



Dis-Integrating Hospitals:

Shifting High-Tech Diagnosis and Treatment Services Out of the Hospital and Into Ambulatory and Physicians' Office Settings

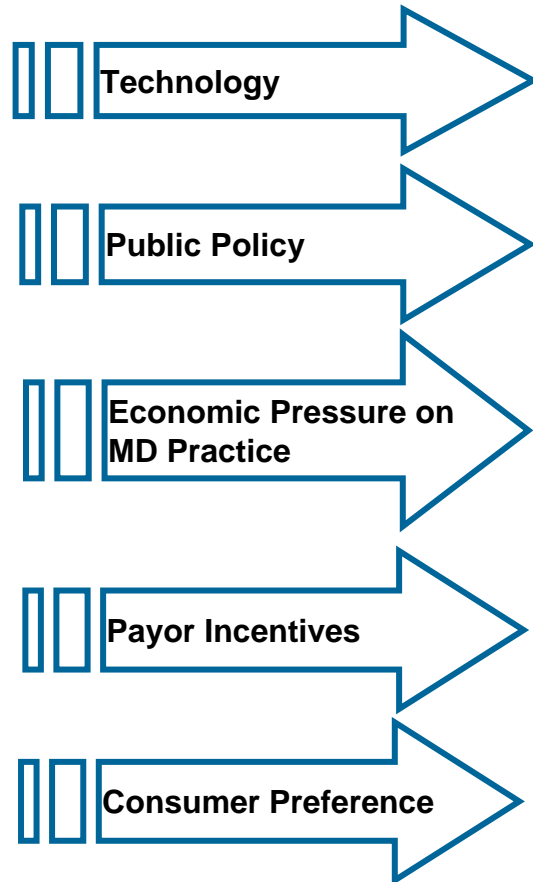


Today's Agenda

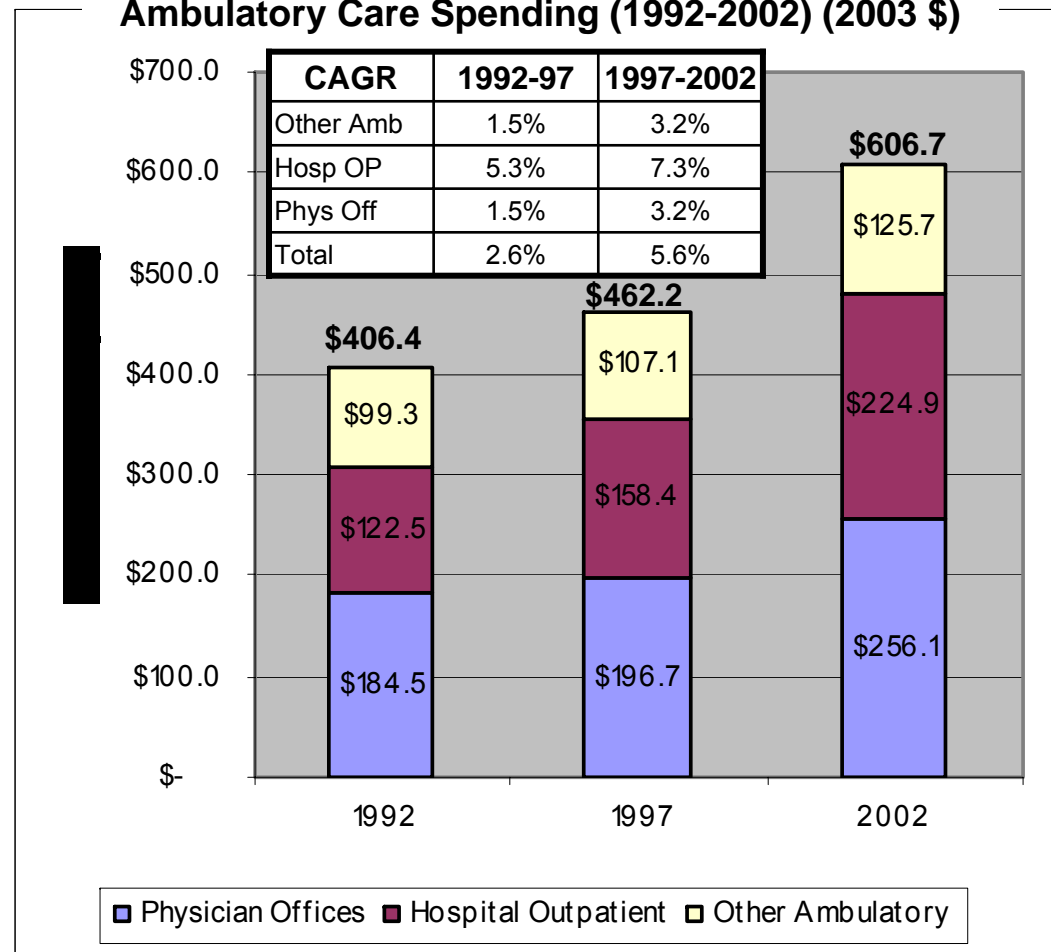
- Setting the stage – a new paradigm
- New research – market-wide view of shifting share of services by site of care
 - ➔ Research hypotheses
 - ➔ Methodology
 - ➔ Findings
- Implications for health system strategy

Market Drivers

Multiple market forces are combining to drive continued rapid expansion of ambulatory services.



Ambulatory Care Spending (1992-2002) (2003 \$)

