

Forecasting LTC Claims for 2024

Medical Expense Trend Analytics and Forecasting

National LTCi Producers Summit Francisco, CA

November 9th, 2004

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Reden & Anders, Ltd.

Agenda

- ▶ Introduction
- ▶ Historical drivers of trend
- ▶ Trend Forecasting
- ▶ Pharmacy
- ▶ Summary
- ▶ Outlook

Introduction - Why do Actuaries think we're so darn cool?

- ▶ In the Jobs Rated Almanac "Actuary" has never been rated lower than fourth, a ranking it received in the fifth edition before climbing two spots in the most recent edition.

- ▶ Also according to www.beanactuary.org
 - Actuaries are the analytical backbone of our society's financial security programs.
 - They are the brains behind the financial safeguards we have implemented in our personal lives, so we can go about our daily lives without worrying too much about what the future may hold for us. These are the safeguards that protect us from life's catastrophes.
 - The insight into risk that actuaries have also helps to ensure that our savings are working hard for us, so that everything we love and cherish can grow and flourish.
 - The work of actuaries benefits all of us.

Does “the typical actuary” exist anymore?

▶ The “typical” actuary of yesterday

- Shops at Sears
- Wears a pocket protector
- Sports an ink stain on their shirt – because there was a crack in the pocket protector
- Calculator on person anywhere, anytime (but doesn't really need it)
- Myers-Briggs: 98% INTP; 2% ESTJ
- Stares at their own shoes while talking to you

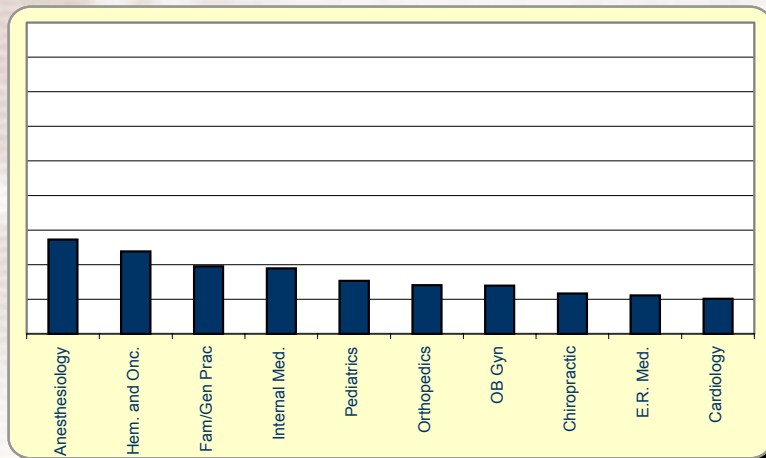
▶ The “typical” actuary of today

- Shops at JC Penney's
- Carries a pocket protector
- Has food spilled on their shirt
- Calculator on person anywhere, anytime (but doesn't really need it)
- Myers-Briggs = 96% INTP; 4% ESTJ (extroverted actuaries have been spotted peaking out of offices to see what the commotion is)
- Stares at your shoes while talking to you

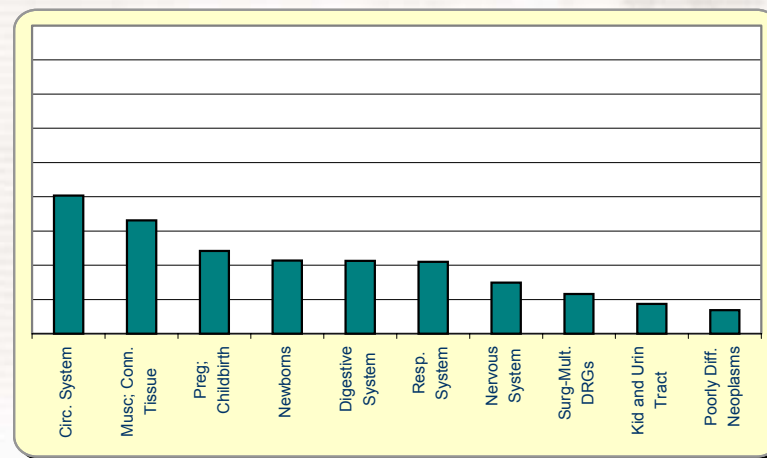
Top 10 Trend Drivers by Category

Contribution to Trend based on Change in PMPM

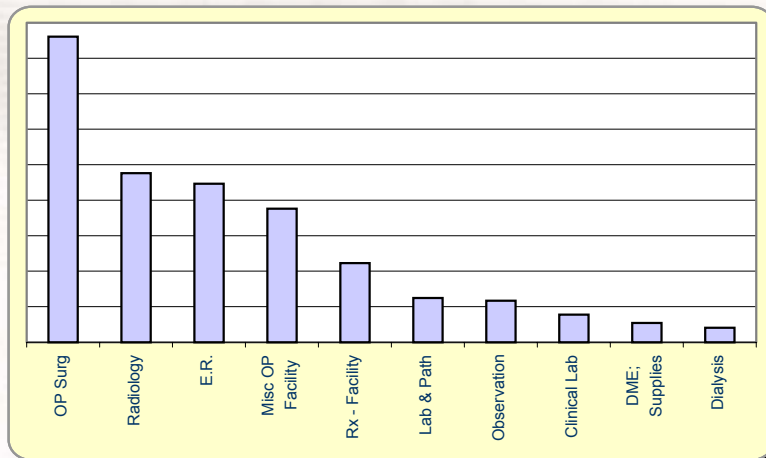
Physician by Specialty



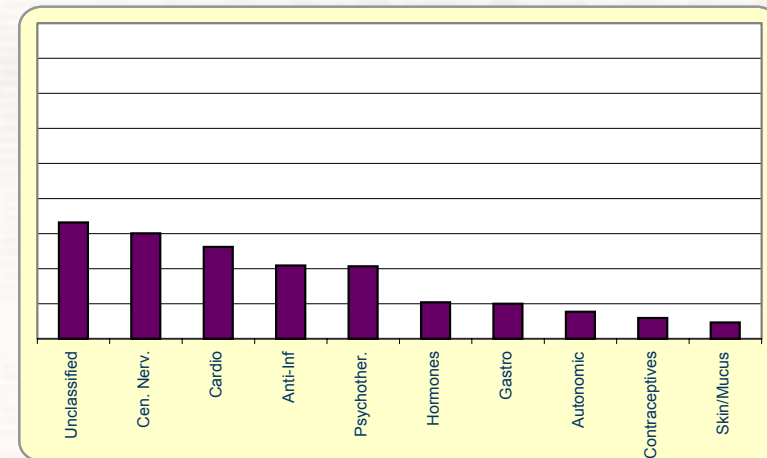
Inpatient by Major Diagnostic Category



Outpatient by Service Category



Pharmacy by Therapeutic Class



Hot Topics

▶ Influenza

- The 2003-2004 season started earlier, was more severe and was more centered in 4th quarter than were recent years.
- The percentage of deaths due to pneumonia and influenza were 70 bps higher for this season to date compared to last year.
- If the 2004-2005 season is closer to normal, 2004 trend impact from Influenza could be negative.

