STATE OF THE SECTION OF
SURGICAL SCIENCES

Special thanks to:
Bess Wildman
Deborah Doyle
Sallie Walker
Kyla Terhune
Khristina Prince
Objectives

■ Review performance in FY 16
■ Celebrate accomplishments/highlights of the past year
■ Discuss goals for FY 17
■ Describe and understand priorities
■ How can you help?

I have no conflicts of interest to disclose.

VUMC Milestone Year
VUMC again ranked #1 in Nashville & TN by U.S. News and World Report.

#1 in TN

VUMC ranks in 12 adult surgical & medical specialties:
- Cancer #42
- Cardiology & Heart Surgery #29
- Diabetes & Endocrinology #42
- Ear, Nose & Throat #23
- Gynecology #18
- Nephrology #8
- Neurology & Neurosurgery #43
- Pulmonology #42
- Urology #8

High performing:
- Gastroenterology & GI Surgery
- Geriatrics
- Orthopaedics

STATE OF THE SECTION OF SURGICAL SCIENCES
MCJCH ranks a perfect 10 by U.S. News & World Report

10 out of 10 a maximum of specialty surgical & medicine programs (top 50)

- Cancer
- Cardiology & Heart Surgery
- Diabetes & Endocrinology
- Gastroenterology & GI Surgery
- Neonatology
- Nephrology
- Neurology & Neurosurgery
- Orthopedic
- Pulmonology
- Urology-ranked 4th nationally

John Brock, III, M.D., Monroe Carell Jr. Professor of Pediatric Urology, Section Vice Chair for and Senior VP for Pediatric Surgical Services, Surgeon-in-Chief MCHCHV
2016 VU and VUMC Financial Separation

100% Focus on VUMC Mission
- More Options
- More Nimble
- More Investment Options

Protect the Reputation
- Selective Growth
- Execute Effectively
- Cash Flow
Our Core Mission Has Not Changed

Patient care, discovery and education

Section of Surgical Sciences Core Values  ~circa 2005

- **Commitment**: continuously give our best effort to all we do.
- **Compassion**: treat all with whom we interact with the same care and concern that we wish for ourselves.
- **Integrity**: exhibit truthfulness in all our endeavors.
- **Respect**: show that we value all perspectives.
- **Scholarship**: continuously improve our base of knowledge in all we do and share it with others.

Do these core values still apply?
FY 16 PILLAR GOALS
PERFORMANCE AND
FY 17 GOALS
VUMC and the Section of Surgical Sciences

VUMC FY 16 PILLAR GOALS
80% achieved

PEOPLE
SERVICE
QUALITY
GROWTH & FINANCE
INNOVATION
QUALITY Pillar Goal Performance

- 12% Reduction in Hospital Associated Infections
- 1+ year without a CAUTI at Children’s
- 25% Fewer Hospital Acquired Conditions
- O:E Mortality Improved to .92
- Threshold for 6 of 9 Readmission Goals

<table>
<thead>
<tr>
<th>Pillar</th>
<th>Goal</th>
<th>Criteria</th>
<th>Baseline</th>
<th>Actual</th>
<th>Threshold</th>
<th>Target</th>
<th>Reach</th>
</tr>
</thead>
<tbody>
<tr>
<td>People</td>
<td>Improve Employee Retention Rate - aligned with VUH Periop Services</td>
<td>In collaboration with Periop Services</td>
<td>84.00%</td>
<td>83.90%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td>Service</td>
<td>Increase New Patient Visits seen within 5 Business Days Surgical Sciences</td>
<td>Improve overall above baseline by the indicated %</td>
<td>38.60%</td>
<td>36.70%</td>
<td>1%</td>
<td>2%</td>
<td>4%</td>
</tr>
<tr>
<td>Quality</td>
<td>Reduce O/E Mortality Surgery</td>
<td>O/E Mortality for Surgery</td>
<td>1.04</td>
<td>0.91</td>
<td>1.03 (1%)</td>
<td>1.01 (1%)</td>
<td>0.98 (1%)</td>
</tr>
<tr>
<td>Growth &amp; Finance</td>
<td>VUH Increase OR Utilization</td>
<td>Increase adjusted utilization above prior year</td>
<td>75.5%</td>
<td>77.30%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>VUH ONLY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>MCJCH Increase OR Utilization</td>
<td></td>
<td>80.2%</td>
<td>82.00%</td>
<td>1%</td>
<td>2%</td>
<td>3%</td>
</tr>
<tr>
<td></td>
<td>MCJCH ONLY</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Innovation</td>
<td>Reduce CMI Adjusted Resource LOS - Enterprise Goal Alignment</td>
<td>Quarterly Average</td>
<td>2.8</td>
<td>2.64</td>
<td>-0.75%</td>
<td>-1.00%</td>
<td>-1%</td>
</tr>
</tbody>
</table>
## FY17 Enterprise Pillar Goals

