



The Open Group Conference Austin

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Rapid Business Transformations in Health Care: A Systems Approach

Refaat Shulaiba

July 18, 2011

Refaat Shulaiba

Chief Information Officer

Midwest Health Plan

rshulaiba@midwesthealthplan.com

Agenda

- Introduction
- The Health Care Challenges
- TOGAF and Best Practices
- Accountable Care Organizations (ACO)
- Case Study
- Lessons Learned
- Questions

Challenges of the Health Care Businesses

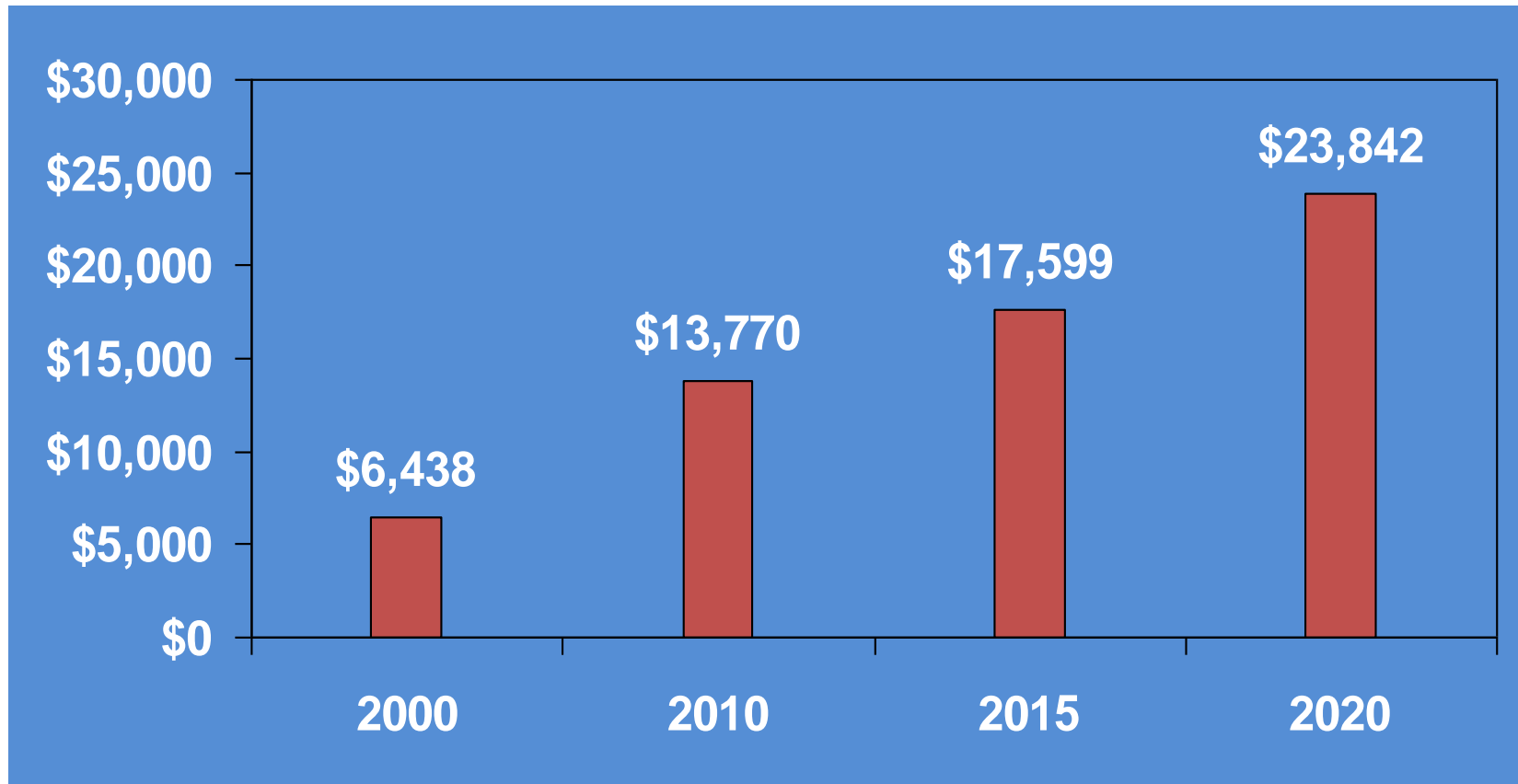
Healthcare industry has challenges in controlling healthcare cost.

Healthcare regulations forces organizations to comprehensive changes in aggressive timelines.

Overview of the Health Care Challenges

- Health Care Business Environment
- Health Care Reform
- Unsustainable increase in health care cost
- Inconsistent relationships between cost and quality of care
- Overall change program triggered by the government, CMS and new requirements (ICD10, EDI 5010, ACO, EHR, HIE)

Projections of Growth in Premiums



Source: For 2000 and 2010, Kaiser/HRET Survey of Employer-Sponsored Health Benefits, 2010 ; 2015 and 2020 based on CMS, Office of the Actuary, National Health Statistics Group, national health expenditures per capita annual growth rate, cited in: C. Schoen, J.L. Nicholson, S.D. Rustgi, *Paying the Price: How Health Insurance Premiums Are Eating Up Middle-Class Incomes, State-by-State Health Insurance Premium Projections With and Without National Reform* (New York: The Commonwealth Fund) August 2009.

Health Management Association (HMA)

Vernon K. Smith, PhD 2010

International Classification of Diseases

ICD-10

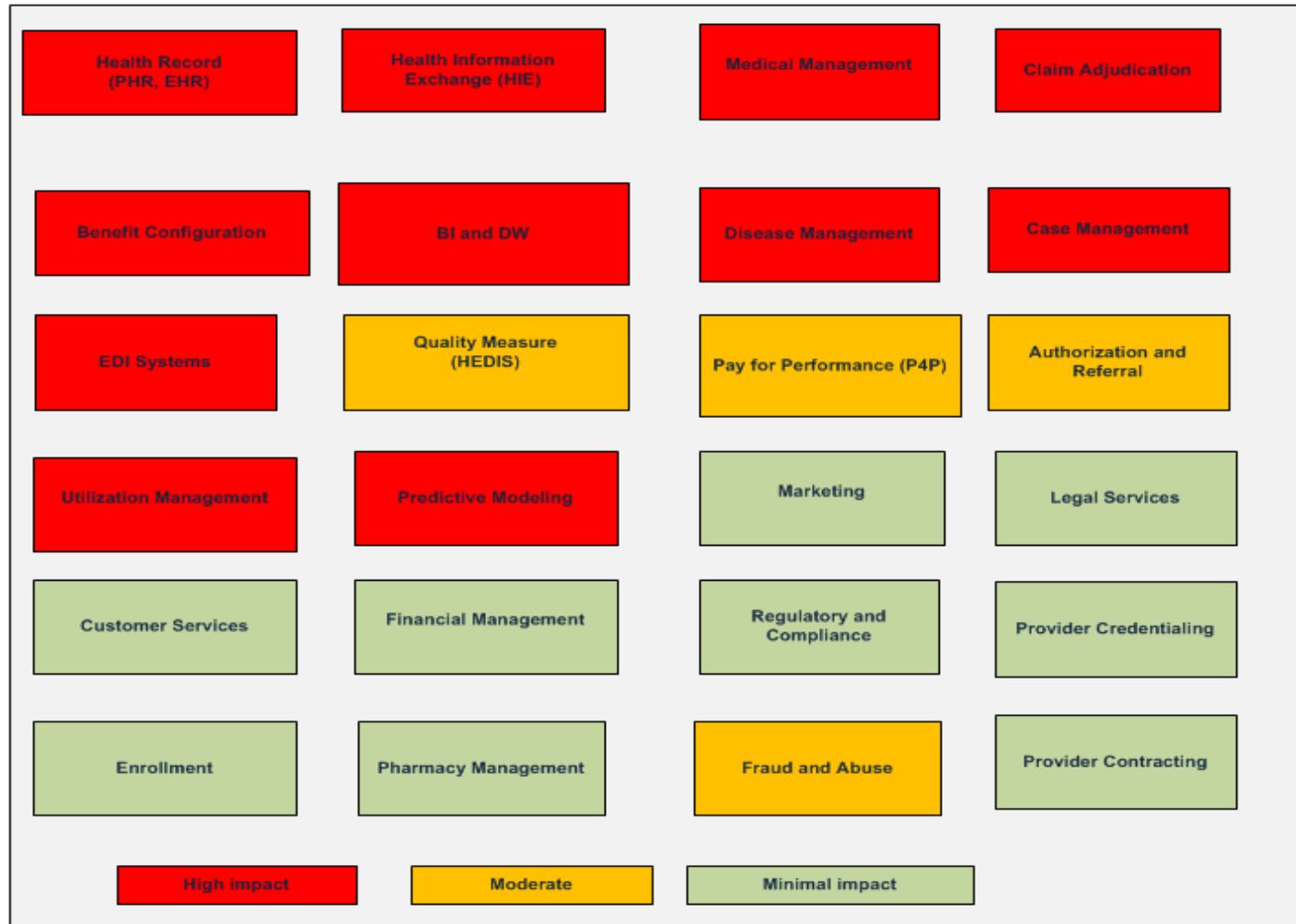
Transition from ICD-9

ICD-9 Diagnosis Codes	ICD-10 Diagnosis Codes	ICD-9 Procedures Codes	ICD-10 Procedure Codes
13,000	68,000	11,000	87,000
3-5 digit	3-7 digit	3-4 digit	7 DIGIT