▶ Obesity

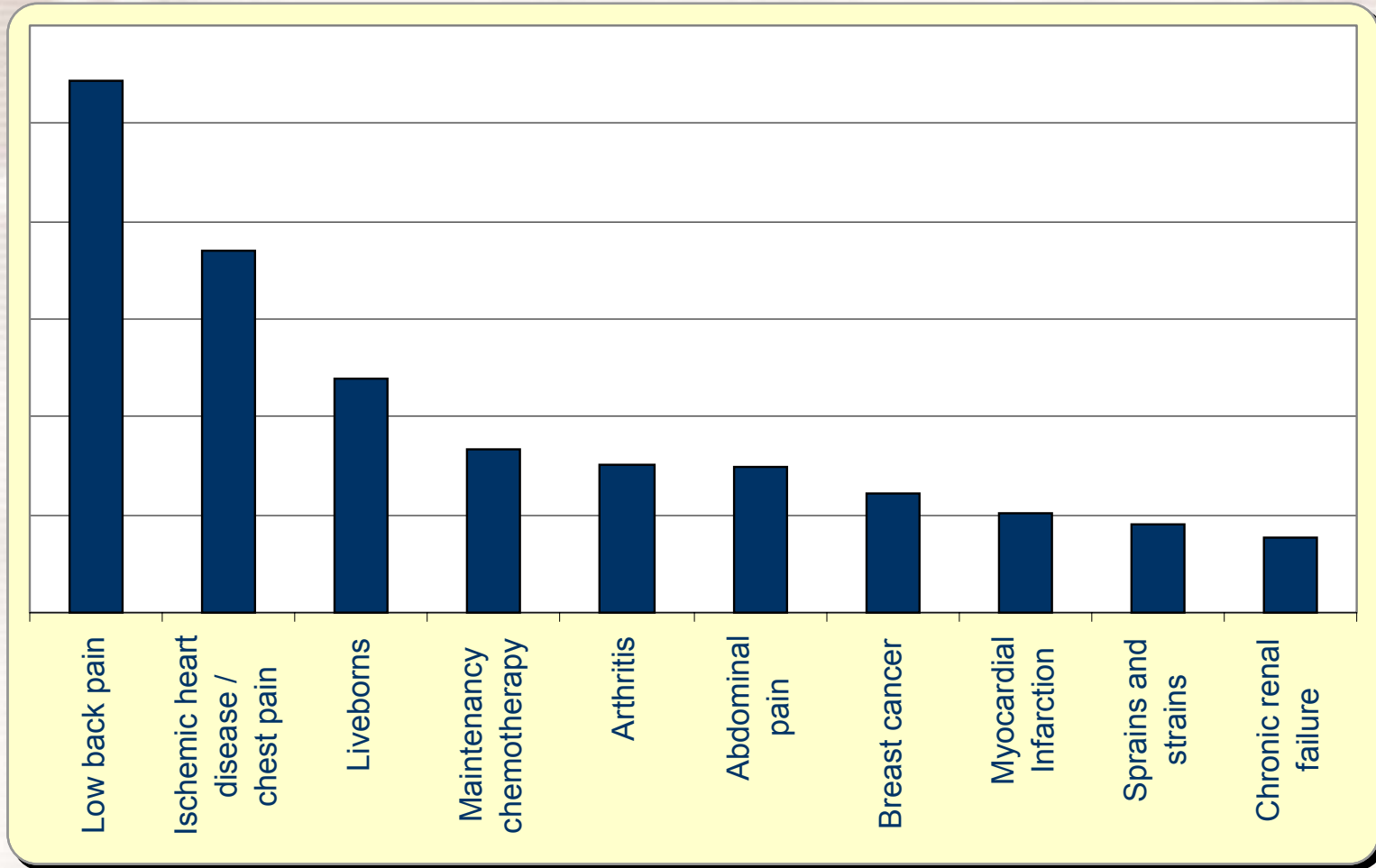
- Costs to treat the overweight and obese account for an estimated 8-12% of total medical costs.
- MDs and hospitals are increasingly promoting bariatric surgery.
- Randomized clinical trials are inconclusive on long term effectiveness of treatments.
- Blue Cross Blue Shield of Florida announced it would stop covering gastric bypass surgery by the end of the year citing safety concerns.

Top 10 Trend Drivers by Condition

Contribution to Trend based on Change in PMPM

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Trend Drivers by Condition

▶ Low Back Pain

- Number 1 trend driver by condition
- Minor ↑ in number of patients, significant ↑ in cost to to treat patients
 - ↑ in intensity of services within physician offices
 - Sophisticated diagnostic imaging (CT and MRI)
 - Use of Cox-2 inhibitors (Celebrex, Vioxx)

▶ Chest Pain and Coronary Artery Disease

- Number 2 trend driver by condition
- Number of patients ↓ while cost to treat patients ↑
 - ↑ in non-invasive diagnostic procedures
 - Inflation of existing facility services
 - ↑ in intensity and # of physician services per patient
 - Few cost controls as many services paid on a POC basis

Trend Forecasting

Different Views of “Trend”

▶ Financial

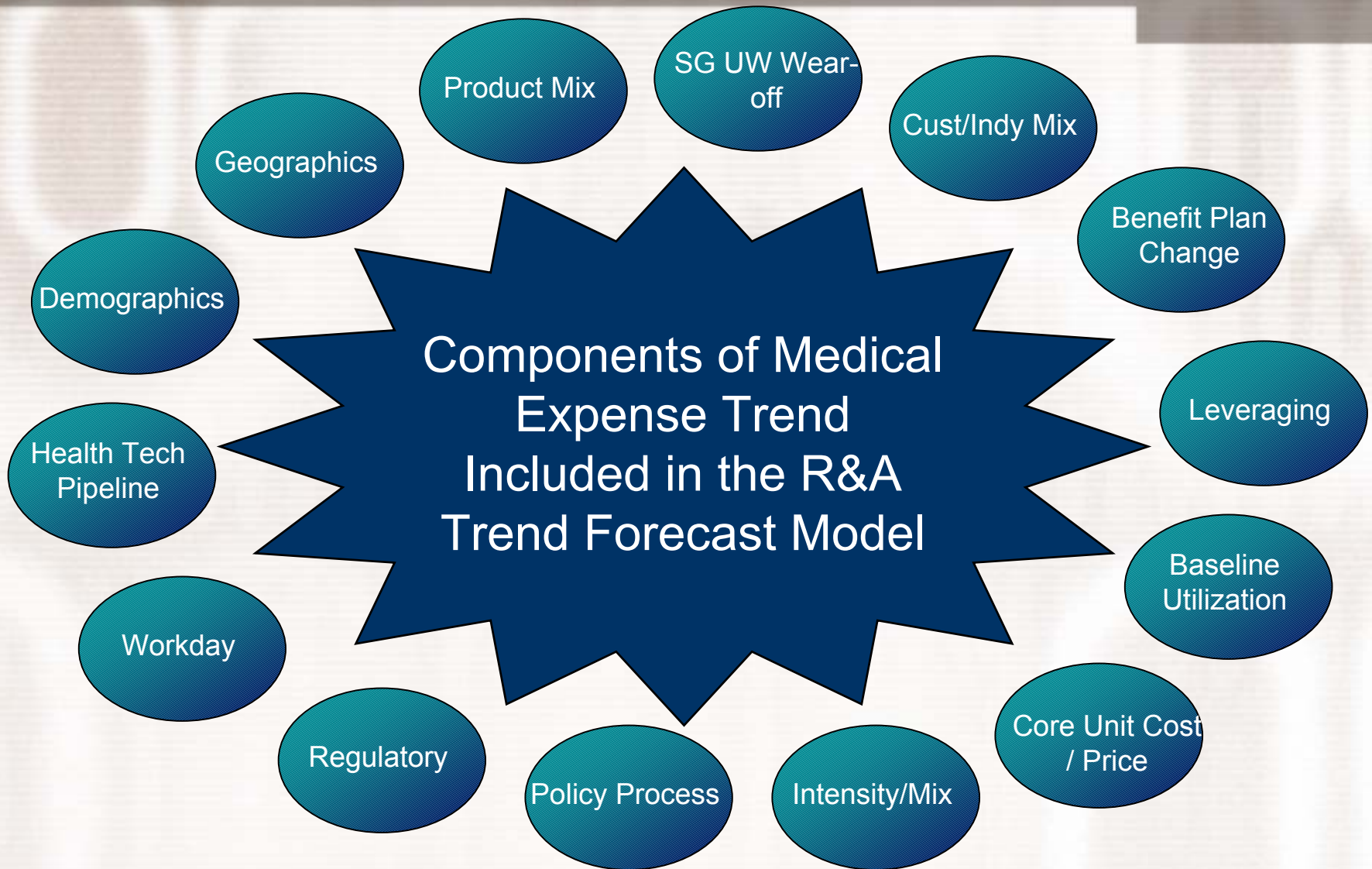
- Net Trend
 - Payers' liability
 - Excludes patients' out of pocket expenses

▶ Underwriting

- Underlying Medical Expense Trend (pulling out business mix components)

▶ Clinical

- Allowed Trend
 - Total provider reimbursement
 - Payer + Patient liability
 - Price, Volume and Intensity



