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an INGENIX company

Society of Actuaries Trend Management *June, 2007*



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Agenda

- Introduction
- The trend management opportunity
- Trend management strategies
- Benchmarking/reports/dashboards
- Conclusions

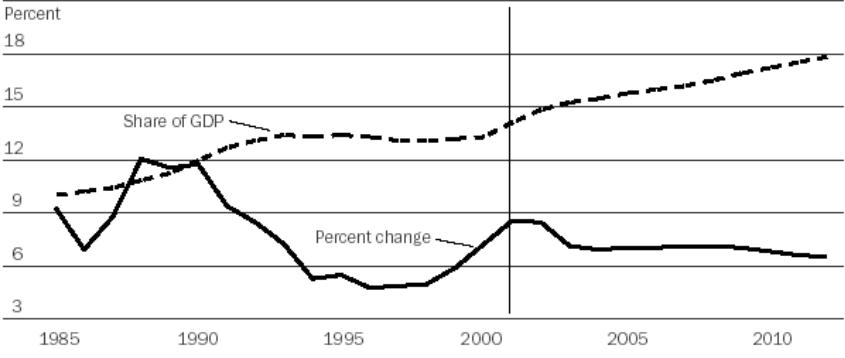
Why are Health Plans Focusing on Trend Management

- Rising trend
 - Aging population
 - New technologies
 - Coverage mandates
 - Increase in disease prevalence
 - Consumerism
- Employer cost containment expectations
- Decline of capitation and risk agreements

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National Health Expenditures: Percentage Change and Share of Gross Domestic Product

EXHIBIT 3
National Health Expenditures: Percentage Change And Share Of Gross Domestic Product (GDP), 1985-2012

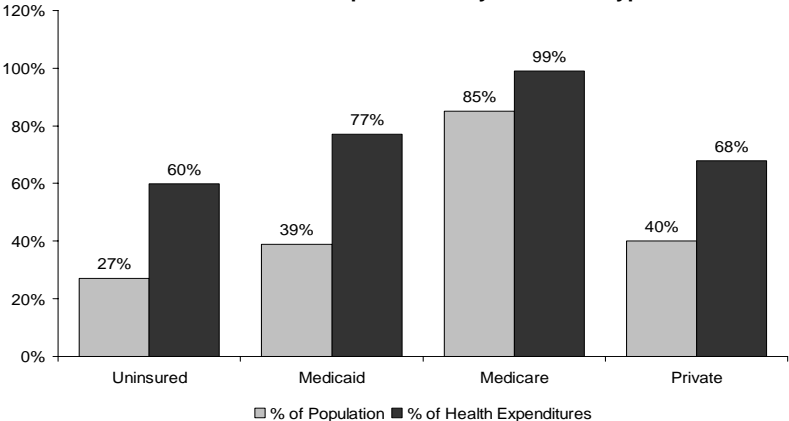


SOURCE: Centers for Medicare and Medicaid Services, Office of the Actuary.
NOTE: Vertical line denotes beginning of projections; trend lines to the left of the vertical line represent historical data.

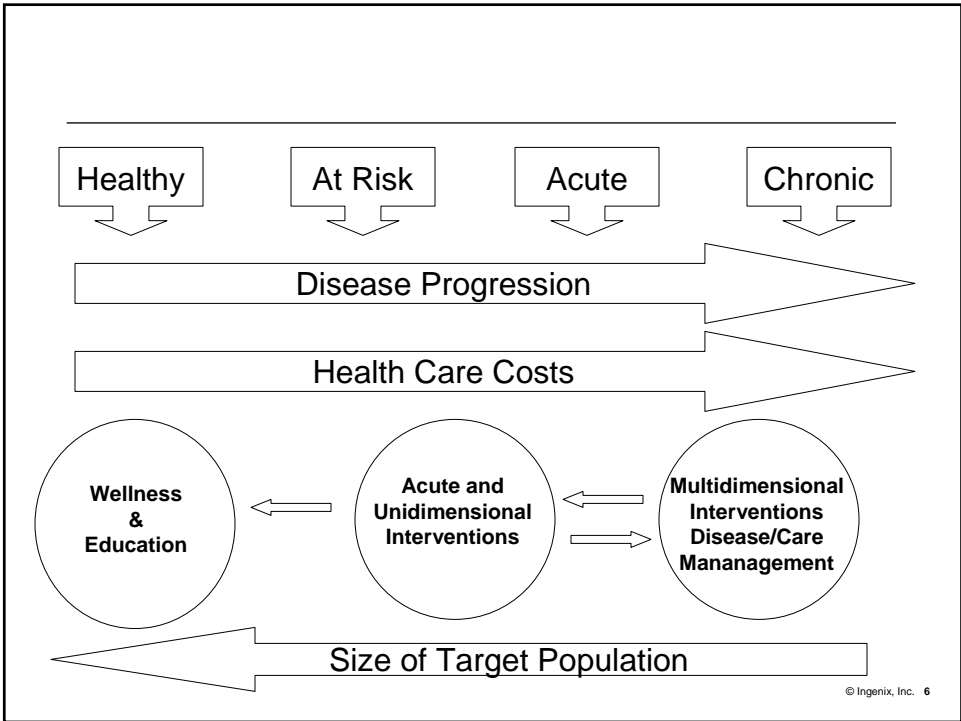
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Individuals with chronic conditions account for the majority of health care expenditures

Proportion of Population With One or More Chronic Conditions and Share of Health Expenditures by Insurance Type



Source: Partnership for Solutions (2002), Chronic Conditions: Making the Case for Ongoing Care (Baltimore: Johns Hopkins University)



A Model Trend Management Process

- Trend management process includes three main functionalities:
 - Retrospective Trend Analytics
 - Outlier Identification and Mitigation
 - Prospective Trend Analytics – Trend Forecast Modeling
- Understanding historical drivers of trend is critical to the ability to mitigate future costs.
- Understanding historical drivers of trend and quantifying mitigation efforts are both critical to building an effective forecasting process.

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Understanding Historical Trend

- Multiple views
 - Service type
 - Inpatient
 - Outpatient
 - Physician
 - Pharmacy
 - Geographic
 - Unit cost
 - Utilization
 - Provider type
 - Clinical identifier
 - AHRQ
 - MDC
 - ETG
- Reports and dashboards

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Understanding Historical Pharmacy Trend

- Therapeutic class
- Number of prescriptions
- Days supply
- Average cost of prescriptions
- Off label uses of medications as measured by clinical indicators
- Market and product

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Custom Retrospective Trend Analytics