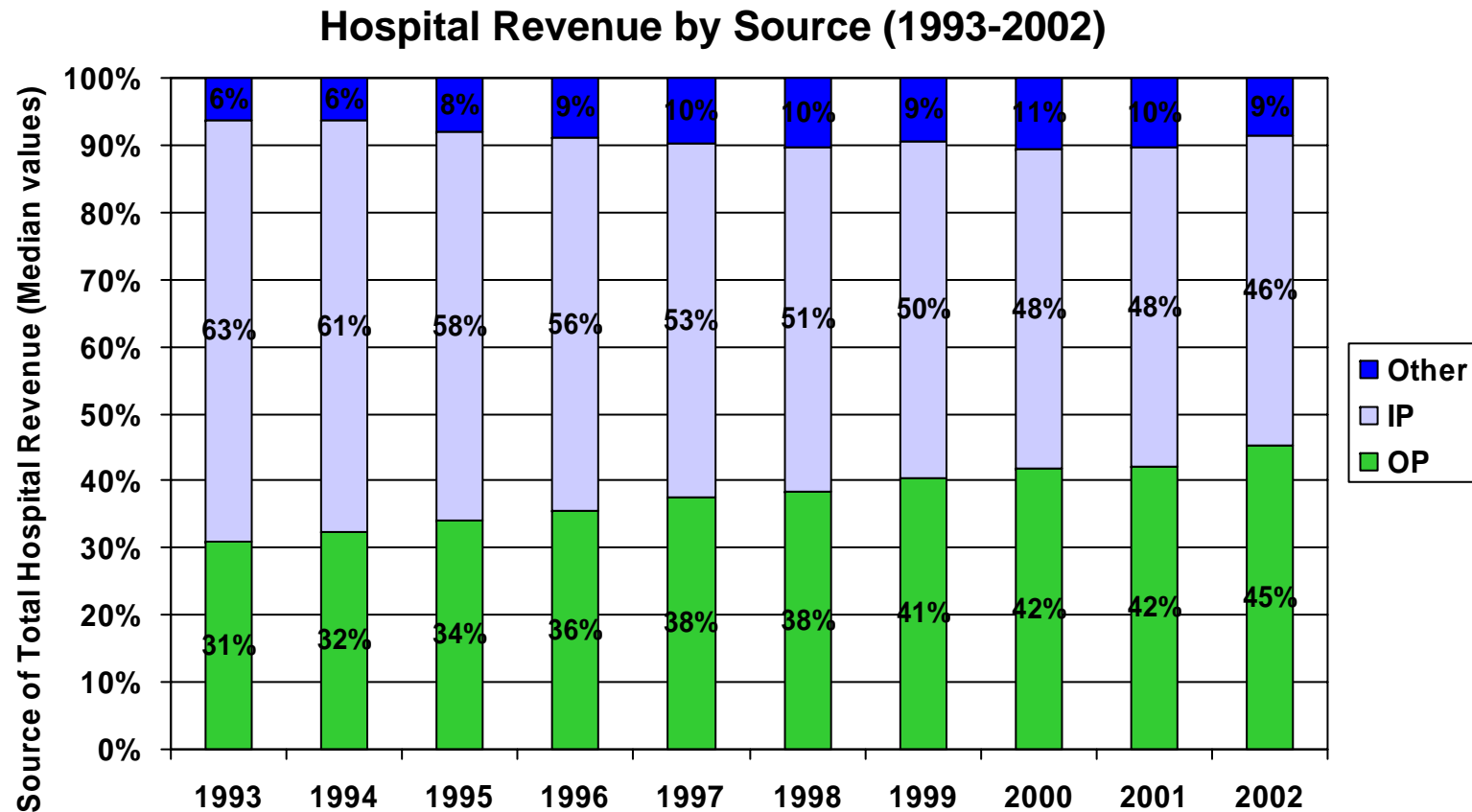


Notes: (1) Nominal dollars adjusted to 2003 real dollars for period 1992-2002; (2) For years 1997 and 2002 the ambulatory healthcare services corresponding to NAIC codes 6211, 6213, 6214, 621493 (subset of 6214), and 6215; For 1992 the SAIC codes provided by the 1992-1997 code bridging map; (3) Hosp OP total revenue derived by applying CHIPS Almanac values for all hospitals' median % of total revenue from outpatient sources to U.S. Economic Census total industry revenue for hospital care

Source: The U.S. Census Bureau Economic Census for 1992, 1997, 2002; CMS National Health Expenditure survey 2002; BDC Advisors, LLC analysis

Ambulatory Care – Reshaping the Hospital

Growth in ambulatory services are reshaping the hospital. In many institutions, ambulatory services generate more revenue than inpatient services.

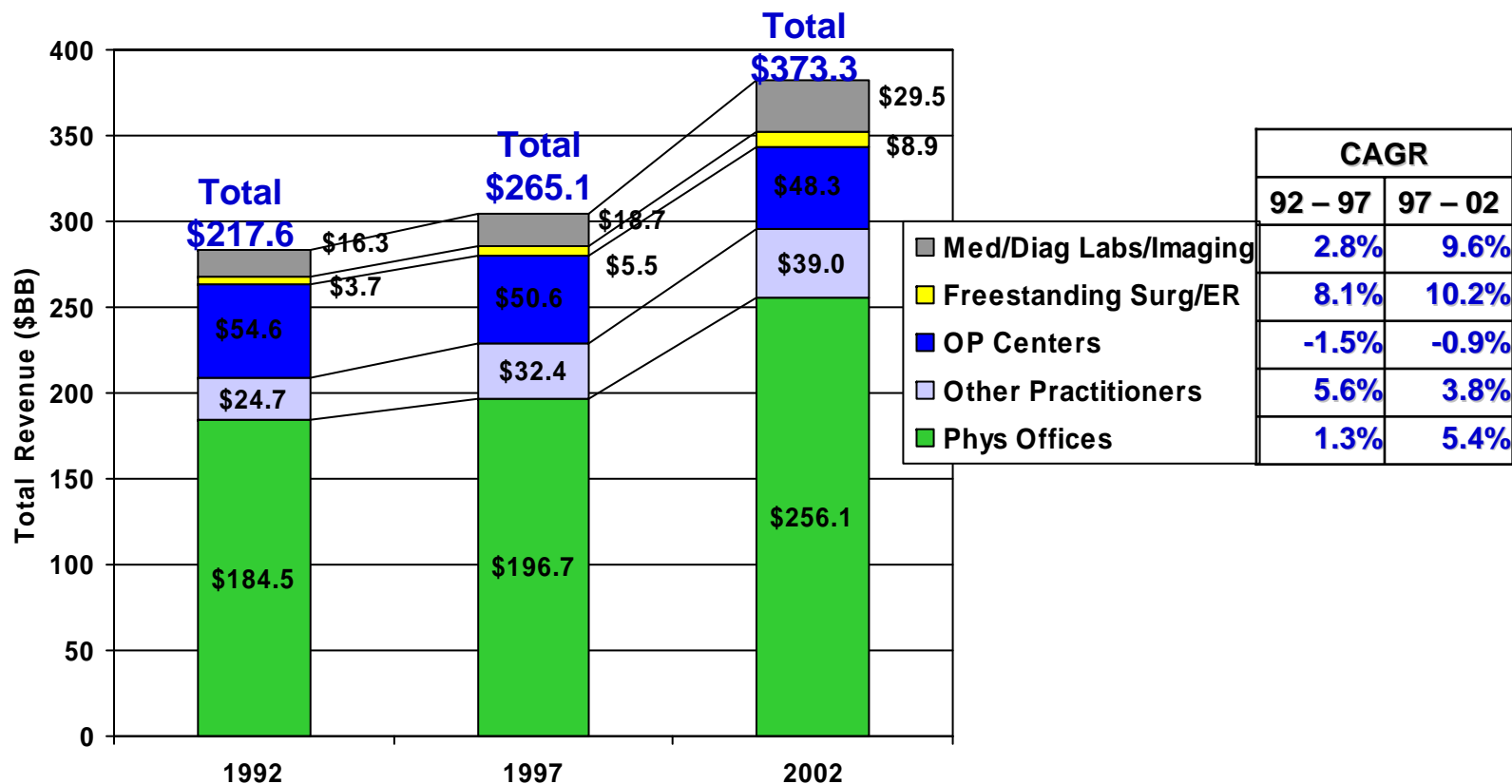


Source: The Center for Healthcare Industry Performance Studies (CHIPS) Almanac of Hospital Financial and Operating Indicators, 1998-99; Ingenix Almanac of Hospital Financial and Operating Indicators, 2004

Ambulatory Care – Growth Outside the Hospital

Outside the hospital, ambulatory services are growing at an accelerating rate, with freestanding surgery centers and ERs, lab, and imaging services growing at the fastest rates.