Reden & Anders Trend Forecast Model

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	Weights		1999	2000	2001	2002	2003	2004	2005
	Cost	Util							
SUMMARY RESULTS									
Member Months			5,337,848	4,532,024	4,902,855	4,045,029	3,157,840	2,992,874	2,967,328
Allowed PMPM			\$ 131.75	\$ 148.95	\$ 170.31	\$ 193.55	\$ 212.36	\$ 237.86	\$ 263.59
Allowed Trend				13.0%	14.3%	13.6%	9.7%	12.0%	10.8%
Cost Sharing			\$ 12.52	\$ 15.70	\$ 19.18	\$ 23.03	\$ 29.93	\$ 38.26	\$ 47.97
Cost Sharing Change				25.3%	22.2%	20.1%	29.9%	27.9%	25.4%
Net PMPM			\$ 119.23	\$ 133.25	\$ 151.13	\$ 170.52	\$ 182.43	\$ 199.59	\$ 215.62
Net Trend				11.8%	13.4%	12.8%	7.0%	9.4%	8.0%
PROFILE OF NET TREND									
Business/Product Mix Components									
Geographic Mix	67%	33%			0.0%	-0.1%	0.0%	0.1%	-0.1%
Catastrophic Claims	90%	10%			0.2%	-0.1%	0.0%	-0.2%	0.0%
SG UW Wear-Off	0%	100%			0.0%	-0.1%	-0.1%	-0.3%	-0.1%
Product Mix	50%	50%			0.3%	0.1%	0.0%	0.0%	0.1%
Customer/Industry/Other Mix	25%	75%				-0.5%	0.0%	1.2%	0.0%
Benefit Plan Changes - Impact on Utilization	0%	100%				-0.4%	-0.7%	-0.6%	-0.6%
Benefit Plan Changes - Impact on Cost (Net)	100%	0%					-3.4%	-3.2%	-3.2%
Business/Product Mix Total								-3.0%	-4.0%
Core Trend Components [= (1 + Net Trend) / (1 + Business/Product Mix) - 1]									
Demographics	50%	50%						1.2%	1.2%
Core Utilization	0%	100%		3.5%					3.4%
Core Unit Cost	100%	0%		5.3%	6.3%				5.4%
Mix of Services	100%	0%		0.3%	0.6%	0.5%			0.2%
Health Technology Pipeline	20%	80%		0.0%	1.0%	-0.2%			0.9%
Leveraging	100%	0%		0.6%	0.7%	1.1%	1.0%		1.0%
Regulatory Mandates	25%	75%		0.0%	0.0%	0.2%	0.0%		0.0%
Policy/Process Changes	50%	50%		0.4%	0.0%	0.0%	0.0%	0.0%	0.0%
Work/Calendar Day Adjustments	0%	100%		-0.1%	0.1%	-0.1%	0.0%	0.6%	0.6%
Core Trend Total				11.8%	15.5%	16.2%	11.6%	12.8%	12.8%
Net Trend Total				11.8%	13.4%	12.8%	7.0%	9.4%	8.0%
[= (1 + Business/Product Mix) X (1 + Core Trend) - 1]									
Allowed Unit Cost Trend				7.2%	7.9%	9.0%	7.0%	7.6%	6.6%
Total Unit's per 1,000 Trend				5.5%	6.0%	4.2%	2.6%	4.1%	3.9%
Allowed PMPM Trend				13.0%	14.3%	13.6%	9.7%	12.0%	10.8%

Sample Exhibit

Core Unit Cost - Price

- ▶ Considerations: provider contract negotiations and CPI
- ▶ Models are populated and forecasts are established using all available information from contract negotiators working directly with the providers.
- ▶ Outlier provisions and percent of charge contracts leave little protection to contract increases.
- ▶ Non-par payment rates cause volatility in forecasts.
- ▶ Mergers and closings result in variability of market share and also impact results.
- ▶ Public to Private cost-shifting can have significant impact on price.

Baseline Utilization and Intensity (Mix of Services)

- ▶ Normalize historical experience and perform regression analyses.
- ▶ Legislative and economical influences are considered (health care reform, NHE, etc.).
- ▶ Management initiatives of the client are considered.
- ▶ Other considerations: advertising; consumer demand; shifting from one type of facility to another (IP to OP)
- ▶ Final projections are established using a combination of all information gathered above and pass through an actuarial peer review process.

Economic Analyses

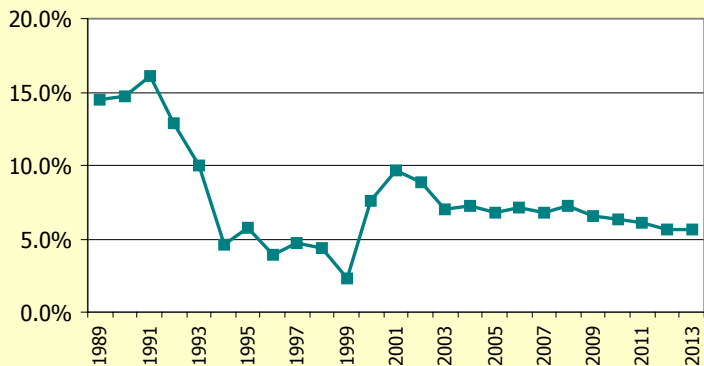
National Health Expenditure Trends

Reden & Anders, Ltd.

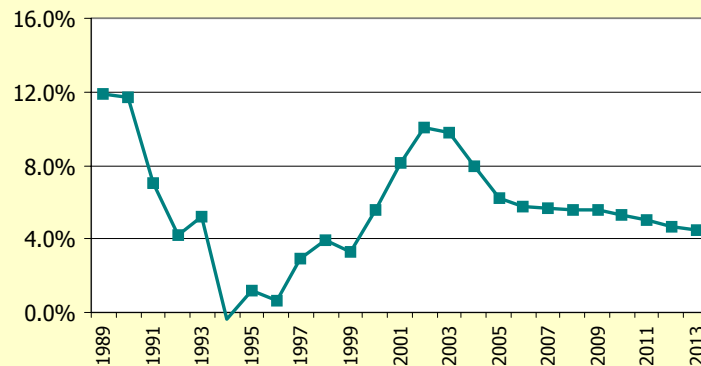
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Includes Private Health Insurance and Personal Health Care components less Dental & Nursing Home.

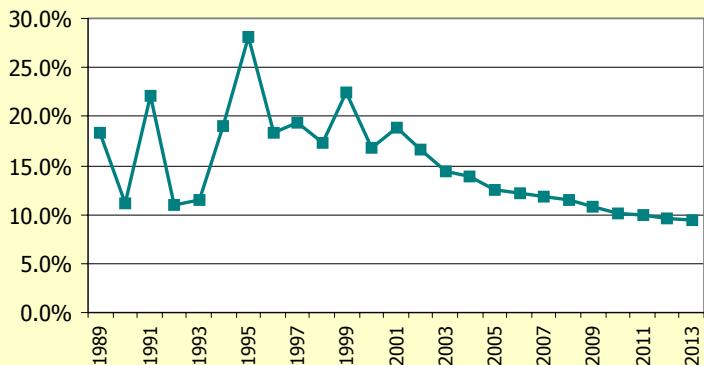
Physician, Clinical and Other Professional



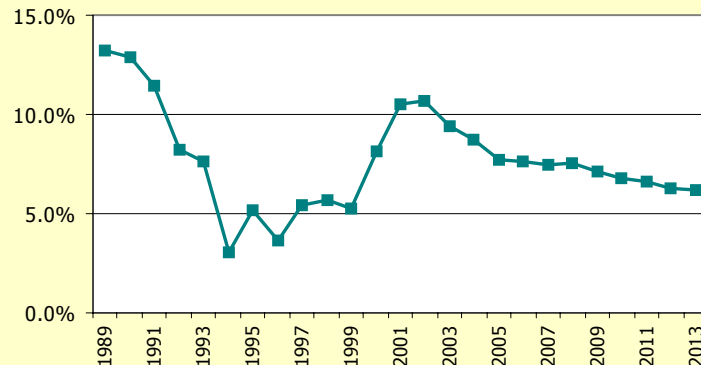
Hospital, Home Health & DME



Prescription Drugs



Total Medical



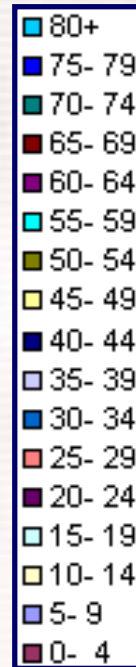
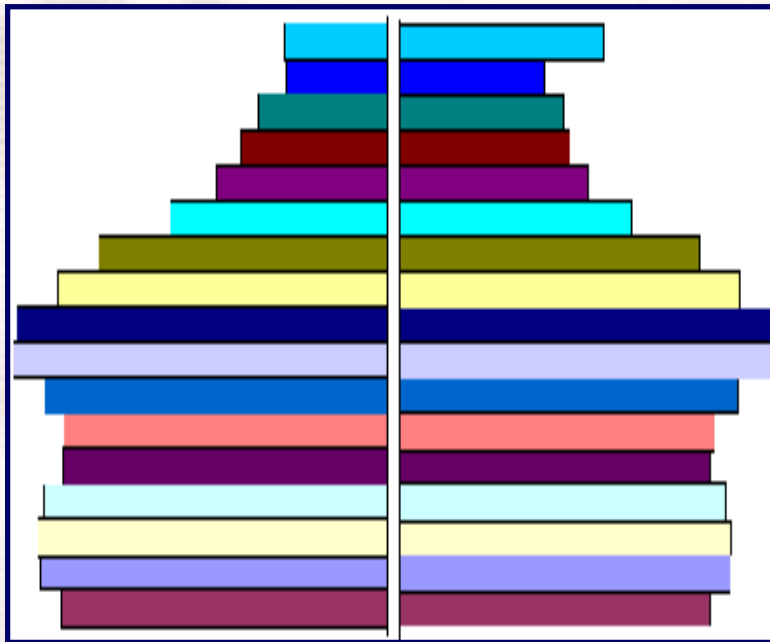
National Health Expenditure projections are made by the Office of the Actuary in the Centers for Medicare and Medicaid Services. The NHE projection model attempts to capture the causal relationships between major macroeconomic variables and private health spending, as well as interactions among major causal variables within the health sector. Updated 2/11/04.

