

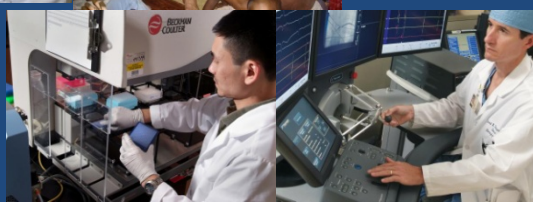
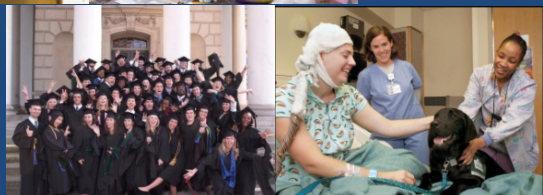
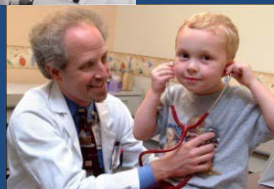
Genomics-Enabled Learning Health Care Systems

Health System Perspective

Fred Sanfilippo MD, PhD

**Emory-Georgia Tech
Healthcare Innovation Program**

**IOM Workshop
December 8, 2014**



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Health System Perspectives Outline

Why: Genomics

- Rationale
- Confounders

How: Enabling New Programs

- Issues, priorities
- Enhancing performance

Example: Healthcare Innovation Program

- Strategy, tactics
- Impact, lessons



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Why Genomics-Enabled Health Systems?