Revenue by Site (1992-2002) (2003\$)



Notes: (1) Nominal dollars adjusted to 2003 real dollars for period 1992-2002; (2) For years 1997 and 2002 the ambulatory healthcare services corresponding to NAIC codes 6211, 6213, 6214, 621493 (subset of 6214), and 6215; For 1992 the SAIC codes provided by the 1992-1997 code bridging map

Source: The U.S. Census Bureau Economic Census for 1992, 1997, 2002

New Research – Market-Wide View Shifting Site of Care

For most hospital systems, understanding the real impact of ambulatory care development is difficult.

- Complex universe of patient conditions, sites of care, and procedures
- State market data almost always limited to inpatient services
- Utilization increases coupled with increasing acuity are masking the impact on the hospital
 - ➔ Like the old story of 5 blindfolded people holding onto different parts of the elephant, it's almost impossible to understand the full picture.

Solution: Use a health plan claims database to capture a market-wide view of shifting share of services by site of care.

Hypotheses

Shifts in care delivery from hospital to office-based settings are having a significant economic impact with critical strategic implications for hospitals.

- Healthcare services funded by commercial health plans are increasingly provided in outpatient and physician's office settings
- Service lines particularly reliant on technology-driven Dx and Tx modalities (e.g., imaging, surgery, radiation therapy, etc.) are being disproportionately affected
- Services shifting to outpatient settings are those that have historically had above-average contributions for most hospitals

Methodology – Data Description

Our analysis was conducted on a commercial population over a three-year period from 2002 to 2004. The database was a Southwestern US employer-sponsored health plan.

- Membership (employee and dependant)
 - ➔ January, 2002 – 22,698 lives
 - ➔ December, 2004 – 31,435 lives
- Key characteristics
 - ➔ Average age / sex factor: 1.1-1.2
 - ➔ Claims per 1,000 covered lives: 284-331
 - ➔ Average cost per claimant: \$516-\$542
 - ➔ Hospital admits per 1,000 covered lives per year: 94.8 – 98.4
 - ➔ ALOS per hospital visit: 3.8-4.0
 - ➔ Percent claims in network: 87% – 96%

Methodology – Data Definitions

Our analysis used Symmetry Health’s Episode Treatment Group (ETG) classification to track inpatient and outpatient services linked to diagnosis.

ETG Assignment Process

- Driven by principal ICD-9 diagnosis code, which matches to a single ETG
- Considers secondary ICD-9 for refinement
- Evaluates CPT4 codes for appropriateness of ETG assignment
- Links patient records within a defined time period with similar ETGs to define an episode
- Utilized Symmetry proprietary ETG grouper methodology

DRG and ETG Comparison

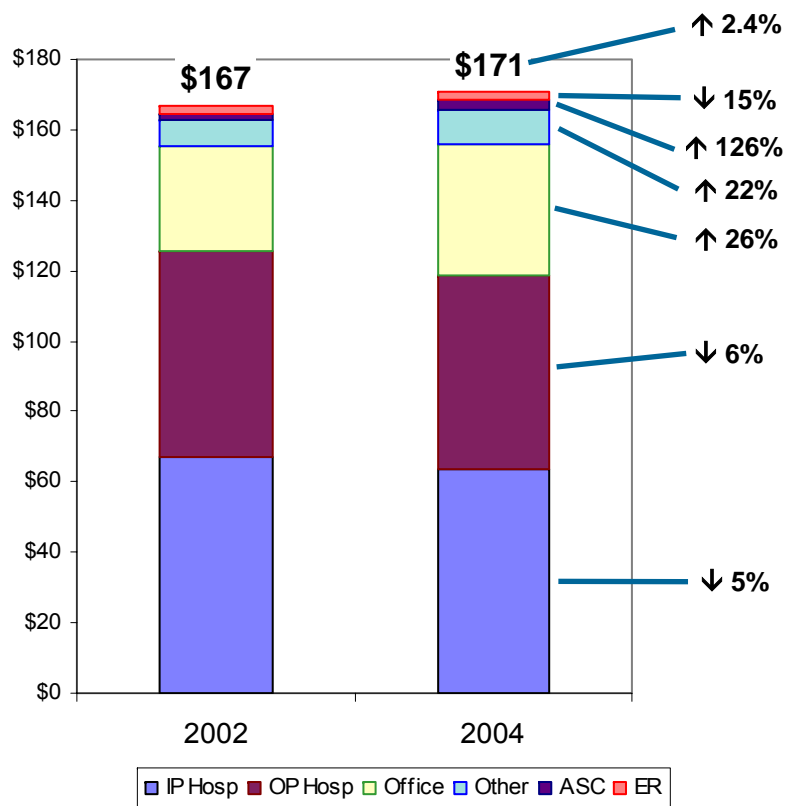
Classification System Characteristics	DRG	ETG
Groups services in clinically homogeneous groups defined by distinct physiological function	Grouped by Major Diagnostic Category	Grouped by Major Practice Category
Identifies complications / co-morbidities	✓	✓
Allows some case mix adjustment for severity	✓	✓
Categorizes all encounters of care beyond inpatient hospital setting to include all ambulatory settings		✓
Allows evaluation of all care to a patient for an episode and identifies recurrence of episode		✓

Source: Symmetry Health documentation

Overall Trends – By Site of Service

Overall PMPM expenditures grew 2.4%, from \$167 to \$171 between 2002 and 2004. During that period, inpatient and outpatient hospital expenditures declined 5.4% while physician office based expenditures increased 26%.