Demographics

U.S. Population Pyramids

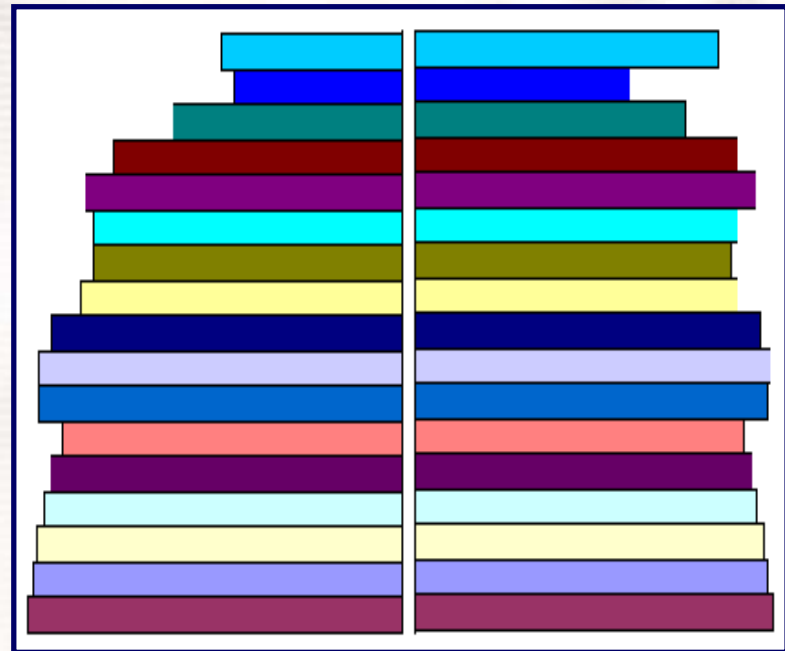
2000

Male **Female**



Projected 2025

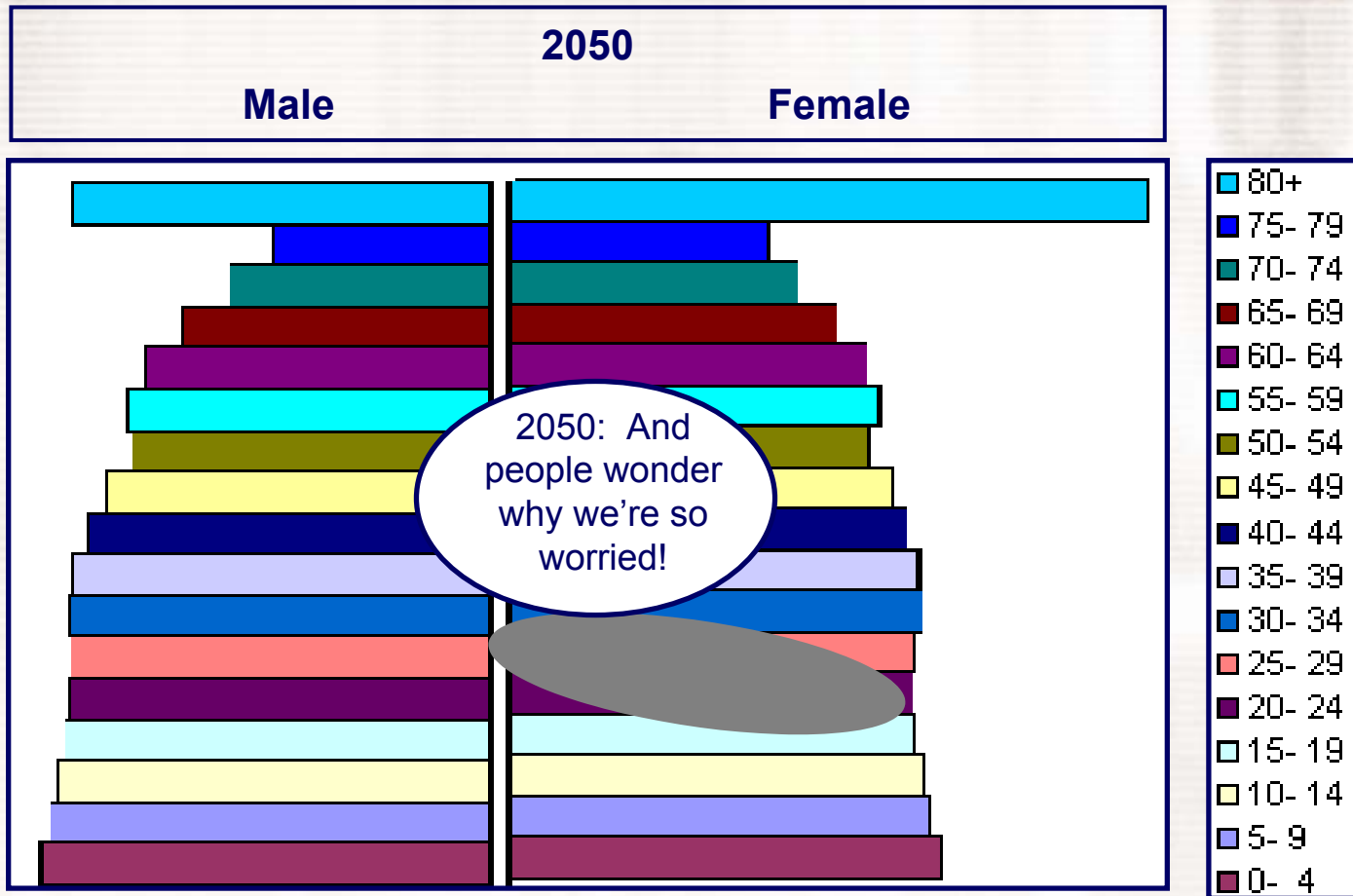
Male **Female**



Unless the U.S. population “pyramid” holds the same shape from year to year, there will be an impact on trend due to demographics.

