curriculum supporting inter-professional education and collaboration.

d. Clinical training site for nurse practitioner students from Temple University’s doctor in nursing program

3. Fellowship training

Fellowship Program in Gynecologic Oncology

Our fellowship program is entering its fourth year. Christina Chu, MD, the Program Director, receives assistance from Karen Houck, MD. The fellowship spans the campuses of Temple University Hospital and the Fox Chase Cancer Center, combining the resources of a busy inner city academic hospital with an NIH designated comprehensive cancer
center to provide excellent and diverse educational experience for the fellows. We accept one fellow each year through the Match. The program is 3 years, with the first year being dedicated to research activities. The second and third years of the fellowship consist of monthly clinical rotations divided between the Fox Chase and Temple campuses. In addition to surgical cases and in/outpatient gynecologic oncologic care, fellows participate fully in the prescribing and ordering of chemotherapy, as well as consultation and planning for radiation therapy. Two off-service rotations on the Gastrointestinal Surgery Service at Fox Chase and the Surgical Intensive Care Unit at Temple University Hospital round out the fellows’ clinical training.

The Fellows have protected didactic lectures once a week on average. In addition, they are the primary presenters at weekly Tumor Boards at both Temple and Fox Chase. Our Divisions have monthly joint tumor board as well as quarterly joint journal clubs.

We graduated our inaugural fellow, Jennifer Brown, MD who received her residency training at the University of Alabama. She spent her first year in the laboratory working with James Duncan, PhD on a project examining the kinome in patients with platinum resistant ovarian cancer. She has taken a faculty position at Texas Tech El Paso. Our current senior fellow is Dr. I. Daniel Benrubi, who comes to us from the University of Florida. He spent his first year in the laboratory of Denise Connolly, PhD developing a project examining the sensitivity of patient derived ovarian cancer cells and xenografts to targeted inhibition by PARP and HSP90. Maureen Roberts, MD, our second-year fellow from the University of Kentucky, has also worked in Denise Connolly’s laboratory on in vivo lineage tracing in a transgenic mouse model that develops spontaneous ovarian cancer. Both Maureen and Daniel are currently in the midst of their clinical rotations. Our newest fellow, Jocelyn Ray, MD PhD from Stanford University, is starting her laboratory research year working with Wafik El-Deiry, MD PhD on a project examining an orally active antitumor small molecule, ONC201, in preclinical endometrial and ovarian cancer models.

Temple residents and medical students spent time at Fox Chase. In addition, fourth year medical students do their gynecologic oncology elective at Fox Chase. Fox Chase Cancer Center provides our medical students with a worthwhile choice for their core and sub-internship rotations. For residents, the goal is to enhance their educational experience by providing more surgical cases and exposure to the care of complex inpatients, and also to build the fellows’ leadership and teaching abilities as they supervise the junior housestaff/students in inpatient, as well as operative settings.
Dr. Stacey Jeronis continues to serve as the Program Director of the Obstetrics and Gynecology residency program. It is a fully accredited four year program and consistently remains citation free with the annual RRC review. Dr. Marisa Rose is the Associate Program Director and Vice Chair of Education. She remains responsible for the educational curriculum and organizing the educational conferences. Dr. Laura Hart acted as the Associate Program Director with emphasis on resident well-being and development. Dr. Arleen Ayala is the director of our clinical simulation program with frequent educational sessions in the simulation center and will be in charge of FLS training and certification with the assistance of Dr. Divya Chillapalli. Dr. Karen Houck is the Associate Program Director of the Gynecologic Oncology fellowship and serves as the director at the Temple University Hospital site.

Our residency is a competitive fully approved 4-year program with five residents at each level plus a 6th non-categorical (preliminary) intern. Last year we received 950 applications for our five positions and interviewed 88 highly qualified applicants. We matched in the top quarter of our rank list.

**Clinical**

At Temple University Hospital the OB/GYN residents rotate through Obstetrics, Maternal-Fetal Medicine, Gynecology, Urogynecology, Night Float and Gynecologic Oncology. At Fox Chase Cancer Center, they gain additional experience in Gynecologic Surgery (with emphasis in minimally invasive gynecologic surgery). The residents also gain invaluable exposure to Reproductive Endocrinology and Infertility at RMA Philadelphia with Drs. Castlebaum and Freedman. Exposure to pregnancy terminations occurs at Temple University Hospital and at the Philadelphia Women’s Center. We also have a very busy Family Planning Clinic. Our chief
residents spend time in the Breast Clinic with Dr. Kathleen Reilly and our third year residents may apply for a five week elective rotation.

**Education and Research**

Formal education presentations are held on Wednesday mornings from 7:30am to 9:30am to include Grand Rounds, Morbidity and Mortality Review, Journal Club, and Case Presentations. Third hour presentations typically involve review of ACOG practice bulletins and Chapter reviews from standard textbooks. The Gynecology Tumor Board meets every Wednesday from 10:30am to 12:00pm. Chairman’s rounds are on Tuesdays at 7:00am.

On December 13, 2017, we held our 57th Annual Isador Forman Post Graduate Course which is funded by the Forman family. Our visiting lecturer was Rebecca Rogers, MD, Professor and Associate Chair Clinical Integrations and Operations Dell Medical School Department of Women’s Health

At this meeting our senior residents presented their research theses, which are listed below.

Patricia Eliasinski, MD  
*Impact of U.S. Food and Drug Administration Safety Communication about Morcellation on Mode of Hysterectomy*

Lauren Goetsch, MD  
*Pancreaticobiliary metastases presenting as primary mucinous ovarian neoplasms: A literature review of distinguishing gross, histological and immunohistochemical features*

Lauren Maramara, MD  
*The Effect of BMI Category on Successful Induction of Labor and Risk of Cesarean Delivery*

Sarah Martin, MD  
*Impact of Regular Physical Activity on Burnout among Ob/Gyn Residents*

Kathryne Sanserino, MD  
*Non-Invasive Assessment of Fetal Central Nervous System Extracellular Vesicles in Maternal Opioid Use Disorder*

Dr. Kathryne Sanserino was the recipient of the Best Resident Research Award for 2018.
Quality and Performance Improvement Program

We have a robust Quality and Performance Improvement program. One-hundred percent of our residents participate in a team-approach quality improvement project each year and it is currently a requirement for the PGY 4 residents to successfully complete and present at our educational conference prior to graduation.

Quality and Performance Improvement Projects FY18:

<table>
<thead>
<tr>
<th>Topic</th>
<th>Chief</th>
<th>PGY 3</th>
<th>PGY 2</th>
<th>PGY 1</th>
<th>Students</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Opioid Prescriptions after cesarean section</td>
<td>Kate Sanserino</td>
<td>Nishanth Sidduri</td>
<td>Holly Boyd</td>
<td>Olga Mutter</td>
<td>Maggie Rush</td>
<td>Dr. Ayala</td>
</tr>
<tr>
<td>LGBTQ Awareness</td>
<td>Lauren Goetsch</td>
<td>Rachel Pantoja</td>
<td>Samantha Jagannathan</td>
<td>Shira Saperstein</td>
<td>Meredith Manire</td>
<td>Dr. Herrine</td>
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<tr>
<td>Barriers to postpartum BTLs</td>
<td>Tricia Eliasinski</td>
<td>Hema Datwani</td>
<td>Katya Papatla</td>
<td>Kylee Clyatt</td>
<td>Catherine Bachur</td>
<td>Dr. Duncan</td>
</tr>
<tr>
<td>Rubella and Varicella Vaccinations on the Postpartum Unit: Did EPIC increase compliance?</td>
<td>Lauren Maramara</td>
<td>Kristin Kean</td>
<td>Leah Roberts</td>
<td>Miriam Aioub</td>
<td>Alison Sikora</td>
<td>Dr. Mulla</td>
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<tr>
<td>Rates of non-visualized pp IUD strings at pp visit</td>
<td>Sarah Martin</td>
<td></td>
<td></td>
<td></td>
<td>Bushra Anis</td>
<td>Dr. Branche</td>
</tr>
</tbody>
</table>

Academic profile

There is significant scholarly activity among residents with several publications in peer-reviewed journals and multiple presentations at national meetings.
Resident Publications and Presentations FY18:


Papatla K, Halpern MT, Hernandez E, Brown JL, Benrubli ID, Houck K, Chu C, Rubin SC. Patients with history of cervical cancer are at increased risk of developing primary anal or oropharyngeal cancer (abst.) Gynecol Oncol 2018;149:209.


Residency Program at a Glance

We continue with ACGME Full Accreditation for our 20 categorical and 1 preliminary position. We continue to work hard to not only educate and train future obstetricians and gynecologists but we also strive to find the perfect life-work balance which is evident by the trends of our annual ACGME survey. Our program continues to exceed the national mean in all key categories.

Future Plans

In the Next Accreditation System, we are evaluating residents using Milestones and the appointed Clinical Competency Committee meets twice yearly to review the performance of each resident. We have also appointed faculty and residents to participate in a Program Evaluation Committee. This committee continues to plan, develop, implement, and evaluate educational activities of our residency program to promote continued improvement and innovation in the department. Additionally, we have created the Residency Research Committee where faculty, residents and statisticians meet monthly to review and discuss upcoming and ongoing projects.

We were approved by the Review Committee for a three-year gynecologic oncology fellowship that began in 2016. This is a 3-year fellowship program with clinical time spent at both Fox Chase and Temple Hospital. In the 2017-2018 academic year, the Temple OB/GYN residents began to rotate at Fox Chase Cancer Center during their third year of residency where they gained invaluable operative experience as well as increasing their minimally invasive case numbers.