Predictive Value of Genomics

Risk of disease

- Onset
- Resistance

Host response to disease

- Course
- Severity

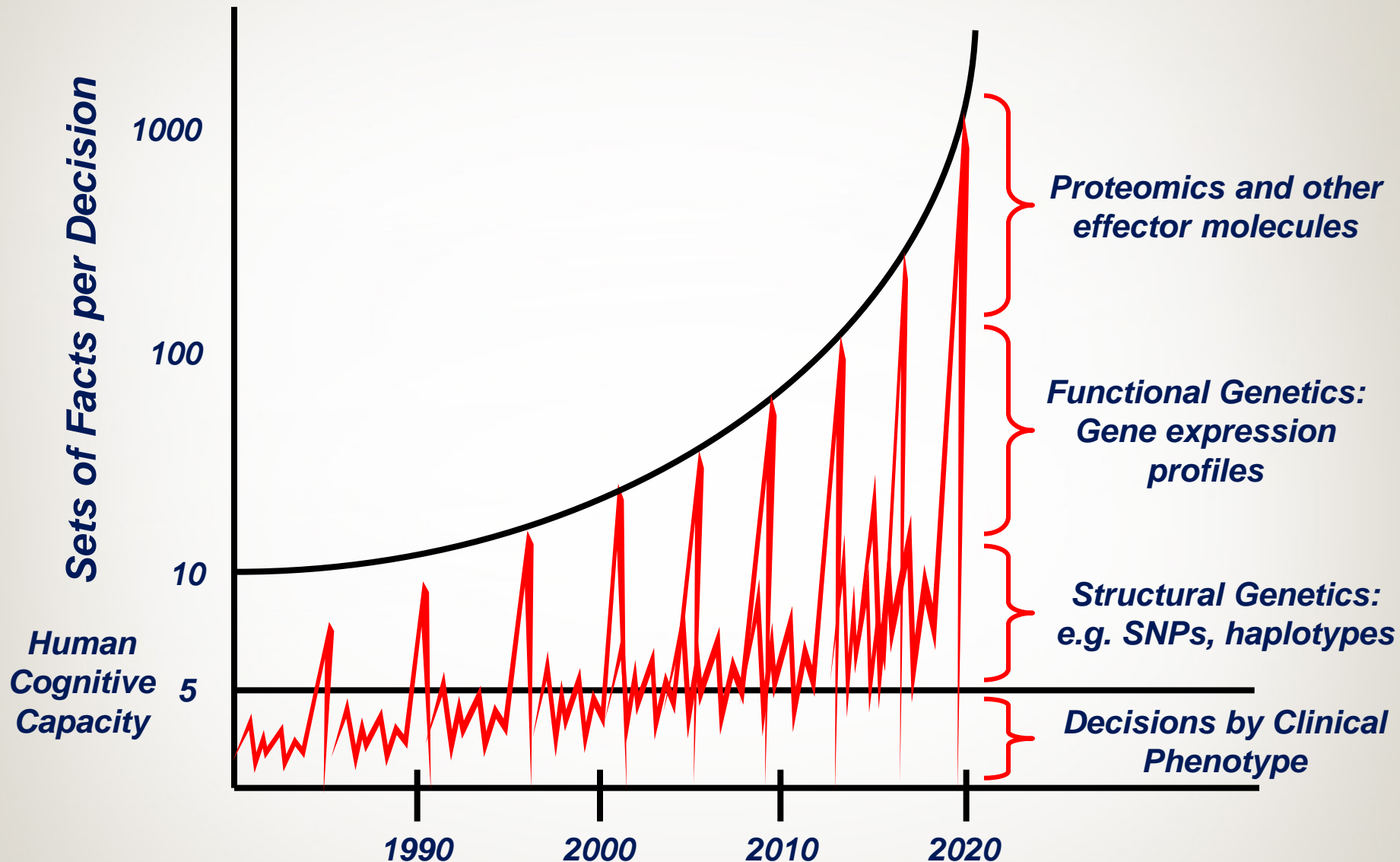
Response to treatment

- Effectiveness
- Complications

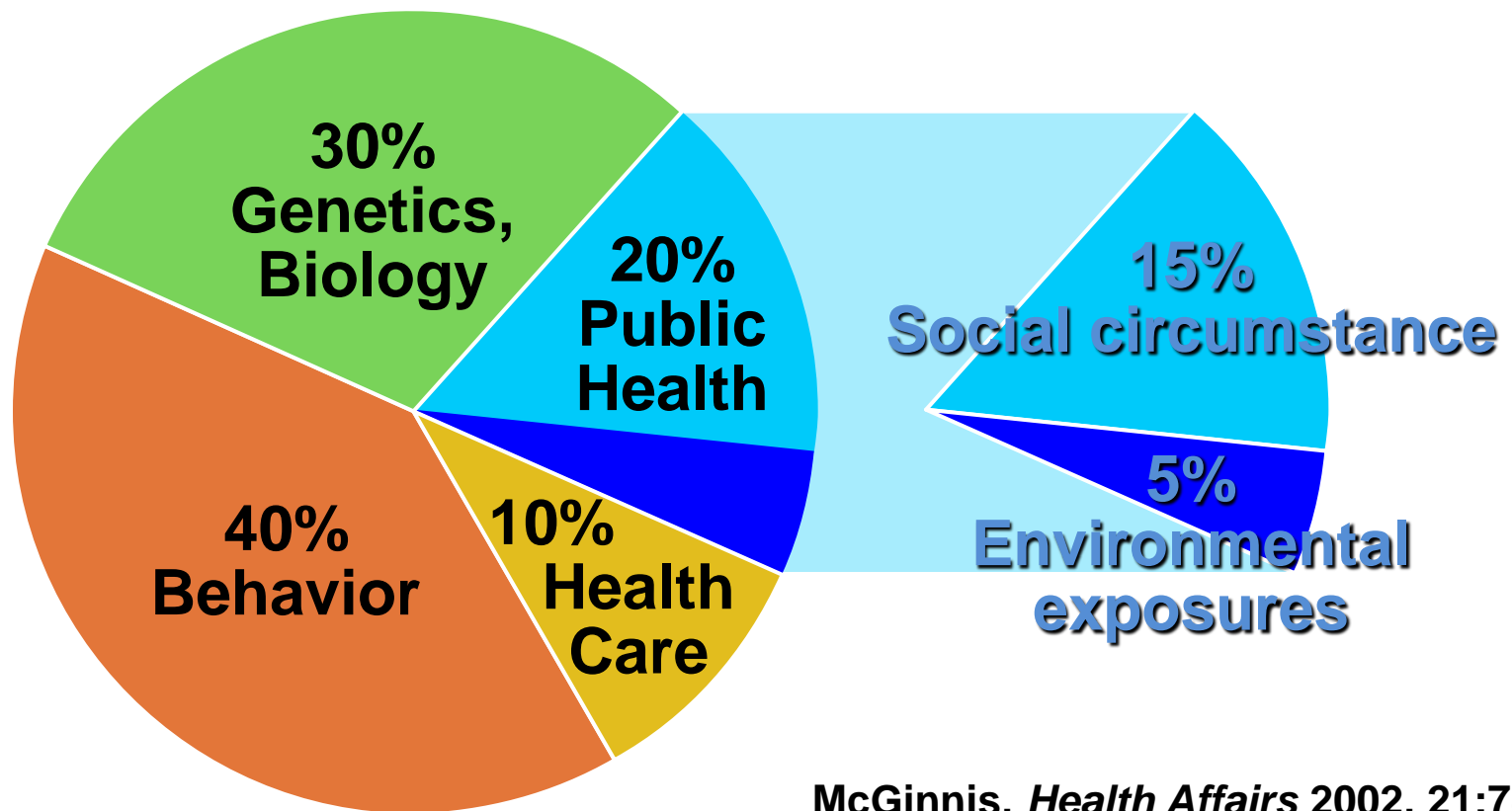
However.... Cost-benefit??