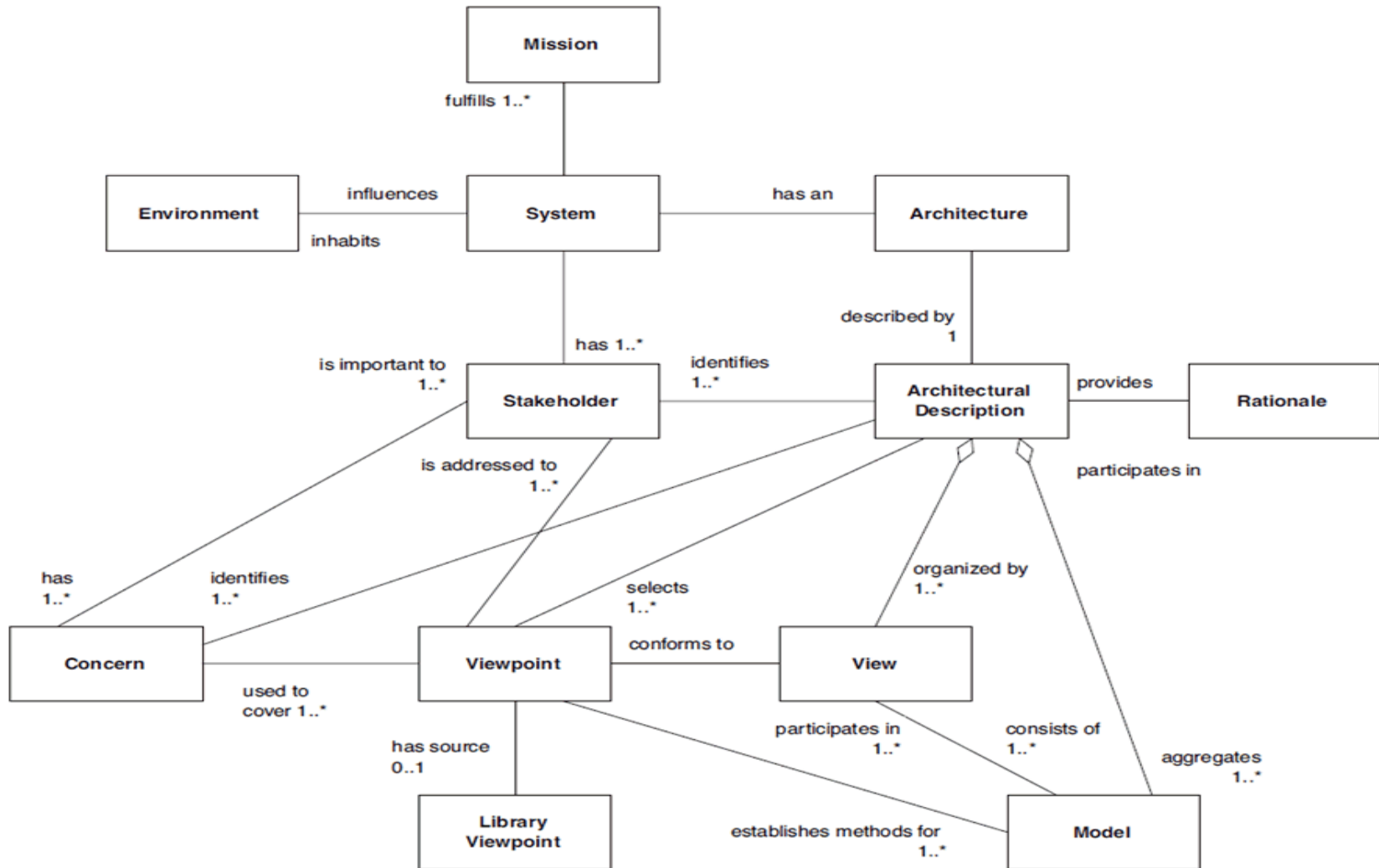
<http://www.cms.gov/ICD10/>

ICD-10 Upgrade

Impacts on Health Care

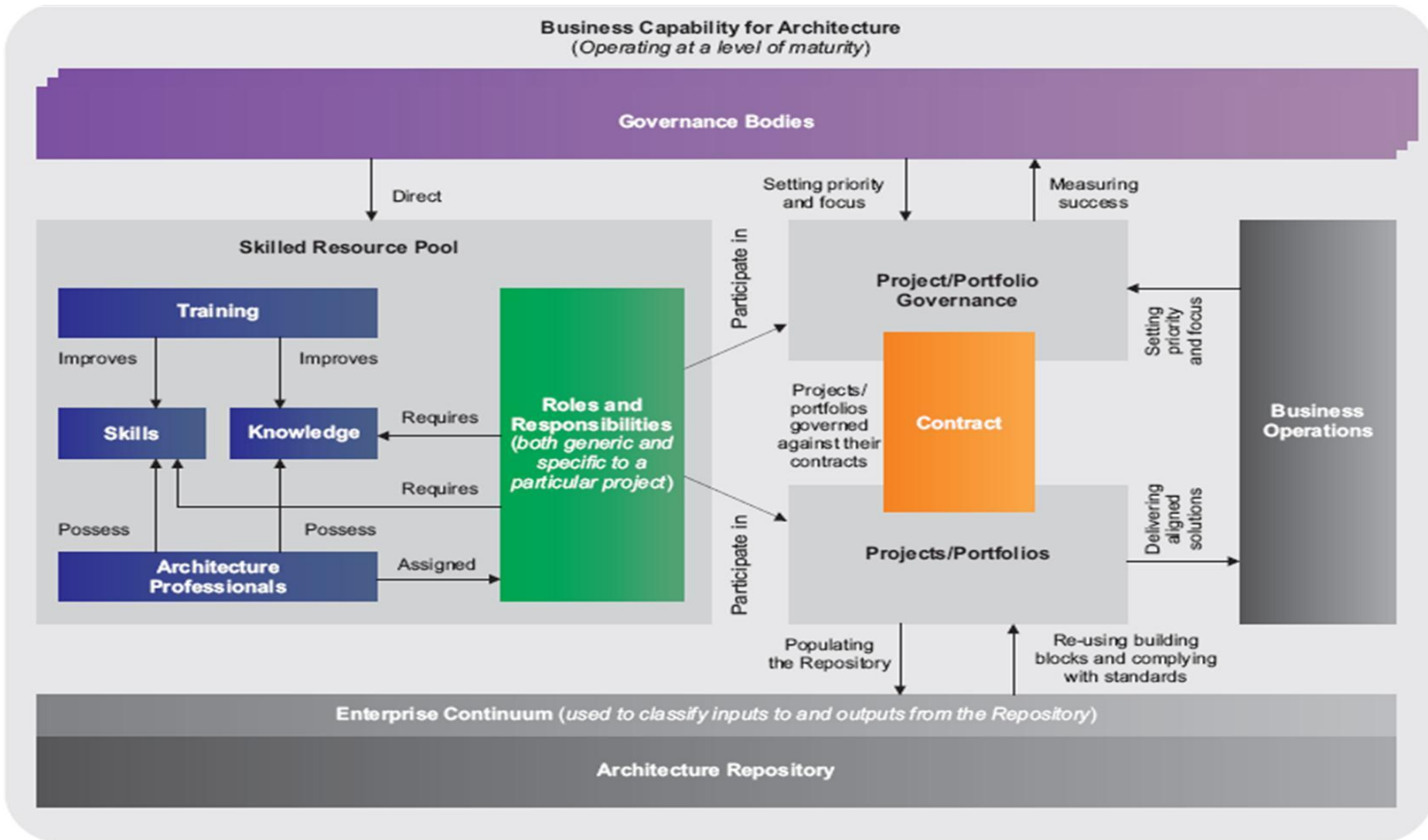


ISO/IEC 42010:2007

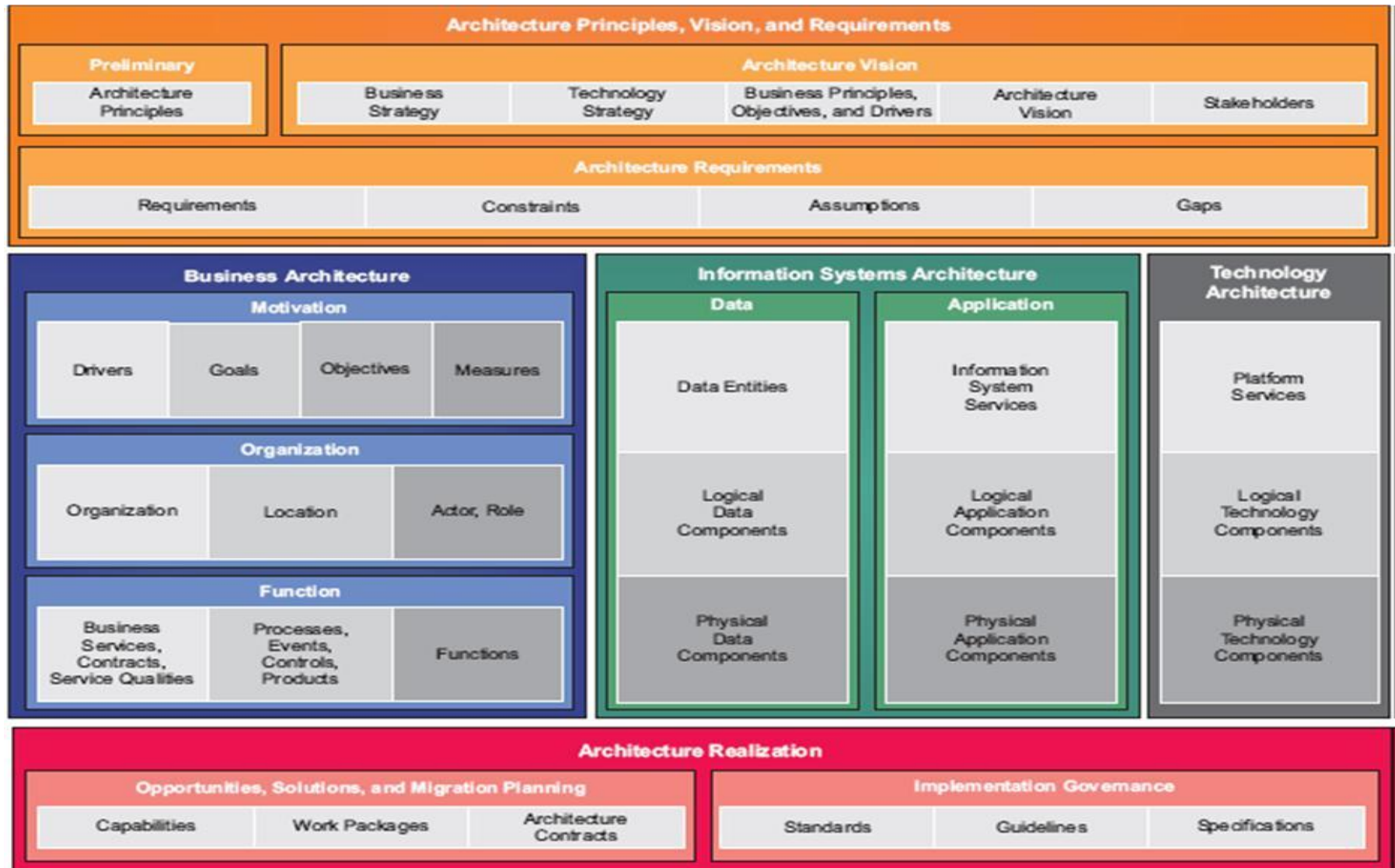


* reproduced from ISO/IEC 42010:2007

TOGAF Capability Framework



TOGAF Content Meta-Model

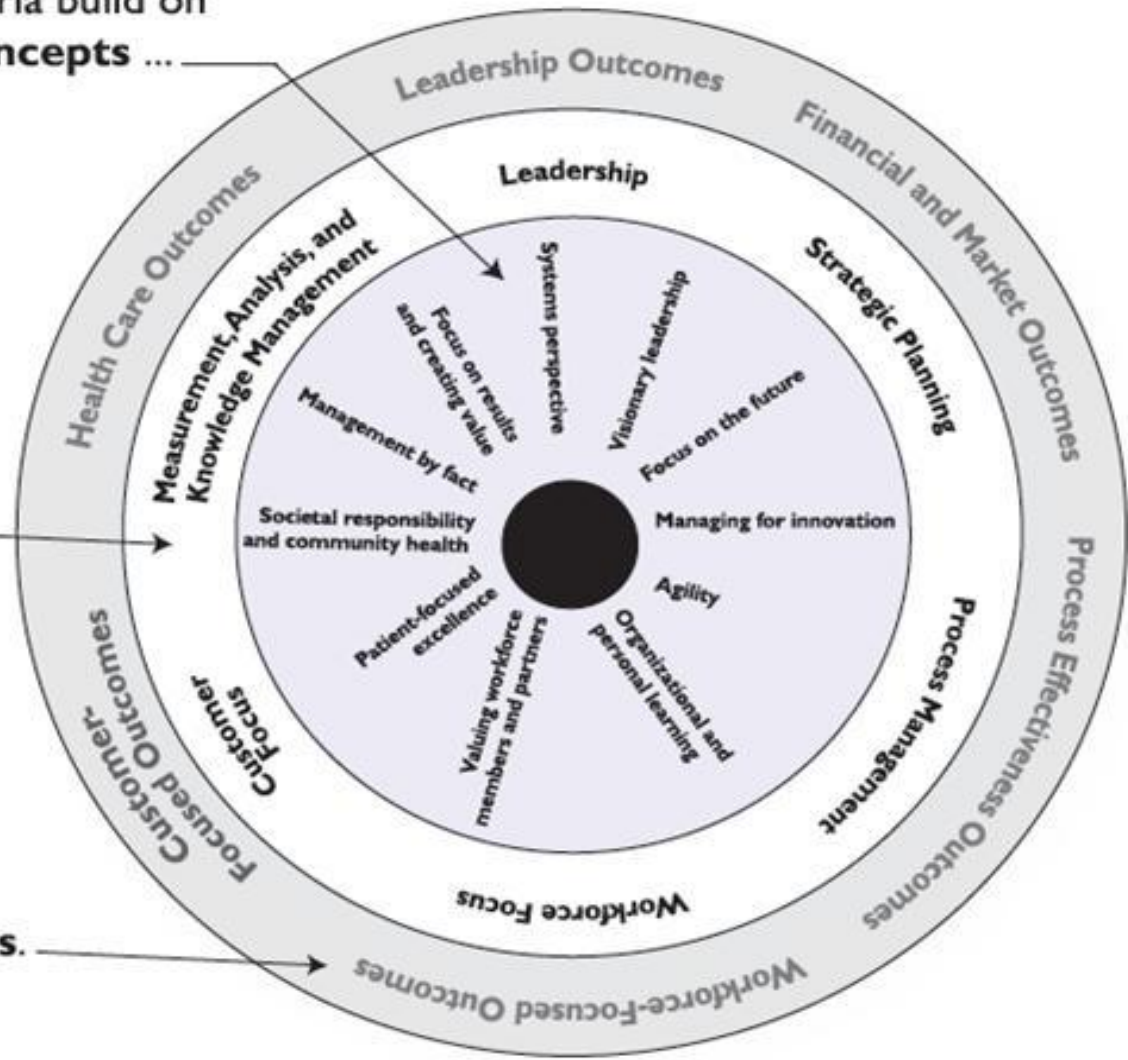


Baldrige Criteria for Health Care Excellence

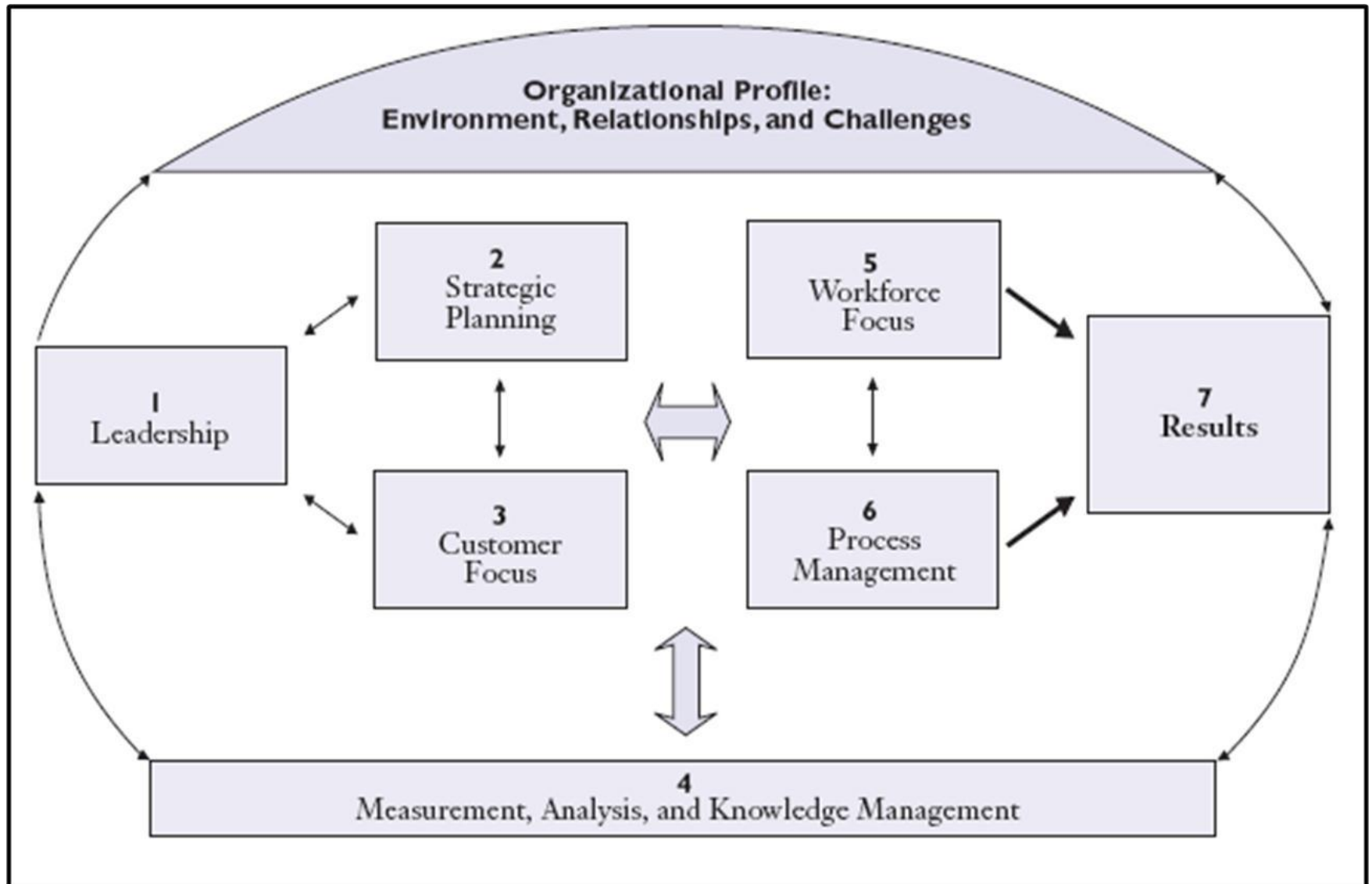
The Health Care Criteria build on
Core Values and Concepts ...

which are embedded in
systematic processes ...
