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## Academic Chairs and Departments in Large Health Care Systems

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**Assigned Objective:**

What should Chairs (and departments) do when health systems grow and acquire new hospitals

Role of Anesthesiologists (and departments) in delivering Value based Healthcare for health systems

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### Disclosures: Grants and Funding

- NIH NHLBI, R01-HL136836 (PI)
- NIH NIDA, R44-DA049630 (PI)
- US Air Force Research Laboratories (PI)
- Canadian National Institute of Health Research (Co-I)

- Sensydia Inc.
- EP Dynamics Inc.
- Hytek Medical Inc.

} Founder/Inventor/Board

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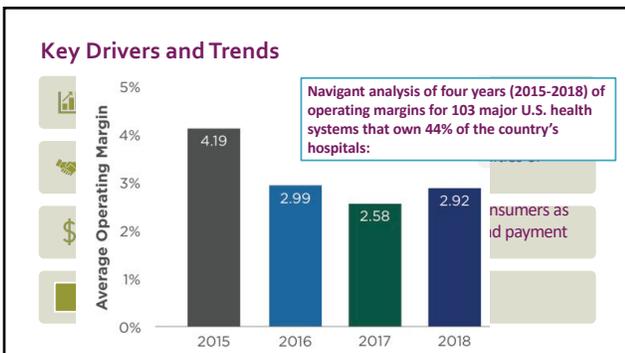
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### Academic Medicine/healthcare Landscape

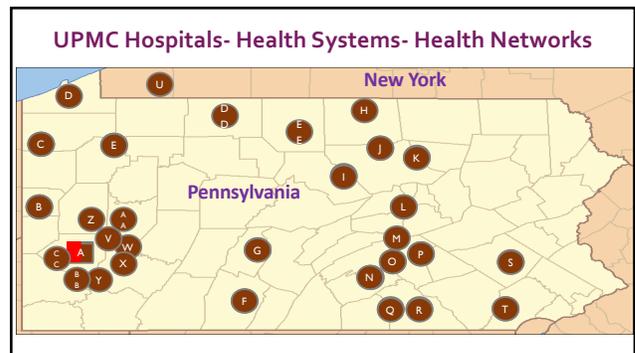
HCOs	Mega Groups	Outpatient shift	Delivery Models
Disruptive Public Policy	Disruptive Technology	Patient Voice	Consumerism
Population Health	Cost Structure	Value Proposition	Funds flow
Health System integration	Payment → Quality	Competition	Funding for Research & Education

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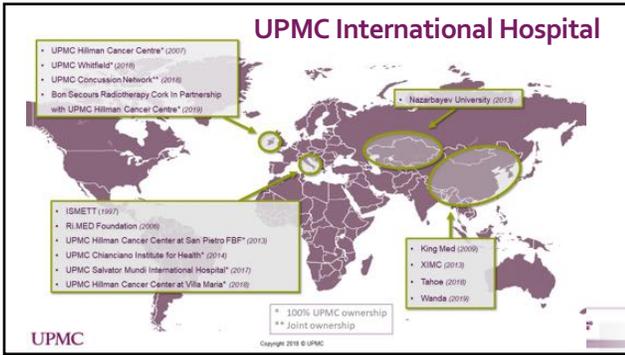
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### Role of Chairs (and departments) as Health Systems Evolve/Expand

- Integration of AMC and Community hospitals culture
- Leadership and Organization of New Entrants and Affiliates
- Cost management and Standardization of Operations
- Network Management and Regionalization
- Value-based care/ Clinical Pathways
- Innovation

**Research  
Teaching  
Mentorship  
Faculty Development**

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**Box 1**  
**Differences between AMCs and private practice models**

	Academic Medical Center	Private Practice
1	Tertiary/quaternary care of patients for advanced or experimental therapies	Flexibility in clinical practice pattern/style with lesser acuity and complexity
2	Tertiary care	Lesser Acuity
3	Research/Scholarly	Near 100% clinical
4	Training residents etc	Learning business aspects
5	Non salary benefits like NC time	Higher Comp & form corp.
6	Mentorship	Indv/professional associations
7	Dept duties	Physician Autonomy
8	Colleagues at other academic institutions to further career goals	Physician Autonomy
9	Participation in hospital or departmental administration and policy is expected	Physician Autonomy

**University vs. Community**

Regev A, Mahajan A. Integrating Academic and Private Practices. *Anesthesiology*. 2018;30(1):321-33.