HCTA Mid Level Detail Inpatient Exhibit - Example

Health Cost Trend Analysis																
Criteria A																
INPATIENT BY MAJOR DIAGNOSTIC CATEGORY																
Criteria B																
Criteria C																
Member Months	2004Q1				2004Q2				2004Q3				2004Q4			
	2004Q1	2004Q2	2004Q3	2004Q4	2004Q1	2004Q2	2004Q3	2004Q4	2004Q1	2004Q2	2004Q3	2004Q4	2003Q1-2003Q4	2004Q1-2004Q4	Difference	Trend
Member Months	2,924,534	2,676,654	2,370,833	2,169,062	-1.0%	-13.8%	-26.7%	-32.1%	12,488,908	10,141,083	(2,347,825)	-18.8%				
Days / 1,000																
Bleeding Form Organs: Immun.	2.1	1.9	1.7	2.0	-13.8%	-21.1%	-14.9%	-18.2%	2.3	1.9	(0.4)	-16.7%	0.4	0.4	0.0	10.4%
Burns	0.4	0.5	0.2	0.4	-50.4%	264.7%	-37.1%	225.6%	0.4	0.4	0.0	10.4%	0.4	0.4	0.0	10.4%
Circulatory System	27.2	25.0	24.4	24.4	1.3%	-2.0%	-8.6%	-3.8%	26.1	25.4	(0.7)	-2.8%	24.4	25.5	1.1	4.6%
Digestive System	25.6	25.5	24.6	26.3	10.2%	2.1%	-3.8%	11.4%	24.4	25.5	1.1	4.6%	24.4	25.5	1.1	4.6%
Ear, Nose, Mouth and Throat	2.1	1.8	1.9	2.0	-8.3%	-13.9%	7.0%	-10.8%	2.1	1.9	(0.1)	-6.7%	2.1	1.9	(0.1)	-6.7%
Endocrine, Nutritional and Metabolic	6.3	5.4	5.1	5.8	-8.4%	-9.0%	-2.3%	0.9%	5.9	5.7	(0.3)	-4.2%	5.9	5.7	(0.3)	-4.2%
Eye	0.6	0.4	0.3	0.3	164.0%	49.4%	-2.8%	-10.0%	0.3	0.4	0.1	48.5%	0.3	0.4	0.1	48.5%
Fact. Infl. Hlth. Hlth Sys. Contact	5.7	4.4	4.1	3.0	61.9%	18.7%	-2.8%	-35.9%	4.1	4.4	0.4	9.0%	4.1	4.4	0.4	9.0%
Female Reproductive System	8.4	8.8	8.7	9.8	-6.3%	-10.1%	-4.3%	15.6%	9.1	8.9	(0.2)	-2.3%	9.1	8.9	(0.2)	-2.3%
Hepatobiliary System: Pancreas	9.0	9.1	8.8	9.4	1.6%	8.0%	-9.5%	8.5%	8.9	9.1	0.1	1.6%	8.9	9.1	0.1	1.6%
HIV Infection	0.4	0.3	0.4	0.3	-30.6%	21.7%	83.7%	-14.5%	0.3	0.3	0.0	3.5%	0.3	0.3	0.0	3.5%
Infect. and Parasitic Diseases	5.0	5.4	5.0	5.0	0.1%	10.8%	-23.6%	-2.5%	5.4	5.1	(0.3)	-5.6%	5.4	5.1	(0.3)	-5.6%
Inj.: Poison: Toxic Effects of Drugs	2.5	2.5	3.8	2.9	-3.6%	-10.8%	18.0%	19.6%	2.8	2.9	0.1	4.5%	2.8	2.9	0.1	4.5%
Kidney and Urinary Tract	5.3	6.2	6.6	5.6	-18.5%	-8.3%	6.9%	2.6%	6.2	5.9	(0.3)	-5.0%	6.2	5.9	(0.3)	-5.0%
Male Reproductive System	1.2	0.8	0.9	1.6	31.4%	-20.0%	-13.8%	64.4%	1.0	1.1	0.1	12.8%	1.0	1.1	0.1	12.8%
Multiple Significant Trauma	1.0	1.8	1.5	0.7	-15.0%	99.4%	25.9%	-41.1%	1.1	1.3	0.2	13.6%	1.1	1.3	0.2	13.6%
Musculoskeletal: Connective Tissue	18.1	17.2	16.8	19.2	13.9%	5.6%	-2.5%	19.3%	16.4	17.8	1.4	8.6%	16.4	17.8	1.4	8.6%
Myocardial: Posty Diff. Neoplasms	4.6	4.0	5.9	3.4	33.0%	-5.7%	53.2%	-9.8%	3.8	4.5	0.7	17.2%	3.8	4.5	0.7	17.2%
Nervous System	13.7	12.4	13.4	13.6	1.7%	-10.1%	-17.7%	6.8%	14.1	13.2	(0.8)	-5.9%	14.1	13.2	(0.8)	-5.9%
Newborns & Other Neonates	19.5	23.1	21.1	21.4	2.7%	30.9%	9.6%	12.0%	18.8	21.2	2.5	13.2%	18.8	21.2	2.5	13.2%
Pregnancy: Childbirth	40.8	43.7	43.9	43.6	7.8%	12.9%	3.2%	8.1%	39.9	42.9	3.0	7.4%	39.9	42.9	3.0	7.4%
Rehabilitation	7.0	6.2	5.7	7.7	16.0%	10.7%	1.9%	4.0%	6.2	6.7	0.5	7.7%	6.2	6.7	0.5	7.7%
Respiratory System	22.5	20.6	16.0	18.6	-3.6%	36.8%	-4.7%	-16.0%	19.3	19.6	0.4	1.9%	19.3	19.6	0.4	1.9%
Skilled Nursing: Hospice	17.9	14.0	13.2	13.9	56.6%	6.4%	-7.4%	17.5%	12.7	14.9	2.2	17.5%	12.7	14.9	2.2	17.5%
Skin: Subcutaneous Tissue: Breast	4.4	5.5	5.1	5.6	-2.5%	-2.8%	-14.6%	12.1%	5.3	5.1	(0.2)	-3.5%	5.3	5.1	(0.2)	-3.5%
Surgery-Assoc. with Mult. DRGs	5.2	6.2	6.5	3.2	12.9%	-10.9%	9.7%	-64.3%	6.7	5.4	(1.3)	-19.5%	6.7	5.4	(1.3)	-19.5%
Unknown Major Diag. Category	0.2	0.5	0.1	0.1	83.9%	608.4%	-55.1%	-55.8%	0.1	0.2	0.1	62.9%	0.1	0.2	0.1	62.9%
Total Allowed FFS	256.7	253.2	245.8	249.8	6.7%	6.9%	-2.2%	2.0%	243.5	251.8	8.2	3.4%				

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Custom Retrospective Trend Analytics

HCTA Condition-based Exhibit - Sample

Patient By Condition Report - Professional

Unique Patients by Diagnosis Category - Quarterly Report by Chapter

Market: xxx || Product: yyy || Platform: All
 Paid through July 2004: Completion and Actuarial Adjustments applied