(Criteria Categories 1–6)

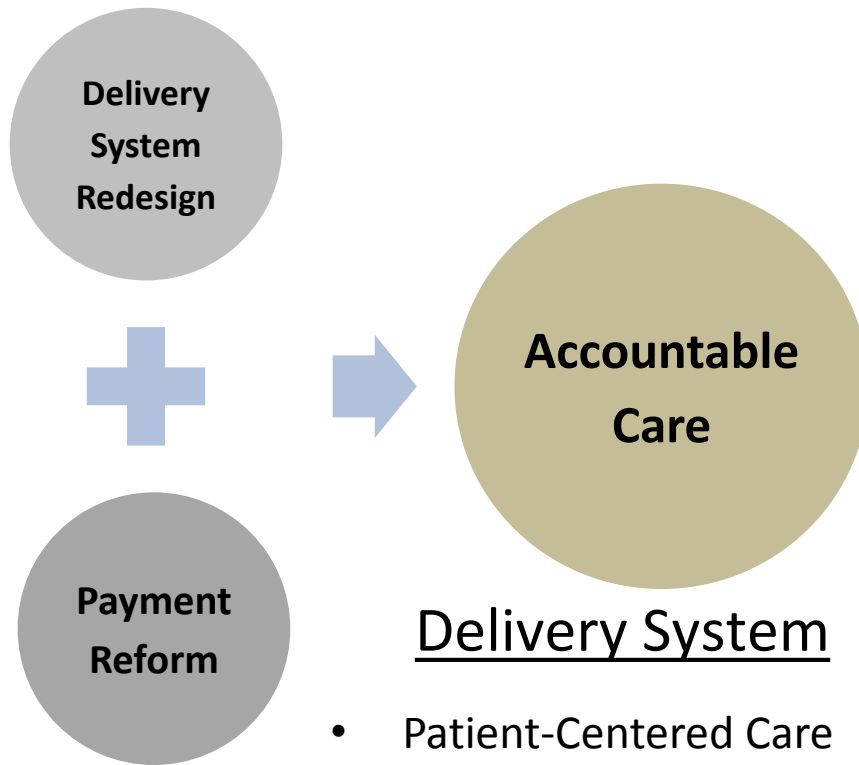
yielding
performance results.
(Criteria Category 7)



Health Care Criteria for Performance Excellence Framework System Perspective



ACOs: Defining Accountable Care Organizations



Delivery System

- Patient-Centered Care
- Coordinated
- Primary Care Focus
- Technology-Enabled
- Accountable for Quality and Cost Outcomes

Payment System

- Reforms Fee-for-Service
- At-Risk for Quality
- Financial Incentives for Reducing Excess Utilization
- Options Range from Limited Gain Sharing to Full Capitation