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### Hybrids solve some unmet needs

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### Integration models and considerations

**Health System/Dept. Acquisition and employment and full integration**

- Dilution of academic faculty brand
- Can community physician succeed in academia
- Department assumes risk of promotions and retentions
- Site specific vs rotating scheduling, credentialing, operations?

**Health System Hospital Acquisition but Separate Anesth Group Practices**

- Define value for groups in "limited integration"
- What is your level of Oversight for these groups?
- Cost Structure, Compensation and benefits structure, Operations
- Governance and role of community group in department

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Regev A, Mahajan A. Integrating Academic and Private Practices. *Anesthesiology*. 2018;30(1):321-33.

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### Delivering Benefits of Integration to Community Practices

- Management infrastructure, OR management expertise
- Information technology and data analytics driven practice
- Implementation of evidence-based standardized protocols and best practices
- Access to risk management, quality management and compliance programs
- Leadership development and compensation opportunities
- Educational opportunities- Residency/Fellowship training

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Regev A, Mahajan A. Integrating Academic and Private Practices. *Anesthesiology*. 2018;30(1):321-33.

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### Community Hospitals: Common Perspectives

Integration leads to loss of autonomy

Taxation to support the academic mission

Downward pressure on physician compensations

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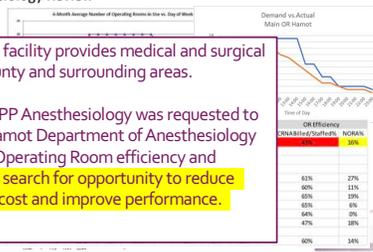
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### UPMC-Hamot

#### Department of Anesthesiology Review

A 424-bed tertiary care medical facility provides medical and surgical care to the residents of Erie County and surrounding areas.

The operational leadership at UPP Anesthesiology was requested to provide an analysis of UPMC-Hamot Department of Anesthesiology staffing and management and Operating Room efficiency and management, with a request to search for opportunity to reduce Department of Anesthesiology cost and improve performance.



OR Efficiency	CR	NOBAY
62%	27%	
60%	11%	
60%	28%	
60%	6%	
44%	0%	
47%	18%	
60%	14%	

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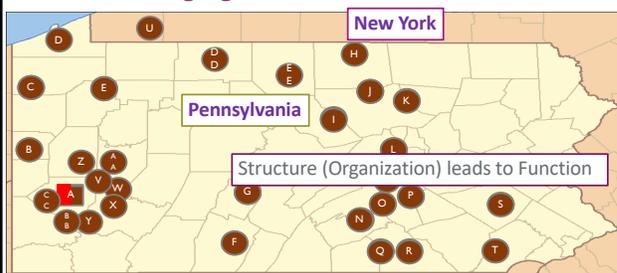
### Challenge to Integration: Culture



Ragev A, Mahajan A. Integrating Academic and Private Practices. Anesthesiology. 2018;36(2):321-33

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### Managing Care Across a Network



Structure (Organization) leads to Function

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### Acquisition or Partnership of Community Hospitals: Shared Responsibility; Shared Authority

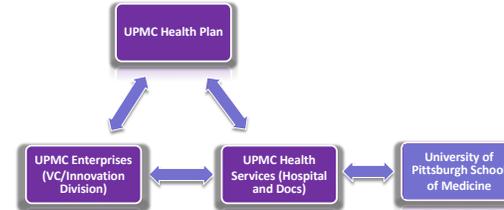



Quality/Value  
Operational Efficiencies  
Cost/Expenses  
Billing/Compliance  
Recruitment /Retentions  
Training

Designated Authority  
Clear Roles and Reporting  
Central Oversight  
Aligned Incentives  
Data Analytics  
Performance Management Systems

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### Integrated Delivery and Financial System Healthcare IDFS



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### Key opportunities for adding value in perioperative care for a Health Network:

Use of data and Digital Technology for Quality & Operations improvement.