PMPM Medical Claims by Site of Service



Total Medical Claims by Site of Service

(\$ in 000s)	2002	2004	Change 2004/2002
IP Hosp	\$ 18,189,018	\$ 17,913,872	\$ (275,146)
OP Hosp	\$ 15,917,408	\$ 15,400,053	\$ (517,355)
Office	\$ 8,039,046	\$ 9,217,751	\$ 1,178,705
Other	\$ 2,110,715	\$ 2,256,606	\$ 145,890
ASC	\$ 404,903	\$ 836,331	\$ 431,428
ER	\$ 719,013	\$ 674,193	\$ (44,820)
Total	\$ 45,380,103	\$ 46,298,805	\$ 918,703
Member months	271,760	271,760	

Note: 2004 claims adjusted to constant 2002 member months.

Implications :

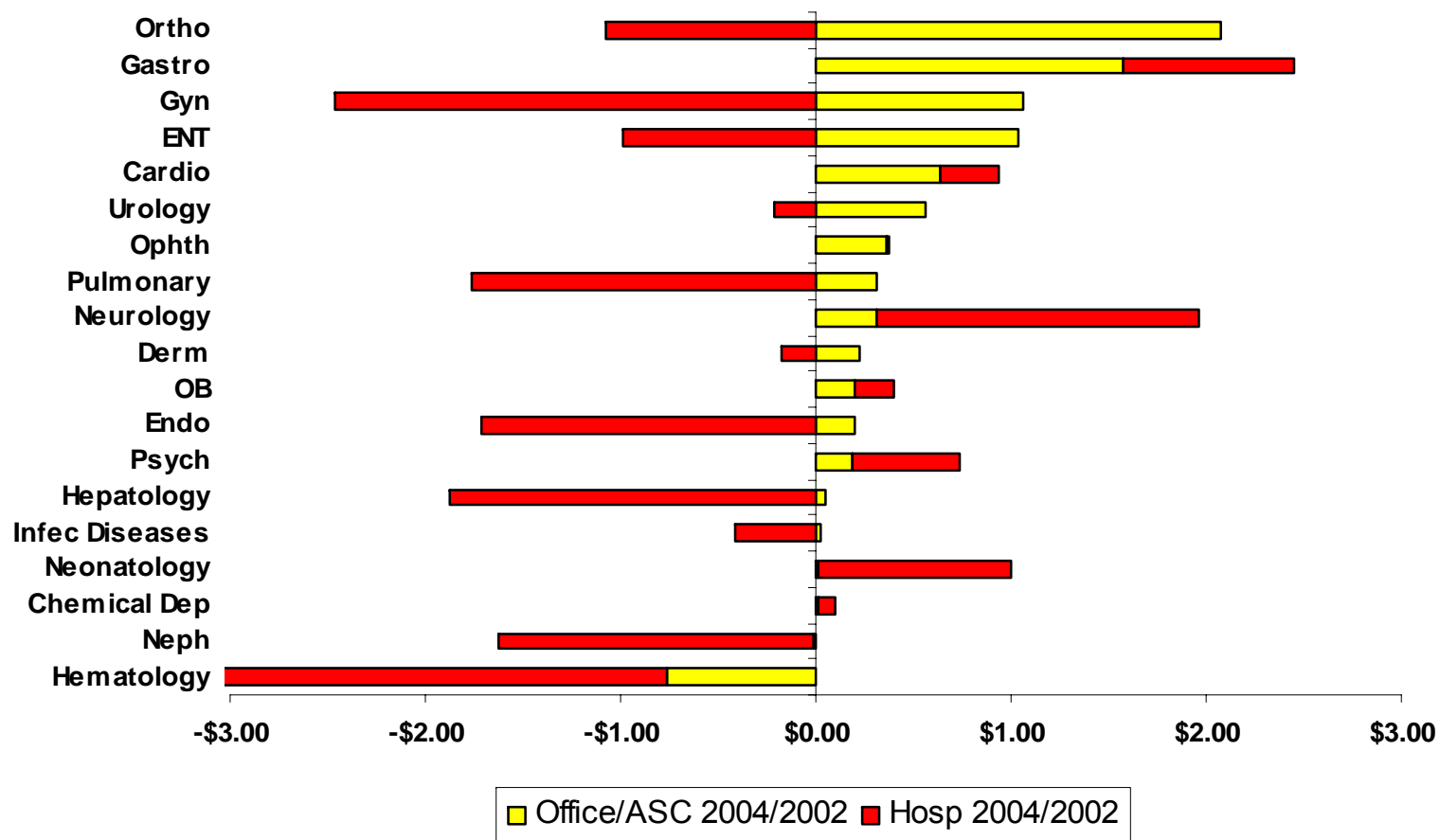
For a hypothetical hospital with 230 patient census and 40% commercial payor mix, approximately \$1.0M annual commercial revenue moved from hospital-based care to alternative settings between 2002 and 2004.

Source: InforMed; BDC Advisors, LLC analysis

Overall Trends – Shifts by Major Practice Category

Orthopedics and Gastroenterology represented the largest growth in PMPM by site of service between 2002 and 2004.

Change in PMPM Medical Claims by MPC

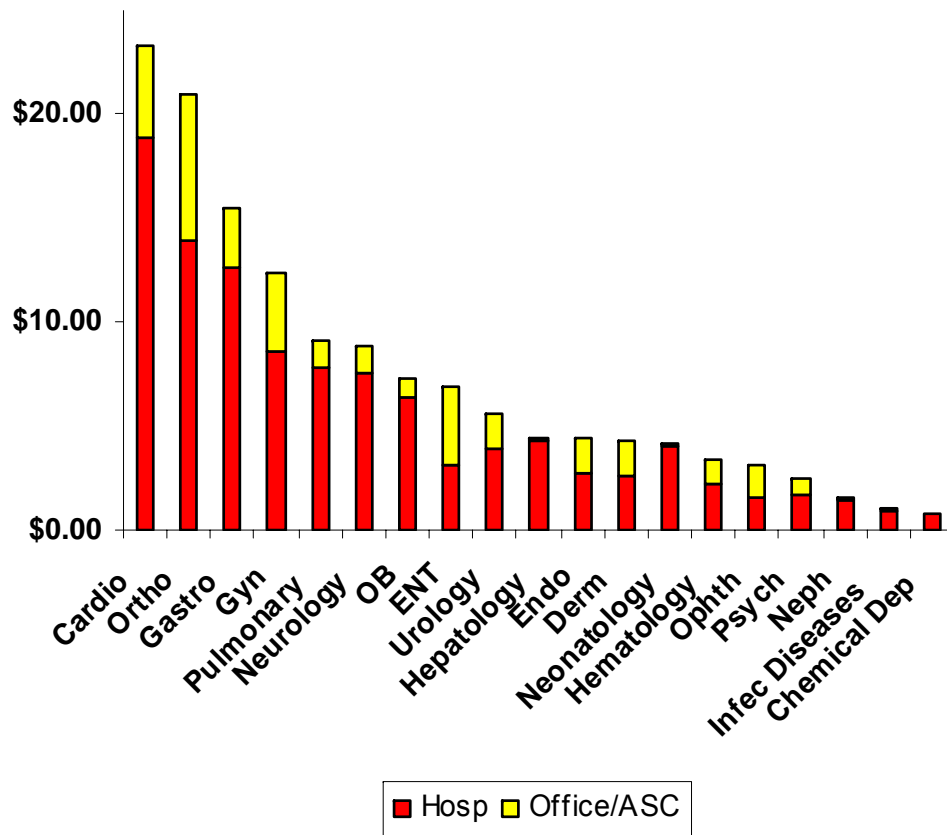


Note: Sorted by Office/ASC PMPM growth
 Source: InforMed; BDC Advisors, LLC analysis