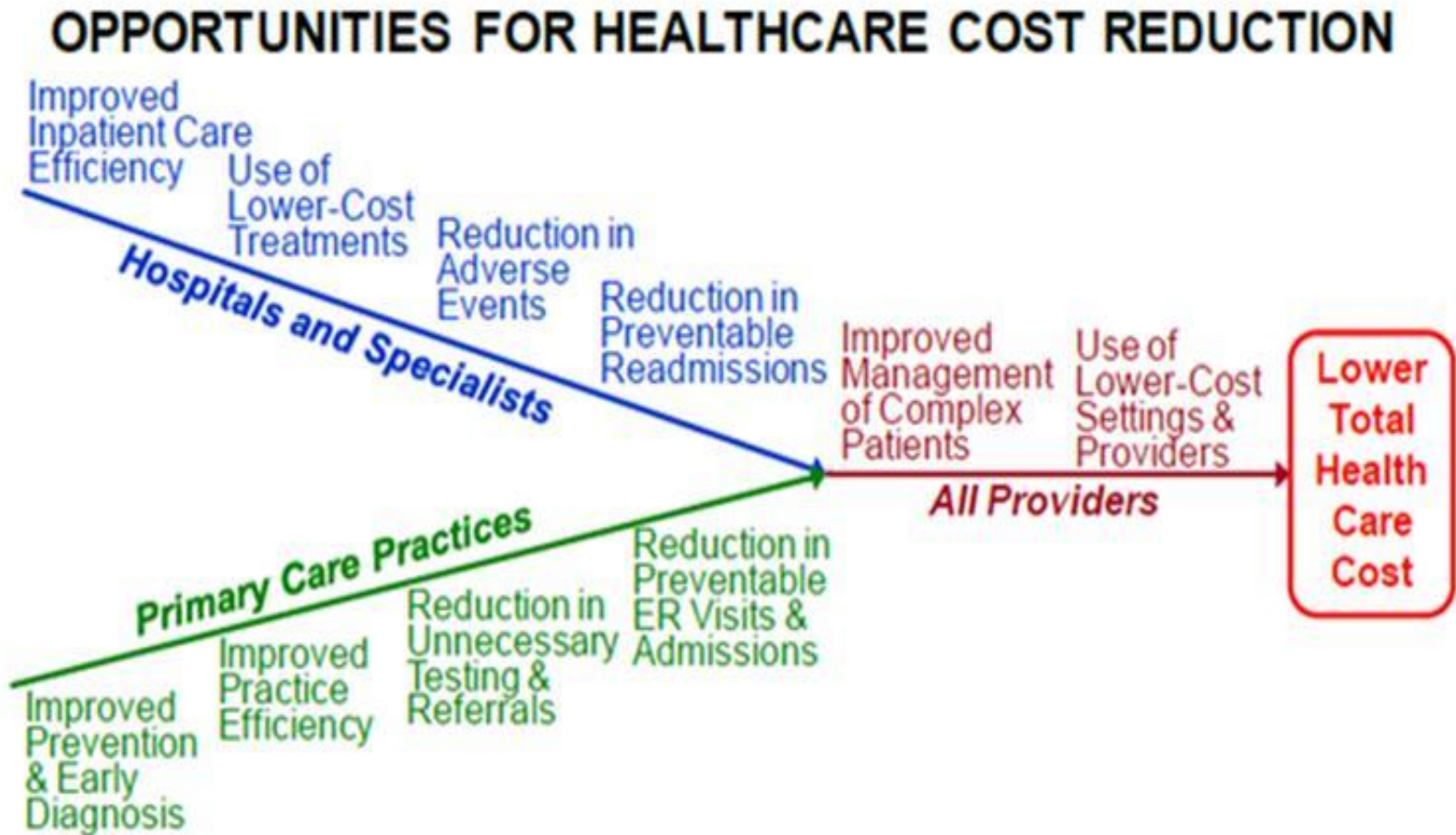
Accountable Care Organization (ACO)

- A formal legal structure that would allow the ACO to receive payments and distribute any shared savings.
- Leadership and management structure that includes clinical and administrative personnel and systems.
- Processes to promote evidence-based medicine.
- Processes to report on quality and cost measures

CMS proposes to use 65 measures in performance year 1

1. Patient/caregiver experience (7 measures)
2. Care coordination (16 measures)
3. Patient safety (2 measures)
4. Preventative health (9 measures)
5. At-risk population/frail elderly health (31 measures)

ACO as an opportunity



Miller (2009)

Pay for Performance (P4P)

215. If a surgeon has operated with the bronze lancet on a patrician for a serious injury, and has cured him, or has removed with a bronze lancet a cataract for a patrician, and has cured his eye, he shall take ten shekels of silver.

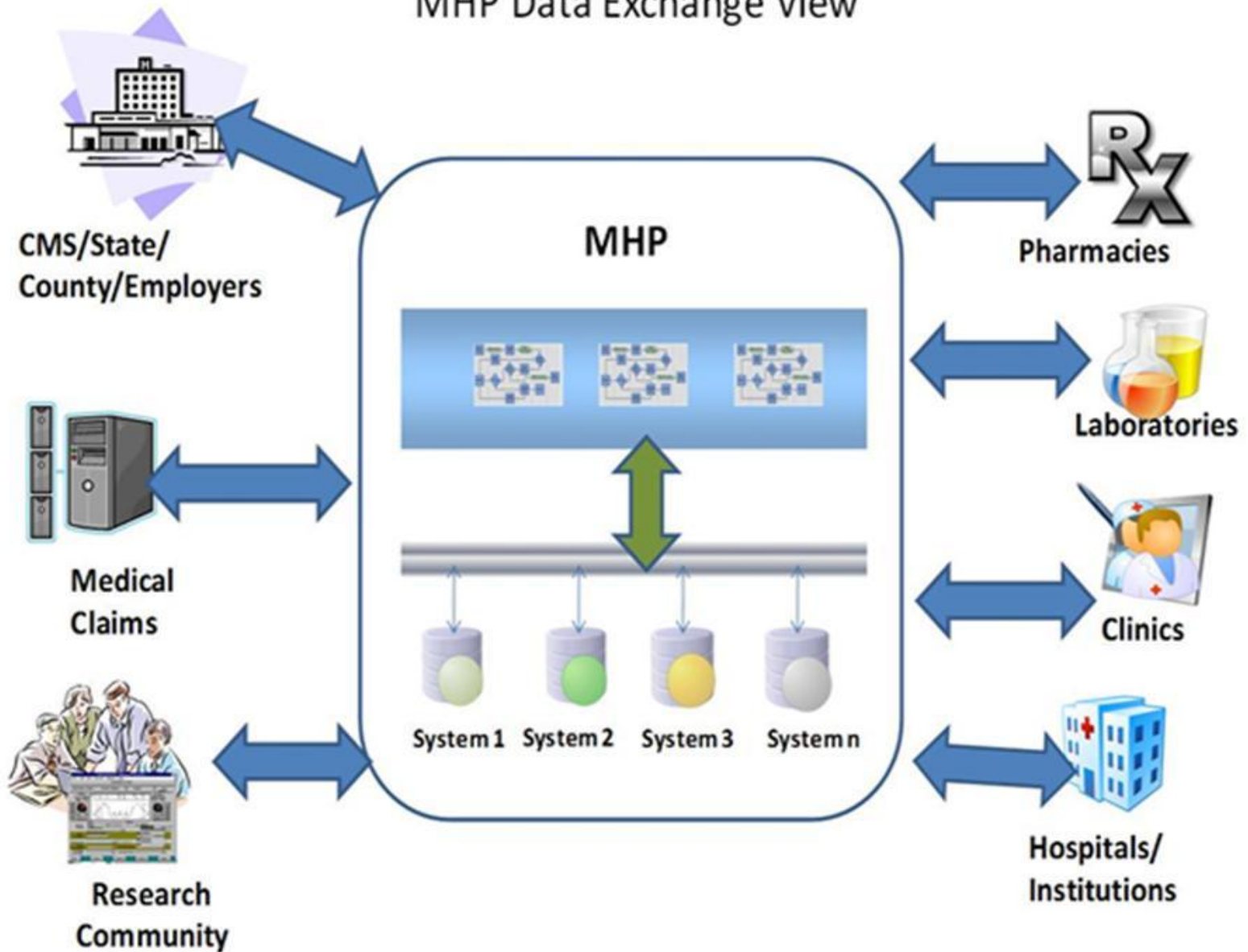
218. If a surgeon has operated with the bronze lancet on a patrician for a serious injury, and has caused his death, or has removed a cataract for a patrician, with the bronze lancet, and has made him lose his eye, his hands shall be cut off.

Code of Hammurabi, c. 1750 B.C

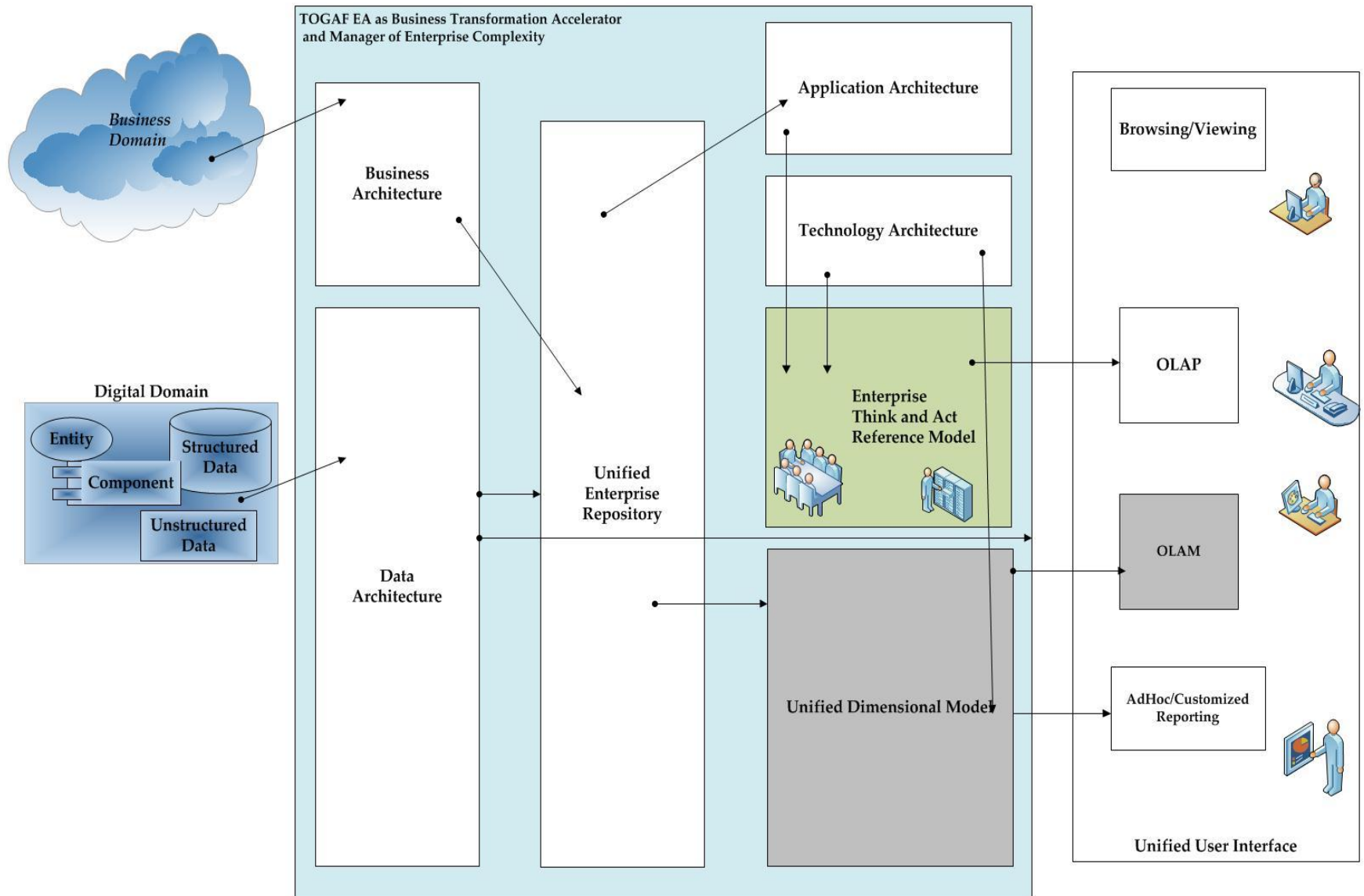
Source: Babylonian and Assyrian Laws, Contracts and Letters, by C. H. W. Johns, in 1904, one of a series called the Library of Ancient Inscriptions, from a facsimile produced by The Legal Classics Library, Division of Gryphon Editions, New York in 1987.