Lifestyle modification before surgery

Segmentation of patients based on Complexity

Standardization of in-hospital perioperative care and value-based pathways

Regionalization of Clinical Services and Network Management

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### Perioperative data sciences: Clinical, Operational, and Financial Data Integration

**A Systematic Approach to Creation of a Perioperative Data Warehouse**

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### Perioperative Data Analytics: better understanding of outcomes and costs and health care delivery

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	E - 15 Day LOS	F - 16-20 Day LOS	G - 21+ Day LOS	H - 15 Day LOS	I - 16-20 Day LOS	J - 21+ Day LOS
Patient Count (unweighted)	6,394	2,360	2,312			
Estimated Revenue	\$226,661,677	\$125,377,720	\$386,541,311	\$32,408	\$53,126	\$87,849
Direct Supplies, Blood, Drugs	\$39,666,914	\$26,962,464	\$82,867,991	\$5,872	\$11,437	\$15,843
Service Expense	\$52,248,516	\$54,867,963	\$113,544,757	\$3,700	\$3,688	\$6,530
Variable Expense Subtotal	\$131,930,479	\$84,480,447	\$236,212,747	\$19,864	\$14,526	\$19,218
Support Expense & Pass Thru	\$48,708,888	\$28,774,386	\$73,102,249	\$6,964	\$12,133	\$11,619
Expense Total	\$180,679,357	\$119,254,832	\$309,314,997	\$26,824	\$40,718	\$13,767
Contribution Margin	\$46,036,320	\$15,122,887	\$77,226,315	\$6,582	\$6,408	\$13,022

**23+ Day LOS - Negative Margin ONLY**

	Total Expense (Amortized)	Average Expense per Patient	Services (as sorted by volume)	Average Margin (negative margin cases only)	Case Count
Patient Count (unweighted)	5,384		GENERAL SURGERY	(\$29,627)	107
Nr of Inpatient LOS Cases	38%		THORACIC SURGERY	(\$60,725)	70
Estimated Revenue	\$104,460,404	\$77,224	CARDIAC SURGERY	(\$51,770)	65
Direct Supplies, Blood, Drugs	\$43,098,370	\$33,525	SURGICAL ONCOLOGY	(\$23,542)	45
Service Expense	\$19,206,317	\$16,479	ORTHOPEDIC SURGERY	(\$28,216)	43
Variable Expense Subtotal	\$123,632,308	\$92,063	All Other	(\$48,386)	312
			Total	(\$48,275)	672

	Total Expense (Amortized)	Average Expense per Patient	Payer Group	Average Margin (negative margin cases only)	Case Count
Support Expense & Pass Thru	\$44,022,305	\$30,395	UPMC	(\$50,301)	215
Expense Total	\$165,309,613	\$120,294	Medicaid	(\$40,300)	88
Contribution Margin	(\$60,843,009)	(\$45,271)	Other CM and Mgt	(\$42,276)	129
			Medicare	(\$4,797)	177
			Medicaid	(\$28,248)	45
			Other	(\$54,442)	15
			Total	(\$48,275)	672

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### Creating Value: Segmentation of Patients

**A Hospital Is Not Just a Factory, but a Complex Adaptive System—Implications for Perioperative Care**

Aman Mahajan, MD, PhD, MBA,\* Salim D. Islam, MD, FCCM,†  
Michael J. Schwartz, MD, MBA,‡ and Mission Performance, MPH, DLFM

*Annals Surg. 2017;155(1):233-241*

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**Standardized (Factory) Approach**

**Low Complexity Surgeries:**

- High Volume, low variance
- Lower risk
- Potential gains are related to high efficiency, not only better clinical care
- Care coordination / Discharge disposition / LEAN