Demographics

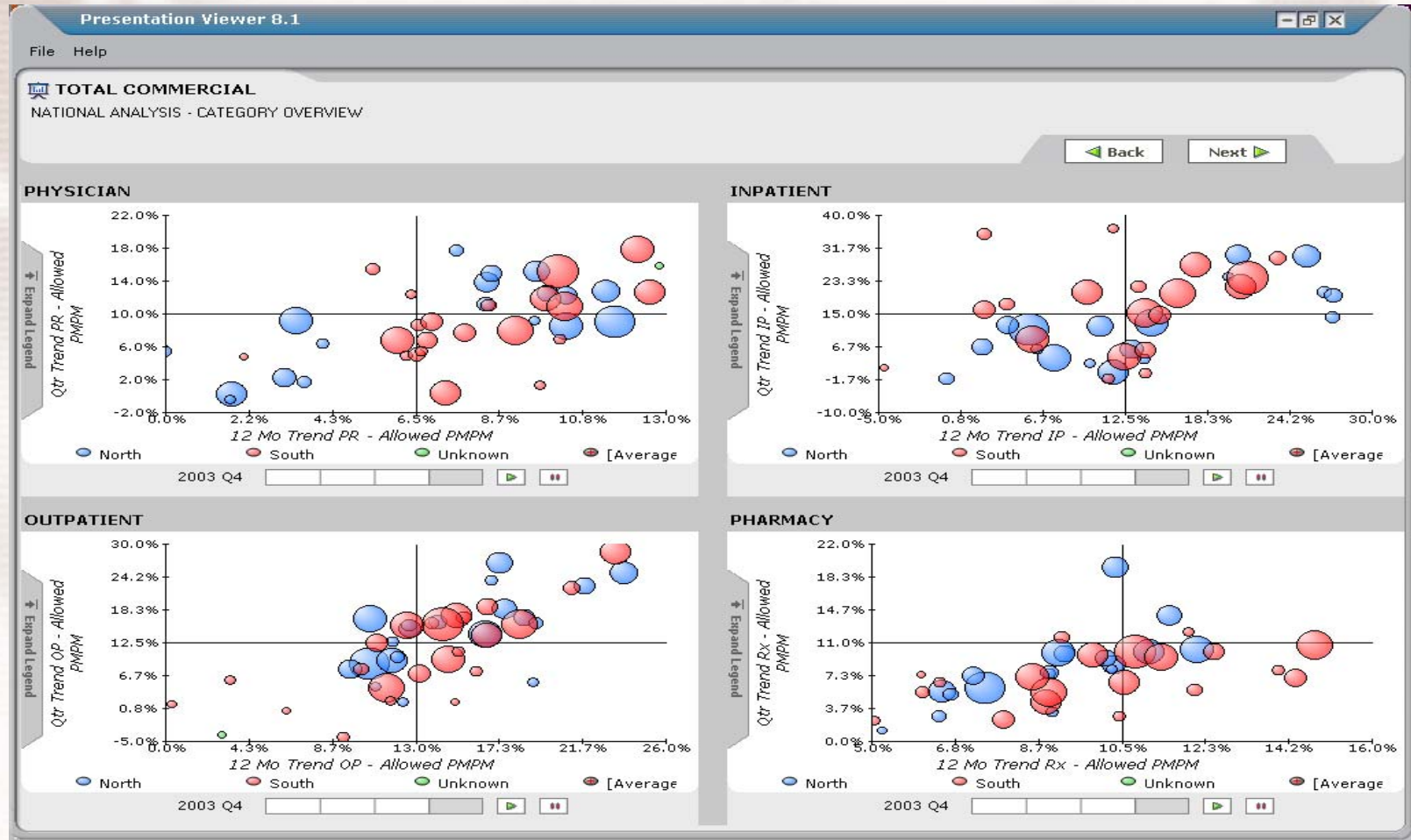
U.S. Population Pyramids



Variation by Health Cost Category and Geographic Region

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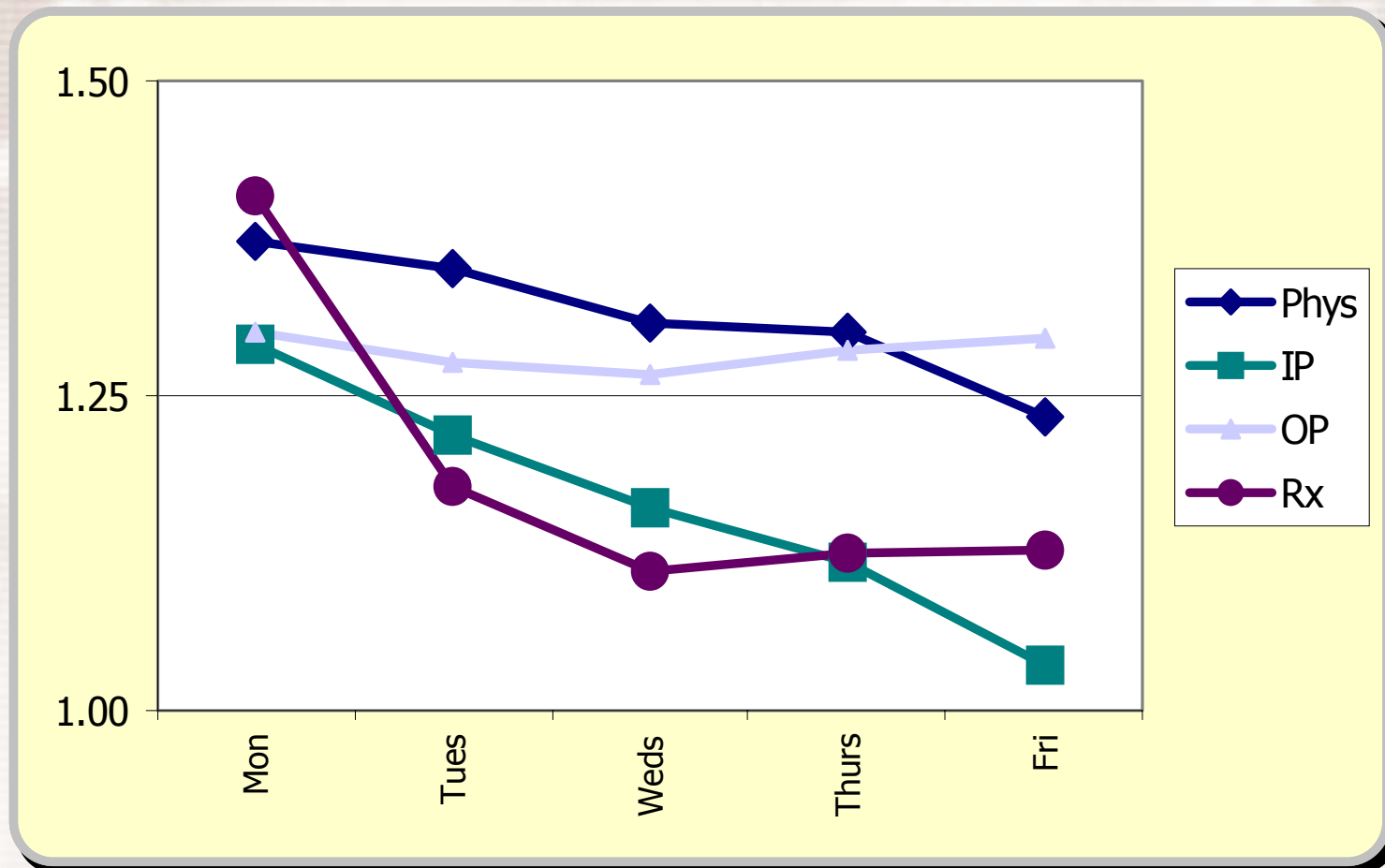


Source: TrendAlert™

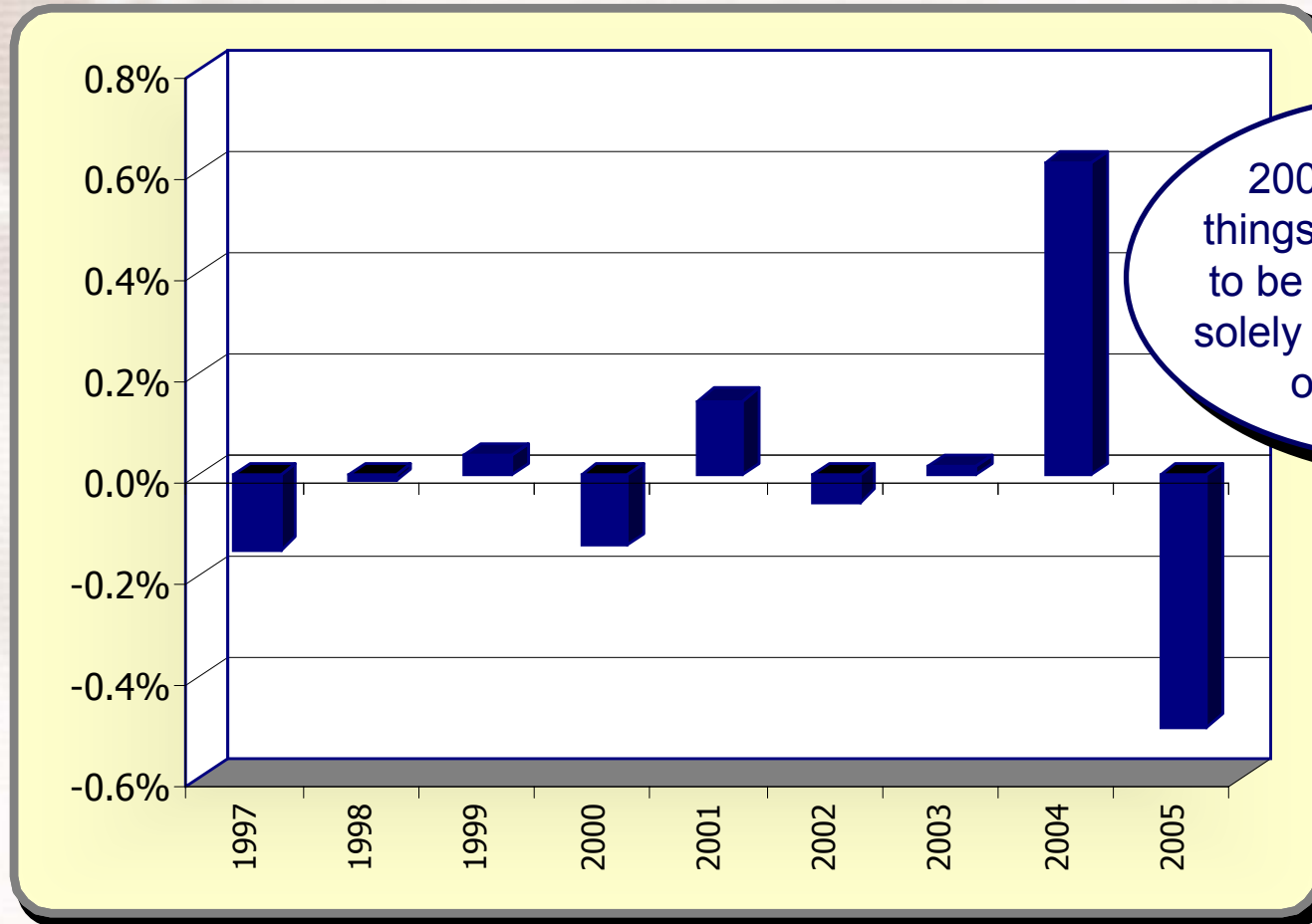
Weekday PMPM Weights by Health Cost Category