<table>
<thead>
<tr>
<th>People</th>
<th>Service</th>
<th>Quality</th>
<th>Growth &amp; Finance</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Workforce Engagement</td>
<td>Patient Satisfaction</td>
<td>Patient Harm Index</td>
<td>Clinical Volumes</td>
<td>Value Based Care</td>
</tr>
<tr>
<td>Retention</td>
<td>New Patients seen within 5 and 14 days</td>
<td>Mortality</td>
<td>Length of Stay</td>
<td>Academic Performance</td>
</tr>
</tbody>
</table>

- **Clinical Effectiveness/Population Health**
- Financial Targets
- Telehealth Visits
- **EpicLeap Implementation**

## FY17 Section Pillar Goals

<table>
<thead>
<tr>
<th>People</th>
<th>Service</th>
<th>Quality</th>
<th>Growth &amp; Finance</th>
<th>Innovation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Retention</td>
<td>Resource LOS</td>
<td>Mortality</td>
<td>OR Utilization</td>
<td>CS2.0</td>
</tr>
<tr>
<td>New Patients seen 14 days</td>
<td></td>
<td></td>
<td>wRVU/cFTE</td>
<td>Academic Reputation</td>
</tr>
</tbody>
</table>

- **EpicLeap Implementation**
Section of Surgical Sciences – Transitions, Milestones & Highlights – FY 16

Remembering our significant losses

IN MEMORIAM
VUMC mourns the loss of pediatric neurosurgery pioneer Noel Tulipan, MD
November 2, 2015

John Sawyers, M.D. past Chair of Section of Surgical Sciences, 1983 to 1995. Dr. Sawyers passed away at age 90.
March 18, 2016
Bruce Shack, MD steps down as Plastic Surgery Department Chair: announces move to UT School of Medicine in Chattanooga as Dean
Thank you John Tarpley, MD for over 23 years of service
Highly successful collaborative teams

Liver Transplant Program 25+ years of service
Girl’s dual heart, kidney transplants a VUMC first

Ahmya Calloway

Vanderbilt Trauma gained ACS Level I verification status

Derek Moore MD, MPH
Center for Surgical Weight Loss achieved “Center of Excellence” accreditation from the ACS

Deep brain stimulation (DBS) program completed 1,000th procedure
Heart Institute celebrated 300th LVAD

Wellons, Braun and MCJCH fetal surgery team help train and set up first fetal neurosurgery program in Australia
People Pillar

We nurture a caring, culturally sensitive, and professional atmosphere as we continuously invest in the individual and collective aspirations of our people.

STATE OF THE SECTION OF SURGICAL SCIENCES

IT’S ALL ABOUT OUR PEOPLE

Who are we?
Section Demographics

246 faculty members

- 144 Clinical Faculty
- 51 Research Faculty
- 61 APPs
- 2 Sr. Assoc. in

And 160 residents plus 16 fellows
Supported by 165 staff members

FY 16 Section Credo Winners

- Chereta Brigman
  Section
- Christy Nichols
  Surgical Research
- Lisa Turner
  Dept. of Surgery
- Paul Lang
  Section
- Martina Hailey
  Dept. of Surgery
ATLS Coordinator of the Year

Cathy Wilson, MSN, RN, ACNP-BC

Section Department Chairs

Cardiac Surgery
Michael Petracek, MD

Neurological Surgery
Reid Thompson, MD

Oral & Maxillofacial Surgery
Samuel McKenna, MD, DDS

Pediatric Surgery
Dai Chung, MD

Plastic Surgery (Interim)
Reuben Bueno, Jr., MD

Thoracic Surgery
Jonathan Nesbitt, MD

Surgery
Seth Karp, MD

Urologic Surgery
David Penson, MD, MPH
Section Education Committee

Kyla Terhune, MD, MBA
Chair

James Valentine, MD
Mary Hooks, MD, MBA
Addison May, MD
Dai Chung, MD
Jonathan Neshitt, MD
Luis Vega, DDS

Reuben Bueno, MD
Sam Chang, MD
Peter Clark, MD
Roger Dmochowski, MD
Jay Wellons, MD
John Pope, MD
Brandon Williams, MD

Outstanding Surgical Training Programs

Vanderbilt’s residents and fellows develop close relationships with mentoring faculty, clinicians, and dedicated research personnel.
FY16 People Pillar
Perioperative Employee Retention

Baseline 84.0%
Threshold 84.8%
Target 85.7%
Reach 86.5%

FY17 People Pillar Goal
Perioperative Employee Retention

Baseline 83.9%
Threshold 84.74%
Target 85.58%
Reach 86.42%
Why is staff retention so important?