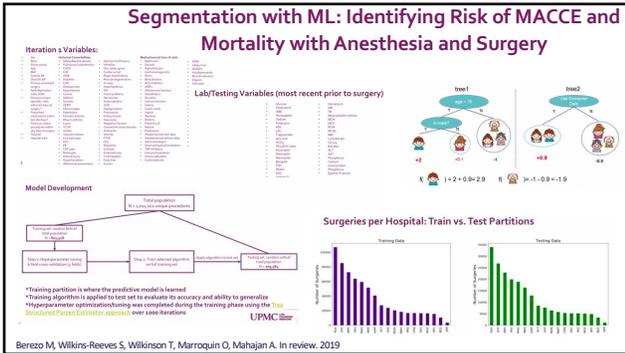
**Complex Adaptive System**

**High Complexity Surgeries:**

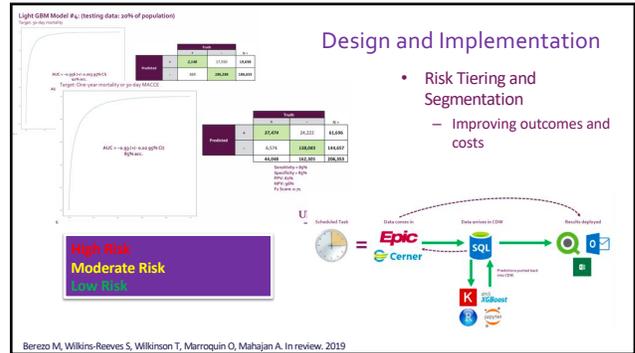
- Low Volume, high variance
- High incidence of postoperative complications
- Improving clinical outcome through network of experts
- Not well suited for Factory Like approach- Need adaptive approach