- **FFS: \$\$\$ = Volume(Services) * Fee**
- **CAP: \$\$\$ = Members * Monthly Premium**
- **P4P: \$\$\$ = ??? (Outcome)**

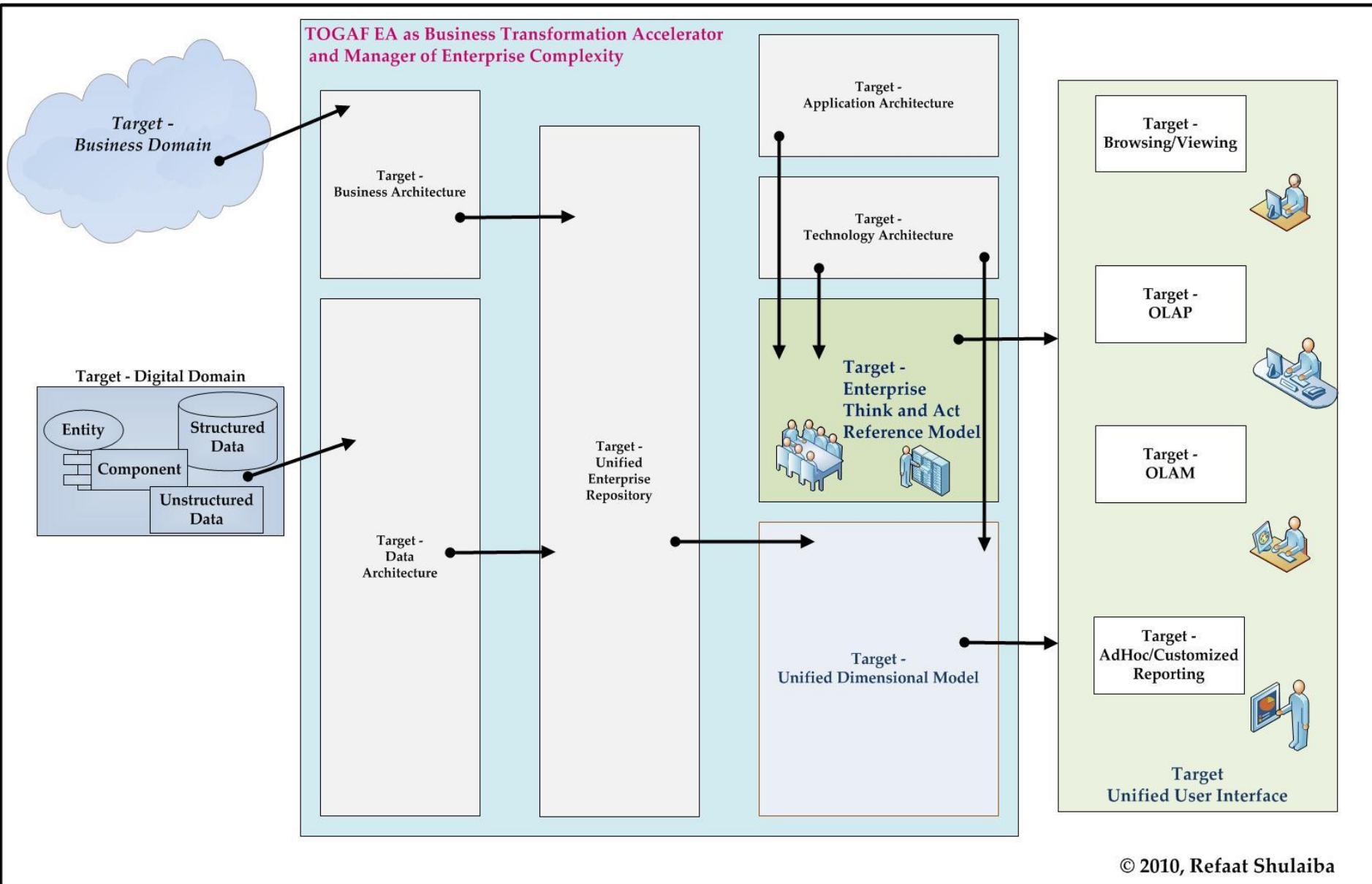
MHP Data Exchange view



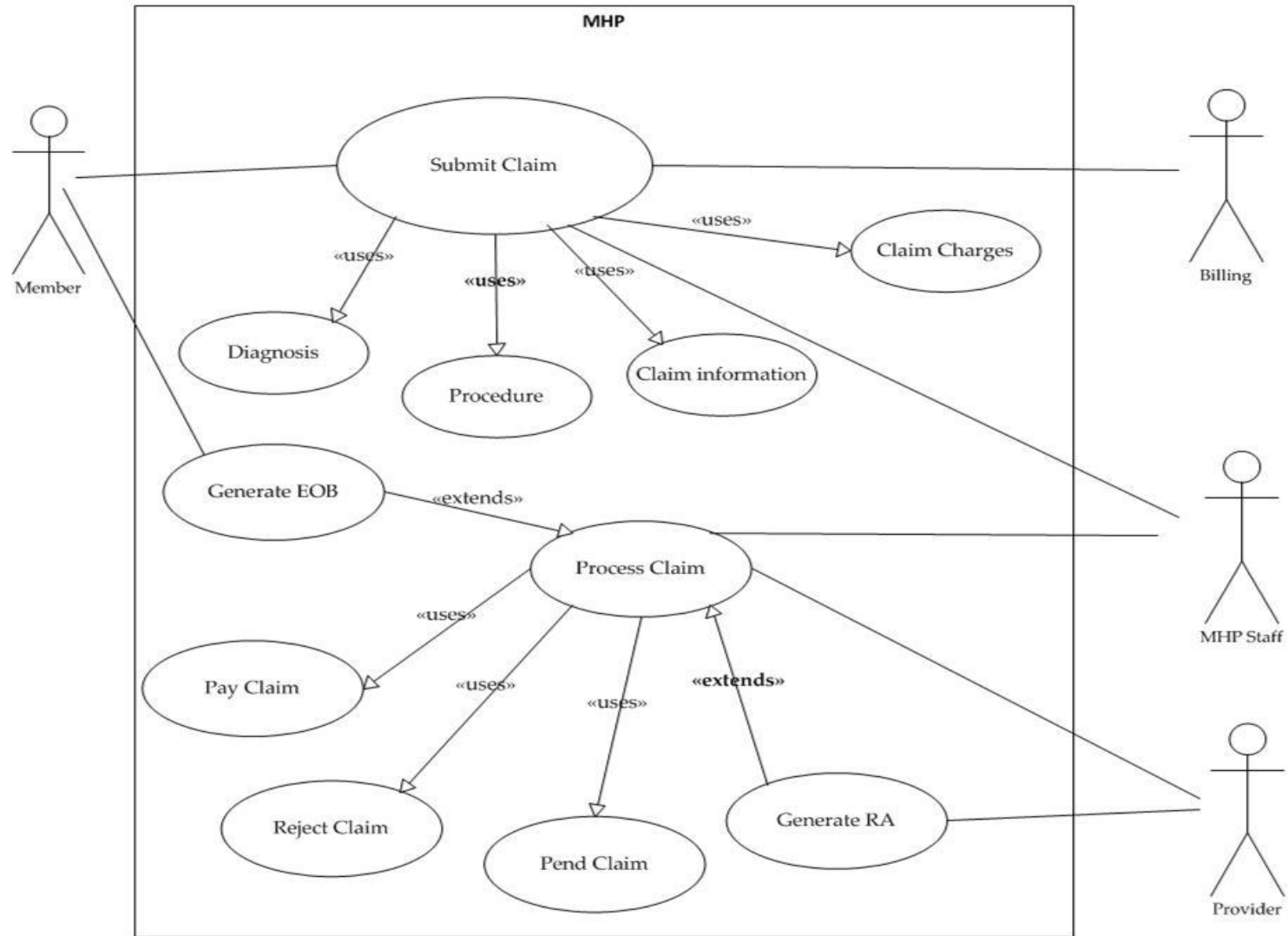
AS-IS Enterprise Architecture



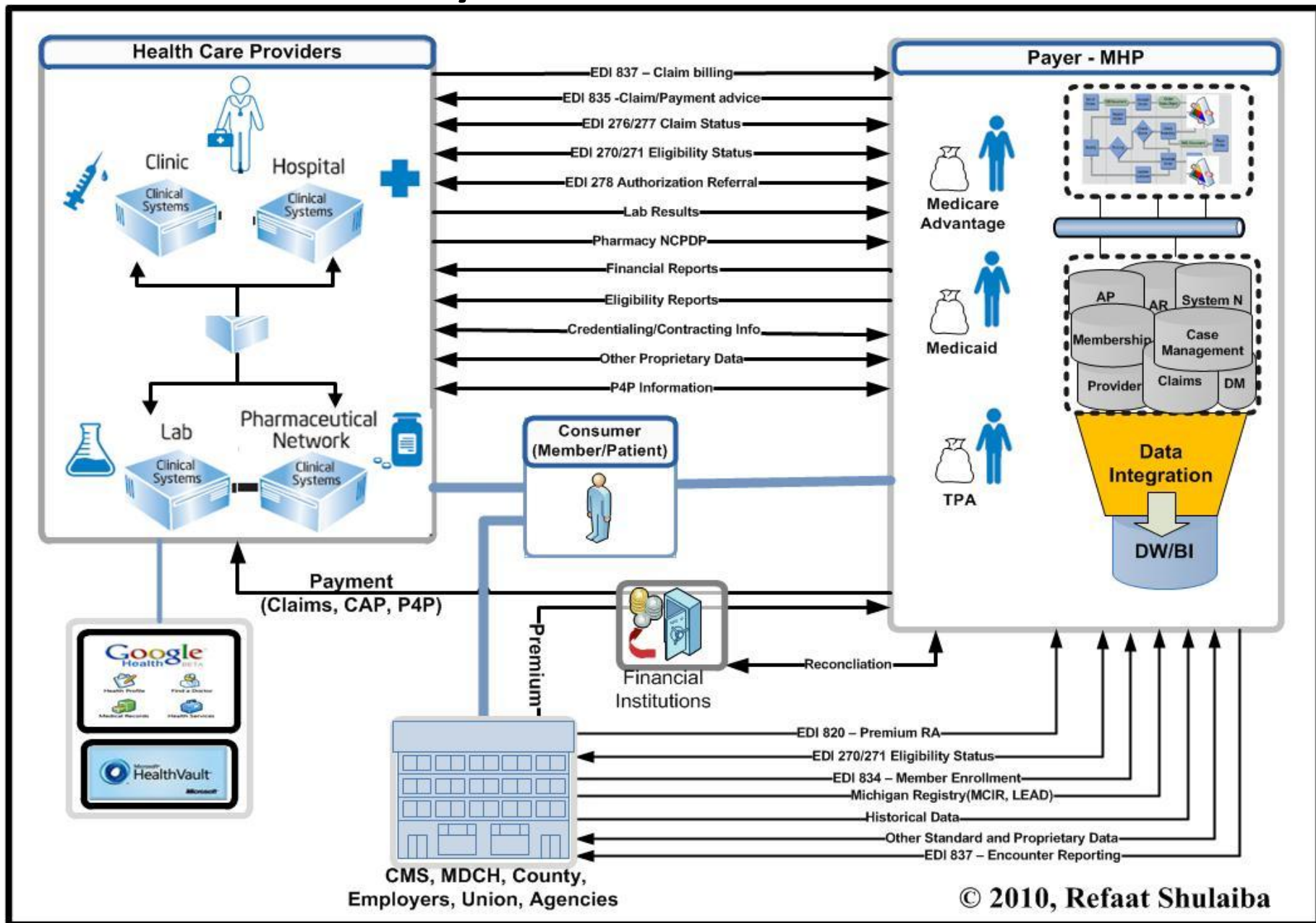
Target Architecture



Use Case Analysis



HMO Systems Architecture



© 2010, Refaat Shulaiba

MHP Data Sources



MC400

A dense grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the MC400 source.