Central Challenge: Overwhelming Complexity



Determinants of Population Health and Disease



McGinnis, *Health Affairs* 2002, 21:78-93

Health Affairs Health Policy Brief, Aug 21, 2014



DETERMINANTS OF POPULATION HEALTH

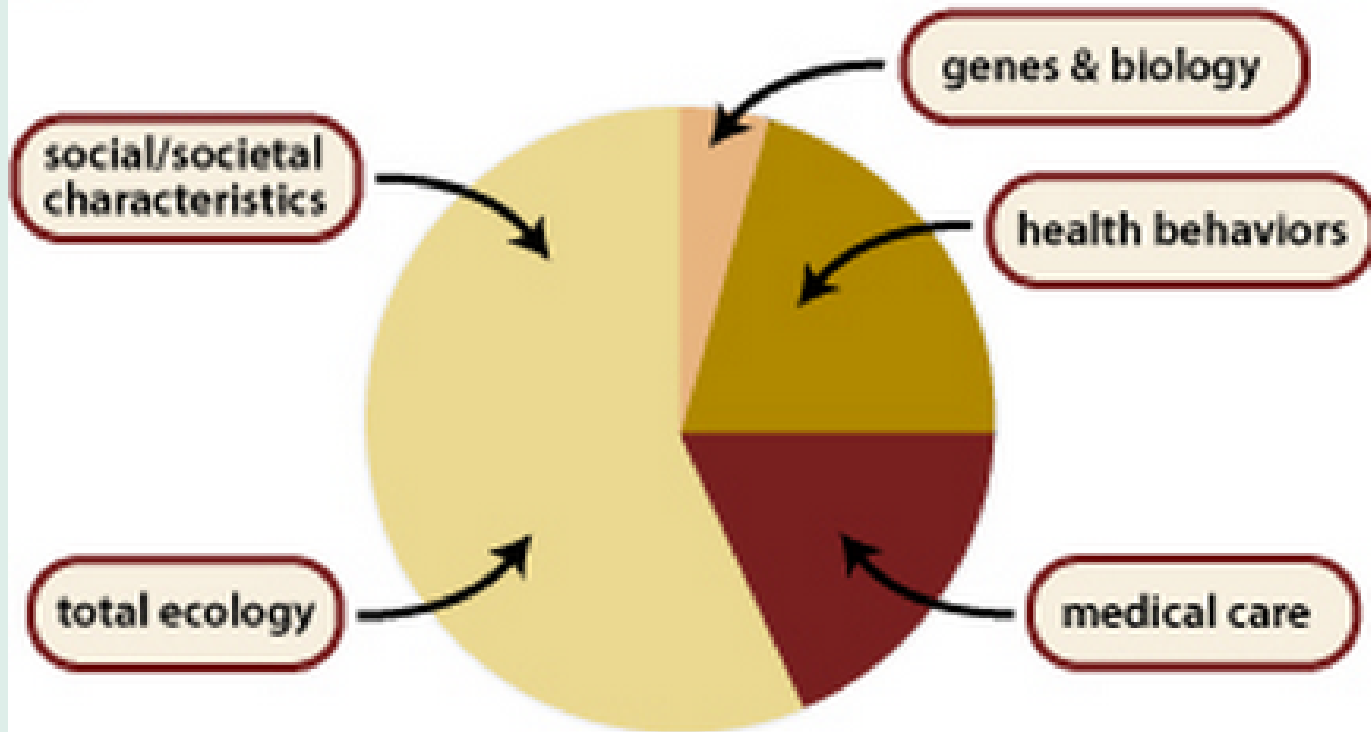


Figure 1. Estimates of how each of the five major determinants influence population health [4].