Summary Diagnosis Category	Professional							
	Procedures / Patient				Trend			
	2003Q3	2003Q4	2004Q1	2004Q2	2003Q3 / 2002Q3	2003Q4 / 2002Q4	2004Q1 / 2003Q1	2004Q2 / 2003Q2
01 - Infectious & Parasitic Dis	2.20	2.13	2.13	2.13	1.1%	0.9%	-0.2%	-2.2%
02 - Neoplasms	4.77	4.90	4.84	4.68	12.1%	12.2%	1.8%	3.2%
03 - Ender_Nutri, Metabolic, Immun	2.15	2.16	2.13	2.12	-3.4%	-2.6%	-2.8%	-1.6%
04 - Blood & Blood Form Organs	2.94	3.03	3.09	3.12	0.9%	-0.6%	0.2%	7.4%
05 - Mental Disorders	1.29	1.56	1.54	1.44	-24.6%	-5.6%	13.8%	10.1%
06 - Nervous Sys, Sense Organs	2.26	2.28	2.29	2.29	-0.7%	-0.6%	-0.3%	0.3%
07 - Circulatory System	3.74	3.70	3.76	3.64	-0.1%	-0.2%	-0.9%	-3.3%
08 - Respiratory System	2.55	2.44	2.48	2.54	-1.0%	0.0%	2.4%	0.9%
09 - Digestive System	2.52	2.47	2.47	2.45	-1.0%	-2.1%	-0.9%	-2.5%
10 - Genitourinary System	2.55	2.52	2.52	2.52	-2.7%	-2.2%	-2.6%	-2.1%
11 - Pregnancy, Childbirth, Puerp	3.80	3.59	3.58	3.45	1.4%	-2.3%	-3.5%	-6.4%
12 - Skin & Subcutaneous Tissue	1.91	1.95	1.92	1.94	1.2%	3.5%	1.3%	1.7%
13 - Musculo, Connective Tissue	5.56	5.69	6.00	5.67	-0.5%	1.3%	1.4%	-1.4%
14 - Congenital Anomalies	2.70	2.72	2.78	2.49	-5.7%	-1.4%	2.4%	-10.6%
15 - Perinatal Period	8.45	8.13	7.94	5.91	0.5%	-1.2%	-7.0%	-30.6%
16 - Injury and Poisoning	3.65	3.86	3.99	3.57	0.7%	3.7%	0.2%	-5.1%
17 - Other Conditions	2.55	2.52	2.46	2.48	-1.0%	0.0%	-2.8%	-3.9%
18 - Residual Codes / E Codes	1.47	1.50	1.50	1.42	-2.5%	1.2%	0.3%	-3.2%
99 - Unknown	1.78	1.72	1.73	1.86	2.8%	-7.0%	-0.2%	11.3%
Duplicated Total	2.98	2.89	2.97	2.93	0.1%	-0.5%	0.1%	-2.0%
Unduplicated Total	5.64	5.66	5.69	5.52	0.9%	1.7%	2.3%	-2.5%

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Trend Management Strategies

Products and Services that impact:

- Care Management
 - Care Coordination
 - CM/DM/UM
 - Decision Support
- Network Contracting & Tiering
- Practice Patterns & Claims Editing
- Provider Performance Profiling
 - P4P
- Certificate of Coverage
 - Benefit Design
 - Product Development

Products and Services that:

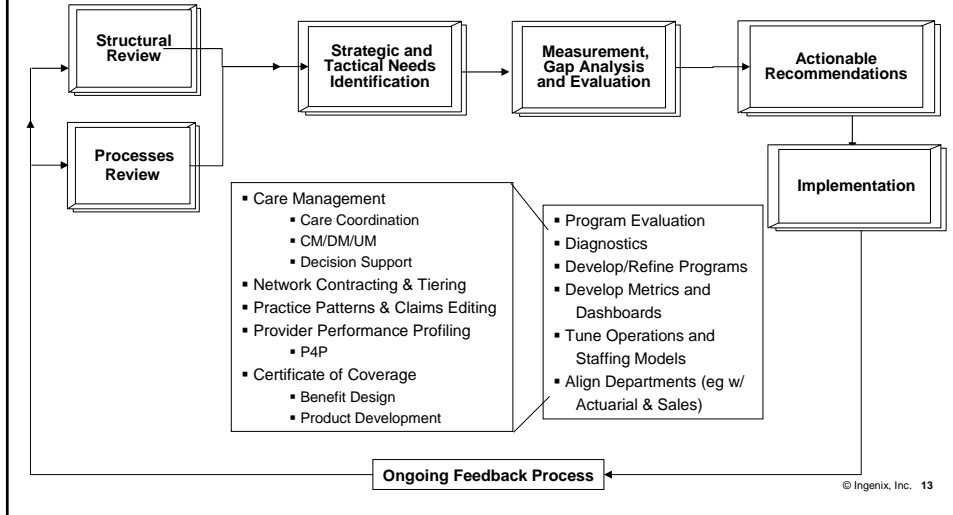
- Evaluate Programs
- Perform Diagnostics
- Develop/Refine Programs
- Develop Metrics and Dashboards
- Tune Operations and Staffing Models
- Align Departments (eg w/ Actuarial & Sales)

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Trend Management Strategies

Performance Maximization Cycle

Applicable to All Components of Medical Management

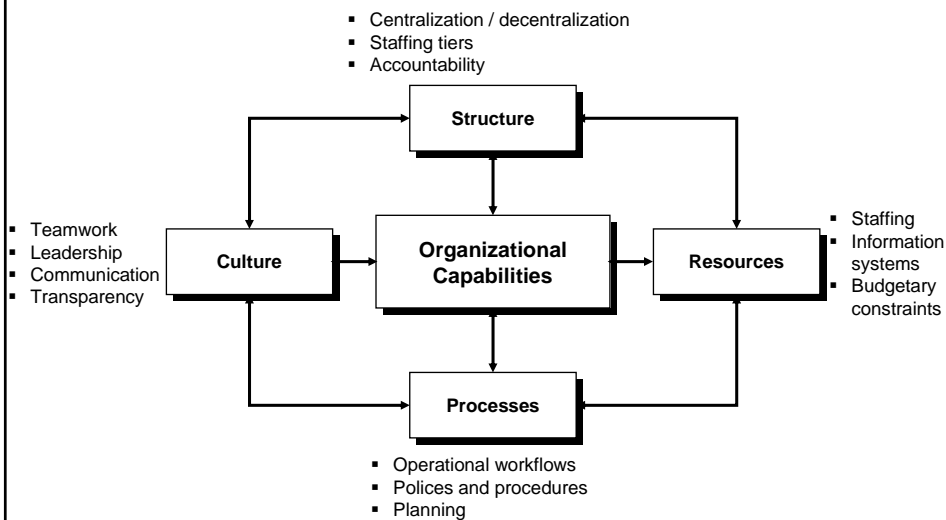


Care Management Business Questions Addressed

Business Issue	Solution	Result / Deliverable
<p>Are your medical management activities aligned with your business objectives?</p> <p>Do you have the right metrics in place to measure the performance of your medical management programs on an ongoing basis?</p>	Metrics and Measurement	Devise a measurement strategy including detailed plans and sample deliverables. Program-specific metrics and requisite data are defined to assure that anticipated results can be quantified and tracked over time; measurement timeframes will be recommended in order to capture performance metrics at key intervals post- program implementation.
Do your medical management programs lead to enhanced quality?	Quality Measurement	Using enrollment information, claims data, and/or survey data acquired from multiple sources for this specific purpose, use the appropriate quality measurement tools such as the EBM (Evidence Based Medicine) Connect to conduct a statistical analysis of program effects. This fact-based analysis produces the data necessary to validate intended program results
Do your medical management programs result in reducing trend and decreasing costs?	ROI Analysis	Using normative data and results from empirical analysis, produce independent estimates of ROI based upon program features and anticipated program participation.

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Overall Approach to Gap Analysis for Trend Management



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Trend Management Strategies

- Identification of savings opportunities through detailed analysis of claim experience
 - Analysis of statistical outliers compared to benchmarks
 - Research and Investigate to determine root causes
 - Evaluate opportunities
 - Action plan development, implementation and monitoring
- Care management
- Contracting and network management
- Benefit design

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What Does Care Management Encompass?