McKesson CCMS

A dense grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the McKesson CCMS source.



McKesson DM

A dense grid of yellow rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the McKesson DM source.




MCNet

A dense grid of yellow rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the MCNet source.



MHPDATA

A dense grid of yellow rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the MHPDATA source.




Cactus

A sparse grid of blue rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the Cactus source.



P4P Incentive

A dense grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the P4P Incentive source.



EDI270/271

A sparse grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the EDI270/271 source.



EDI835

A sparse grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the EDI835 source.



MDWADV

A dense grid of orange rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the MDWADV source.



MDWENCT

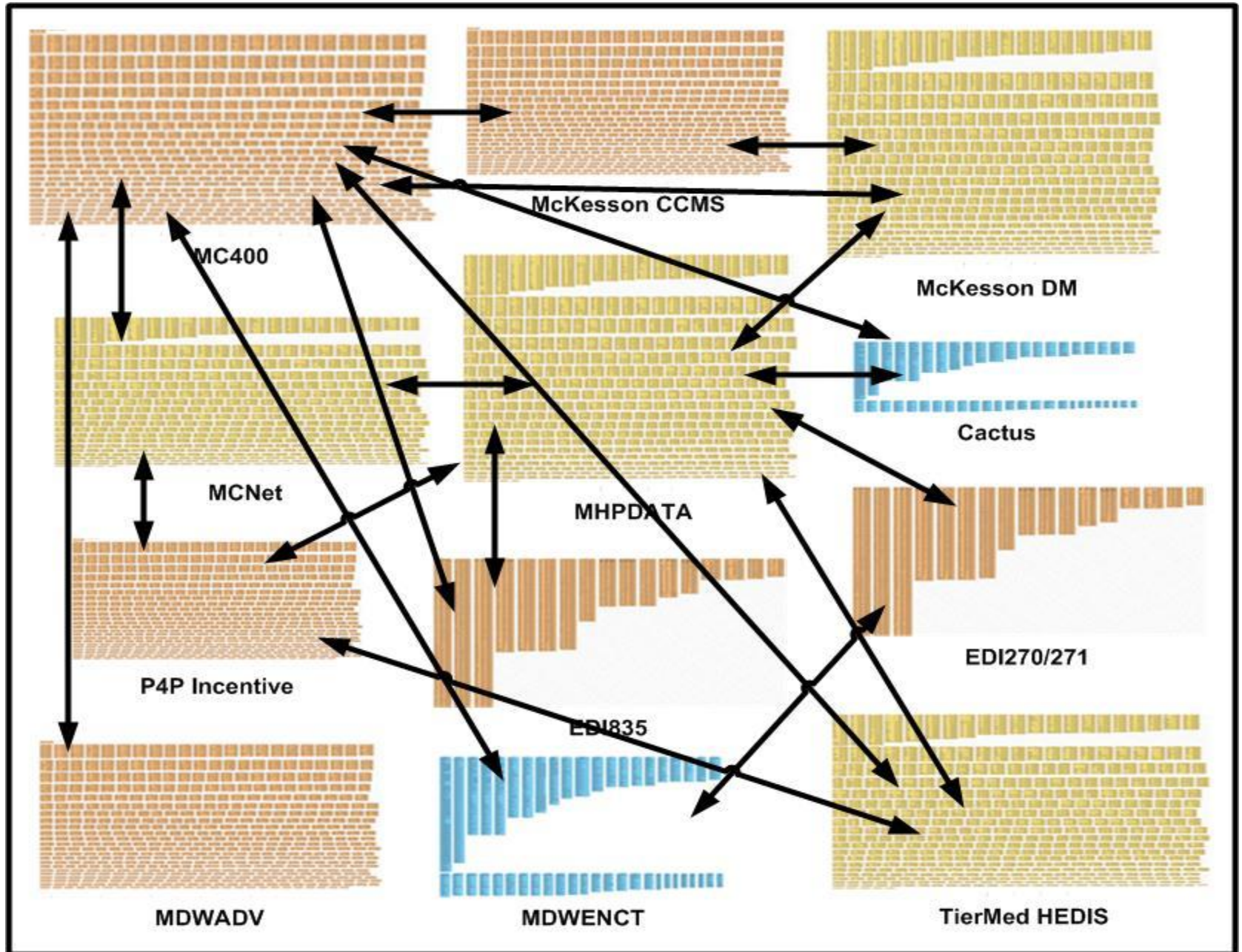
A sparse grid of blue rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the MDWENCT source.



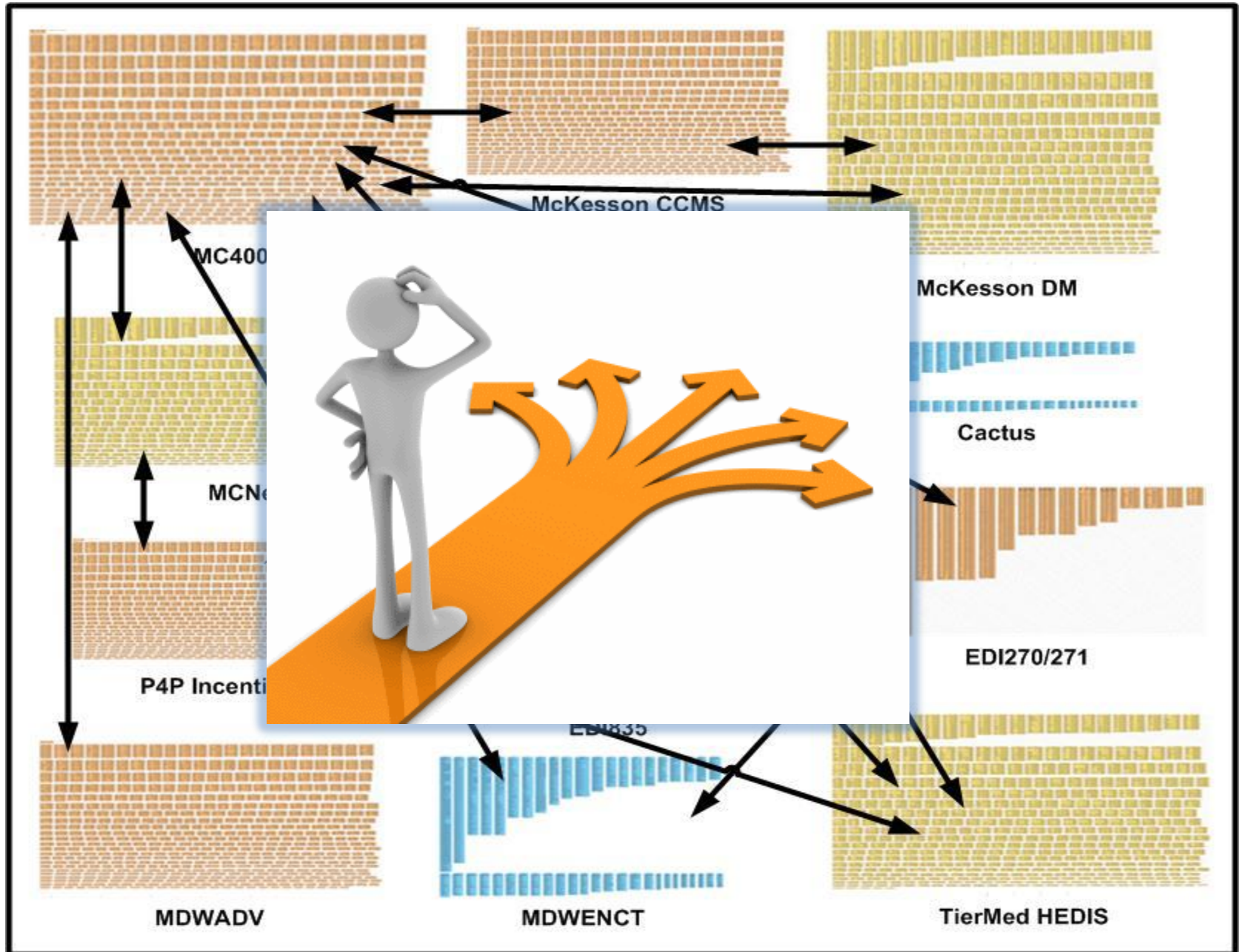
TierMed HEDIS

A dense grid of yellow rectangular blocks arranged in approximately 10 rows and 100 columns, representing data from the TierMed HEDIS source.