One of our top priorities this year continues to be resident well-being within our department. The third annual resident retreat is scheduled for September 2018. During this retreat the residents will focus on team building, conflict resolution as well as mindfulness to enhance their overall educational experience both clinically and professionally. We continue to support and promote the ACOG annual wellness week with daily activities to promote intellectual and emotional health which has evolved into an annual curriculum.
### Graduating Residents and Fellow June 2018

<table>
<thead>
<tr>
<th>Name</th>
<th>Position</th>
<th>Institution</th>
<th>City, State</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patricia Eliasinski, MD</td>
<td>Private Practice</td>
<td>Chestnut Hill Hospital</td>
<td>Chestnut Hill, PA</td>
</tr>
<tr>
<td>Lauren Goetsch, MD</td>
<td>Private Practice</td>
<td>Brunswick Hill OB/GYN at Axia Women’s Health Care Center</td>
<td>East Brunswick, NJ</td>
</tr>
<tr>
<td>Lauren Maramara, MD</td>
<td>OBGYN Attending</td>
<td>Icahn School of Medicine</td>
<td>New York, NY</td>
</tr>
<tr>
<td>Sarah Martin, MD</td>
<td>Private Practice</td>
<td>East Norriton Women’s Healthcare</td>
<td>East Norriton, PA</td>
</tr>
<tr>
<td>Kathryn Sanserino, MD</td>
<td>OBGYN Attending</td>
<td>LKSOM at Temple University</td>
<td>Philadelphia, PA</td>
</tr>
<tr>
<td>Jennifer Brown, MD</td>
<td>Assistant Professor</td>
<td>Division of Gynecologic Oncology</td>
<td>University of Texas Tech in El Paso El Paso, TX</td>
</tr>
</tbody>
</table>

### Chief Residents with Dr. Hernandez 2017-18 at the 57th Forman Ob/Gyn Symposium (left to right: front row – Drs. Hernandez, Goetsch, and Martin, back row -Drs. Sanserino, Eliasinski and Maramara)
Incoming Interns June 2018

<table>
<thead>
<tr>
<th>Tiffany Gee, MD</th>
<th>Sravanthi Gutta, MD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Drexel University</td>
<td>Wayne State University</td>
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<tr>
<td>Alexandra Lebental, MD</td>
<td>Angela Liu, MD</td>
</tr>
<tr>
<td>Tulane University</td>
<td>LKSOM at Temple University</td>
</tr>
<tr>
<td>Richa Pursnani, MD</td>
<td>Gabriela Ross, MD</td>
</tr>
<tr>
<td>LKSOM at Temple University</td>
<td>LKSOM at Temple University</td>
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</table>

V. GRAND ROUNDS

GRAND ROUNDS PROGRAM
Marisa Rose, MD, Grand Rounds Director
Continuing Medical Education (CME) Program 2017-2018

Expectations of the Gyn Service & Ectopic Pregnancy
Wed, July 5, 2017, 7:30am – 8:30am
Dr. Juan Diaz

FRATS/Evaluations
Wed, July 5, 2017, 8:30am – 9:30am
Dr. Marisa Rose

Expectations of the Triage Service
Wed, July 12, 2017, 7:30am – 8:30am
Dr. Amanda Horton

Journal club
Wed, July 12, 2017, 8:30am – 9:30am
Dr. Sarah Ackroyd, PGY2

Case Presentations
Wed, July 19, 2017, 7:30am – 8:30am
Drs. Eliasinski, Goetsch, Maramara, Martin, Sanserino (PGY4)
SIM Expectations
Wed, July 19, 2017, 8:30am – 9:30am
Dr. Arleen Ayala

Prep for HIV Prevention
Wed, July 26, 2017, 7:30am – 8:30am
Dr. Gina Simoncini & David Koren, PharmD

SMFM Video (PGY 3&4 and faculty)
Wed, July 26, 2017, 8:30am – 9:30am

SIM Center (PGY 1&2)
Dr. Arleen Ayala

The State of the Mammogram 2017
Wed, August 2, 2017, 7:30am – 8:30am
Dr. Kathleen Reilly

FRATS/Consensus Evaluation
Wed, August 2, 2017, 8:30am – 9:30am
Dr. Marisa Rose

Pregnancy and the Woman Living with HIV-2017
Wed, August 9, 2017, 7:30am – 8:30am
Dr. Ellen Tedaldi

M&M
Wed, August 9, 2017, 8:30am – 9:30am
Dr. Nishanth Sidduri PGY3

Informed Consent in Pennsylvania: Aftermath of Shinal vs Toms
Wed, August 16, 2017, 7:30am – 8:30am
Paul Wright, Esquire-TUHS Senior Counsel

Journal Club
Wed, August 16, 2017, 8:30am – 9:30am
Dr. Holly Boyle PGY2

Case Presentations
Wed, August 23, 2017, 7:30am – 8:30am
Drs. Eliasinski, Goetsch, Maramara, Martin, Sanserino (PGY4)

Expectation of the MFM Service/Outpatient Clinic
Wed, August 23, 2017, 8:30am – 9:30am
Dr. Laura Goetzl/Dr. Bethany Goins
**Group SIM - PGY-1: LEEP, PGY2-4: Preeclampsia**
Wed, August 30, 2017, 7:30am – 10:30am
Dr. Arleen Ayala

**Resident Research Update**
Wed, September 6, 2017, 7:30am – 8:30am
PGY4s (Elisinski, Goetsch, Maramara, Martin, Sanserino) & PGY3s (Datwani, Kean, Pantoja, Sidduri, Xu)

**Journal Club**
Wed, September 6, 2017 8:30am – 9:30am
Dr. Leah Roberts PGY2

**Postpartum Hemorrhage**
Wed, September 13, 2017, 7:30am – 8:30am
Dr. Bethany Goins

**M&M-Ectopic Pregnancy**
Wed, September 13, 2017, 8:30am – 9:30am
Dr. Rachel Pantoja PGY3

**Pelvic Anatomy**
Wed, September 20, 2017, 7:30am – 8:30am
Dr. Carol Glowacki

**FRATS/Consensus Evaluations**
Wed, September 20, 2017, 8:30am – 8:30am
Dr. Marisa Rose

**Patient Safety Symposium "What patients say; what doctor's hear" (Erny Auditorium)**
Wed, September 27, 2017, 7:00am – 8:00am
Dr. Danielle Ofri, MD

**Case Presentations**
Wed, September 27, 2017, 8:00am – 9:00am
Drs. Eliasinski, Goetsch, Maramara, Martin, Sanserino PGY4s

**Menopause: Caring for Post Reproductive Age Women 10 years After the WHI**
Wed, October 4, 2017, 7:30am – 8:30am
Dr. Owen Montgomery

**Resident Research Updates**
Wed, October 4, 2017, 8:30am – 9:30am
Drs. Aioub, Bascom, Clyatt, Mutter, Sapertein, Singer (PGY1s) Drs. Ackroyd, Boyle, Jagannathan, Papatla, Roberts (PGY2s)

**SIM Day – Shoulder Dystocia**  
Wed, October 11, 2017, 7:30am – 8:30am

**M&M – Postpartum Preeclampsia**  
Wed, October 18, 2017, 7:30am – 8:30am  
Dr. Kristen Kean PGY3

**MAGOS Presentations**  
Wed, October 18, 2017, 8:30am – 9:30am  
Drs. Sarah Ackroyd & Katyayani Papatla PGY2

**Maternal Sepsis/Surviving Sepsis Campaign**  
Wed, October 25, 2017, 7:30am – 8:30am  
Dr. Thomas Westover

**FRATS/Consensus Evaluations**  
Wed, October 25, 2017, 8:30am – 9:30am  
Dr. Marisa Rose

**Germ Cell Tumors of the Ovary**  
Wed, November 1, 2017, 7:30am – 8:30am  
Dr. Enrique Hernandez  
*Interview Day*

**Adnexal Masses for the Generalist**  
Wed, November 8, 2017, 7:30am – 8:30am  
Dr. Shaliz Dolan  
*Interview Day*

**Q&A: What’s new in “MFM”?**  
Wed, November 15, 2017, 7:30am – 8:30am  
Dr. Laura Hart

**SIM – FLS for PGY2 and B-Lynch for PGY4**  
Wed, November 15, 2017, 8:30am – 9:30am  
Dr. Arleen Ayala

**Genetic Testing on Products of Conception (and more)**  
Wed, November 22, 2017, 7:30am – 8:30am  
Amy Coleman, MS, LCGC, Genetic Counselor

**Q&A ONCO: Expanding on ACOG Obstetrics Prolog**
Wed, November 22, 2017, 8:30am – 9:30am  
Dr. Karen Houck

**Baby Friendly Hospital Certification: Here We Go!**  
Wed, November 30, 2015, 7:30am – 8:30am  
Dr. Gail Herrine  
*Interview Day*

**Sexual Dysfunction in Women**  
Wed, December 6, 2017, 7:30am – 8:30am  
Dr. Amanda Horton  
*Interview Day*

**Use of a heat shock protein 90 inhibitor to increase the efficacy of a poly-ADP ribose polymerase inhibitor in the treatment of ovarian carcinoma**  
Wed, December 13, 2017, 8:00am – 9:00am  
Dr. Daniel Benrubi