- Experienced staff make for experienced and expert teams
- Quality of care
- Patient satisfaction
- Physician satisfaction
- Recruitment and training of replacement staff is expensive

Ask yourself:

- What can I do to make VUMC a place where people want to stay and develop their careers?
Service Pillar

A record 481 Solid Organ Transplants in FY16

■ Adult
- 26 lung transplants
- 148 liver transplants
- 203 kidney transplants
- 65 adult heart transplants
- 4 pancreas transplants

■ Pediatric
- 17 heart transplants
- 13 kidney transplants
- 5 liver transplants
Collaborative multidisciplinary team of Le, Wellons, Yu and others were key in treating 4 wk old infant’s ruptured cerebral aneurysm

Trauma Network

- Progressing Towards Trauma Designation
  - Sumner Regional Medical Center
    - Applied November 9
    - Site Visit August 10
    - ED Director Fly-in Visit May 9
    - VUMC Co-Medical Director
  - Cookeville Regional Medical Center
    - Gap Analysis done May 17
    - LifeFlight in Cookeville Summer 2016
  - Blanchfield Army Community Hospital
    - Pursuing Trauma Designation
    - Readiness Program (M-Viper)
  - Maury Regional Medical Center
    - Awaiting Maury direction regarding next step
- Pending Discussion - St. Thomas- Rutherford
Trauma Surgical training enhances the VUMC/ Fort Campbell bond

PROVIDING ACCESS TO OUR SERVICES

The Final Frontier?
FY16 Service Pillar
New patients seen within 5 days

Baseline: 38.6%
Threshold: 39.0%
Target: 39.4%
Reach: 40.1%

FY16: 36.7%

FY17 Service Pillar Goal
New Patients seen within 14 days

Baseline: 60.3%
Threshold: 60.92%
Target: 61.53%
Reach: 62.13%
Inpatient Access

Typical twice daily Executive Capacity Report

Sunday 28 Aug 2016: 0600

Trauma Admissions: 5 Year Trend
FY16 Innovation Pillar, but really Service or Growth and Finance

Adjusted Length of Stay

Baseline 2.8
Threshold 2.779
Target 2.772
Reach 2.765

FY16

Baseline 2.64
Threshold 2.779
Target 2.772
Reach 2.765

FY17 Service Pillar Goal

Decrease RLOS

Baseline 2.64
Threshold 2.59
Target 2.59
Reach 2.56

STATE OF THE SECTION OF SURGICAL SCIENCES
FY 17 focus on reducing avoidable inpatient hospital days

How can I help achieve the service goals?

- Ask these four questions
  - What can I do to improve the experience of our patients?
  - What can I do to facilitate patient access to our services?
  - How can I provide better service to referring clinicians?
  - How can I help to improve educational experiences of our learners?
Quality Pillar

We relentlessly pursue and measure ourselves against the highest quality performance in all areas, from patient care to scholarship.

Thanks to Section Quality and Safety Committee, Service Chiefs, Safety Officers, PCC Leadership and Quality Consultants.

Roger Dmochowski, M.D., Professor of Urology, Section Vice Chair, Faculty Affairs & Assoc Surgeon in Chief: Adult Services

Oscar Guillamondegui, M.D., Professor of Surgery, Section Vice Chair, Quality & Patient Safety
Section Quality and Safety Committee

- Oscar Guillamondegui, MD (Section Vice Chair for Quality and Safety)
- Cardiac Surgery Officer: Clay Kaiser, MD
- Pediatric Surgery Officer: Dai Chung, MD
- Thoracic Surgery Officer: Eric Lambright, MD
- OMS Officer: Samuel McKenna, MD
- Neurosurgery Officer: Hong Yu, MD
- Plastic Surgery Officer: Wesley Thayer, MD
- Urologic Surgery Officer: Daniel Barocas, MD