MHP Systems Complexity



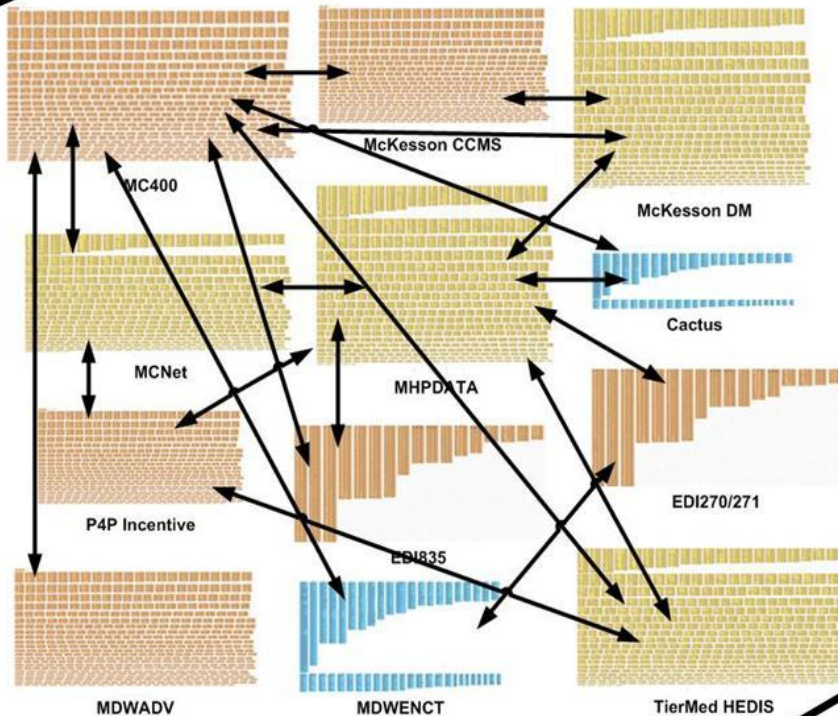
MHP Systems Complexity



Manage Business Complexity

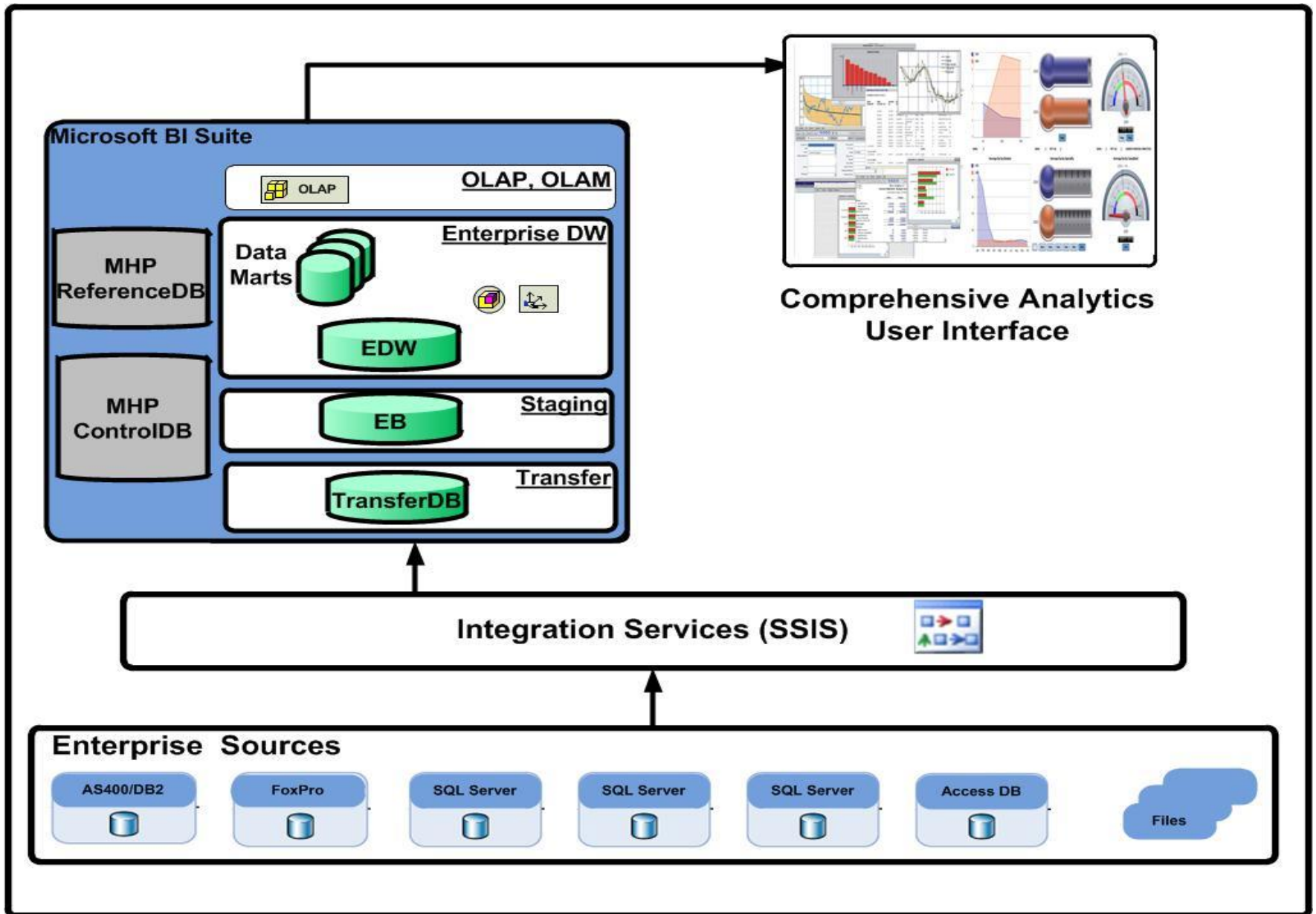
**Member/Patient Centric
Data Driven
Rule Based**

MHP Enterprise Essentials

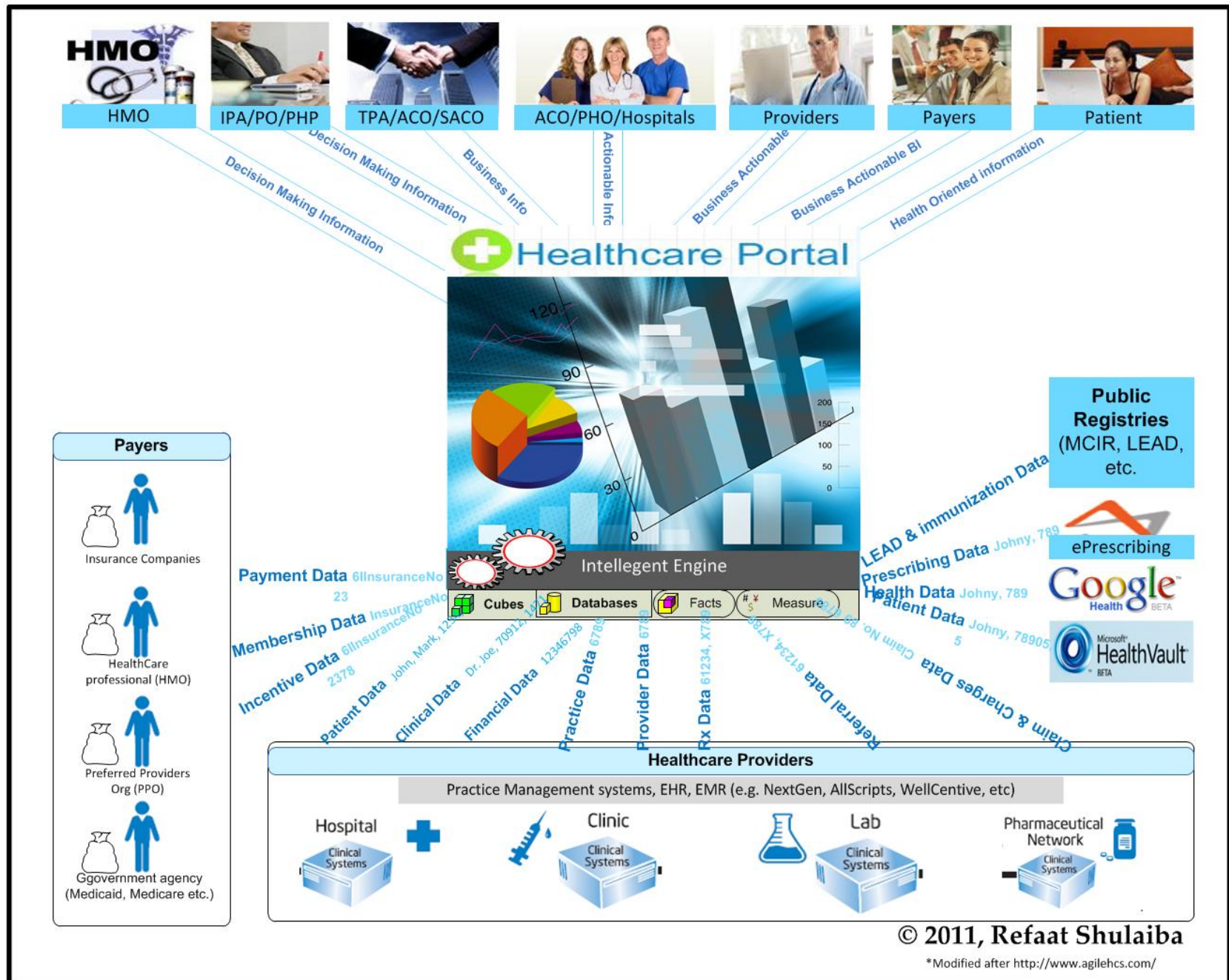


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MHP Information Systems



ACO Performance Management



Claims Dimensional Model

Microsoft SQL Server Management Studio

File Edit View Project Debug Cube Tools Window Community Help

New Query

Object Explorer

Connect

MHPDW (SQL Server 10.0.2531 - MIDWEST\rshulaiba)

Databases

Security

Server Objects

Replication

Management

SQL Server Agent

Jobs

Job Activity Monitor

Alerts

Operators

Proxies

Error Logs

MHPDATA (SQL Server 10.0.2531 - MIDWEST\rshulaiba)

Databases

Security

Server Objects

Replication

Management

SQL Server Agent

MHPOLAP (Microsoft Analysis Server 10.0.2531.0 - MIDWEST\rshulaiba)

Databases

FinanceDW

MemberSSAS

MHPOLAP

Data Sources

EDW

Data Source Views

Claims

EDW

Cubes

AKMMemberUtilization

Claims

Dimensions

Mining Structures

Roles

Finance

IT

Assemblies

Assemblies

Claims [Browse]

SQLQuery11.sql - D:\ST\rshulaiba (60)

DELL4600-DW - Activity Monitor

XMLAQuery1.xml - WEST\rshulaiba*

SQLQuery8.sql - M...\rshulaiba (246)*

Perspective: Claims

Language: Default

Measure Group:

<All>

Claims

Measures

ClaimCount

D Claim Service Line

Allowed Amt

Billed Amt

D Claim Service Line Count

Net Amt

Procedure Qty

Withhold Amt

AccountPayablePayStatus

Admit Date

Alternate Provider No

AP Posting Date

Bank Account

CapVendor

Check Date

Claim

Claim Service Line

Claim Type

Company Code

Gender

GL Distribution Code

Group

Member

MHP Age Matrix

NotCoveredReason

Place Of Service

Plan Master

Plan Type

PostingPayStatus

Procedure Code

Provider

Specialty

Specific Dateof Service

Vendor

Dimension	Hierarchy	Operator	Filter Expression
Check Date	Check Date.Hierarchy	Equal	{ 15 }
AccountPayablePayStatus	AccountPayablePayStatus...	Equal	{ Posted-Payable }
<Select dimension>			

Drop Filter Fields Here

Drop Column Fields Here

GL Distrib Description	Net Amt
AMBULANCE CLAIMS PROCESSED	\$89,894.86
DME/MED SUPP CLAIMS PROCESSED	\$55,756.51
ER CLAIMS PROCESSED	\$644,531.62
HOME HEALTH CLAIMS PROCESSED	\$43,149.61
INPATIENT CLAIMS PAID	\$1,975,058.94
LAB CAPITATION PAYABLE	\$19,340.87
MENTAL HEALTH CLAIMS PROCESSED	\$44,509.46
OTHER OUTPT CLAIMS PROCESSED	\$325,218.69
OUTPT HOSP CLAIMS PROCESSED	\$721,869.65
PCP CLAIMS PROCESSED	\$345,879.90
SPEC PHYS CLAIMS PROCESSED	\$361,761.86
TRANSPORTATION	\$35,072.99
VISION CLAIMS PROCESSED	\$2,842.69
Grand Total	\$4,664,887.65

Ready

Medical Claims Analysis

AuthCube.xlsx - Microsoft Excel

PivotTable Tools: Options, Design

File Home Insert Page Layout Formulas Data Review View Developer Add-Ins PowerPivot Data Mining Team