**Isador Forman Lecture – “Update on the Management of Fistulae”**  
**Guest Speaker: Dr. Rebecca Rogers**  
Wed, December 13, 2017, 11:30am – 12:30am

**University Holiday – Cancelled**  
Wed, December 20, 2017

**University Holiday - Cancelled**  
Wed, December 27, 2017

**Nerve Injury in Pelvic Surgery**  
Wed, January 10, 2018 7:30am – 8:30am  
Dr. Carol Glowacki  
*Interview Day*

**CREOG Review – Current Evaluation of Amenorrhea**  
Wed, January 17, 2018 7:30am – 8:30am  
Dr. Arthur Castelbaum

**Pelvic Floor Dysfunction**  
Wed, January 24, 2018 7:30am – 8:30am  
Hina Sheth, MS, PT, OSC, MTC

**FRATS/Consensus Evaluation**  
Wed, January 24, 2018 8:30am – 9:30am  
Drs. Sarah Martin & Kathryne Sanserino PGY4
SIM – Breech (group A); Shoulder Dystocia (group B)
Wed, February 7, 2018 7:30am – 8:30am
Dr. Arleen Ayala

Babyland - A Shared Drive for Shared Responsibilities
Wed, February 14, 2018 7:30am – 8:30am
Ronnell Laroda & Connie Williams (Unit Clerk Registrars)

Journal Club
Wed, February 14, 2018 8:30am – 9:30am
Dr. Leah Roberts PGY2

Uterine Fibroids
Wed, February 21, 2018 7:30am – 8:30am
Dr. Arleen Ayala

Case Presentations (PGY4)
Wed, February 21, 2018 8:30am – 9:30am
Drs. Eliasinski, Goetsch, Maramara, Martin, Sanserino

M&M - GYN
Wed, February 28, 2018 7:30am – 8:30am
Dr. Hema Datwani PGY3

Bright Pink - Breast and Ovarian Cancer Prevention: Risk Stratification & Management in Young Women
Wed, February 28, 2018 8:30am – 9:30am
Dr. Deborah Linder (video)

Practice Management Curriculum – Part 1
Wed, March 14, 2018 7:30am – 8:30am
Teodora Catana, Billing Manager/OBGYN

SIM – Lacerations (PGY 1, 3, 4)
Wed, March 14, 2018 8:30am – 9:30am
Dr. Arleen Ayala

Neuraxial Anesthesia, and the Art of Fluid Resuscitation
Wed, March 28, 2018 7:30am – 8:30am
Dr. Diana Feinstein

Case Presentations
Wed, March 28, 2018 8:30am – 9:30am
Drs. Eliasinski, Goetsch, Maramara, Martin, Sanserino (PGY4)

**Colposcopy…it’s not just “ACETOWHITE EPITHELium”!**
Wed, April 4, 2018 7:30am – 8:30am
Dr. Karen Houck

**Journal Club**
Wed, April 4, 2018 8:30am – 9:30am
Dr. Samantha Jagannathan PGY2

**How about Nitrous Oxide for Labor Analgesia**
Wed, April 11, 2018 7:30am – 8:30am
Dr. Laura Goetzl

**Practice Management – Part 2**
Wed, April 11, 2018 8:30am – 9:30am
Teodora Catana, Billing Manager

**Prematurity & Development of the Artificial Womb (Erny auditorium)**
Wed, April 18, 2018 8:00am – 9:00am
Dr. Alan W. Flake

**FRATS**
Wed, April 18, 2018 9:00am – 10:00am
Dr. Maris Rose

**SIM (PGY4 & group C)**
Wed, April 25, 2018, 7:30am – 8:30am
Dr. Arleen Ayala

**Fundamentals of Laparoscopic Surgery: Dept of Surgery to help shape new OB/Gyn Training Program**
Wed, May 2, 2018 7:30am – 8:30am
Dr. Tatyan Clarke

**M&M OB: Drug Exposure in Pregnancy**
Wed, May 2, 2018 8:30am – 9:30am
Dr. Jenny Xu PGY3

**SIM: Breech Delivery (B) Shoulder Dystocia(C)**
Wed, May 9, 2018 7:30am – 8:30am
Dr. Arleen Ayala (moderator)
Annual Billing Compliance Training
Wed, May 16, 2018 7:30am – 8:30am
Lyn Chew (TUP Administration)

Radiation Safety
Wed, May 16, 2018 8:30am – 9:30am
Dr. Kurt Bodison

QA/QI: Healthcare for LBGTQ-Ob/Gyn department needs assessment & Patient understanding of pregnancy of unknown location
Wed, May 23, 2018 7:30am – 8:30am
Drs. Lauren Goetsch and Kate Sanserino

Journal Club:
Wed, May 23, 2018 8:30am – 9:30am
Dr. Holly Boyle, PGY2

Surgery M&M (Erny Auditorium)
Wed, May 30, 2018 7:00am – 8:00am

QA/QI: Postpartum vaccination with EPIC
Wed, May 30, 2018 8:00am – 9:00am
Dr. Lauren Maramara

QA/QI : Evaluation the rates of non-visualized IUD strings following immediate post-partum placement, Barriers to performing post-partum Bilateral Tubal Ligations
Wed, June 6, 2018 7:30am – 8:30am
Drs. Sarah Martin & Patricia Eliasinski

GYN M&M
Wed, June 6, 2018 8:30am – 9:30am
Dr. Kristin Kean

Thank You for Teaching Breakfast
Wed, June 13, 2018 7:30am – 9:30am

Residency Program Review
Wed, June 13, 2018 7:30am – 8:00am
Dr. Stacey Jeronis

Liver Diseases Unique to Pregnancy (hyperemesis, intrahepatic cholestasis of pregnancy, HELLP, acute fatty liver)
Wed, June 20, 2018 7:30am – 8:30am
Dr. Steven Herrine (Jefferson University)

**FRATS**  
Wed, June 20, 2018 8:30am – 9:30am  
Dr. Marisa Rose

**Diseases of the Vulva**  
Wed, June 27, 2017 7:30am – 8:30am  
Dr. Enrique Hernandez

**Narrative Medicine**  
Wed, June 27, 2018 8:30am – 9:30am  
Michael Vitez, Director of Narrative Medicine

The Forman family is flanked by Dr. Hernandez (far right) and Dr. Rebecca Rogers (far left) who was the 57th Forman Lecturer. Dr. Rogers is Professor of Obstetrics and Gynecology and Associate Chair for Clinical Integration and Operations at the University of Texas, Austin, Dell Medical School.
VI. CLINICAL PROGRAMS

A. DIVISIONS REPORT

1. Gynecologic Oncology

The Division of Gynecologic Oncology at Temple University Hospital counts with two board-certified gynecologic oncologists: Karen L. Houck, MD, FACOG and Enrique Hernandez, MD, FACOG, FACS. The Division counts with two oncology nurses and two part-time medical assistants. In addition to the gynecologic oncologists, an Ob/Gyn colposcopist staffs the Division’s colposcopy clinic. The mission of the Division is to provide comprehensive care to women with malignant and premalignant gynecologic conditions within the Temple Health Care System in partnership with our colleagues at the Fox Chase Cancer Center. At the Fox Chase Cancer Center American Oncologic Hospital site there are five board-certified gynecologic oncologists (Drs. Stephen Rubin, Christina Chu, Cynthia Bergman, Stephanie King and Gina Mantia-Smaldone), who are on the faculty of the Lewis Katz School of Medicine. The gynecologic oncologists perform surgery ranging from minimally invasive (including robotic-assisted) to radical surgery (including intestinal and urological). Difficult or high-risk surgery for benign gynecologic pathology is also performed, as well as laser surgery of the lower genital tract.

Clinical

At Temple University Hospital the Division utilizes two days (Tuesdays and Thursdays) in the operating room for open surgery and 1-2 days (Mondays and Fridays) for robotic-assisted surgery. In 2010 we launched our gynecologic oncology robotic-assisted surgery program. In 2012 Temple University Hospital acquired three state-of-the-art, double console Da Vinci SI robots. Two state-of-the-art operating rooms for robotic surgery were built and became fully operational in April 2013. In 2014 Temple University Hospital was the first in the region to acquire the newest Da Vinci Xi robotic surgery system. In FY18 we performed 58 robotic-assisted surgical procedures at Temple University Hospital and 26 at Chestnut Hill Hospital. The Division of Gynecologic Oncology provides outpatient and inpatient chemotherapy for women with gynecologic cancers. Approximately 500 chemotherapy treatment cycles were administered to women with gynecologic cancer at the Fox Chase Cancer Center at Temple University Hospital in FY18. The Division of Gynecologic Oncology cooperates with the radiation oncologists in providing radiation therapy to women with gynecologic malignancies. On any given week there are approximately 6 to 12 women receiving radiation therapy for gynecologic malignancies. We perform the placement of the hardware for gynecologic high-dose rate brachytherapy in conjunction with the radiation oncologists. We perform difficult intrauterine implants under ultrasound guidance. Approximately 20 Smit sleeves as a conduit for high-dose rate brachytherapy were placed in FY18.
The Division has separate Colposcopy and Tumor Clinics. The Colposcopy Clinic meets on Monday afternoon on the 5th floor of the hospital Zone B. Over one dozen patients are seen at each clinic session. The clinic is staffed by the gynecologic oncologists and by an obstetrician/gynecologist experienced in colposcopy. A weekly multidisciplinary conference reviews colposcopy clinic cases. We also have an every other Friday morning session where the senior resident on the oncology service discusses with the patients the Pap smear diagnosis, biopsy results, and treatment plans as established by the Division faculty. Cryocautery continues to be used in the clinic to treat cervical dysplasia when appropriate. However, the residents are exposed to all the modern diagnostic and treatment modalities to include laser, LEEP, and conization. The Tumor Clinic meets on Friday afternoon at the Temple Cancer Center (4th floor Ambulatory Care Center). This provides the patients who are undergoing cancer therapy with on-site laboratory, pharmacy, social work support, a nutritionist and infusion capabilities.

