

# MPOG 2019 Annual Retreat

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# Disclosures

- I have no personal financial, consulting, contractual relationships with any vendor
- I am PI or co-PI on funded projects
  - NIH re: T32 training program
  - BCBSM re: anesthesiology QI
  - Merck re: Neuromuscular Blockade Monitoring and Reversal
  - Becton Dickinson re: Medication Error Epidemiology and costs
  - Apple re: trajectories of health detected by digital phenotyping

# Thanks

- Kevin Tremper
- Mark Dehring
- Aleda Thompson
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- Tomas Medina
- Mike Mathis
- Nicole Pescatore
- Nirav Shah
- Tory Lacca
- Genevieve Bell
- Anik Sinha
- Robert Coleman
- Mike Burns
- Allison Janda
- Douglas Colquhoun
- Michelle Romanowski
- Katie Buehler
- John Vandervest
- Chris Heiden
- Brooke Szymanski
- Jenny Mace
- Nick Douville
- Meredith Bailey
- David Clark
- Ben Cloyd
- MPOG chairs, PIs , ACQRs, quality champions, and software developers
- All the clinicians, IT staff, and administrators out there

# How are we doing?

- Infrastructure / administrative
- Technical
- Research
- Quality improvement

# MPOG national impact

- 12 Million patient records extracted, mapped, de-identified, and available for research and performance improvement
  - 23 health systems, 40+ hospitals, 18 states, 2 countries, 6 EHR vendors
  - Comprehensive intraoperative record
  - 24 BILLION vital signs for these patients
  - Laboratory values, Mortality, Discharge ICD9/10, Preop ICD
  - Pockets of surgical registry and claims
- More than 3500 providers receiving monthly email feedback
  - 20+ performance measures across 30 hospitals
  - Going beyond data to collaboration
  - Maintenance of certification
- Papers ranging from health services research to informatics methodology