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Workday/Calendar Adjustments

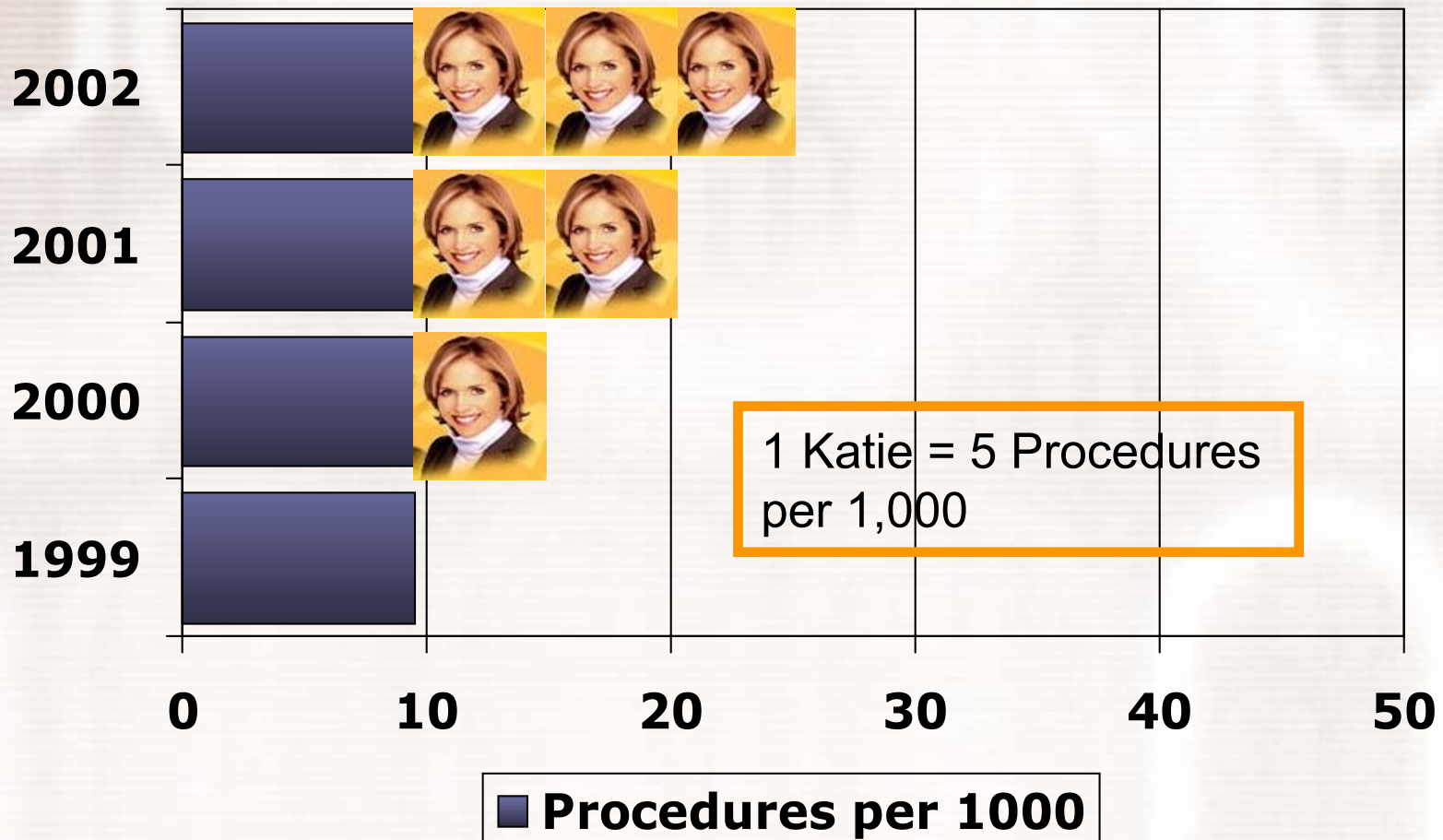


2005 trend, all other things equal, is expected to be 1% less than 2004 solely due to the make-up of the calendar.

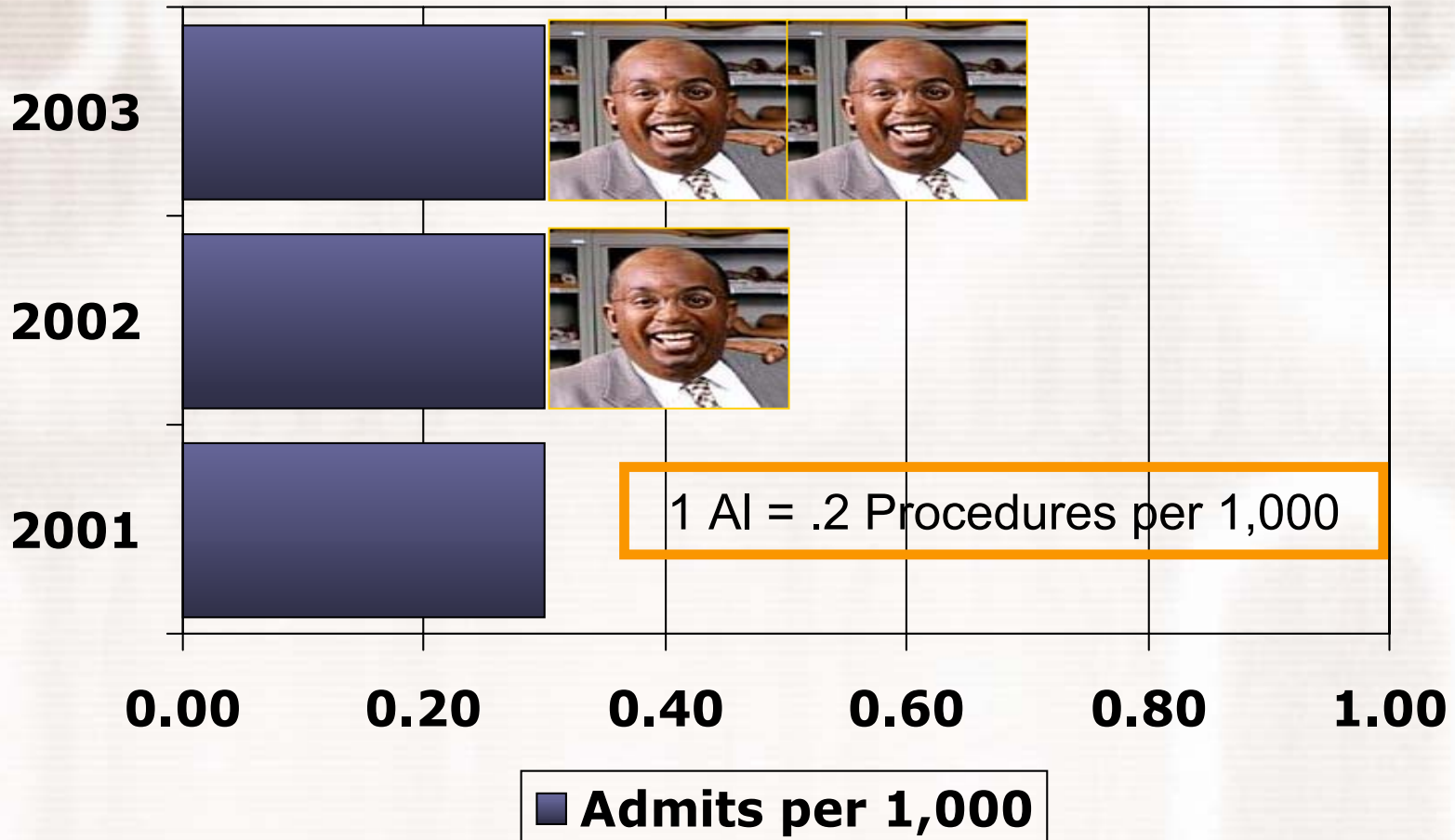
“Consumer” Demand Colonoscopies per 1,000

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“Consumer” Demand Morbid Obesity Admits per 1,000



Consumer Demand

Where in the world is Matt Lauer?