The gynecologic oncologists also see patients in Zone B of Temple University Hospital, one-half day session a week. Even though the bulk of the clinical efforts of the Division are at Temple University Hospital, consultation services are also provided at Holy Redeemer Hospital and at Chestnut Hill Hospital. The Division is able to provide excellent care to over 70 patients each week at the above mentioned sites. Two hundred and thirty-seven surgical procedures were performed at Temple University Hospital by the gynecologic oncologists in FY18. Of these, 122 were major surgical procedures for gynecologic cancer or suspected gynecologic malignancy. Additional procedures were performed at Chestnut Hill and Holy Redeemer hospitals.

Education

As of the spring of 2017 third-year medical students can elect to spend two weeks on the Gynecologic Oncology Service at Temple University Hospital or at the Fox Chase Cancer Center. At Temple University Hospital teaching/work rounds by the attending staff with the residents and the students are consistently done every day. The students are assigned patients to follow. They present and discuss their patients on rounds. The Division's faculty gives at least two formal lectures to the third-year medical students during each block. The Division Faculty gives at least one grand rounds lecture per quarter. The Division continues to have a weekly multidisciplinary gynecologic tumor board. All active cases are presented and discussed including patients receiving chemotherapy and/or radiation therapy. This is a teaching/working conference with participation of residents and students. On the first Thursday of every month the Division holds a joint Tumor Board conference with our colleagues at Temple’s Fox Chase Cancer Center campus.

Our residents participate not only in the surgical management of women with gynecologic malignancies, but also are involved in the administration of chemotherapy, the placement of hardware for brachytherapy and the surgical and medical management of complications due to the malignancy or its therapy. The residents are assigned two textbook chapters to read each week and a quiz and discussion is held every Friday.
Fourth- and third-year Ob/Gyn residents spent a 5-week block at the Fox Chase campus where they enhance their educational experience by providing more surgical cases and exposure to the care of hospitalized patients with complex medical situations. In FY18 671 operations were performed by the gynecologic oncologists at the Fox Chase Cancer Center. Of these 361 were major surgical procedures to include 116 abdominal hysterectomies, 156 laparoscopic assisted vaginal hysterectomies and 61 robotic-assisted total laparoscopic hysterectomies.

In FY15 the American Board of Obstetrics and Gynecology approved our application to establish a 3-year gynecologic oncology fellowship at Temple. In FY17 we successfully transitioned our fellowship to accreditation by the American Council on Graduate Medical Education (ACGME). The fellowship program takes advantage of the resources and strengths of Temple University Hospital and Fox Chase Cancer Center. The fellows (one per year) spend one year doing research and two years on the clinical services. Dr. Christina Chu, who is based at Fox Chase campus, is the director of the fellowship program. Dr. Karen Houck, who is based at Temple University Hospital is the associate director. Danielle Govan who is the Department of Obstetrics and Gynecology Graduate Medical Education coordinator assists the gynecologic oncology fellowship program director and the fellows. In addition to the seven board-certified gynecologic oncologists on our faculty, the fellowship program is fortunate to have faculty from the departments of pathology, radiation oncology, medical oncology, medical genetics, radiology, surgery, biostatistics and epidemiology. In addition, the fellows have access to research mentors who are members of the Fox Chase Cancer Center research enterprise or from Temple’s Fels Institute for Cancer Research and Molecular Biology. The fellows also have access to the vast academic and research resources of Temple University.

Research

We continue to actively participate in NIH-funded (GOG/NRG) cooperative clinical trials, industry-sponsored and investigator initiated clinical trials

GOG 237: Evaluation of Pap smears with atypical glandular cells

GOG 264: Carboplatin/paclitaxel vs. bleomycin, etoposide, cisplatin for ovarian stromal tumors

GOG 279: Cisplatin/Gemcitabine and radiation for locally advanced vulvar cancer

GOG 3015: A phase III, multicenter, randomized study of atezolizumab versus placebo administered in combination with paclitaxel, carboplatin, and bevacizumab to patients with newly-diagnosed stage III or IV ovarian, fallopian tube, or primary peritoneal cancer.

OVARIAN CANCER

Front line
A Randomized, Open-Label, Multicenter, Phase 3 Study to Evaluate the Efficacy and Safety of Avelumab (MSB0010718C) in Combination with and/or Following Chemotherapy in Patients with Previously Untreated Epithelial Ovarian Cancer. (Open at FCCC)

**Platinum Resistant Disease**
A Phase 1b Study to Evaluate the Safety, Tolerability and Pharmacokinetics of Mirvetuximab Soravtansine (IMGN853) in Combination with Bevacizumab, Carboplatin or Pegylated Liposomal Doxorubicin in Adults with Folate Receptor Alpha Positive Advanced Epithelial Ovarian Cancer, Primary Peritoneal Cancer, Fallopian Tube Cancer, or Endometrial Cancer. [This trial is currently open only to patients with ovarian cancer and is enrolling into the expansion cohorts for bevacizumab and pembrolizumab. Requires tissue screening to determine eligibility]. (Open at FCCC)

A Phase 1/2, Open-Label Safety and Efficacy Evaluation of CRS-207 in Combination with Epacadostat in Adults with Platinum-resistant Ovarian, Fallopian, or Peritoneal Cancer. [Currently in the Phase II portion of the study]. (Open at FCCC)

**Platinum Sensitive Disease**
Phase I Study of Carboplatin, Pegylated Liposomal Doxorubicin (PLD) and Everolimus in Patients with Platinum-Sensitive Epithelial Ovarian, Fallopian Tube or Primary Peritoneal Cancer in First Relapse. (Open at FCCC)

**Recurrence Independent of Platinum Status**
Phase 1/2a Study of BMS-986178 Administered Alone and in Combination with Nivolumab and/or Ipilimumab in Subjects With Advanced Solid Tumors. (Open at FCCC)

**Biomarker studies**
A Blinded Prospective Study of the Performance of HE4 to Predict Recurrence in Patients with Advanced Ovarian Cancer, Peritoneal Carcinoma and Tubal Carcinoma

A Multicenter Prospective Study Of CA125 and HE4 Serum Biomarkers for Monitoring the Response to First-Line Therapy in Women With Primary Epithelial Ovarian, Fallopian Tube or Primary Peritoneal Cancers Excluding Ovarian Tumors of Low Malignant Potential

**ENDOMETRIAL CANCER**

**Recurrent**
A Phase 2 Study of Single Agent ONC201 in Recurrent or Metastatic Endometrial Cancer (Open at FCCC and TUH)
A Phase 2, Randomized Study of MLN0128 (a Dual TORC1/2 Inhibitor),
MLN0128+MLN1117 (a PI3Ka Inhibitor), Weekly Paclitaxel, or the Combination of
Weekly Paclitaxel and MLN0128 in Women with Advanced, Recurrent, or Persistent
Endometrial Cancer (Open at FCCC)

A Phase 1 Dose Escalation and Cohort Expansion Study of TSR-042, an anti-PD-1
Monoclonal Antibody, in Patients with Advanced Solid Tumors. [Currently enrolling
patients with MSI-H endometrial cancer, with at least 1(must have at least 1 platinum)
but no more than 2 prior lines of cytotoxic therapy. Hormonal therapy does not count
when judging prior lines]. (Open at FCCC)

CERVICAL CANCER

Front Line
Phase 3 Study of ADXS11-001 Administered Following Chemoradiation as Adjuvant
Treatment for High Risk Locally Advanced Cervical Cancer: AIM2CERV (Advaxis
IMmunotherapy 2 prevent CERVical recurrence) (Open at FCCC)

Recurrence
A Phase I Open Label Study of GSK3359609 Administered Alone and in Combination
with Anticancer Agents in Subjects with Selected Advanced Solid Tumors. [Allowing
cervical cancer in the currently enrolling escalation phase when slots available]. (Open
at FCCC)

RARE TUMORS

Molecular Analysis for Therapy Choice (MATCH). (FCCC)

A Phase II Basket Study of the Oral TRK Inhibitor LOXO-101 in Subjects with NTRK
Fusion-Positive Tumors. (FCCC)

A Phase 2, Open-label Study of Pembrolizumab Monotherapy in Patients with
Metastatic High Grade Neuroendocrine Tumors (FCCC)

The following articles were published in full or abstract form in FY18 by members of
the Division faculty:

E. Predictors of adherence to follow-up recommendations after an abnormal Pap smear

Jordan SC, Micaily, I, Hernandez E, Ferriss JS, Miyamoto CT, Li S, Micaily B. Image-
guided high-dose rate intracavitary brachytherapy in the treatment of medically
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**Future Plans**

- Strengthen our robotically-assisted surgery training program for our residents and fellows
- Recruit top candidates for the fellowship program
- Maintain or increase the number of clinical trials available at both sites.