Overall Trends – Relative Importance

Orthopedics and Gastroenterology are important services for understanding site of care shifts as they are second and third in overall PMPM costs, and they are traditionally highly profitable services contributing significant gross margin.

Distribution of Total PMPM by MPC



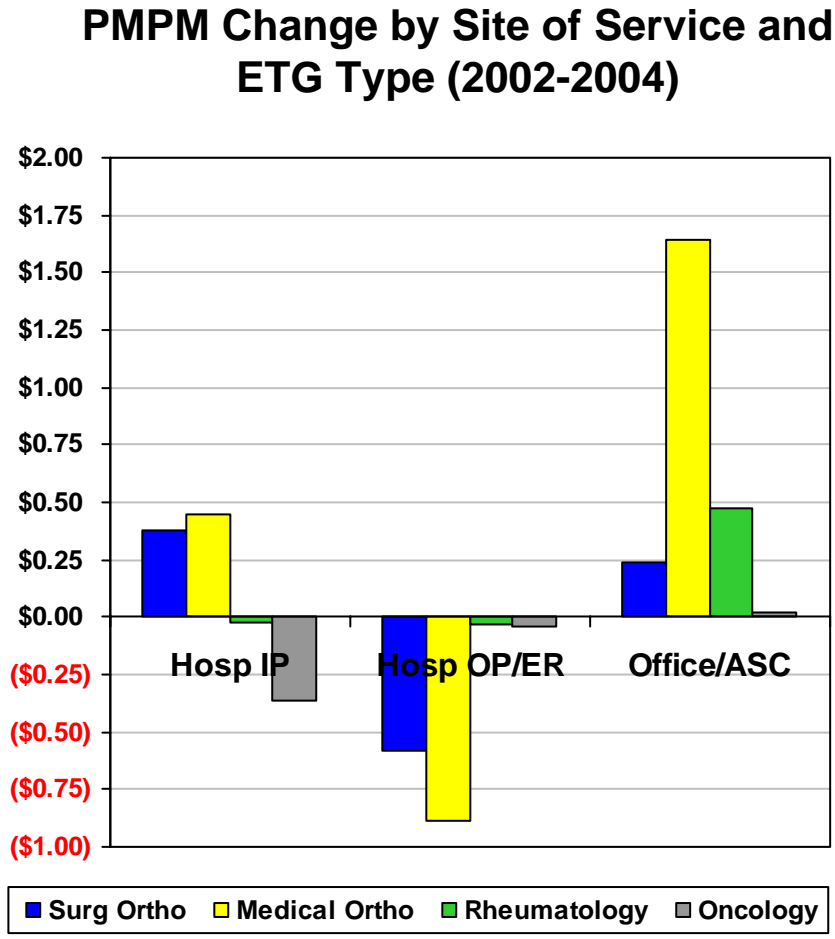
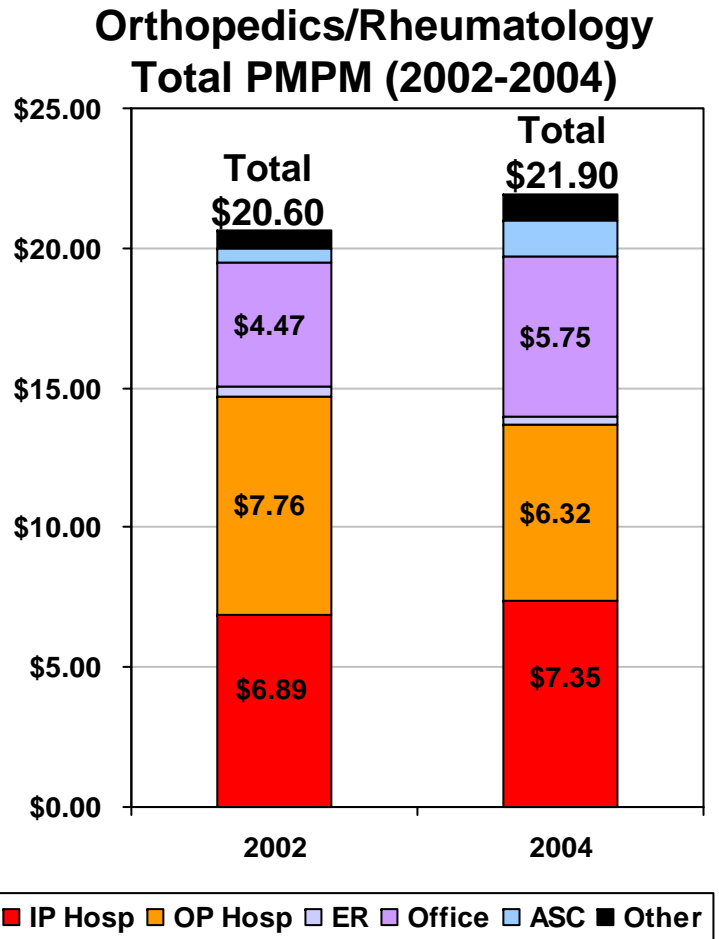
Example Northeast Hospital Margins by Service

Service Line	FY2004 Gross Margin		
	IP	OP	Combined
Neurology	49%	44%	46%
Neurosurgery	42%	63%	46%
Cardio	45%	28%	43%
Urology	46%	35%	39%
Hem/Onc	38%	40%	38%
OB/Gyn	46%	24%	38%
Gastro	49%	22%	38%
Pulmonary	37%	32%	36%
Neph	35%	27%	33%
Ortho	33%	24%	29%
Derm	na	28%	28%
Surgery	43%	12%	25%
Infec Diseases	27%	16%	25%
Ophth	44%	19%	20%
Endo	33%	11%	12%
Psych	21%	-143%	-3%
Rheum	66%	-72%	-69%

Source: InforMed; BDC Advisors, LLC analysis and client experience

Orthopedics & Rheumatology

PMPM expenditures in the hospital setting declined by \$1.08 PMPM while office and ASC settings grew by \$2.38 PMPM, mostly in Medical Orthopedics and Rheumatology.