Health Technology Pipeline

- ▶ Be aware of what's coming down the pipeline.
- ▶ Proactively manage your business to control unnecessary costs.
 - Make proactive coverage decisions
 - Refine care management strategies
 - More accurately forecast future medical expenses
- ▶ What to look for:
 - New treatments
 - New devices
 - New diagnostic tests
 - Changes in guidelines
 - Brand name patent expirations
 - Move from prescription to over-the-counter
 - Changes in FDA status
 - New medications

Pipeline Example: OvaCheck™ Test For Ovarian Cancer

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- ▶ Expected Release Date: Q1 2005
- ▶ Impact Grades in linearly over 4 quarters
- ▶ Ultimate Utilization: 97 per 1,000
- ▶ Expected Technology Cost: \$165 (off-setting costs: \$0)
- ▶ Peak PMPM: $(97 * (165 - 0) / 12000) = \1.33
- ▶ *HCC Split: Professional = 20%; Ancillary = 80%*

	2004	2005	2006	2007	2008
PMPM	\$ -	\$ 0.83	\$ 1.33	\$ 1.33	\$ 1.33
Change in PMPM		\$ 0.83	\$ 0.50	\$ -	\$ -
Medical Trend Impact ¹ (estimated PMPM = \$160)		0.5%	0.3%	0.0%	0.0%

¹ Impact on professional and facility allowed costs (excludes pharmacy)

Source: Ingenix Health Technology Pipeline™

Emerging Technologies

▶ **Acomplia™ - Obesity & Smoking Cessation**

- Being evaluated in two clinical development programs: one focusing on smoking cessation and the other on weight reduction. Both programs have advanced to phase III research.
- An oral compound taken daily.
- Expected to be commercially available by the end of 2006.
- Enrollment is currently underway for a Phase II trial designed to investigate Acomplia™ for the reduction of alcohol consumption.
- Cost projections not yet available.

▶ **Antegren® - Multiple Sclerosis**

- Indicated for the treatment of relapsing-remitting multiple sclerosis (MS).
- Also in clinical trials for the treatment of Crohn's disease, ulcerative colitis, and rheumatoid arthritis.
- Administered intravenously once a month.
- Estimated availability first quarter 2005.
- Cost of treatment projected to be \$16,000 per patient per year.

Emerging Technologies

▶ **Wet Macular Degeneration Therapies**

- LucentisTM, MacugenTM, RetaaneTM, VisudyneTM
- New treatments for age-related Wet Macular Degeneration (WMD) that are injected into the back of the affected eye every 5-6 weeks.
- WMD is the leading cause of blindness over age 50 in the US, affecting 1.2 million Americans.
- FDA fast-track approval for some compounds expected Q1 2005.
- Costs estimated to run \$600 - \$1,200 plus professional / administration fees.

▶ **ExantaTM – Anticoagulation Therapy**

- Currently being reviewed by the FDA for the initial indications of stroke prevention in atrial fibrillation (AF), prophylaxis of venous thromboembolism (VTE) after standard treatment for an episode of acute VTE, and prevention of VTE patients undergoing total knee replacement (TKR) surgery.
- Expected availability end of 2004.
- Cost per treatment low but utilization expected to be high resulting in significant per-member-per-month costs.

Emerging Technologies

▶ **Colorectal Cancer Therapies**

- Eloxatin[®] and Avastin[®] are new first-line therapies for treatment of colorectal cancers.
- Projected costs have been increased significantly, in light of new evidence that Avastin and Eloxatin are emerging as a new standard of care.
- Expected cost for a course of Avastin is now \$64,400. Expected cost for a course of Eloxatin is \$36,000. This compares to \$14,400 for a course of current standard therapy for colorectal cancer.
- Both Eloxatin and Avastin are expected to see off-label use in the treatment of breast cancer and non-small cell lung cancers.

▶ **Exubera[®] – Inhalable Insulin**

- Rapid-acting, fine-powdered insulin that is delivered to the lungs through an inhalation device.
- Proposed as an alternative to the injection method of insulin administration in the treatment of types 1 and 2 diabetes mellitus (DM) that is poorly controlled through diet, exercise, and oral drugs.
- Anticipated to be available mid-2005.
- Costs unknown but inhaled version requires approx. 10 times more insulin.

Pipeline: Understanding and managing the problem

New Medical Developments as a whole add significantly to Medical Trend

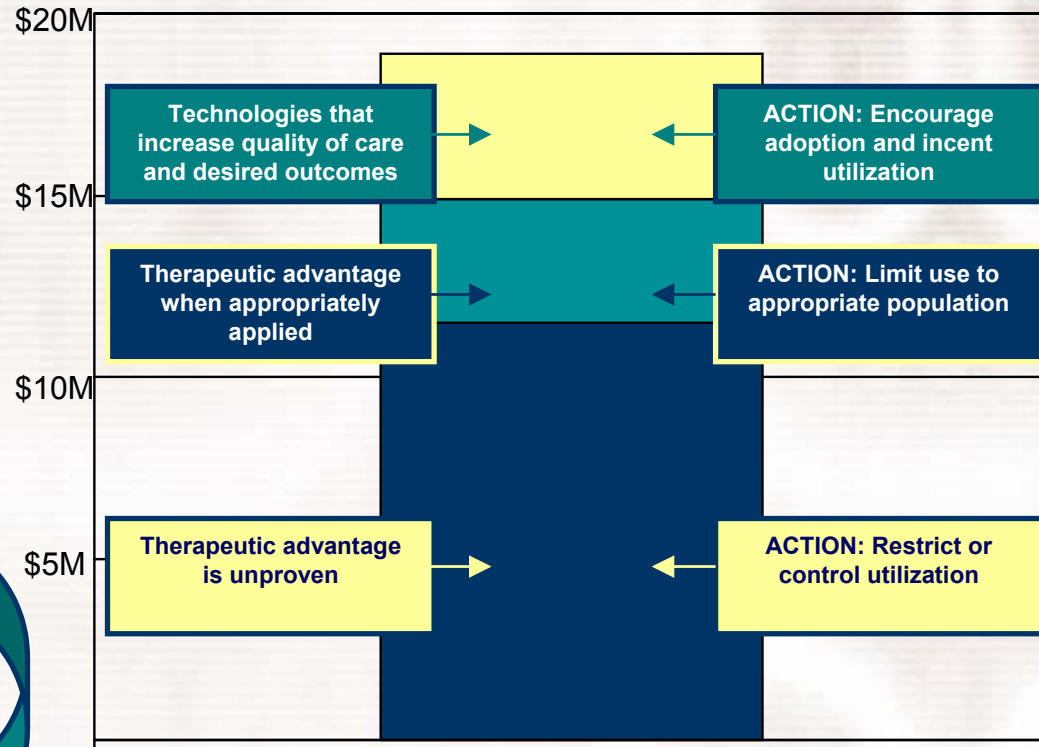
Brave New World, Old-Fashioned Fear: Advances Are Coming At A Furious Rate-- Health Plans Find It Difficult To Separate The Cost-Efficient From The Rest

John Carroll, Managed Care Magazine 2/1/2004

Six years ago, the health care economist Michael Chernew concluded from a review of the evidence that the driving force behind rising health care costs was new technology. "It's not increased waste, it's not fraud, it's not increased lawsuits, it's not the fact that people on average are older -- all of that may contribute, but the predominant factor relates to the development and utilization of new medical techniques, of which there are an enormous number," he said in a 1998 study.

The University of... concluded that

"...but the predominant factor relates to the development and utilization of new medical techniques..."