2. **Maternal-Fetal Medicine**

The 2017-18 academic year saw stability in the MFM division with no major changes in personnel. The Division was headed by Laura Goetzl, Division Director with two core faculty members, Drs. Laura Hart and Wadia Mulla (Total division FTEs 2.8). The Division joined the Perinatal Research Consortium; a research group led by Columbia University and comprised of more than 10 clinical research centers (Goetzl, site PI and Dr. Mulla, site co-PI). Dr. Hart is the Medical Director for the Temple Wedge Pennsylvania Opioid Center of Excellence that provides clinical care for Opioid dependence. The MFM team also included three clinical nurse coordinators (two in the high-risk outpatient offices and the other in the Prenatal Diagnosis Center) and two part time medical assistants. Five sonographers performed ultrasound examinations under the supervision of our ultrasound manager, Jessica Montanez with Dr. Mulla as the medical director. The MFM service includes a PGY-3 and PGY-1 resident. The division will continue to fulfill its mission of providing prenatal care to women with high-risk pregnancies and to oversee the prenatal and obstetrical care of all patients at Temple University Hospital.

**Clinical Activities**

The Maternal Fetal Medicine division provides high-risk obstetrical services in outpatient and inpatient settings. The Maternal Fetal Medicine specialists staff a twice weekly high-risk pregnancy clinic. The combination of broad and deep knowledge in the field of maternal fetal medicine and the available advanced technology enables the team to provide the most up-to-date medical management. The perinatologists provide inpatient and out-patient consultation at Temple University Hospital. Through a very active transfer service, high-risk pregnancies that cannot be managed in other facilities are transported to Temple University Hospital under the care of the MFM service. Pregnant patients with various medical, surgical and obstetrical complications including diabetes, hypertensive disorders, cardiac disease, pulmonary pathology, poor obstetrical
history, history of pregnancy losses, multifetal pregnancies, surgical problems, and cancer are taken care of at Temple University Hospital by the MFM team.

General Obstetrics activities in fiscal year 2017-18 included:

- Our Triage area continued to be very busy and accommodated over 7200 visits.
- Advanced practice nurses (three nurse practitioners and 1 certified nurse midwife) continue to staff the triage area along with a PGY 1 resident under the supervision of the attending physician.
- A nurse midwife, Vivian Lowenstein, assisted with post-partum patients and in monitoring and delivering patients when residents are on their protected didactic time.
- Dedicated labor and delivery anesthesia team continues to serve with 24-hour coverage/7 days a week, with the majority of laboring patients receiving adequate pain control with epidural anesthesia if desired.
- We achieved Baby-Friendly Hospital Certification status through the collaboration of Dr. Gail Herrine, the medical director of our post-partum unit and medical director of Lactation, who is also a board-certified lactation consultant, and OB nursing leadership under the new guidance of Georgina Hurley. We have continued to focus on promoting immediate skin to skin on labor and delivery and couplet care. Success will be tracked through improvement in our mPINC score. Data for the mPINC score was collected for 2018.
- We continue to support the Safe T program which provides a box for all of our babies to sleep in after discharge. This program was modeled after a Finnish program to decrease infant morbidity and mortality. Use of the “Baby Box” has received considerable media attention and should support both a reduction in SIDS rates and improved breastfeeding adherence.
- Perinatal Core Measure PC-05-exclusive breast milk feeding is encouraging at 19%. This measure is submitted to BFUSA.
- Last year the Maternal Infant Unit was highlighted in the Hospital fundraising Gala. $400,000 was raised to help support programs such as donor milk for the NICU, lactation pods for visitors, patients and employees to breastfeed or express breast milk. These funds continue to support programs related to women’s and child health.
- We continue to have a vibrant cord blood donation program that is one of the most successful in the state. This critical service provides potential stem cell transplants, especially for minority populations for whom available matches are currently more limited
- We continue to offer prenatal Yoga classes and childbirth classes which have been well received.
- Quality initiatives that have been ongoing include: Monitoring of blood cell utilization, cesarean delivery rates, and wait times. The Obstetric department continues to be very active in quality projects and initiatives.
- Established post discharge telephone calls to guarantee that all our patients have a post-partum appointment
- Dr. Ayala-Crespo is directing the Obstetric simulation program – focusing on emergency obstetric situations with high medicolegal liability risk including shoulder dystocia, breech delivery and obstetric hemorrhage.
• We have developed a successful program to provide immediate postpartum long acting contraception (LARC) with 1339 postpartum LARCs placed (527 Nexplanon and 812 IUDs).
• We continued twice daily multidisciplinary round on the labor floor which include nursing, obstetric attending, residents, anesthesiologists, neonatologists and pediatricians.
• Kimberly Hanson took the helm as the new Nurse Manager of Labor and Delivery and Georgina Hurley, RN was appointed as Director of Nursing for Women’s Services.
• We instituted the use of Nitrous Oxide for labor pain control
• PC core measures have been appropriate to national comparative data:
  30-day all cause postpartum readmission rate remains low at 1.06%
  Rates of elective induction <39 weeks was 0%
  Steroid administration at <34 weeks was 100%.
  Obstetrical infection rate (post-partum endometritis) remains low at 0.3%
  Breast milk feeding exclusivity has been encouraging at 19.3%

**MFM Activities**

1. **Temple Prenatal Diagnosis Center**
   Temple University Hospital has a long-standing Prenatal Diagnosis Center that provides comprehensive prenatal diagnosis, and treatment for high-risk pregnancies. The Prenatal Diagnosis Center operates 5 days a week and is staffed by attending perinatologists. It is supplemented by a full-time perinatal nurse, ultrasonography technicians and support staff. The Prenatal Diagnosis Center provides comprehensive maternal fetal medicine and genetic consultations for high-risk pregnancies within the Temple University Health System and from a number of other referring clinics. We have three state of the art ultrasound machines that were replaced in 2014. These machines are fully capable of providing 3-D imaging as needed.

   This year with the assistance of the hospital; we upgraded our ultrasound software. In addition, we received state approval to add a 4th ultrasound examination room which has expanded our ultrasound volume and is used for procedures such as chorionic villus sampling (CVS).

   During 2017-18, we performed a total of 14892 ultrasound procedures in the Fetal Center at TUH (2204 anatomy ultrasound examinations, 1226 first trimester nuchal translucency, 2429 transvaginal ultrasounds, 105 fetal echocardiogram, and an additional 7208 otherwise classified as depicted on Chart 1).

   The Prenatal Diagnosis Center also provides comprehensive antenatal testing and consultative services around timing of delivery in complicated pregnancies. A total of
3079 antenatal tests (biophysical profile/non-stress test) were provided over the last year. Eight hundred and seventy two umbilical artery Doppler studies were performed to aid in the management of intrauterine growth restriction. Also 92 middle cerebral artery Doppler flow studies were performed to assist in the diagnosis of fetal anemia and twin-twin transfusion syndrome.

2. **Perinatal Genetics**
Perinatal genetics is an integral part of the Maternal Fetal Medicine division, and is imbedded in our prenatal diagnosis unit. All services are provided by board-certified genetic counselors: Ms. Janet Ober Berman, MS, LCGC and Amy Coleman, MS, LCGC. The program provides and disseminates genetic information, coordinates screening for genetic disorders of the mother and fetus and provides genetic counseling to the obstetric and pre-conception patients as needed. The most frequent genetic problems encountered include advanced maternal age, abnormal maternal serum screening, history of genetic syndromes and abnormal ultrasound findings. Three thousand one hundred and fifty seven patients received genetic screening or counseling through Temple University Hospital’s services in 2017-18. Charts 2 and 3 illustrate our genetic services.

The perinatal genetics and fetal treatment program includes procedures such as amniocentesis, chorionic villus sampling, multifetal reduction and percutaneous umbilical blood sampling (PUBS). Less of these procedures are being performed nationwide due to the availability of non-invasive prenatal diagnosis. Twenty six amniocentesis and 10 chorionic villus sampling and 1 PUB were performed in FY18. Selective reduction and multifetal reduction is also available. In the fiscal year, we performed 1223 first trimester screens and 710 patients received non-invasive prenatal diagnosis (NIPT). Paternity testing is also available in collaboration with the DNA Diagnostic Laboratory.

Educational activities include training of medical students, OB/GYN residents and genetic counseling interns. Temple’s perinatal genetic program is a clinical training site for Arcadia University’s Masters of Genetic Counseling program.

3. **MFM Satellite Activities**
The MFM division continues to work with the satellite ultrasound sites at the Episcopal Hospital site and at Northeastern Ambulatory Care Center (Chart 4). In 2017-18 1284 obstetrical ultrasounds have been performed at those sites (711 at Episcopal and 573 Northeastern Ambulatory Care Center) and read by members of the MFM Division. These sites are available for first trimester ultrasound, first trimester screening in low-risk patients under the age of 35, low-risk anatomy ultrasound examinations in patients with a BMI <35, and growth evaluations. High-risk ultrasounds and antenatal testing continue to be performed exclusively at Temple University Hospital on Broad Street.

4. **Obstetric Service**
The Maternal Fetal Medicine division supervises the high-risk patients of the obstetrical service.
In the 2017-18 Fiscal Year:
- Total Deliveries 2501
- Our primary cesarean is stable at 13.9%
- Our overall cesarean rate has remained stable at 29.8%.