- Health Promotion is a strategy for improving health by providing individuals, groups and communities with the tools to make informed decisions about the social, physical, economical and political factors that affect health
- Utilization Management is the process of evaluating the medical necessity, appropriateness and efficiency of the use of health care services against established guidelines and criteria
- Case Management is a collaborative process of assessment, planning, facilitation and advocacy for options and services to meet an individual's health needs through communication and available resources to promote quality cost-effective outcomes (CMSA)
- Disease Management is a system of coordinated health care interventions and communications targeted at populations with conditions for which patient self-care efforts are significant (DMAA)

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Goals of a Care Management Program

Maximize the value of health care services,
effectively and within budget.

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Trend Management Strategies-Care Management

- Health and wellness
 - Obesity prevention
 - Stress management
- Utilization management
 - Prior authorization opportunities
 - Concurrent inpatient review
- Demand management
 - After hours and weekend physician availability
- Disease management
 - Management of unique populations
 - Chronic diseases
- Physician practice patterns
- Case management
 - Complex at risk cases
 - Catastrophic cases

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Trend Management Strategies-Physician Practice Patterns

- Disease specific practice patterns
- Efficiency practice patterns
- Quality of care practice patterns
- Primary care versus specialists

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Trend Management Strategies-Contracting and Network Management

- Centers of Excellence
 - Obesity prevention
 - Stress management
- High performance networks
 - Prior authorization opportunities
 - Concurrent inpatient review
- P4P
 - After hours and weekend physician availability
- Disease management

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Benchmarking/Reports/Dashboards



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Trend Benchmarking and Mitigation Variance to Benchmark

Trend Benchmarking & Mitigation
Analysis of Inpatient Variance from Benchmark for National
12 Months Ending 7/31/04 - Commercial

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Major Diagnostic Category	Company X Experience			Benchmark		Variance		Savings Opportunity Based on Days / 1000
	Allowed PMPM	Days / 1000	Cost / Day	Admits / 1000	Days / 1000	Admits / 1000	Days / 1000	
MDC 01 (Nervous System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 02 (Eye)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 03 (Ear, Nose, Mouth and Throat)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 04 (Respiratory System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 05 (Circulatory System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 06 (Digestive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 07 (Hepatobiliary System; Pancreas)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 08 (Musculoskeletal; Connective Tissue)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 09 (Skin; Subcutaneous Tissue; Breast)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 10 (Endocrine, Nutritional and Metabolic)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 11 (Kidney and Urinary Tract)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 12 (Male Reproductive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 13 (Female Reproductive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 14 (Pregnancy; Childbirth)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 15 (Newborns & Other Neonates)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 16 (Std; Std Form; Organs; Immun.)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 17 (Myeloprolif; Poorly Diff. Neoplasms)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 18 (Infect. and Parasitic Diseases)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 19 (Mental Disease & Disorders)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 20 (Alcohol/Drug & Mental Disorder)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 21 (Inj.; Poison; Toxic Effects of Drugs)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 22 (Burns)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 23 (Fact. Infr. Hlth; Hlth Sys. Contact)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 24 (Multiple Significant Trauma)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 25 (HIV Infection)	xx	xx	xx	xx	xx	xx	xx	xx
MDC PR (Transplants/Tracheostomies)	xx	xx	xx	xx	xx	xx	xx	xx
SNF	xx	xx	xx	xx	xx	xx	xx	xx
Total	xx	xx	xx	xx	xx	xx	xx	xx

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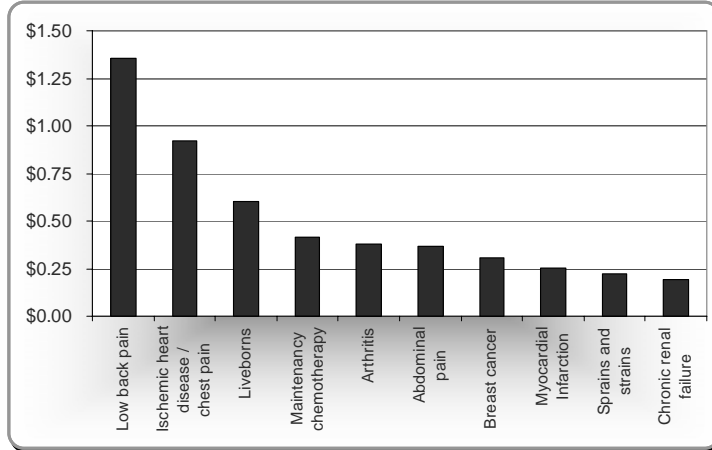
Trend Benchmarking and Mitigation Variance to Benchmark

- Analyze trend drivers and statistical outliers to determine their root cause
 - This includes detailed claims analyses at the
 - patient,
 - provider, and/or
 - code level (service codes or diagnosis codes).
 - Often our investigation leads us to analyze claims by
 - age and/or gender to identify if the appropriate patients are receiving the treatment;
 - by CPT code to see if there are issues with new or retired codes, or if providers are changing which codes they are using to gain payment for otherwise denied procedures.

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Case Study #1 – Provider Contracting Provider Reimbursement – AHRQ 205

AHRQ Categories = diagnosis-based categories defined by the U.S. Agency for Healthcare Research and Quality.



Trend Analytic Report identifies target areas for investigative research. Number one driver of trend based on Change in PMPM is diagnosis of low back pain.

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Case Study #2 – Trend Analytics Coagulation “Factor” Drug Class

Trend Benchmarking & Mitigation - AHRQ Analysis
Market 32 - AHRQ Detail 04 - Blood & Blood Form Organs
Commercial Non-HMO
12 Months Ending 5/31/05

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As of July 2005

AHRQ: Summary by Market, by Detail Category
TOTAL MEDICAL (Physician, Inpatient, Outpatient)

AHRQ Chapter	Company ABC Market Experience				Potential Savings Opportunity based on PMPM			
	PMPM's				Physician	Inpatient	Outpatient	Total
	Phy	IP	OP	Total				
04 - Blood & Blood Form Organs								
059 - Anemia	0.25	0.40	0.21	0.86	-	16,000	-	16,000
060 - Acute post-hemorrhagic anemia	0.00	0.00	-	0.01	-	-	-	-
061 - Sickle cell anemia	0.00	0.10	0.00	0.11	-	1,000	-	1,000
062 - Coagulation and hemorrhagic disorders	1.77	0.09	0.19	2.05	373,000	-	11,000	384,000
063 - Disease of white blood cells	0.41	0.17	0.02	0.59	41,000	-	-	41,000
064 - Other hematologic conditions	0.06	0.08	0.01	0.15	6,000	-	-	6,000
Total	2.48	0.84	0.43	3.76	420,000	17,000	11,000	448,000

Drill-down benchmarking analysis isolates one specific problem area for Market 32: AHRQ Detail Category 062 – Coagulation and Hemorrhagic disorders.