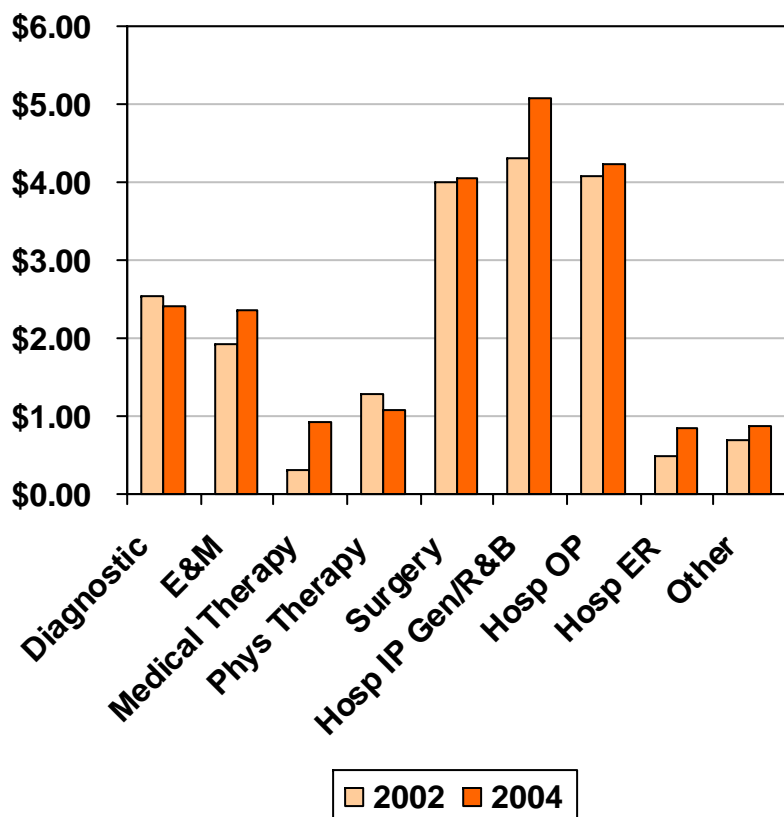


Source: Informed; BDC Advisors, LLC analysis

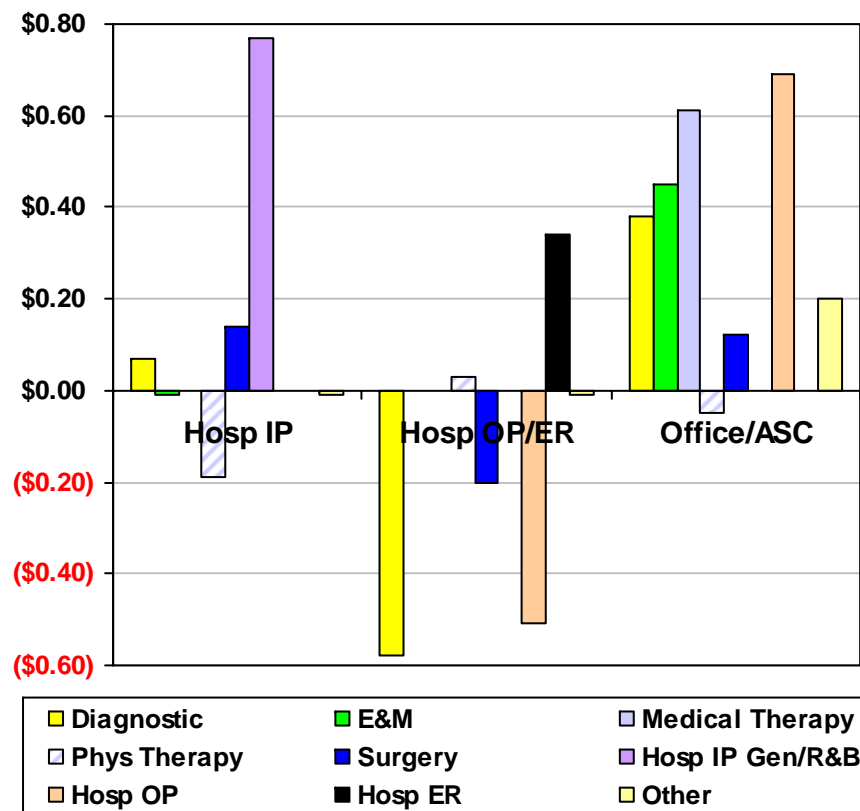
Orthopedics & Rheumatology

Medical therapy, E&M procedures and IP services grew most in PMPM overall, but the shift from hospital to ambulatory settings was most pronounced in diagnostics, medical therapy, and surgery procedures.

Orthopedics/Rheum PMPM by Procedure/Service Type (2002-2004)