Chart 5 shows the annual number of deliveries at Temple University Hospital from FY2001 to present. Chart 6 shows the mode of delivery of infants delivered at Temple University Hospital in FY18. Charts 7 through 9 depict the number and types of visits of obstetrical patients seen at our two main sites (Residents Clinic at 5th floor Zone B and the Temple University Physicians practice at Temple University Hospital 7th floor Zone B. The total number of new obstetrical patients seen in FY18 at all our sites to include our community practices was 2172. Chart 10 compares the number of obstetrical visits in FY18 to FY17. Charts 11 and 12 demonstrate the origin of the obstetrical patients delivered at Temple University Hospital in 2016-17. Chart 12 also shows that the proportion of adolescent mothers delivered at TUH has dramatically decreased (it was 6.5% in FY18 compared to 7.6% in FY17, 10% in FY16 and 16.9% 10 years ago (FY06).

5. Obstetrics and MFM Education

a. Medical students- All third year medical students rotating through Temple University Hospital spend two weeks on the obstetrics service. They are exposed to the maternal fetal medicine service through rotations to the high-risk clinics and inpatient rounds. While on this rotation, they are expected to integrate themselves with the health care teams with assignments in the inpatient and outpatient care areas. The medical students are expected to follow patients, write comprehensive notes, and participate in procedures including deliveries. Their educational experience is through formal and informal didactics from MFM faculty and residents, morning rounds, chapter reviews, journal clubs, and grand rounds. Fourth year medical students can also choose to spend elective time in an MFM rotation. The fourth year MFM elective includes exposure to prenatal ultrasound examinations, high-risk patients with a variety of medical or obstetrical complications, procedures including deliveries, and didactics. The students upon the completion of their rotation are expected to be familiar with the most common high-risk conditions such as preterm labor, premature rupture of membranes, hypertensive disorders of pregnancy, basic prenatal diagnosis, and principles of management.

b. Resident education-The residents are required to rotate through the Maternal Fetal Medicine service. A PGY 3 and PGY1 resident are assigned to Maternal Fetal Medicine and are responsible for admitting, follow-up, and management of high-risk inpatients under the direction of the MFM specialist covering the service. The residents also see patients in the MFM clinics on Tuesdays and Thursdays. Mondays and Fridays, the residents undergo ultrasound training at the fetal center. The PGY 4 and PGY3 also observes and/or participates in prenatal diagnosis and treatment procedures. We continue to provide a formal training program for transvaginal ultrasound with an online course and image verification required for certification. By the end of the rotation the PGY3 is expected also to be able to perform a basic anatomic evaluation and an accurate transvaginal ultrasound. The
PGY1 is expected to be able to measure fetal biometry, perform a biophysical profile and evaluate amniotic fluid. The Maternal Fetal Medicine faculty provides formal and informal lectures in the field of high-risk obstetrics and perinatology. Morbidity and mortality conferences are conducted bimonthly along with the neonatology services and subspecialist from St Christopher Hospital. Obstetric testing scores increased significantly this year for the Ob/Gyn residents.

6. Research Activities

Each Maternal Fetal Medicine attending has a particular area of research interest. The medical students and residents are encouraged to participate in the many clinical and basic science research activities in the division. The diverse field of interest is illustrated below:

**Dr. Laura Hart**

Dr. Hart is collaborating with Drexel University researchers studying the obstetrical outcomes of morbidly obese women and whether or not induction of labor at 40-week gestation will improve the outcome.

Dr. Hart is planning to do research with opioid dependent pregnant women who will participate in a state-funded treatment program.

**Dr. Laura Goetzl**

Dr. Goetzl served as the Division Director for Maternal Fetal Medicine, the Medical Director of Labor & Delivery and the Vice-Chair for Research and Academic Development in our Department. Dr. Goetzl had an active laboratory in the Shriner’s Research Institute (MERB6). Her lab was staffed with two associate scientists: Nune Sarkissian-Darbinian, and Nana Merabova. In addition, she had a full-time study coordinator for patient recruitment, Tamara Tatevosian. Dr. Goetzl is a standing member of the PN NIH study section as well as multiple ad-hoc study sections.

Translational Research:
- Placental transport mechanisms for psychoactive medications
- Fetal brain injury secondary to ethanol and psychoactive medications.
- Effects of in utero exposure to inflammation and obesity on neonatal outcomes
- Development of non-invasive biomarkers for fetal brain development

Clinical Research
- Epidural fever
- Normal Labor Mechanisms and Outcomes
- Obesity
Current Funding:

NIH/NICHD (Goetzl) 04/01/2012-03/31/2018 1.8 calendar
R01HD069238 $ 2,876,828

Gestational Age Variation in Human Placental Transport Mechanisms
Gates Foundation Grant to Develop Non-Invasive Markers of Fetal Brain Development $100,000. 2014-2016
Dr. Goetzl, Co-PI with Dr. Sharon Herring: Targeting pregnancy-related weight gain to reduce disparities in obesity: a randomized control trial. HRSA
Dr. Goetzl is co-PI on study with Vanderbilt University and the University of Pennsylvania that looks at fetal lung development.

Current Resident Mentees:

- Lauren Maramara – Obesity as a risk factor for failed induction

Dr. Wadia Mulla

Dr. Mulla is the Co-PI for the all the PRC studies. She is the Temple University site PI for the Medical Optimization of Management of Type 2 Diabetes Complicating Pregnancy (MOMPOD). She is the Co-PI for Chronic Hypertension and Pregnancy project (CHAP).

Her research interests are in obesity, gestational diabetes and glucose metabolism

Resident Mentees:
Shira Saperstein and Alexandra Lebental: obesity and diabetes in pregnancy
Hema Datwani’s senior thesis “Understanding barriers to postpartum referrals and receipt of bariatric surgery among obese women.”

7. Faculty Mentorship:

The Maternal Fetal Medicine faculty works with the junior faculty in the department to aid in their academic development. The physicians meet with faculty members yearly to review their CV, focus their goals, prepare their case lists and aid them in making academic connections.

*The future of Maternal Fetal Medicine at Temple*

The goals of the Maternal Fetal Medicine Division for the next fiscal year are:

a. Continue participation in the perinatal research consortium and develop a robust research program
b. Continue to implement evidence-based obstetric and MFM practice protocols in the high- and low-risk obstetric clinics and on labor and delivery.
c. Continue to participate in systems analysis for patient safety goals for labor and delivery

d. Continue to increase the volume of obstetric ultrasounds at the Prenatal Diagnosis Center and increase patient satisfaction.

e. Continue our work as a center of excellence in the care of pregnant women with opioid use disorders

3. Gynecology & General Obstetrics

The Division of Gynecology and General Obstetrics is committed to promoting women’s health care using the latest and most advanced technology available. Part of our mission is to include our patients as an integral component of the decision making process.

Providers

Dr. Juan J. Diaz is the director of the Division. The other full time faculty physicians are: Drs. Arleen Ayala, Tanise Branche, Bruce Carnivale, Divya Chilapalli, Gloria Diaz, Shaliz Dolan, Michelle Duncan, Claire Faggons, Gail Herrine, Stacey Jeronis, Bruce Mabine, Anthony Milicia, Sarah Park, Marisa Rose, and Kathryne Sanserino.

Adjunct Faculty: Drs. Deslyn Mancini, Anthony Mackaronis, Said Saab, Shwetha Shrivatsa, Todd Stearns, Henry Su, and Clinton Turner.

We also count with two nurse midwives, Deborah Appleyard and Vivian Lowenstein, and a nurse practitioner, Theresa Smigo, who helps the faculty and residents with the heavy patient load of the Low-Risk Obstetrics Clinic, 7th Floor Zone B private practice, and in the 8th Floor Family Planning Clinic.

Clinical

The members of this Division see patients at multiple sites, which include: Family Planning Clinic (8th Floor, TUH Out-Patient Building), Episcopal Continuing Health Care Center, 7th Floor TUH Zone B Private Practice, 5th Floor TUH Zone B, Roxborough (Jamestown Medical Office Building), Temple Health at Elkins Park (Salus University Campus), Temple Health at Fort Washington, Northeastern Ambulatory Care Center, Temple Health at Bustleton, at Palmer Park and at Hunting Park.

In addition, we see patients referred to Temple for inpatient management from clinics located throughout the city such as Greater Philadelphia Health Action, Esperanza Health Center and Delaware Valley Community Health clinics.

The general gynecological inpatient service team is constituted by an attending physician (service attending), a PGY4, PGY3, PGY2, two interns, the rotating third year medical students, and a fourth year medical student. This team is responsible for managing gynecological emergency cases, performing elective surgery on patients from the family
planning clinic, and caring for these patients post operatively. This team also serves as a consultant for gynecological cases to other departments within our institution.

**Surgical Volume for the Benign Gynecology, Urogynecology, and Gynecologic Oncology Services**

The total surgical volume in 2016 were 1,508 cases, in 2017 were 1,605 cases, and in 2018 were 1,442 cases. The drop in surgical volume is the reflection of losing 3 of our busiest physicians. These physicians were replaced by a very talented group of surgeons who are slowly building their practices.

**Patient Satisfaction Scores for Benign Gynecology and Gynecologic Oncology Services from patients admitted to the 5 East Unit.**

Unfortunately, we did not receive enough patient satisfaction surveys this year.

**Patient Safety**

Patient safety is one of the key issues prioritized by the Institute of Medicine as critical for effective health care delivery. Creating a more robust safety program is essential as we build a busier surgical program with more surgeons with different levels of experience.
To keep track of our surgical outcomes we utilize the National Surgical Quality Improvement Program (NSQIP) database. The information is risk adjusted data, and it is collected from our hospital and other major teaching institutions throughout the country. It gives us the opportunity of comparing our outcomes against a large database. An analysis of the odds ratios for the different Patient Safety Quality Indicators show that our results are satisfactory.