Enabling New Programs in AHCs

Issues and Priorities

- **Reimbursement:** value vs volume
- **Delivery models:** ACOs, medical homes
- **Competition:** retail, virtual, boutique
- **Compliance:** regulatory, financial
- **IT:** applications, cost, implementation
- **Education:** content, delivery, cost
- **Focus:** health care vs. disease care
- **Organizational, Professional silos:**
 - Academic units, health system
 - Health professions, medical specialties
 - Poor care coordination, teamwork



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Enabling New Programs in AHCs

Aligning Missions Among Units

Mission	Hospital System	Faculty Practices	University Schools
Healthcare	✓	✓	?
Education	?	?	✓
Research	?	?	✓
Community	✓	?	✓
Support Services Financial, Planning, Communications, IT, HR, etc			



Enabling New Programs in AHCs

Aligning Priorities Among Units

Mission	Business Model (Culture)	Measures
Healthcare	Profit and loss (Command-Control)	Quality Cost/revenue Access
Education	Service (Academic)	Student quality Job placement Rankings
Research	Return on investment (Innovation)	Funding Papers Impact
Community	Service (Philanthropic)	Population health Economic benefit Workforce



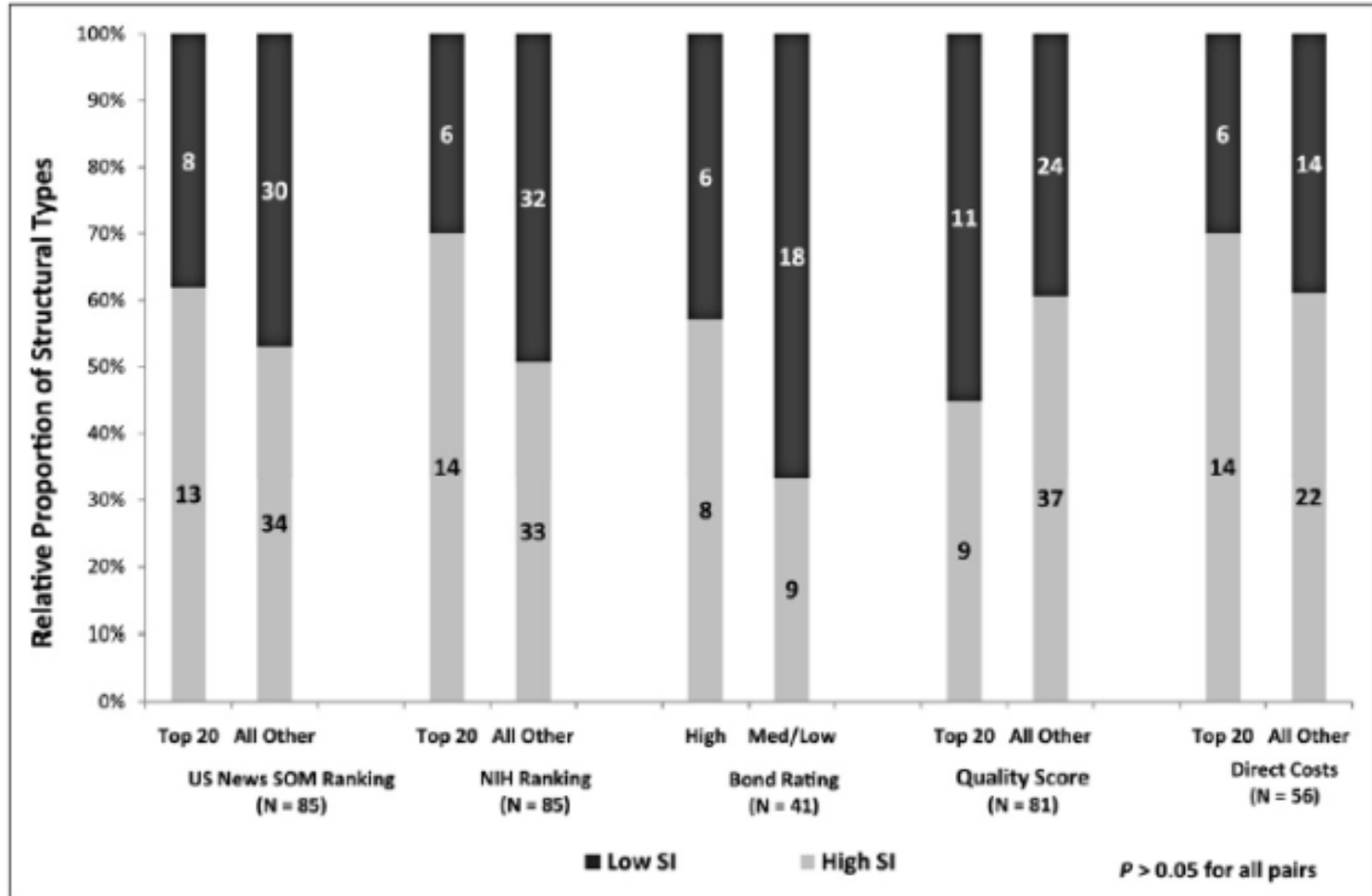
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Enabling New Programs in AHCs