FY16 Quality Pillar

O/E Mortality

- Baseline: 1.04
- Threshold: 1.03
- Target: 1.01
- Reach: 0.98
- FY16: 0.91
FY17 Quality Pillar Goal

O/E Mortality

Baseline: 0.91
Threshold: 0.91
Target: 0.89
Reach: 0.86

FY16 Allocation Rebate Results

<table>
<thead>
<tr>
<th>Category</th>
<th>REACH</th>
<th>Target</th>
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<tbody>
<tr>
<td>O/E Mortality</td>
<td>0.93</td>
<td></td>
</tr>
<tr>
<td>Hand Hygiene</td>
<td>97%</td>
<td></td>
</tr>
<tr>
<td>Safety Survey % Response</td>
<td>87%</td>
<td></td>
</tr>
<tr>
<td>Disclosure &amp; Professional Training</td>
<td>100%</td>
<td></td>
</tr>
<tr>
<td>MM&amp;I</td>
<td>85%</td>
<td></td>
</tr>
<tr>
<td>Policy Review</td>
<td>100%</td>
<td></td>
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</tbody>
</table>
FY17 Allocation
Rebate Requirements

- Participation in Service Recovery Training
- Participation in Culture of Safety Survey
- Participation in Professionalism & Disclosure of Adverse Outcomes Training
- Quality Patient Safety Director Participation in Event Analysis
- Participation in at least 1 MM&I
- Hand Hygiene Compliance

Quality Looking Forward to 2017

- Reduce hospital acquired conditions and patient harm
- Early recognition and management of sepsis
- Continue strong work on reducing pulmonary complications
- Accurate recognition and documentation of pre-existing conditions, comorbidities and complications
- Reduce preventable deaths
Innovations in quality

Public reporting of outcomes in MCJCHV

By the numbers:

- Three pediatric cardiac surgeons; approximately 525 cardiac operations annually; better than 10 percent annual survival rate.
- Three electrophysiologists; approximately 165 ablations annually; better than 99 percent success rate.
- Two interventional cardiologists; approximately 1000 cases annually.
- 16 dedicated acute care unit beds; 16 dedicated cardiac ICU beds.
- 10-15 heart transplants annually; 95 percent five-year survival rate.
- 20 pediatric cardiologists; cardiology care at seven locations; 13,000 outpatient visits; 14,000 echocardiograms.
- 27 stage 4 Norwood procedures for hypoplastic left heart syndrome performed annually.
- Six cardiac anesthesiologists; six cardiac intensivists.
- Better than 90 percent survival rate for infants with hypoplastic left heart syndrome.
- Approximately 250 cardiovascular MRI studies performed annually for children and young adults with congenital and acquired heart diseases.
Growth & Finance Pillar

No margin, no mission

FY16 Growth and Finance Pillar

Increase OR Utilization

VUH

Baseline 75.5%
Threshold 76.3%
Target 77.0%
Reach 77.8%

MCJCH

Baseline 80.2%
Threshold 81.0%
Target 81.8%
Reach 82.6%

STATE OF THE SECTION OF SURGICAL SCIENCES
FY17 Growth & Finance Pillar Goal
VUMC Increase OR Utilization

Baseline: 77.3%
Threshold: 78.07%
Target: 78.85%
Reach: 79.72%

FY17 Growth & Finance Pillar Goal
Achieve or exceed budgeted wRVUs

Baseline: 1,028,826
Threshold: 1,039,114
Target: 1,049,403
Reach: 1,049,403
OR Cases

<table>
<thead>
<tr>
<th>Year</th>
<th>FYTD2012</th>
<th>FYTD2013</th>
<th>FYTD2014</th>
<th>FYTD2015</th>
<th>FYTD2016</th>
<th>FY2017 Budget</th>
</tr>
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<tbody>
<tr>
<td>OR Cases</td>
<td>26,457</td>
<td>26,366</td>
<td>27,642</td>
<td>26,952</td>
<td>28,715</td>
<td>1602 cases</td>
</tr>
</tbody>
</table>

STATE OF THE SECTION OF SURGICAL SCIENCES

Innovation Pillar

We seek excellence and leadership as we advance our systems of care, educational practices and our commitment to discovery.