**NSQIP patient Safety Quality Indicators. Targeted cases fiscal year 2017 for Benign Gynecology, Urogynecology, and Gynecologic Oncology Services**

NSQIP patient Safety Quality Indicators. Targeted cases 7/2016-6/2017

Total number of targeted cases: 171 cases

**GYN ROR = GYN Unplanned Return to OR**

Except for readmissions and cardiac events, all the safety indicators were within the expected rate for the NSQIP data. There was only one cardiac event for syncopal episode. After reviewing the reasons for readmissions, we learned that mostly all the cases had different admission diagnosis, and a trend was not observed.

*Education*

Medical students:
All third-year medical students assigned to Temple University Hospital spend two weeks in the general gynecological inpatient service. Teaching/work rounds are directed every day by an assigned attending physician. The students are assigned their own patients to follow. They present and discuss the patients during rounds.

Each third year medical student rotating through our department pairs up with an attending physician for one-half day a week providing the medical student with direct one to one instruction.

The core division’s faculty gives at least one formal lecture to the third-year medical students during each block. The medical students also participate during surgical procedures.

Residents:

We follow an educational curriculum for the residents which involves weekly faculty-led discussions of the most relevant topics in the field of General Gynecology.

During these discussions the residents learn the principles of preventive health, family planning, and the medical treatment of gynecologic conditions.

We also have a faculty-supervised pre-operative clinic, where the chief resident on the Gynecology Service evaluates and counsels patients before proceeding with surgical treatment. The residents act as a first- or second- assistant during gynecological procedure according to the complexity of the case. Every resident also participates in the daily teaching/work rounds.

**Action Plan FY 2019**

One of our goals is to continue to facilitate the pathway that we have created with the cancer center administration, hematology, PAT, and the project management office of referring anemic patients for iron infusions prior to benign gynecologic surgery. Our main goal is to help the staff minimize the patient’s wait time for an appointment with hematology. This should decrease even more the number of preventable peri-operative blood transfusions.

We are also exploring the possibility of performing some outpatient procedures in the office such as hysteroscopy, endometrial ablations, and polypectomies. Among the advantages of doing procedures in the office are reduced anesthesia, faster recovery, the comfort and privacy of doctor’s office, and quicker process.

**4. Female Pelvic Medicine and Reconstructive Surgery**

Carol Glowacki, MD, FACOG is the Director of the Female Pelvic Medicine and Reconstructive Surgery Service (also known as urogynecology). She joined the Temple
faculty in September, 2012. Dr. Glowacki specializes in problems of the female pelvic floor. These include bladder dysfunction (urinary frequency, urgency and incontinence), pelvic organ prolapse, fecal incontinence, pelvic pain, vulvar pain (vulvodynia or vulvar vestibulitis), painful bladder syndrome (interstitial cystitis), urinary tract infections, hematuria, genito-urinary fistulas, and sexual dysfunction. Following appropriate evaluation and testing, treatment options are discussed and implemented. Treatment options may include medications, physical therapy, pessaries (vaginal support devices) and surgery. Surgical options include outpatient, abdominal, vaginal, minimally invasive and robotic-assisted approaches, depending on the needs and preferences of the patient. The Section of Female Pelvic Medicine and Pelvic Reconstructive Surgery at Temple often emphasizes a minimally invasive, transvaginal surgical approach to female pelvic floor dysfunction, but also offers abdominal approaches. Robotic approaches are offered in conjunction with the department of Urology, via Dr. Daniel Eun, an excellent robotic surgeon. Additionally, sacral neuromodulation, which utilizes a technology similar to a pacemaker, is approved for treating patients with overactive bladder, urinary retention or fecal incontinence. Botox injections at different sites in the bladder are used and effective in treating bladder symptoms in patients with neurological disorders, as well as refractory overactive bladder.

Dr. Glowacki sees patients at Temple University Hospital, Center City Philadelphia and Jeanes Hospital. Additionally, patient services were expanded this past year to include the Urology clinic in Boyer Pavilion in conjunction with the Urology residents. The clinical volume continues to increase. The office at Temple University Hospital and Jeanes Hospital have increased patient slots to accommodate more patients and decrease prolonged wait times for both new and follow up appointments. She operates at Temple University Hospital, Jeanes Hospital and Holy Redeemer Hospital. In FY18, the surgical volume was maintained for female pelvic reconstruction performed at all three sites.

A second year (PGY2) or fourth year (PGY4) gynecology resident is assigned to the Urogynecology service. Once a month, the clinic is covered by a Urology resident. The Obstetrics and Gynecology and Urology residents are exposed to the evaluation of the patients with pelvic floor disorders and this frequently includes cystoscopy, urodynamics and other procedures. The residents are exposed to the medical therapy of pelvic floor disorders and to complex pelvic floor reconstruction procedures. Dr. Glowacki also operates with both the Obstetrics and Gynecology residents and the Urology residents on their Female Pelvic Medicine and Reconstructive Surgery cases to broaden their exposure to the surgical aspect of the field. Additionally, fourth- and third-year medical students rotate on to the Urogynecology service for sub-internships and Urogynecology clinic, respectively. Several months of the year, a fourth-year medical student on the Women’s Health Rotation also spends time in the Urogynecology clinic.

Looking ahead to FY 2018/2019, the schedules are being assessed at all clinic sites to maximize patient appointment slots and decrease the ongoing 6-8 week wait time for appointment. Recruitment of a second physician to the service that will also work in the Department of Urology is being considered. This would enhance the FPMRS exposure and volume in both the Gynecology and Obstetrics department and Urology department at the Lewis Katz School of Medicine.
5. Reproductive Endocrinology and Infertility

PGY-4 and PGY-2 residents spend three days each week in the outpatient offices and In Vitro Fertilization center of Drs. Castelbaum and Freedman, Co-Directors of The Division of Reproductive Endocrinology and Infertility. Residents gain proficiency in performing vaginal ultrasonography for the evaluation of ovarian follicles, endometrial thickness, and uterine anomalies. Residents also perform many first trimester pregnancy ultrasounds. They evaluate and treat pregnancies of unknown location and ectopic pregnancies.

PGY-4 and PGY-2 residents participate in the initial evaluation of infertile couples. The resident integrates history, physical findings, ultrasonographic images and laboratory data in formulating a differential diagnosis and establishing an evidenced-based treatment plan.

PGY-4 and PGY-2 residents are exposed to evidence based ovulation induction protocols including clomiphene citrate, aromatase inhibitors, gonadotropins, gonadotropin agonists, gonadotropin antagonists, and luteal phase estradiol priming. They become proficient in interpreting ultrasound and hormonal data in order to maximize pregnancy rates while minimizing the risks of high order multiple gestations and ovarian hyperstimulation syndrome.

Residents have a comprehensive exposure to In Vitro Fertilization (IVF). They are actively involved in the evaluation of patients undergoing IVF and embryo transfer. They gain experience in pre-IVF assessment including ovarian reserve testing, uterine evaluation and semen analysis interpretation. Residents also are exposed to IVF ovulation induction regimens tailored to patient’s unique infertility issues. Residents attend oocyte retrievals and embryo transfers. They also observe IVF laboratory procedures including ICSI, embryo biopsy, laser assisted hatching, embryo/oocyte cryopreservation and embryo/oocyte thawing. Residents participate in outpatient diagnostic hysteroscopies and mock embryo transfers. They are exposed to thoughtful evidenced-based patient counseling to minimize the number of embryos transferred and lower the risk of multiple gestations. More than fifty-percent of IVF patients elect to have their embryos biopsied at the blastocyst stage for Comprehensive Chromosomal Screening. Transfer of a single euploid embryo has resulted in implantation rates of 55 to 60% in women up to age 42. Trainees also gain experience in interpreting pre-implantation genetic results.

At the conclusion of their rotation, it is expected that PGY-4 and PGY-2 Resident will be capable of managing all aspects of the initial work-up of infertile patients. They should also be proficient in managing ovulation induction with oral medication, and gain experience in performing transvaginal ultrasonography.

Drs. Castelbaum and Freedman give a total of eight Grand Round lectures annually for the Department of Obstetrics, Gynecology and Reproductive Sciences. Drs. Castelbaum
and Freedman also lecture third year medical students during their Obstetrics and Gynecology rotation. Fourth-year medical students can take advantage of a 4-week elective in Reproductive Endocrinology and Infertility (REI) with Drs. Castelbaum and Freedman. Four to seven senior medical students rotate annually. Their experience mirrors that of the 3rd and 4th year Residents. The students taking this elective are required to present one formal talk on a REI topic. Multiple first-year medical students also shadow Drs. Castelbaum and Freedman for an initial exposure to evidenced-based infertility treatment.

6. Administration

Revenue/Expenses:

The Department had another exciting year striving to meet our budget targets. We continued to streamline our operations and control expenses to be able to meet expectations. Activity to budget was unfavorable for charges (-4%), on budget for payments and positive for visits at 11%. Faculty productivity as measured by adjusted (by clinical FTE) RVUs was at the 60th percentile of MGMA compared to a budgeted target of 65%. Expenses had a favorable variance of 1% with preliminary figures for year-end at a favorable variance of 18% to budget for our Statement of Operations.