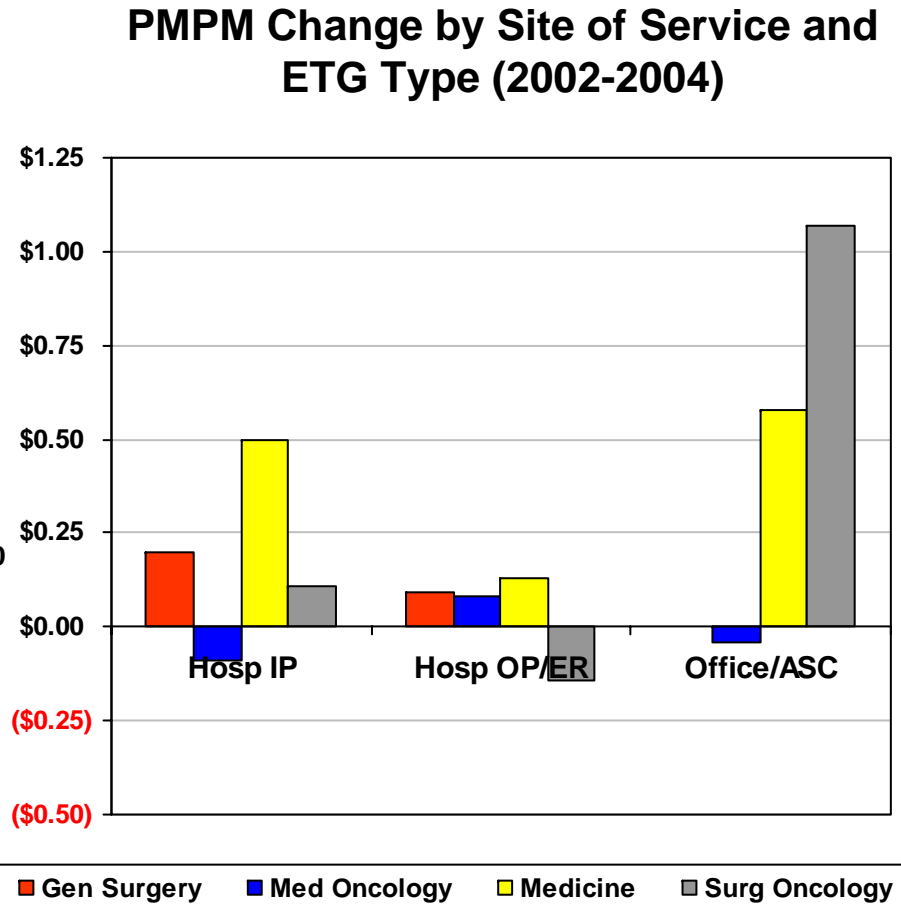
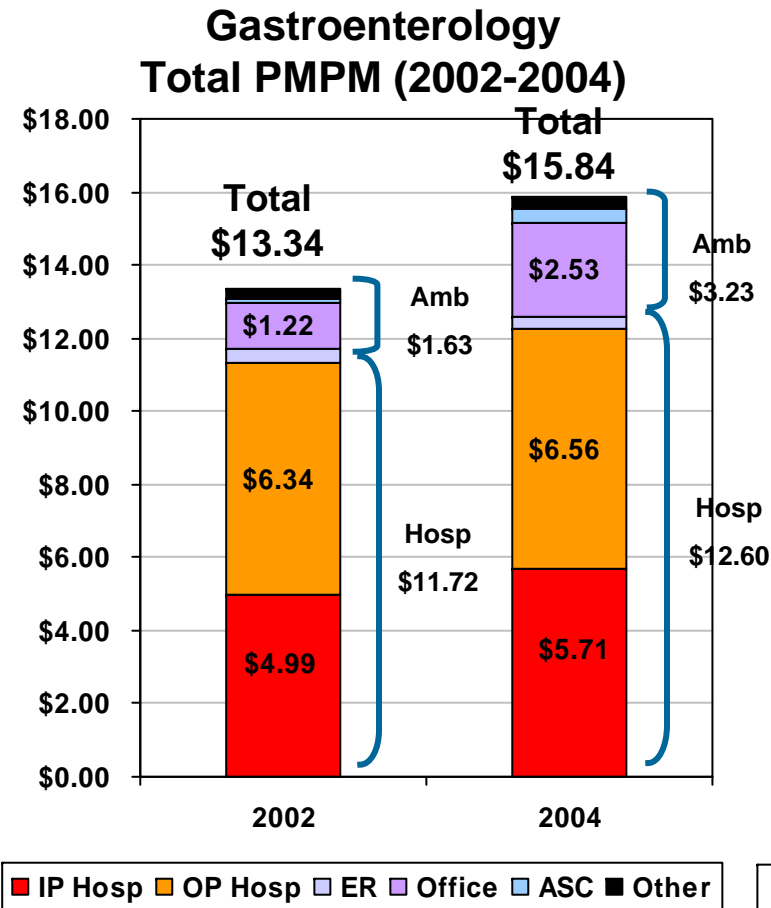
PMPM Change by Site of Service and Procedure Type (2002-2004)



Source: Informed; BDC Advisors, LLC analysis

Gastroenterology

PMPM expenditures in the hospital settings increased by 8% while that of ambulatory settings doubled. Most of this growth is attributable to the surgical oncology and medical ETGs.