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Coagulation “Factor” Drug Class

- Research and Analysis
 - Benchmark reports indicate an outlier for AHRQ Category “Blood & Blood Form Organs”.
 - Initial research indicates that AHRQ Detail Category 062 – Coagulation and Hemorrhagic Disorders - is the primary driver.
 - Investigative research indicates
 - These factors tend to be over utilized on a preventative basis for members with coagulation defects (i.e. Hemophiliacs).
 - National guidelines indicate treatment should correspond with an acute bleed episode.
 - Evidence based medicine does not indicate that multiple factor injections within the same month decreases the probability of an acute bleed.
 - Conclusion: Many Coagulation Factor claims are being paid for preventive purposes with no evidence of improved health status or reduction of risk of acute bleeds
- Results
 - Recommended Actions:
 - Implement prior authorization guidelines to limit the number of preventive dosings within a month for members with coagulation defects.
 - Involve Case management to help manage the appropriate use of factor products.
 - Projected Savings: \$4 million annually.

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Conclusions

Actuaries and clinical staff are ideally suited to work collaboratively on trend management issues

Multiple views are critical

There are multiple opportunities for effective trend management including

1. Care management
2. Contracting and Network management
3. Benefit design
4. Physician practice pattern enhancement

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Society of Actuaries Trend Management *June, 2007*



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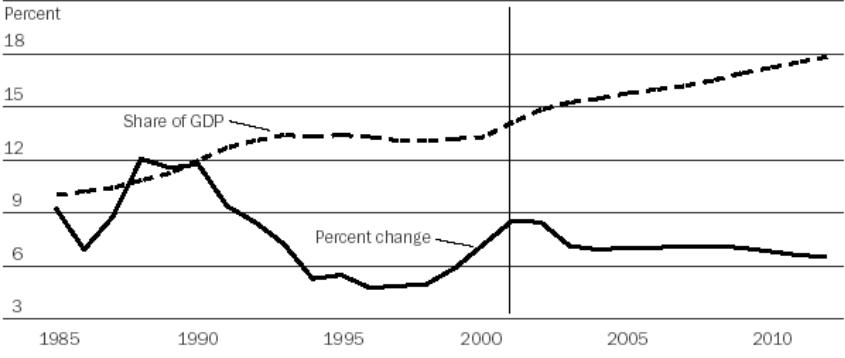
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EXHIBIT 3
National Health Expenditures: Percentage Change And Share Of Gross Domestic Product (GDP), 1985-2012

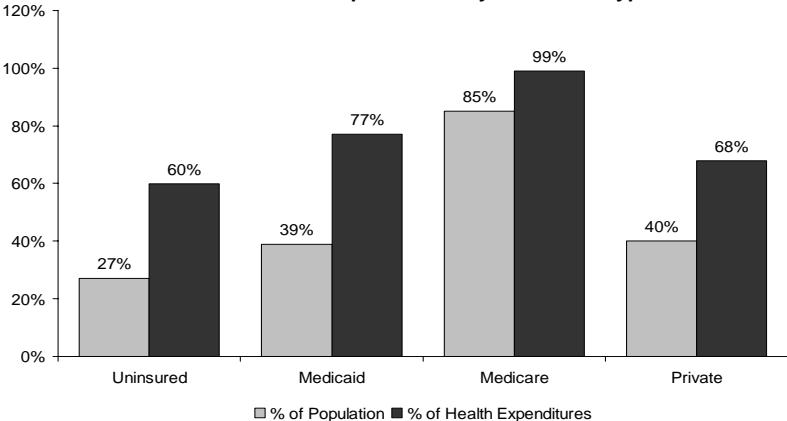


SOURCE: Centers for Medicare and Medicaid Services, Office of the Actuary.
NOTE: Vertical line denotes beginning of projections; trend lines to the left of the vertical line represent historical data.

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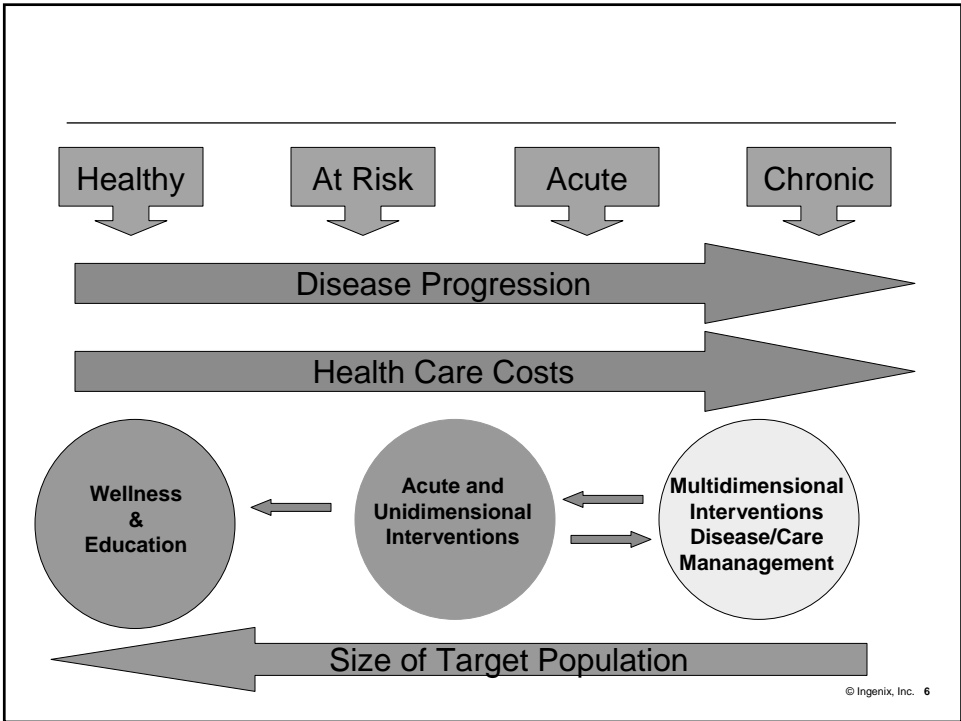
Individuals with chronic conditions account for the majority of health care expenditures

Proportion of Population With One or More Chronic Conditions and Share of Health Expenditures by Insurance Type



Source: Partnership for Solutions (2002), Chronic Conditions: Making the Case for Ongoing Care (Baltimore: Johns Hopkins University)

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A Model Trend Management Process

- Trend management process includes three main functionalities:
 - Retrospective Trend Analytics
 - Outlier Identification and Mitigation
 - Prospective Trend Analytics – Trend Forecast Modeling
- Understanding historical drivers of trend is critical to the ability to mitigate future costs.
- Understanding historical drivers of trend and quantifying mitigation efforts are both critical to building an effective forecasting process.