Structural Alignment and Performance



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Keroack et al, AmerJSurg 2011; 202: 119-126

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Functional Alignment and Performance

Table 1 Responses to the FA questionnaire

Functional Area	Mean Rating	Range	Correlation With Overall Integration
Budgeting	3.53	1–5	0.54
Financial reporting	3.19	1–5	0.58
Capital planning	3.27	1–5	0.68
Program planning	3.78	1–5	0.58
Strategic planning	4.00	1–5	0.65
Chair hiring/firing	4.00	1–5	0.31
Chair evaluation	3.37	1–5	0.39
Medical directors	3.70	1–5	0.30
Financial transfers	4.04	1–5	0.48
Business development	2.73	1–5	0.50
Information systems	4.16	1–5	0.38
Communication	3.33	1–5	0.67



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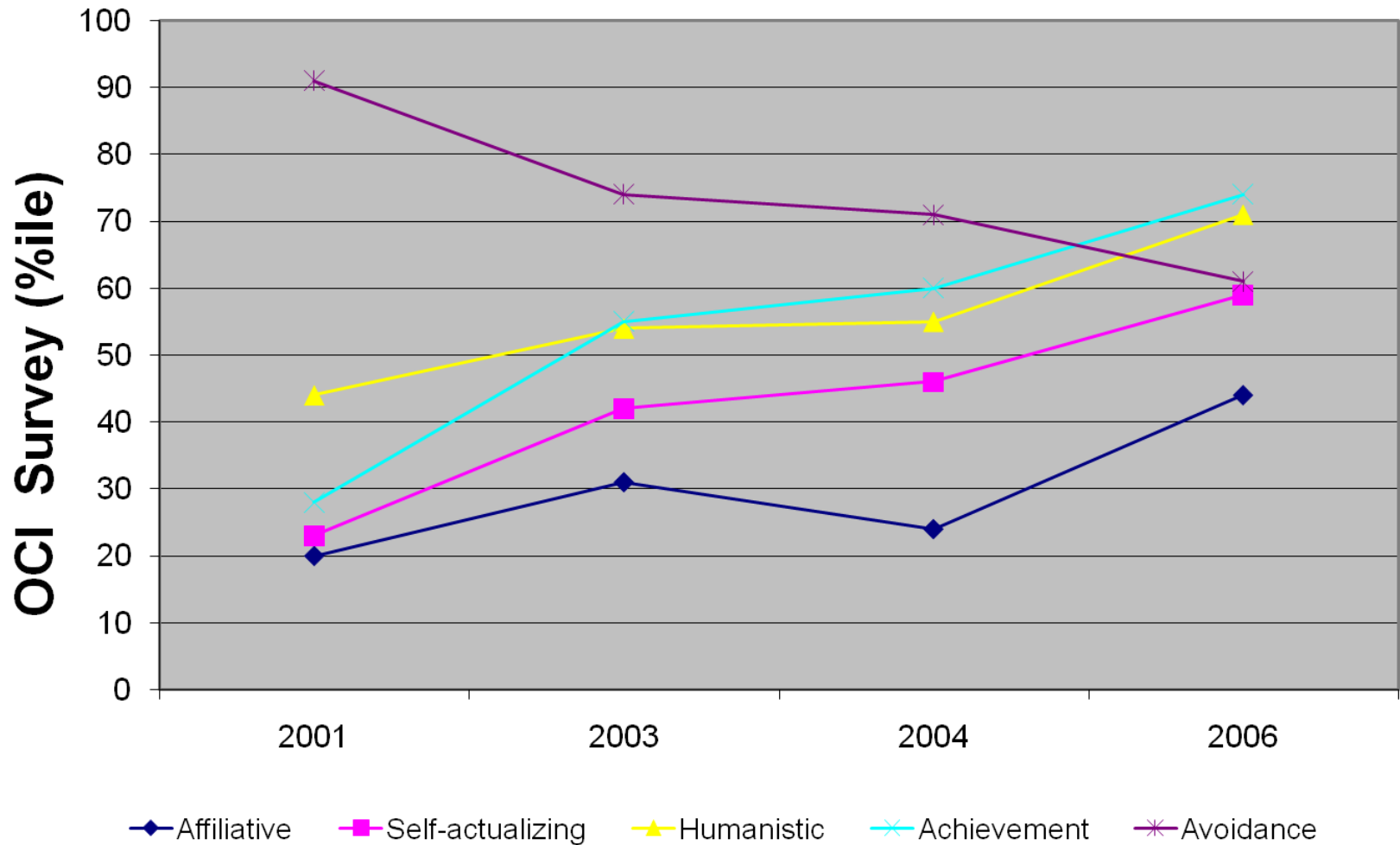
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Enabling New Programs in AHCs