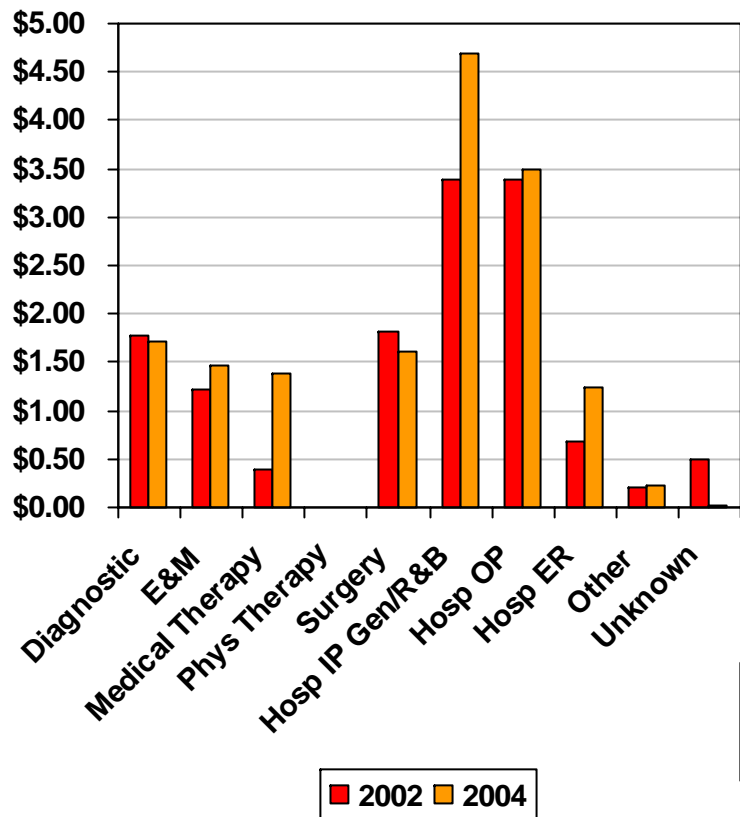


Source: Informed; BDC Advisors, LLC analysis

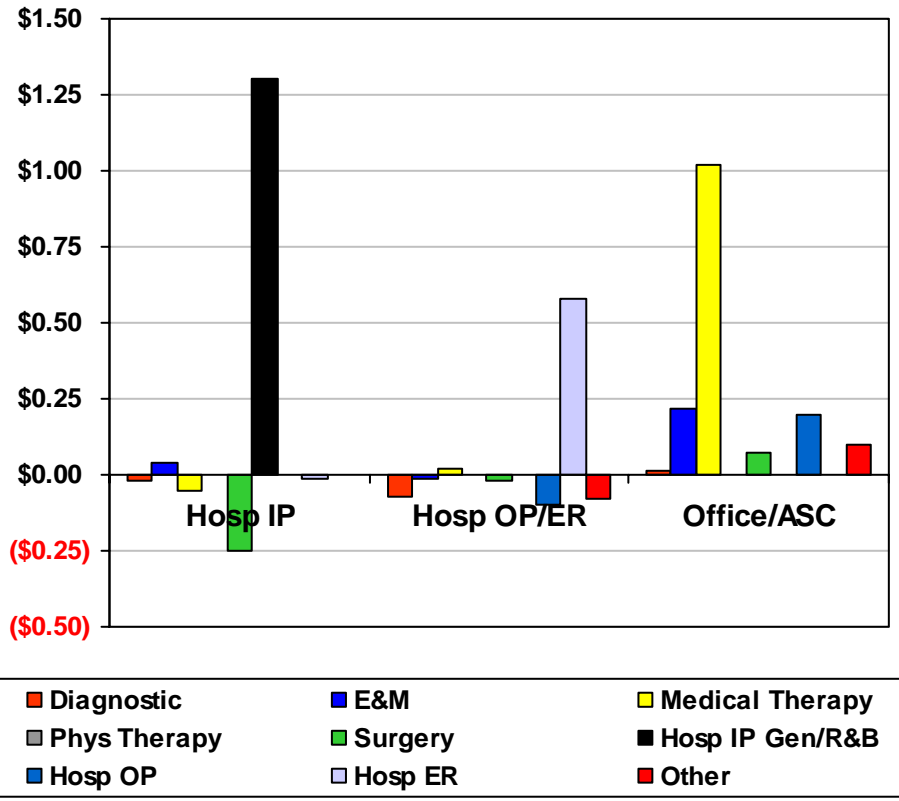
Gastroenterology

Medical therapy and diagnostics grew while surgery PMPM declined overall. Ambulatory sites captured most of the growth in medical therapy and grew surgery cases in a declining market.

Gastroenterology PMPM by Procedure/Service Type (2002-2004)



PMPM Change by Site of Service and Procedure Type (2002-2004)

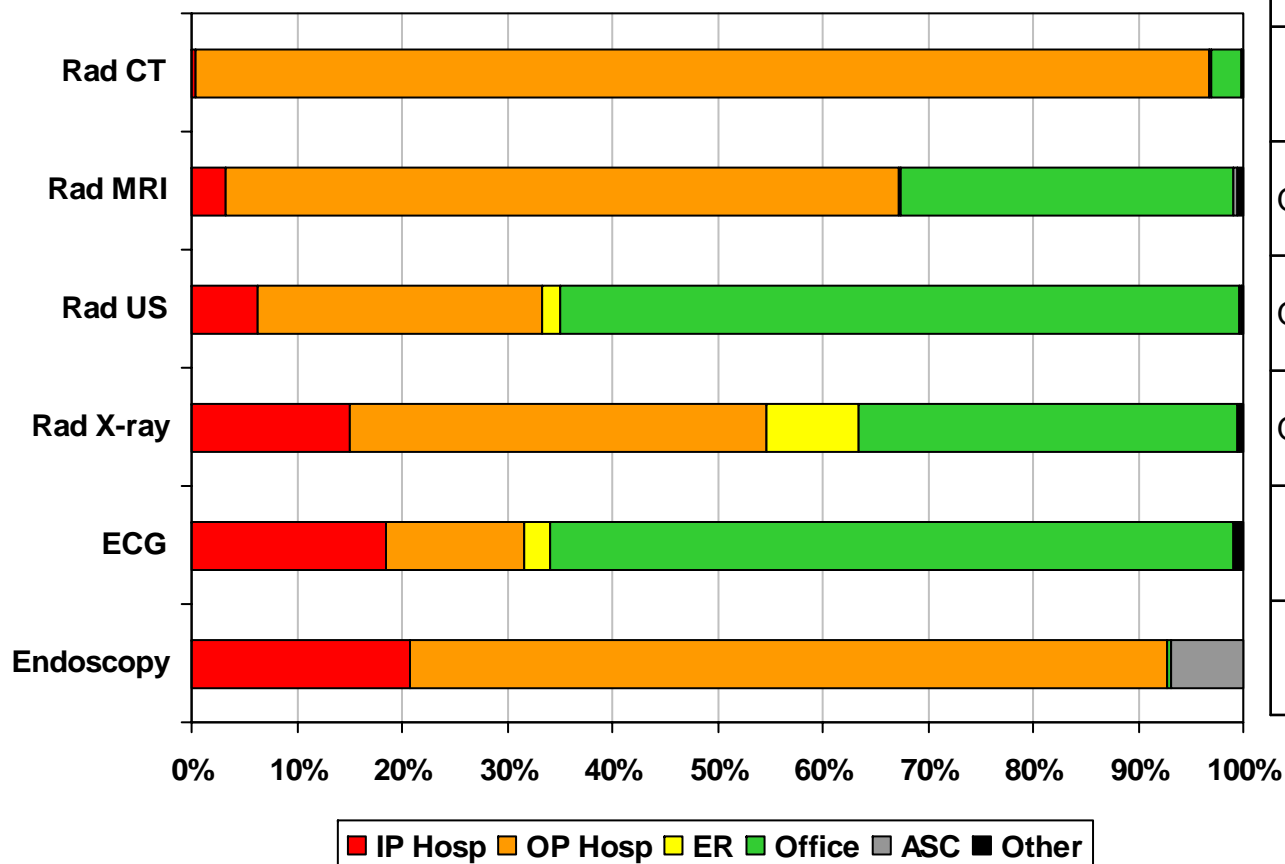


Source: Informed; BDC Advisors, LLC analysis

Diagnosics by Modality – All Service Lines

Imaging procedures are continuing to migrate to the office setting.

Site Market Share of PMPM by Diagnostic Procedure Type (2004)



Share Points Change 2002-2004		2004 PMPM
Most Lost	Most Gained	
N/A	N/A	\$2.26
OP Hosp	Office	\$4.34
OP Hosp	Office	\$0.99
OP Hosp	Office	\$2.85
IP Hosp	Office	\$1.81
Office	OP Hosp	\$0.57

Note: Data excludes claims with radiology services declared as "General Radiology" category.

Source: Informed; BDC Advisors, LLC analysis

Implications for Hospital Strategy – Discussion Questions

- To what degree do these trends dictate a new business model for health systems?
- How much of the provider “value chain” should / can health systems control?
- In this new world, how should health systems relate to their physicians?
 - ➔ Compete?
 - ➔ Coordinate?
 - ➔ Combine?
 - ➔ Control?
- How can health systems capitalize new strategies?
- What are the implications for the hospital itself?

For More Information...

William T. Eggbeer

Director

BDC Advisors, LLC

(301) 320-2896

beggbeer@bdcadvisors.com