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Understanding Historical Trend

- Multiple views
 - Service type
 - Inpatient
 - Outpatient
 - Physician
 - Pharmacy
 - Geographic
 - Unit cost
 - Utilization
 - Provider type
 - Clinical identifier
 - AHRQ
 - MDC
 - ETG
- Reports and dashboards

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Understanding Historical Pharmacy Trend

- Therapeutic class
- Number of prescriptions
- Days supply
- Average cost of prescriptions
- Off label uses of medications as measured by clinical indicators
- Market and product

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Custom Retrospective Trend Analytics

HCTA Mid Level Detail Inpatient Exhibit - Example

Health Cost Trend Analysis																
Criteria A																
INPATIENT BY MAJOR DIAGNOSTIC CATEGORY																
Criteria B																
Criteria C																
Member Months	2004Q1				2004Q2				2004Q3				2004Q4			
	2004Q1	2004Q2	2004Q3	2004Q4	2004Q1	2004Q2	2004Q3	2004Q4	2004Q1	2004Q2	2004Q3	2004Q4	2003Q1-2003Q4	2004Q1-2004Q4	Difference	Trend
Member Months	2,924,534	2,676,654	2,370,833	2,169,062	-1.0%	-13.8%	-26.7%	-32.1%	12,488,908	10,141,083	(2,347,825)	-18.8%				
Days / 1,000																
Bleeding Form Organs: Immun.	2.1	1.9	1.7	2.0	-13.6%	-21.1%	-14.9%	-18.2%	2.3	1.9	(0.4)	-16.7%				
Burns	0.4	0.5	0.2	0.4	-50.4%	264.7%	-37.1%	225.6%	0.4	0.4	0.0	10.4%				
Circulatory System	27.2	25.0	24.4	24.4	1.3%	-2.0%	-8.6%	-3.8%	26.1	25.4	(0.7)	-2.8%				
Digestive System	25.6	25.5	24.6	26.3	10.2%	2.1%	-3.8%	11.4%	24.4	25.5	1.1	4.6%				
Ear, Nose, Mouth and Throat	2.1	1.8	1.9	2.0	-8.3%	-13.9%	7.0%	-10.8%	2.1	1.9	(0.1)	-6.7%				
Endocrine, Nutritional and Metabolic	6.3	5.4	5.1	5.8	-8.4%	-9.0%	-2.3%	0.9%	5.9	5.7	(0.3)	-4.2%				
Eye	0.6	0.4	0.3	0.3	164.0%	49.4%	-2.8%	-10.0%	0.3	0.4	0.1	48.5%				
Fact. Infl. Hlth. Hlth Sys. Contact	5.7	4.4	4.1	3.0	61.9%	18.7%	-2.8%	-35.9%	4.1	4.4	0.4	9.0%				
Female Reproductive System	8.4	8.8	8.7	9.8	-6.3%	-10.1%	-4.3%	15.6%	9.1	8.9	(0.2)	-2.3%				
Hepatobiliary System: Pancreas	9.0	9.1	8.8	9.4	1.6%	8.0%	-9.5%	8.5%	8.9	9.1	0.1	1.6%				
HIV Infection	0.4	0.3	0.4	0.3	-30.6%	21.7%	83.7%	-14.5%	0.3	0.3	0.0	3.5%				
Infect. and Parasitic Diseases	5.0	5.4	5.0	5.0	0.1%	10.8%	-23.6%	-2.5%	5.4	5.1	(0.3)	-5.6%				
Inj.: Poison: Toxic Effects of Drugs	2.5	2.5	3.8	2.9	-3.6%	-10.8%	18.0%	19.6%	2.8	2.9	0.1	4.5%				
Kidney and Urinary Tract	5.3	6.2	6.6	5.6	-18.5%	-8.3%	6.9%	2.6%	6.2	5.9	(0.3)	-5.0%				
Male Reproductive System	1.2	0.8	0.9	1.6	31.4%	-20.0%	-13.8%	64.4%	1.0	1.1	0.1	12.8%				
Multiple Significant Trauma	1.0	1.8	1.5	0.7	-15.0%	99.4%	25.9%	-41.1%	1.1	1.3	0.2	13.6%				
Musculoskeletal: Connective Tissue	18.1	17.2	16.8	19.2	13.9%	5.6%	-2.5%	19.3%	16.4	17.8	1.4	8.6%				
Myocardial: Posty Diff. Neoplasms	4.6	4.0	5.9	3.4	33.0%	-5.7%	53.2%	-9.8%	3.8	4.5	0.7	17.2%				
Nervous System	13.7	12.4	13.4	13.6	1.7%	-10.1%	-17.7%	6.8%	14.1	13.2	(0.8)	-5.9%				
Newborns & Other Neonates	19.5	23.1	21.1	21.4	2.7%	30.9%	9.6%	12.0%	18.8	21.2	2.5	13.2%				
Pregnancy: Childbirth	40.8	43.7	43.9	43.6	7.8%	12.9%	3.2%	8.1%	39.9	42.9	3.0	7.4%				
Rehabilitation	7.0	6.2	5.7	7.7	16.0%	10.7%	1.9%	4.0%	6.2	6.7	0.5	7.7%				
Respiratory System	22.5	20.6	16.0	18.6	-3.6%	36.8%	-4.7%	-16.0%	19.3	19.6	0.4	1.9%				
Skilled Nursing: Hospice	17.9	14.0	13.2	13.9	56.6%	6.4%	-7.4%	17.5%	12.7	14.9	2.2	17.5%				
Skin: Subcutaneous Tissue: Breast	4.4	5.5	5.1	5.6	-2.5%	-2.8%	-14.6%	12.1%	5.3	5.1	(0.2)	-3.5%				
Surgery-Assoc. with Mult. DRGs	5.2	6.2	6.5	3.2	12.9%	-10.9%	9.7%	-64.3%	6.7	5.4	(1.3)	-19.5%				
Unknown Major Diag. Category	0.2	0.5	0.1	0.1	83.9%	608.4%	-55.1%	-55.8%	0.1	0.2	0.1	62.9%				
Total Allowed FFS	256.7	253.2	245.8	249.8	6.7%	6.9%	-2.2%	2.0%	243.5	251.8	8.2	3.4%				

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Custom Retrospective Trend Analytics

HCTA Condition-based Exhibit - Sample

Patient By Condition Report - Professional

Unique Patients by Diagnosis Category - Quarterly Report by Chapter

Market: xxx || Product: yyy || Platform: All
 Paid through July 2004: Completion and Actuarial Adjustments applied

Summary Diagnosis Category	Professional							
	Procedures / Patient				Trend			
	2003Q3	2003Q4	2004Q1	2004Q2	2003Q3 / 2002Q3	2003Q4 / 2002Q4	2004Q1 / 2003Q1	2004Q2 / 2003Q2
01 - Infectious & Parasitic Dis	2.20	2.13	2.13	2.13	1.1%	0.9%	-0.2%	-2.2%
02 - Neoplasms	4.77	4.90	4.84	4.68	12.1%	12.2%	1.8%	3.2%
03 - Ender_Nutri, Metabolic, Immun	2.15	2.16	2.13	2.12	-3.4%	-2.6%	-2.8%	-1.6%
04 - Blood & Blood Form Organs	2.94	3.03	3.09	3.12	0.9%	-0.6%	0.2%	7.4%
05 - Mental Disorders	1.29	1.56	1.54	1.44	-24.6%	-5.6%	13.8%	10.1%
06 - Nervous Sys, Sense Organs	2.26	2.28	2.29	2.29	-0.7%	-0.6%	-0.3%	0.3%
07 - Circulatory System	3.74	3.70	3.76	3.64	-0.1%	-0.2%	-0.9%	-3.3%
08 - Respiratory System	2.55	2.44	2.48	2.54	-1.0%	0.0%	2.4%	0.9%
09 - Digestive System	2.52	2.47	2.47	2.45	-1.0%	-2.1%	-0.9%	-2.5%
10 - Genitourinary System	2.55	2.52	2.52	2.52	-2.7%	-2.2%	-2.6%	-2.1%
11 - Pregnancy, Childbirth, Puerp	3.80	3.59	3.58	3.45	1.4%	-2.3%	-3.5%	-6.4%
12 - Skin & Subcutaneous Tissue	1.91	1.95	1.92	1.94	1.2%	3.3%	1.3%	1.7%
13 - Musculo, Connective Tissue	5.56	5.69	6.00	5.67	-0.3%	1.3%	1.4%	-1.4%
14 - Congenital Anomalies	2.70	2.72	2.78	2.49	-5.7%	-1.4%	2.4%	-10.6%
15 - Perinatal Period	8.45	8.13	7.94	5.91	0.5%	-1.2%	-7.0%	-30.6%
16 - Injury and Poisoning	3.65	3.86	3.99	3.57	0.7%	3.7%	0.2%	-5.1%
17 - Other Conditions	2.55	2.52	2.46	2.48	-1.0%	0.0%	-2.8%	-3.9%
18 - Residual Codes / E Codes	1.47	1.50	1.50	1.42	-2.5%	1.2%	0.3%	-3.2%
99 - Unknown	1.78	1.72	1.73	1.86	2.8%	-7.0%	-0.2%	11.3%
Duplicated Total	2.98	2.89	2.97	2.93	0.1%	-0.5%	0.1%	-2.0%
Unduplicated Total	5.64	5.66	5.69	5.52	0.9%	1.7%	2.3%	-2.5%