STATE OF THE SECTION OF SURGICAL SCIENCES
Academic Integration

- Grant Expenditures
- Enrollment of subjects on IRB approved studies
- National Awards, Recognition, Elections

Total Research Expenditures (Millions)

- FY 16 Actual: $12.55
- FY 17 Target: $13.21

Blue Ridge Institute for Medical Research
NIH Rankings of Surgery Departments
Vanderbilt Surgery ranked #5 for CY 15
Duke Herrell, M.D. works with VISE engineers on “tiny wrist” robot

Daniel Barocas, and David Penson lead the science and national discussions on the role of prostate cancer screening and treatment

Daniel Barocas, MD, MPH
Associate Professor of Urologic Surgery

David F. Penson, MD, MPH, MMHC
Hamilton and Howd Chair of Urologic Oncology, Chairman, Department of Urologic Surgery
Brophy and colleagues described a simplified prediction tool for hospital mortality after ruptured AAA repair using an artificial neural network.

- Independent preoperative factors: advanced age, renal disease, loss of consciousness, cardiac arrest, shock
- Compared against the Glasgow Anaeurysm Score
- Algorithms derived from multiple logistic regression, ANN, and Glasgow Aneurysm Score models
- ANN most discriminant of the three

*J Vasc Surgery 2015*
Colleen Brophy, MD, Professor of Surgery

Peter Konrad, MD, PhD working to develop and test device to reanimate paralyzed limbs
VUMC first in state to implant novel heart device during LVAD national clinical trials

Ashish Shah, MD  Matt Danter, MD

Josh Billings, Nancy Brown, Mike Petracek and colleagues report randomized trial of statins effect on acute kidney injury complications of cardiac surgery, finding that high dose atorvastatin did not reduce the risk of AKI.

JAMA 2016
Abumrad, Flynn, Albaugh and colleagues find that bile diversion provides similar benefits as gastric bypass surgery on diabetes and fatty liver disease in mice. *Nature Communications 2015*

Jon Nesbitt designs first of its kind cardiothoracic surgical boot camp teaching critical life-saving skills.
Martin Blakely, MD MS, Pediatric Surgery, received new NIH grant to study neonatal safety in perioperative environment

Pediatric urologic surgeon Doug Clayton landed new NIH Grant to study causes and solutions for bladder inflammation
Number of active IRB enrolling clinical studies

<table>
<thead>
<tr>
<th></th>
<th>FY 16 Actual</th>
<th>FY 17 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of active IRB enrollment clinical studies</td>
<td>80</td>
<td>82</td>
</tr>
</tbody>
</table>

Number of participants enrolled in clinical trials

<table>
<thead>
<tr>
<th></th>
<th>FY 16 Actual</th>
<th>FY 17 Target</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of participants enrolled in clinical trials</td>
<td>2359</td>
<td>2418</td>
</tr>
</tbody>
</table>
Surgical Outcomes Center for Kids (SOCKs)

To develop, enable, and enhance the clinical outcomes research agenda for all pediatric surgical subspecialties

Chevis N Shannon, MBA, MPH, DrPH
John C Wellons, III, MD, MSPH

Bree Burks, RN, MSN, CCRP
Director, Clinical Research
Vanderbilt University Medical Center
Regional and National Recognition and Awards

FY 16 Actual  46
FY 17 Target  48

Kamran Idrees, MD received SSO Young Investigator Award for cancer outcomes research
Goldenring recognized with Research Mentor Award from the AGA Institute Council – May 2016

Byron Knowles, Ph.D. (MSTP), left, James Goldenring, M.D., Ph.D., and colleagues are studying what causes a rare gastrointestinal disorder in newborns.

Peter C. Clark, MD received the coveted McCleery Master Teacher Award
Roger Dmochowski, MD received life-time achievement award from SUFU (The Society for Urodynamics and Female Urology) and named trustee of the American Board of Urology.

Robert Matusik, PhD elected along with 10 other Vanderbilt faculty as AAAS fellow.
James Valentine, MD elected President of the Western Surgical Association

American Hepato-Pancreato-Biliary Association (AHPBA) honored C. Wright Pinson, MD, MBA with Distinguished Service Award
Sam Chang MD, MBA selected for Nashville Health Care Council and elected to VU Faculty Senate

Gretchen Purcell Jackson, MD/PhD elected to American Medical Informatics Association Board of Directors and inducted into Am College of Medical Informatics
Jay Smith, MD named editor of *The Journal of Urology*

Ben Poulose, MD MPH appointed to *Annals of Surgery* editorial board
Luis Vega, DDS appointed Chair of the Section on Pre-prosthetic Surgery for North America-S.O.R.G.

Strasbourg Osteosynthesis Research Group

Kyla Terhune, MD MBA received traveling ACS fellowship for 2017 to Germany
Our sun is rising! Come join the fun.

Do you think our core values have changed?