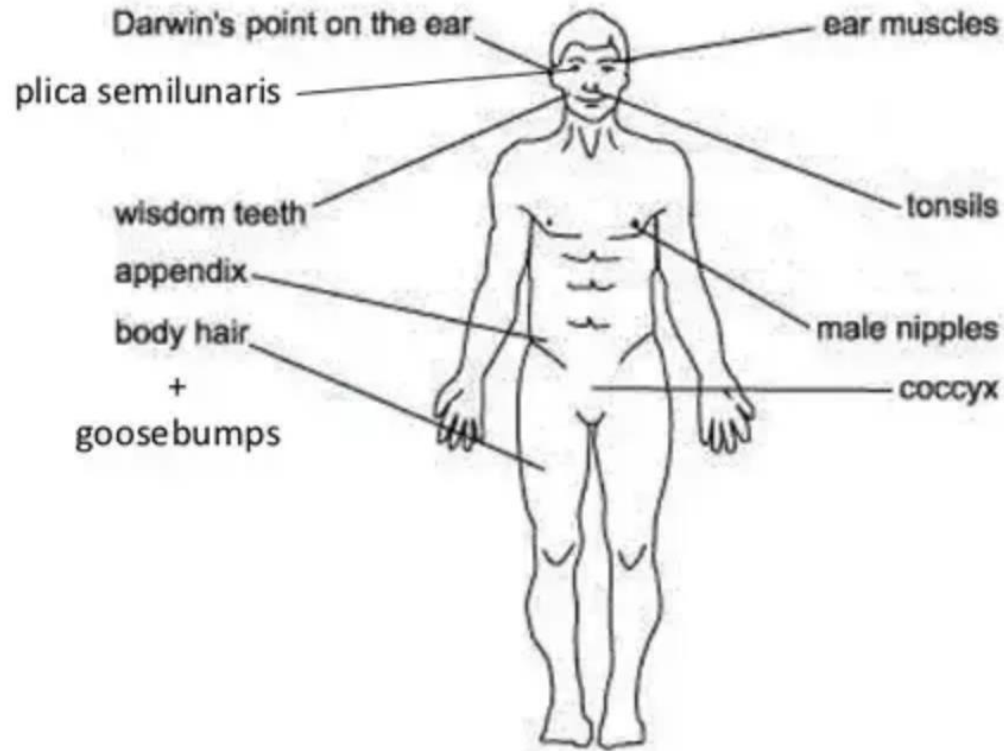
# Infrastructure / administrative

- Organizational resiliency
  - MPOG contracts established at all contributing centers (thank you)
  - DUA, BAA, etc in place to enable innovation
  - Robust executive board with real oversight
  - Distributed leadership and involvement
- Engagement at each center
  - Clear points of contact for technical, research, and QI
- Financial diversity
  - Industry grants
  - MOCA Part IV
  - BCBSM
  - NIH & other foundation grants
  - MPOG contract revenues

How I feel many days at the office

Comparative Anatomy

## Vestigial Structures on Humans



These structures are generally thought to be vestigial structures. Some of these structures may still have some function, but their primary function has been lost.

# Technical

- Exciting upgrade features in 2019
- Types of data in production
  - PACU / floor data now coming in from sites
  - Surgical registry integration penetration
  - CMS national data (thank you Yale)
  - Blinded record index to allow 3<sup>rd</sup> party data integration (death, costs, etc)
  - PROSPER wearables
- Tools
  - DATADirect 2.0
  - Application suite with brand new case viewer



# Research

- Publications (and rejections) in JAMA
- Publications committee reviewers distributed across the country
- NIH and ABA awards
  - Anesthesia dosing in the elderly
  - Teamwork and collaboration in the OR
  - Is MOCA associated with clinical practice improvement
- First IMPACT (Pragmatic trials) NIH submission attempt by Vanderbilt (INTRAOP-OX)
- Dozens of manuscripts in accepted, in review, revision, or manuscript writing phase
- Diverse topics with many different faculty at each contributing member

# Research Progress in 2019

- Accepted / Published
  - MPOG methods
  - Association of hypotension & AKI stratified by baseline patient risk
  - Clinical & operational impact of concurrent surgery
- Under review / revision at major journals
  - Epidemiology and cost of medication errors CPT machine learning
  - Association of sugammadex and pulmonary complications
  - Clinical management of pyloric stenosis in US
  - Blood pressure artifact management algorithm One lung vent outcomes
- Analysis complete, manuscript in preparation
  - Blood utilization patterns EOS 2017 Part I
  - Handoffs and outcomes Hypotension epidemiology
  - Perioperative AKI GWAS