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Trend Management Strategies

Products and Services that impact:

- Care Management
 - Care Coordination
 - CM/DM/UM
 - Decision Support
- Network Contracting & Tiering
- Practice Patterns & Claims Editing
- Provider Performance Profiling
 - P4P
- Certificate of Coverage
 - Benefit Design
 - Product Development

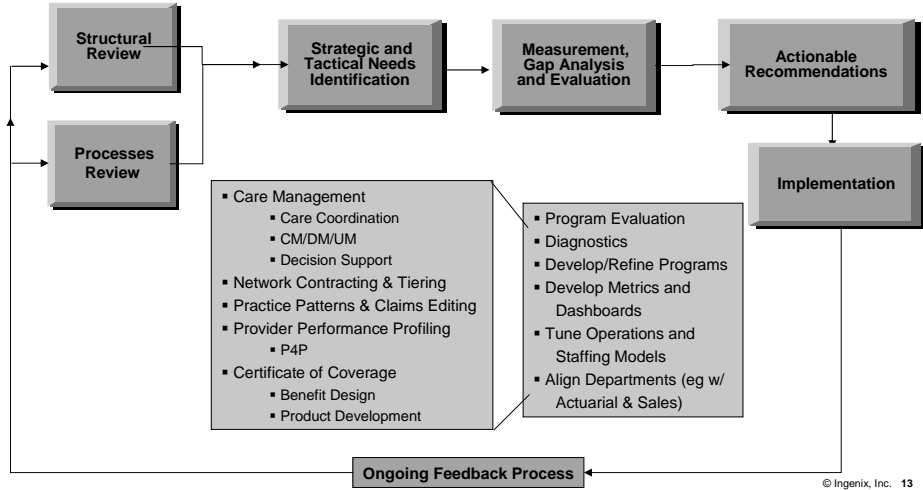
Products and Services that:

- Evaluate Programs
- Perform Diagnostics
- Develop/Refine Programs
- Develop Metrics and Dashboards
- Tune Operations and Staffing Models
- Align Departments (eg w/ Actuarial & Sales)

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Trend Management Strategies

Performance Maximization Cycle
Applicable to All Components of Medical Management



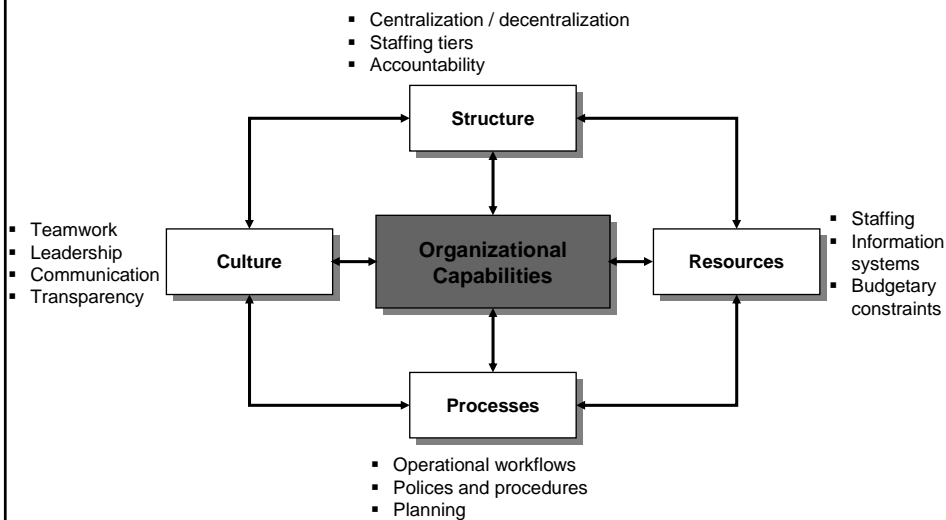
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Care Management Business Questions Addressed

Business Issue	Solution	Result / Deliverable
<p>Are your medical management activities aligned with your business objectives?</p> <p>Do you have the right metrics in place to measure the performance of your medical management programs on an ongoing basis?</p>	Metrics and Measurement	Devise a measurement strategy including detailed plans and sample deliverables. Program-specific metrics and requisite data are defined to assure that anticipated results can be quantified and tracked over time; measurement timeframes will be recommended in order to capture performance metrics at key intervals post- program implementation.
Do your medical management programs lead to enhanced quality?	Quality Measurement	Using enrollment information, claims data, and/or survey data acquired from multiple sources for this specific purpose, use the appropriate quality measurement tools such as the EBM (Evidence Based Medicine) Connect to conduct a statistical analysis of program effects. This fact-based analysis produces the data necessary to validate intended program results
Do your medical management programs result in reducing trend and decreasing costs?	ROI Analysis	Using normative data and results from empirical analysis, produce independent estimates of ROI based upon program features and anticipated program participation.

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Overall Approach to Gap Analysis for Trend Management



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Trend Management Strategies

- Identification of savings opportunities through detailed analysis of claim experience
 - Analysis of statistical outliers compared to benchmarks
 - Research and Investigate to determine root causes
 - Evaluate opportunities
 - Action plan development, implementation and monitoring
- Care management
- Contracting and network management
- Benefit design

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What Does Care Management Encompass?

- Health Promotion is a strategy for improving health by providing individuals, groups and communities with the tools to make informed decisions about the social, physical, economical and political factors that affect health
- Utilization Management is the process of evaluating the medical necessity, appropriateness and efficiency of the use of health care services against established guidelines and criteria
- Case Management is a collaborative process of assessment, planning, facilitation and advocacy for options and services to meet an individual's health needs through communication and available resources to promote quality cost-effective outcomes (CMSA)
- Disease Management is a system of coordinated health care interventions and communications targeted at populations with conditions for which patient self-care efforts are significant (DMAA)

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Goals of a Care Management Program

Maximize the value of health care services,
effectively and within budget.