Staffing:

24 Clerical/secretarial staff
33 Clinical staff
5 Advanced Practice Providers
9 Administrative staff
2 Research staff
2 Genetic Counselors
1 Academic Education coordinator
76 Total staff

Accomplishments:

- Continued to expand our successful Center of Excellence for Opioid addicted pregnant women. Funded by a $500,000 annual grant from the Commonwealth of Pennsylvania, this program is collaboration between Temple and the Wedge Center, a community-based drug and alcohol treatment facility. Another partner is the Maternity Care Coalition. The Coalition provides peer-counseling along with case-management services.
• Received Baby Friendly designation by the World Health Organization. We continued our lead role with this program at Temple University Hospital in the hospital and the outpatient practices, and increased resources and education for breastfeeding. This also included championing, along with TUH Nursing and Pediatrics, the idea for distribution of the Temple Baby Boxes to all delivering patients. Developed outpatient practice protocols and teaching tools for implementation across the Temple Health System. These tools will be shared with outside agencies within our outreach area.

• IT updates: Continued to improve and streamline the EPIC EMR for OB/GYN services, as well as supported TUH with the interface between GE Viewpoint software for the Fetal Center and the EPIC EMR.

• Temple University Physicians outsourced appointment scheduling to the McKesson Group. We worked closely with all representatives to ensure a successful transition and continue to monitor activity daily to ensure patient needs are met.

• Consolidated the operations of the two offices on the Episcopal Campus for improved support for patient care.

VII. SERVICE

The Department of Obstetrics, Gynecology and Reproductive Sciences is involved in a variety of community service activities. A few of these activities are described below:

A. COMMUNITY OUTREACH EVENTS

1. Participated in the following health fairs promoting all of our general OBGYN and subspecialty services:
   a. Annual Temple University employee benefits fair
   b. Annual Temple University Health System employee benefits fair at TUH and Episcopal

2. Hospital participant in the annual Delaware Valley NOCC (National Ovarian Cancer Coalition) walk/run.

3. Team Latina Support Group: Dr. Arleen Ayala has worked with a Villanova professor on a project to understand cultural beliefs and practices of pregnant Puerto Rican patients. There have been three focus group meetings and one
support group meeting held for patients to come together to network and support one another.

**B. FAMILY PLANNING**

1. **Family Planning Services Grant through Access Matters** – In FY2018, Temple GYN/Family Planning Clinic had 6,911 family planning visits and our Student Health Services location had 7,081 visits. Also this fiscal year, we successfully passed our Title X Family Planning program audit.

2. **The Healthy Women Program (HWP)** is a breast and cervical cancer early detection program that provides free clinical breast examinations, mammograms, pelvic exams, Pap Smears, education and follow-up diagnostic care for abnormal results for uninsured and underinsured women 21 – 64 years of age. In FY 2002, the Breast and Cervical Cancer Prevention and Treatment (BCCPT) program was introduced as a funding source for women whose cancer screenings show breast or cervical cancer or pre-cancerous conditions. The BCCPT program provides a fast track Medical Assistance application approval, providing the patient full coverage for all treatment within five days of the application date. The HWP also supports other departments in the Temple Health System, including Diagnostic Imaging, Surgery and Colposcopy Clinic. Our department has been a recipient of HWP funds for over 20 years. In FY18, Temple GYN/Family Planning Clinic had a 23% increase, from FY17, in patient enrollment in the HWP.

3. **HIV Education and Prevention Expansion Project.** The grant for this project ended January 1, 2017. However, we still provide opt-out annual HIV screenings to all GYN/family planning patients, per the requirements of the Title X program. Additionally, we continue to make available rapid HIV screenings to family planning patients via the 60 second INSTI® test, along with the following services: Linkage to care and treatment for HIV positive clients, and for at-risk clients, behavioral interventions through counseling sessions, condom distribution, and STI screening and treatment.

4. **Satellites operating under the Family Planning umbrella.** Student Health Services (operated by Student Health), provides family planning services, STI testing and gynecology examinations to their Temple University students.

**C. OTHER**

In 2014 Temple University Hospital established Philadelphia’s first public cord blood donation program. In January 2017 a woman with acute myeloid leukemia was
the first recipient of stem cells derived from cord blood harvested at TUH. Since then
3 other individuals have benefited from this program.

Staff continues to donate for a monthly gift basket given to a patient each month filled
with baby supplies and clothing items.
VIII. PUBLICATIONS AND PRESENTATIONS (FY18)

A. PUBLICATIONS


Papatla K, Halpern MT, Hernandez E, Brown JL, Benrubi ID, Houck K, Chu C, Rubin SC. Patients with history of cervical cancer are at increased risk of developing primary anal or oropharyngeal cancer (abst.) Gynecol Oncol 2018;149:209.


B. PRESENTATIONS (Extramural)

Goetzl LM, Zakowski M. Nitrous oxide in labor: the good, the bad and the ugly (The Morton and Diane Stenchever lecture) Annual Clinical Meeting, American College of Obstetricians and Gynecologists, Austin, TX, April 27, 2018.


Rose M. Breaking the burn: implementing a wellness program on a shoestring budget. 2018 Association of Professors of Obstetrics and Gynecology Martin L. Stone, MD Faculty Development Seminar: Medical Education Makeover: Cleanse, Repair and Enrich, January 6-9, 2018, Manalapan, Florida.


Stough A, Palacio D, Palvia V, Anasti J. The effect of oral anticoagulation agents on hemoglobin levels in reproductive age women (poster.). Annual Meeting American College of Obstetricians and Gynecologists, April 27-29, 2018, Austin, TX.
IX. CONTACT INFORMATION

Chairman's Office
(215) 707-3002

Practice Locations:

Faculty OB/GYN Practice
Temple University Hospital
7th floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3008

GYN/Family Planning Clinic
Temple University Hospital
8th floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3232

OB/High-Risk OB/Diabetes in Pregnancy Clinics
Temple University Hospital
5th Floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3008

Gynecologic Oncology
Temple University Hospital
7th floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3015

Holy Redeemer Hospital
1648 Huntingdon Pike
Bott Cancer Center
Meadowbrook, PA 19046
Appointments: (215) 707-3015

Chesnut Hill Hospital
8815 Germantown Ave., Ste. 46
Appointments: (215) 707-3015

Temple Cancer Center
3401 N. Broad Street
4th floor, Zone D
Appointments: (215) 707-3015

Colposcopy Clinic
Temple University Hospital
5th Floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3008

Maternal-Fetal Medicine Consultation
Temple University Hospital
5th floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3008

Prenatal Diagnosis Center
Temple University Hospital
8th floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3648

Obstetrics & Gynecology
Episcopal OB/Gyn Practice
100 E. Lehigh Avenue
Philadelphia, PA 19125
Appointments: (215) 707-1840

Roxborough OB/Gyn Practice
Jamestown Medical Building
Suite 207
525 Jamestown Avenue
Appointments: (215) 483-7700

Women's Care at Northeastern
200 E. Allegheny Ave., Ste. 180
Appointments: (215) 926-3700

Jeanes GYN Associates-Temple NE
9931 Old Bustleton Ave. Suite 203
Appointments: (215) 602-8900

Fort Washington
515 Pennsylvania Avenue
Fort Washington, PA 19034
Appointments: (215) 707-3008

Center City Office
Medical Arts Tower
255 S. 17th Street
21st Floor, Suite 2101
Philadelphia, PA 19103
Appointments: (215) 707-3008

Appointments for Reproductive Endocrinology and Infertility:
215-938-1515

Urogynecology
Temple University Hospital
7th Floor, Zone B
Broad and Tioga Streets
Appointments: (215) 707-3008

Temple Health – Jeanes
7602 Central Avenue
Suite 201
Philadelphia, PA 19111
Appointments: (215) 707-3008

Appointments for Reproductive Endocrinology and Infertility:
215-938-1515
X. Illustrations and Charts

Chart 1. Procedures performed at Temple’s Prenatal Diagnosis Center in FY18

TOTAL = 14,892 (2.4% increase over FY17)
Chart 2. Genetic screening and counseling visits at Temple University Hospital FY11-FY18 (this year’s data also include non-invasive prenatal testing)

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Chart 3. Genetic Screening and Counseling FY18 (AMA = Advanced Maternal Age)

FY18 other include (some patients had more than one indication):
- Abnormal carrier screen: 181
- Consanguinity: 1
- Preconception counseling: 17
- Recurrent pregnancy losses: 32
- Unknown paternity: 0
- Other: 87
- Non-invasive prenatal testing: 710

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Chart 4. Satellite MFM Activities (Northeastern Ambulatory Care Center), inactive since 2014. Obstetrical ultrasound services reactivated on November 1, 2016 at NACC and Episcopal Hospital.
Chart 5. Obstetrical Deliveries at Temple University Hospital

Chart 6. Mode of Delivery at Temple University Hospital FY18
Chart 7. New Obstetrical patients (low-risk) seen at the Residents Clinic

Chart 8. Total obstetrical visits at the Residents Clinic
Chart 9. Outpatient obstetrics: High-Risk (HR), and low-risk at obstetrical visits Temple University School of Medicine FY18

[Diagram showing data for different categories such as All Visits, Low risk visits, High risk visits, New Patients (not HR), and New HR, with specific numbers for each category.]
Chart 10. Obstetrical visits at all sites FY18 vs FY17
Chart 11. Deliveries at Temple University Hospital by referral source FY18
Chart 12. Site of prenatal care of patients delivered at Temple University Hospital and number of teenage mothers.

*Proportion of adolescents delivering at TUH was 6.6% in FY18. It was 7.6% in FY17 compared to 10% in FY16 and 16.9% in FY06.
Department of Obstetrics, Gynecology & Reproductive Sciences
Organizational Chart – September 2018