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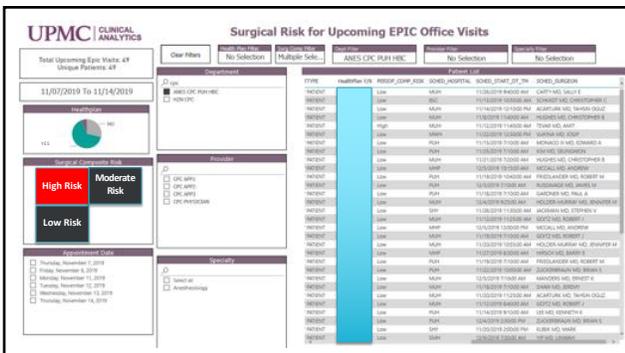
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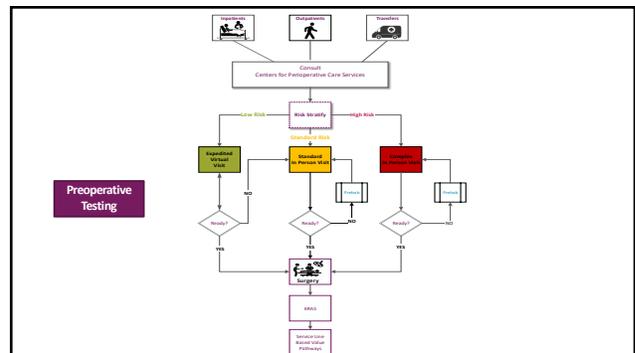
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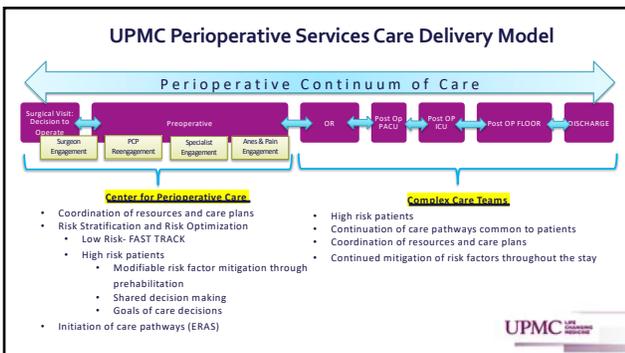
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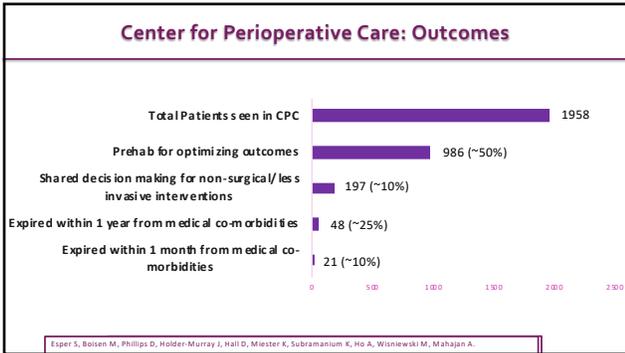
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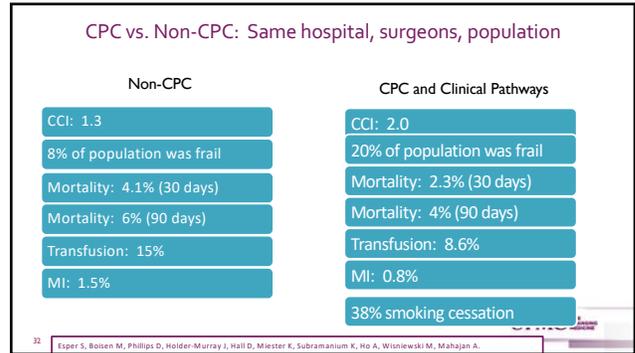
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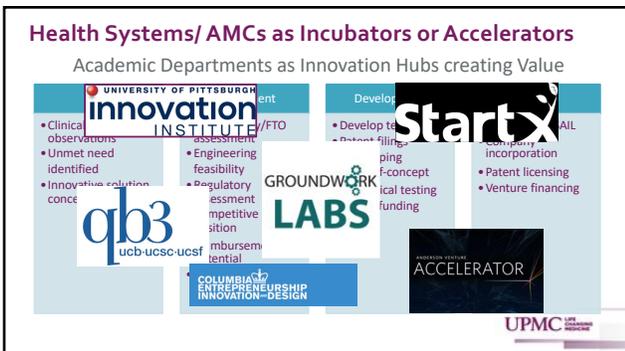
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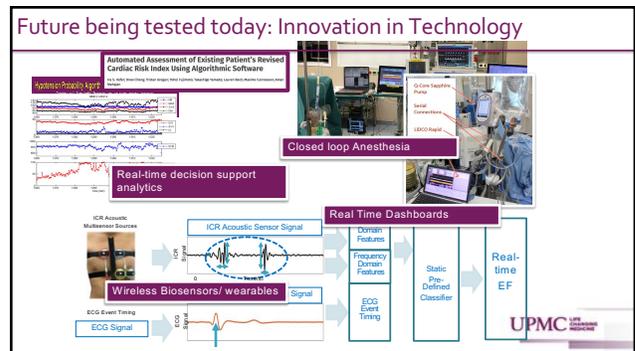
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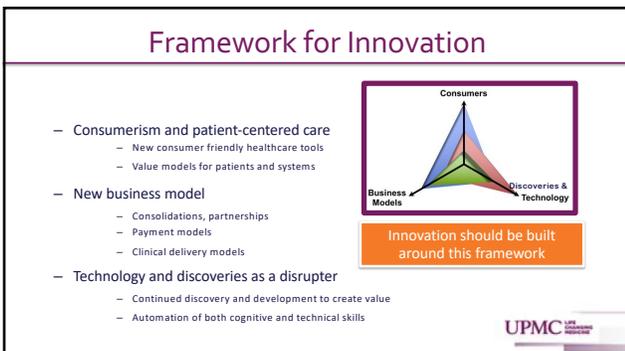
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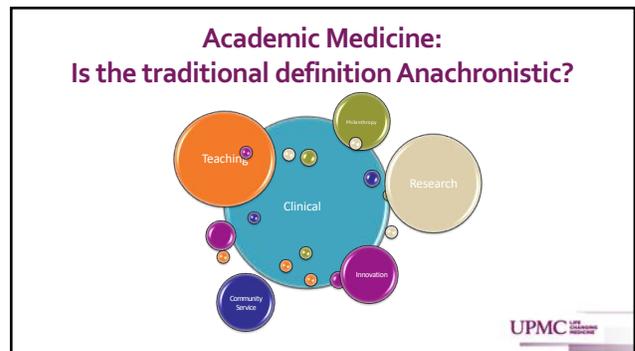
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