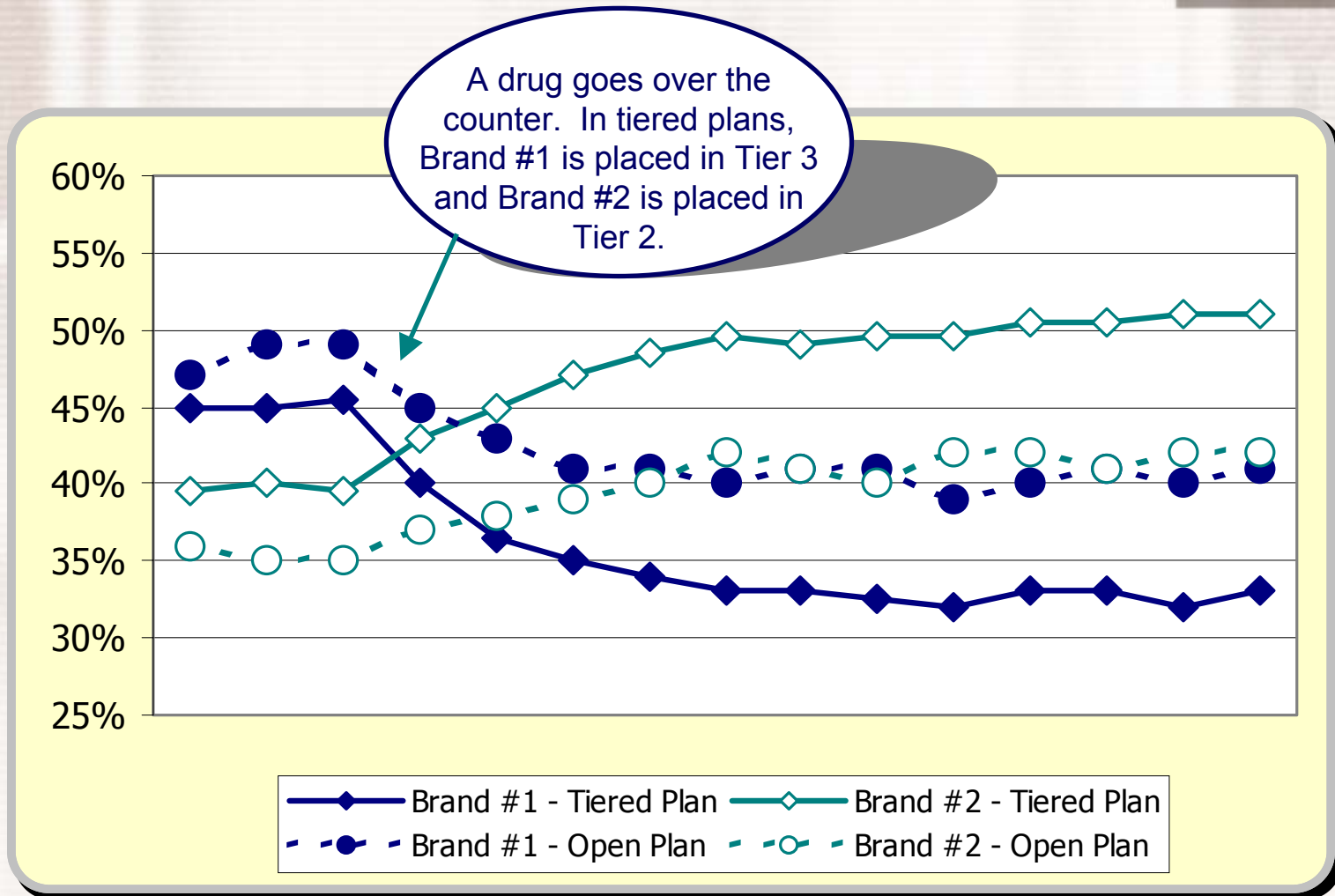
Pro-actively addressing the impact of new medical technologies could save a 25,000 employee organization \$10 million annually

Pharmacy – Why look so close?

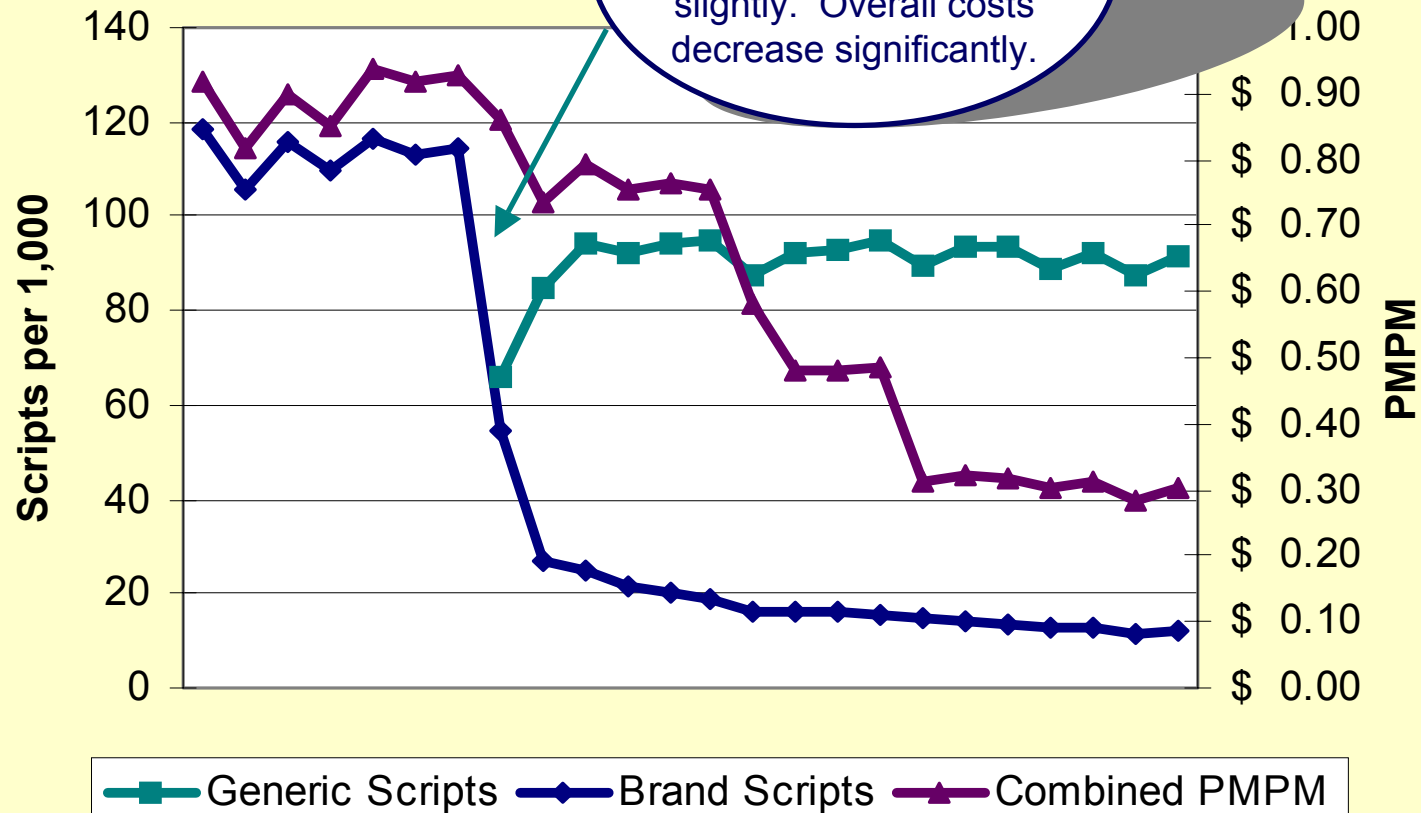
- ▶ Increasing Size of Rx Market
 - Allowed PMPMs are now close to 20% of the total PMPM expense.
- ▶ Rapid Changes in Product Mix
 - New Product Launches
 - Generic Availability/Quick Switch Rates
 - OTC Availability
 - Clinical Studies
- ▶ Economic Based Plan Design Management
- ▶ Formulary Management

- ▶ The most “manageable” of all the health cost categories

Impact of Tier Placement



Impact of Generics



Summary

- ▶ Actuaries are cool!
- ▶ Studying trend drivers (disease conditions, service categories, etc...) is critical to managing trends.
- ▶ Seeing the forest through the trees – the details matter when forecasting medical expense trend.

Outlook – 2005 and beyond

▶ 2005

- Trends expected to remain fairly flat compared to 2004 (increased pressure from health tech pipeline and flu season offset by decreased pressure from economy and calendar make-up)

▶ 2006

- Trends expected to increase over 2004 and 2005 levels due to economic modeling, health tech pipeline

▶ Beyond

- The aging of the population will continue to apply upwards pressure on trends (the 85+ age group is the fastest growing segment in the U.S.).
- Each year, an increasing percentage of morbidity is due to personal behavior and is thus preventable. The importance of personal health and disease management programs will continue to grow.
- Supply and demand: While the demand for health care services continues to grow, physicians per capita will start to reduce due to physician baby-boomers hitting retirement age.

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November 9th, 2004

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