Culture Change (OSUMC)



[Acad Med. 2008; 83:845–854. All changes significant $p < 0.001$]



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Enabling New Programs in AHCs

Performance Change (OSUMC)

MEASURE	2000-2001	2005-2006
SATISFACTION		
Employees		
Staff – high satisfaction	66%	76% (<0.001)
Residents – high satisfaction	46%	57%
Patients		
High satisfaction (9-10 rating)	65.8%	77.1%
Local market share	22.7%	26.4%
Students		
Satisfaction (percent favorable)	90.5%	98.1%
Applicants (percent of total national pool)	8.9%	10.9%
PERFORMANCE		
Academic		
USN&WR medical school rank, overall	44	32
USN&WR medical school rank, objective	42	23
USN&WR medical school rank, reputation	44	30
Research		
Sponsored research (\$/sf)	\$253	\$371
NSF research funding ranking	46	25
Clinical		
USN&WR hospital ranking	35	20
USN&WR number of top programs	6	10
UHC ranking	N/A	5
Financial		
Revenue	\$548M	\$1,215M
Operating margin	– 10.5%	6.4%
Operating cash	– \$53M	\$25M
Operating reserves	\$45M	\$124M

Acad Med. 2008; 83:845–854



Enabling New Programs in AHCs

Example: HIP

Background (2010)

- Priority: expand health services research & education
- Existing programs scattered across units, institutions
- Limited resources to establish traditional “center”

Goals

- Increase quality, scope, impact, recognition
- Accelerate interactions across disciplines & units
- Engage other academic & healthcare organizations
- Develop new activities to accelerate collaboration
- Minimize expense, competition for resources/recognition
- Define measures for assessment & success



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Enabling New Programs in AHCs

Example: HIP

Tactics/Programs

- Website: inventory of projects, people, funding by topics
- Liaisons: 19 schools/institutions; 13 student groups, 9 EAB
- Seed Grants: >170 multidisciplinary/unit proposals
- Symposia: quarterly, >80 speakers, >1700 attendees
- Interest Groups: >60 meetings, >500 participants
- Research Planning: 22 meetings, 11 units, >120 faculty
- Student-faculty: Networking Nights/Match-Connect

Results

- Significant ($p < 0.0001$) increase in HSR funding; 2 courses
- Engagement of > 1,700 faculty/students, >50 units



Enabling New Programs in AHCs

Observations and Lessons Learned

- Focus on cross-unit/disciplinary teams & players
- Don't duplicate/compete with existing activities
- Small investments can yield significant returns
- Justify resources: cost-benefit accounting, ROI
- Agree on measures of success
- Demonstrate benefit to patients, students, staff
- Engage committed internal/external advocates



Enabling New Programs in AHCs

Summary of Issues

Financial

- Costs: direct, indirect
- Revenue: value vs volume

Risk-Benefit

- Regulatory, compliance
- Patient outcome, safety

Implementation

- Alignments: mission, disciplines
- Collaboration: across units, institutions
- Culture change



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