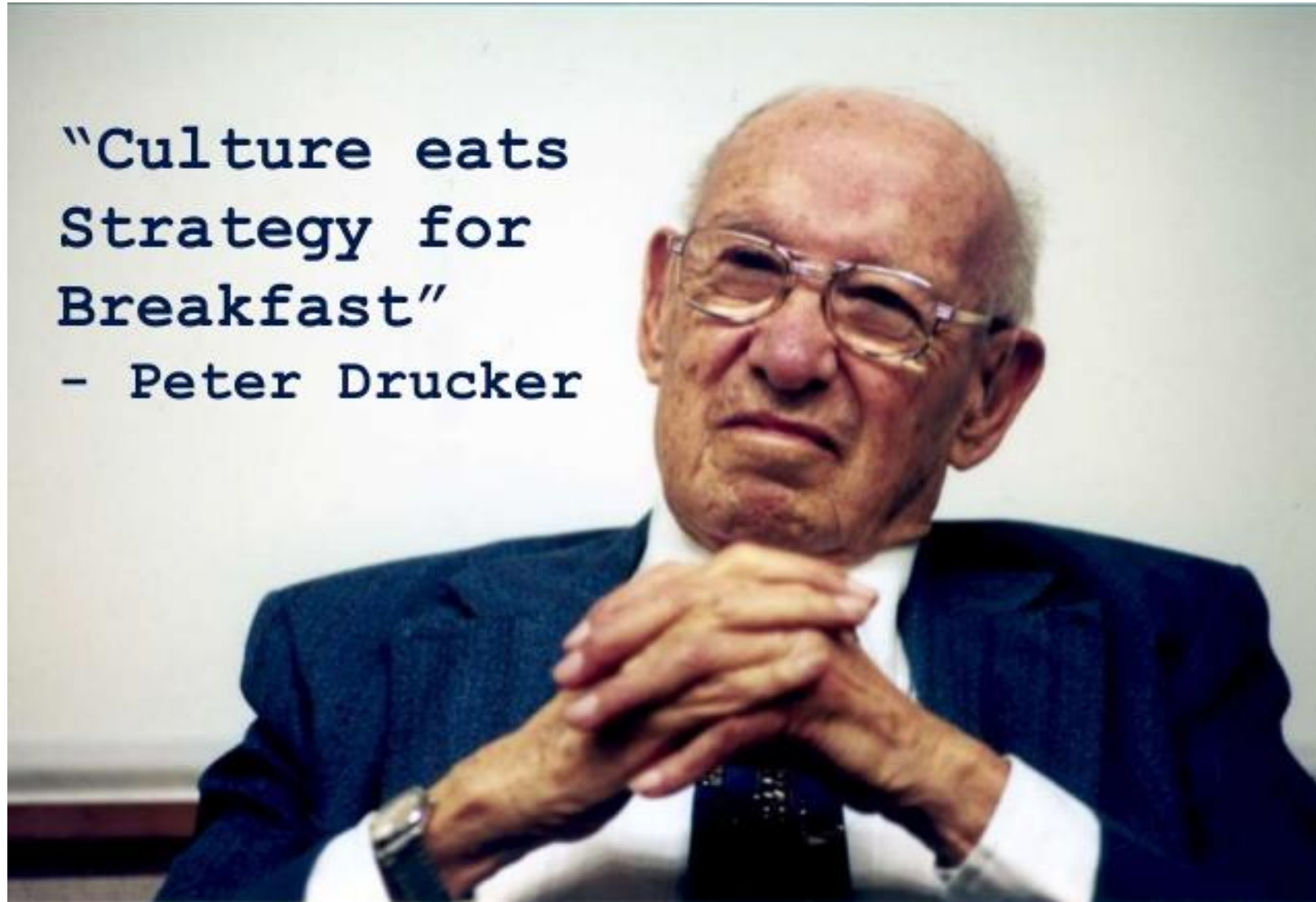
# QI updates

- Impact beyond active MPOG sites
- New implementation toolkits
- Maintenance of Certification is buzzing
- Measure advancements
  - Maturing old measures
  - Casting a wider net on focus for new measures
- National impact for > 3500 providers each month

# Self-assessment of last years goals

- Data foundation: “B+” (up from a B)
  - Expand data types to include PACU and floor data
  - Machine learning for CPT prediction
- Analytics: “A-” (up from a B+)
  - True high performance computing statistics environment available
  - DATADirect 2.0 in beta release shortly
- Impact: “B+” (steady)
  - Distribute research infrastructure across departments
  - QI, research, grant submissions all more diverse
- Collaboration: “A” (up from a B)
  - More engaged with diverse specialities, disciplines, industry
  - More faculty involved at each site

**"Culture eats  
Strategy for  
Breakfast"  
- Peter Drucker**



# What is our culture?

- Collaboration
- Scientific transparency and rigor
- Technical excellence
- Patient focus
- Humility

## How did we get that culture?

- This mysterious mustached man
- Kevin K Tremper PhD, MD
- Founder of MPOG
- Chair @ UM since 1991
  
- Stepping down so he can have more coffee and hang out at MPOG HQ more often
  
- Thank you for your continued mentorship and leadership for the medical field



Thank you