Clipboard Font Alignment Number Styles Cells Editing

AutoSum Fill Clear Sort & Find & Filter

A25 TRANSPORTATION

	A	B	C	D	E	F	G	H	I
1	PayStatus	(Multiple Items)							
2	Service Date	2010							
3	ClaimType D	All							
4	County	Wayne							
5	Place of Service	All							
6	Billing Provider	All							
7									
8	Product Line	Net Amt	Claims	Procedures	Members				
9	ABW Program	\$608,017.66	16722	46100	3993				
10	Basic Care - Wayne	\$35,189.00	1318	1431	379				
11	Healthchoice Programs	\$460,549.39	13156	31571	3,009				
12	Medicare Advantage	\$1,656.73	92	331	45				
13	MSA-MEDICAID	\$4,759,912.39	128508	323247	35,510				
14	AMBULANCE CLAIMS PROCESSED	\$3,275.25	30	226	28				
15	DME/MED SUPP CLAIMS PROCESSED	\$2,356.47	19	1253	11				
16	ER CLAIMS PROCESSED	\$9,873.97	129	793	109				
17	HOME HEALTH CLAIMS PROCESSED	\$330.53	10	16	7				
18	INPATIENT CLAIMS PAID	\$541,518.74	536	5236	323				
19	LAB CAPITATION PAYABLE	\$2,342,959.23	62366	232508	24,878				
20	MENTAL HEALTH CLAIMS PROCESSED	\$191.98	7	26	7				
21	OTHER OUTPT CLAIMS PROCESSED	\$7,207.96	148	618	122				
22	OUTPT HOSP CLAIMS PROCESSED	\$16,448.07	104	5485	81				
23	PCP CLAIMS PROCESSED	\$1,614,798.30	59296	63176	19,585				
24	SPEC PHYS CLAIMS PROCESSED	(\$3,790.70)	1715	1660	1,436				
25	TRANSPORTATION	\$8,147.25	849	3306	400				
26	VISION CLAIMS PROCESSED	\$216,595.34	4192	8944	3,701				
27	Grand Total	\$5,865,325.17	159,796	402680	42,864				
28									
29									

PivotTable Field List

Show fields related to:

(All)

- Σ ClaimCount
 - ☒ ClaimCount
- Σ D Claim Service Line
 - ☐ Allowed Amt
 - ☐ Billed Amt
 - ☐ Claim Service Line Count
 - ☒ Membernbr Count
 - ☒ Net Amt
 - ☒ Procedure Qty
 - ☐ Withhold Amt
- AccountPayablePayStatus

Drag fields between areas below:

Report Filter

- PayStatus
- Service Date
- ClaimType D
- County
- Place of Service

Column Labels

- Σ Values

Row Labels

- PlanCodeDescription
- GL Distrib Description

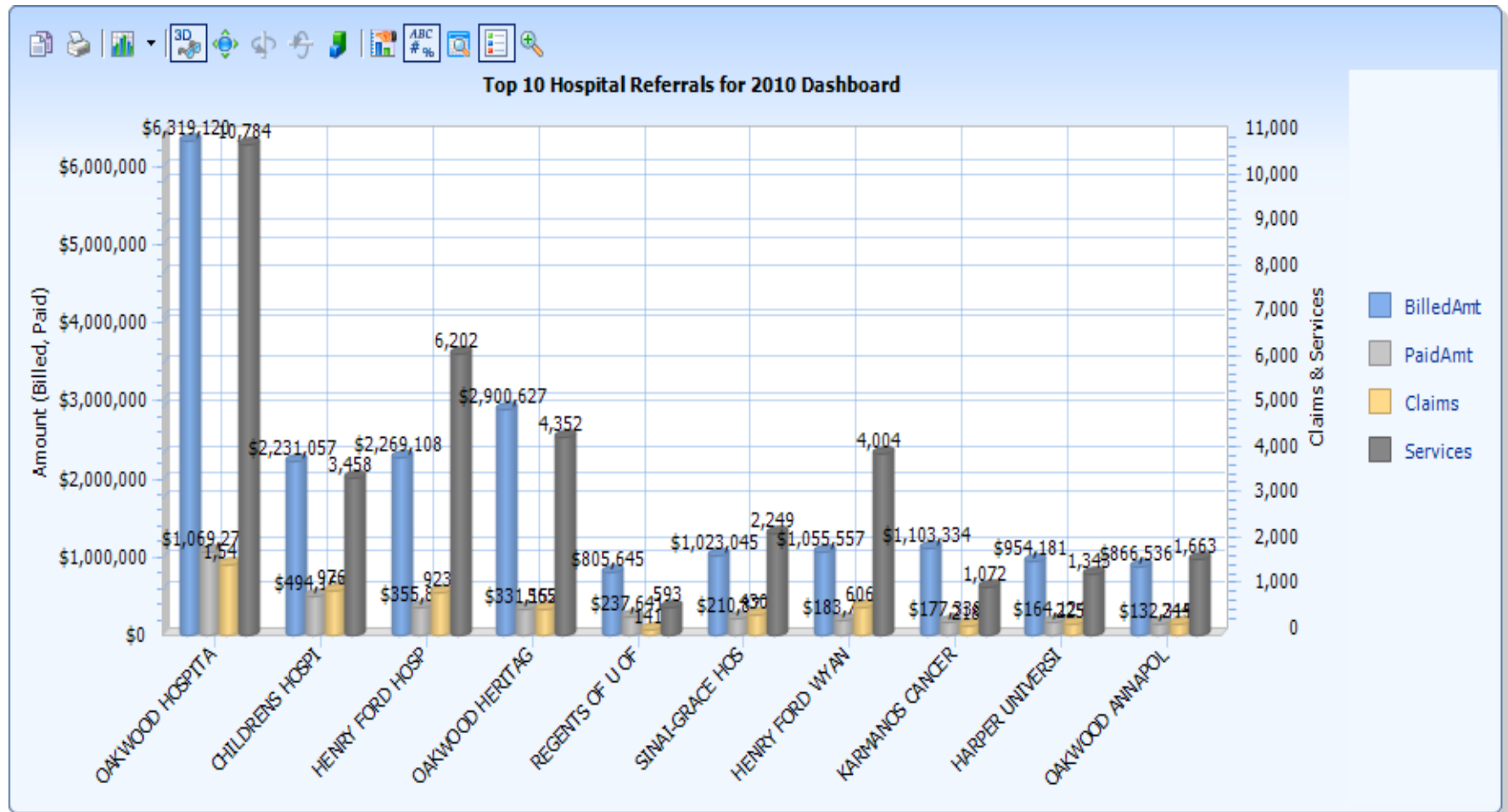
Σ Values

- Net Amt
- Claims
- Procedures
- Members

Defer Layout Update Update

Count: 13 100%

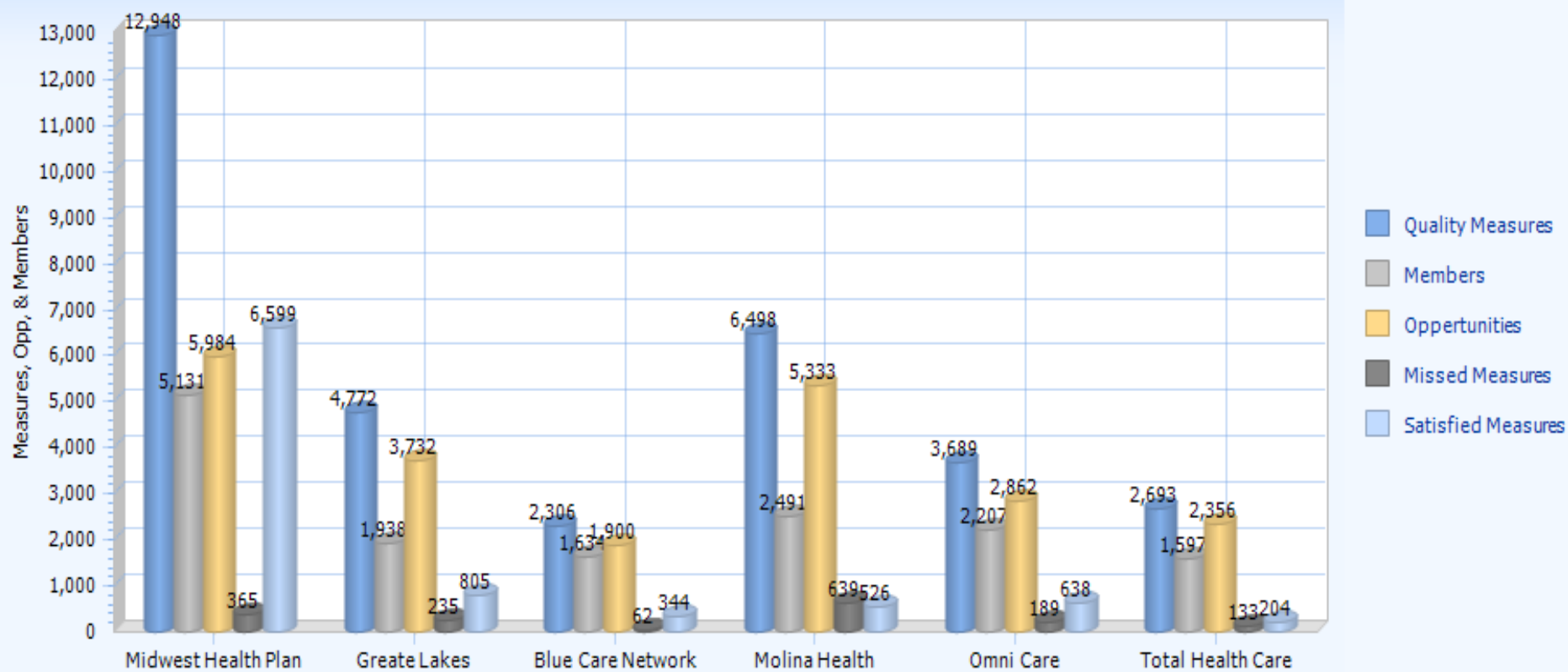
Hospital Stay Utilization



P4P Dashboard



P4P Quality Measures 2011 - YTD



P4P Report

A	B	C	D	E
MeasureName	(All) ▼	P4P (HEDIS) Quality Measures Report Updated on 06/27/2011		
GroupID	(All) ▼			
Gender	(All) ▼			
Plan Name > PCPName > Measure Name ▼	Quality Measures	Opportunities	Missed Opportunities	Satisfied Opportunities
+ BCN	2,306	1,900	62	344
+ GLK	4,772	3,732	235	805
- MHP				
+ BANISTER SUHAIL	4,664	2,115	142	2,407
+ BARNETT MARJORI	839	457	30	352
+ CATRAMBONE RENE	340	216	19	105
- FARAJ DAOUD				
Blood lead Test	2	1	0	1
Diabetes-HbA1c	30	3	0	27
Diabetes-LDL-C	30	2	0	28
Diabetic eye exam	30	14	0	16
DTAP	2	2	0	0
Hepatitis B	2	1	0	1
Hib	2	1	0	1
IPV	2	2	0	0
Mammogram	41	17	0	24
MMR	2	1	0	1
Nephropathy	30	14	0	16
PCV	2	2	0	0
VZV	2	1	0	1
Well Care 12-17y	19	4	2	13
Well Care 18-39y	186	70	0	116

Lessons Learned

- Involve business and IT stakeholders, early in the process
- Promote Self-Service Capabilities
- Take advantage of virtualization
- Break the project into mini projects for incremental implementation and deployment
- Set realistic goals and deliverables
- Create short-wins
- Continuously renew the leadership buy-in

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Thank You

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