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Trend Management Strategies-Care Management

- Health and wellness
 - Obesity prevention
 - Stress management
- Utilization management
 - Prior authorization opportunities
 - Concurrent inpatient review
- Demand management
 - After hours and weekend physician availability
- Disease management
 - Management of unique populations
 - Chronic diseases
- Physician practice patterns
- Case management
 - Complex at risk cases
 - Catastrophic cases

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Trend Management Strategies-Physician Practice Patterns

- Disease specific practice patterns
- Efficiency practice patterns
- Quality of care practice patterns
- Primary care versus specialists

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Trend Management Strategies-Contracting and Network Management

- Centers of Excellence
 - Obesity prevention
 - Stress management
- High performance networks
 - Prior authorization opportunities
 - Concurrent inpatient review
- P4P
 - After hours and weekend physician availability
- Disease management

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Benchmarking/Reports/Dashboards



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Trend Benchmarking and Mitigation Variance to Benchmark

Trend Benchmarking & Mitigation
Analysis of Inpatient Variance from Benchmark for National
12 Months Ending 7/31/04 - Commercial

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As of October 2004

INPATIENT

Major Diagnostic Category	Company X Experience			Benchmark		Variance		Savings Opportunity Based on Days / 1000
	Allowed PMPM	Days / 1000	Cost / Day	Admits / 1000	Days / 1000	Admits / 1000	Days / 1000	
MDC 01 (Nervous System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 02 (Eye)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 03 (Ear, Nose, Mouth and Throat)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 04 (Respiratory System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 05 (Circulatory System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 06 (Digestive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 07 (Hepatobiliary System; Pancreas)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 08 (Musculoskeletal; Connective Tissue)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 09 (Skin; Subcutaneous Tissue; Breast)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 10 (Endocrine, Nutritional and Metabolic)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 11 (Kidney and Urinary Tract)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 12 (Male Reproductive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 13 (Female Reproductive System)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 14 (Pregnancy; Childbirth)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 15 (Newborns & Other Neonates)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 16 (Std; Std Form; Organs; Immun.)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 17 (Myeloprolif; Poorly Diff; Neoplasms)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 18 (Infect. and Parasitic Diseases)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 19 (Mental Disease & Disorders)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 20 (Alcohol/Drug & Mental Disorder)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 21 (Inj.; Poison; Toxic Effects of Drugs)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 22 (Burns)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 23 (Fact. Inft; Hth; Hth Sys. Contact)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 24 (Multiple Significant Trauma)	xx	xx	xx	xx	xx	xx	xx	xx
MDC 25 (HIV Infection)	xx	xx	xx	xx	xx	xx	xx	xx
MDC PR (Transplants/Tracheostomies)	xx	xx	xx	xx	xx	xx	xx	xx
SNF	xx	xx	xx	xx	xx	xx	xx	xx
Total	xx	xx	xx	xx	xx	xx	xx	xx

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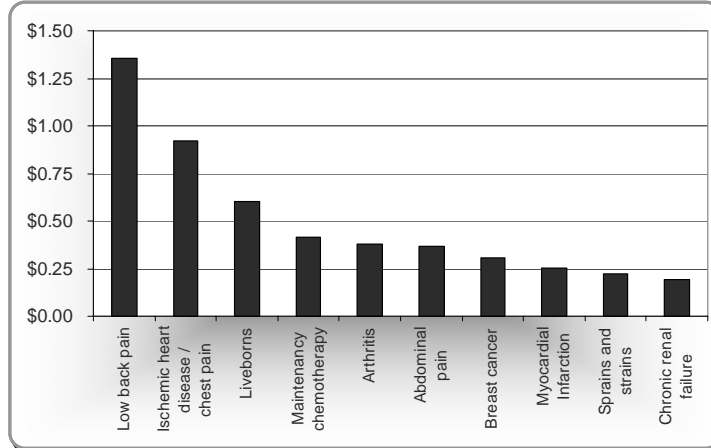
Trend Benchmarking and Mitigation Variance to Benchmark

- Analyze trend drivers and statistical outliers to determine their root cause
 - This includes detailed claims analyses at the
 - patient,
 - provider, and/or
 - code level (service codes or diagnosis codes).
 - Often our investigation leads us to analyze claims by
 - age and/or gender to identify if the appropriate patients are receiving the treatment;
 - by CPT code to see if there are issues with new or retired codes, or if providers are changing which codes they are using to gain payment for otherwise denied procedures.

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Case Study #1 – Provider Contracting Provider Reimbursement – AHRQ 205

AHRQ Categories = diagnosis-based categories defined by the U.S. Agency for Healthcare Research and Quality.



Trend Analytic Report identifies target areas for investigative research. Number one driver of trend based on Change in PMPM is diagnosis of low back pain.

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Case Study #2 – Trend Analytics Coagulation “Factor” Drug Class

Trend Benchmarking & Mitigation - AHRQ Analysis
Market 32 - AHRQ Detail 04 - Blood & Blood Form Organs
Commercial Non-HMO
12 Months Ending 5/31/05

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As of July 2005

AHRQ: Summary by Market, by Detail Category					TOTAL MEDICAL (Physician, Inpatient, Outpatient)			
AHRQ Chapter	Company ABC Market Experience				Potential Savings Opportunity based on PMPM			
	PMPM's				Physician	Inpatient	Outpatient	Total
	Phy	IP	OP	Total				
04 - Blood & Blood Form Organs								
059 - Anemia	0.25	0.40	0.21	0.86	-	16,000	-	16,000
060 - Acute post-hemorrhagic anemia	0.00	0.00	-	0.01	-	-	-	-
061 - Sickle cell anemia	0.00	0.10	0.00	0.11	-	1,000	-	1,000
062 - Coagulation and hemorrhagic disorders	1.77	0.09	0.19	2.05	373,000	-	11,000	384,000
063 - Disease of white blood cells	0.41	0.17	0.02	0.59	41,000	-	-	41,000
064 - Other hematologic conditions	0.06	0.08	0.01	0.15	6,000	-	-	6,000
Total	2.48	0.84	0.43	3.76	420,000	17,000	11,000	448,000

Drill-down benchmarking analysis isolates one specific problem area for Market 32: AHRQ Detail Category 062 – Coagulation and Hemorrhagic disorders.

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Coagulation “Factor” Drug Class

- Research and Analysis
 - Benchmark reports indicate an outlier for AHRQ Category “Blood & Blood Form Organs”.
 - Initial research indicates that AHRQ Detail Category 062 – Coagulation and Hemorrhagic Disorders - is the primary driver.
 - Investigative research indicates
 - These factors tend to be over utilized on a preventative basis for members with coagulation defects (i.e. Hemophiliacs).
 - National guidelines indicate treatment should correspond with an acute bleed episode.
 - Evidence based medicine does not indicate that multiple factor injections within the same month decreases the probability of an acute bleed.
 - Conclusion: Many Coagulation Factor claims are being paid for preventive purposes with no evidence of improved health status or reduction of risk of acute bleeds
- Results
 - Recommended Actions:
 - Implement prior authorization guidelines to limit the number of preventive dosings within a month for members with coagulation defects.
 - Involve Case management to help manage the appropriate use of factor products.
 - Projected Savings: \$4 million annually.

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Conclusions

Actuaries and clinical staff are ideally suited to work collaboratively on trend management issues

Multiple views are critical

There are multiple opportunities for effective trend management including

1. Care management
2. Contracting and Network management
3. Benefit design
4. Physician practice pattern enhancement

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