

Population Health Management in the US:
A State of the Art Paradigm for Healthcare Support
and Impact of the Recent Healthcare Reform

May 27, 2010

Tokyo, Japan

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Topics

- Introduction
- Disease Management
- Population Health Management
- A Framework for Population Health Management
- Recent Examples of Publications in Population Health Management
- Potential Impact of US Healthcare Reform on Population Health Management

Introduction

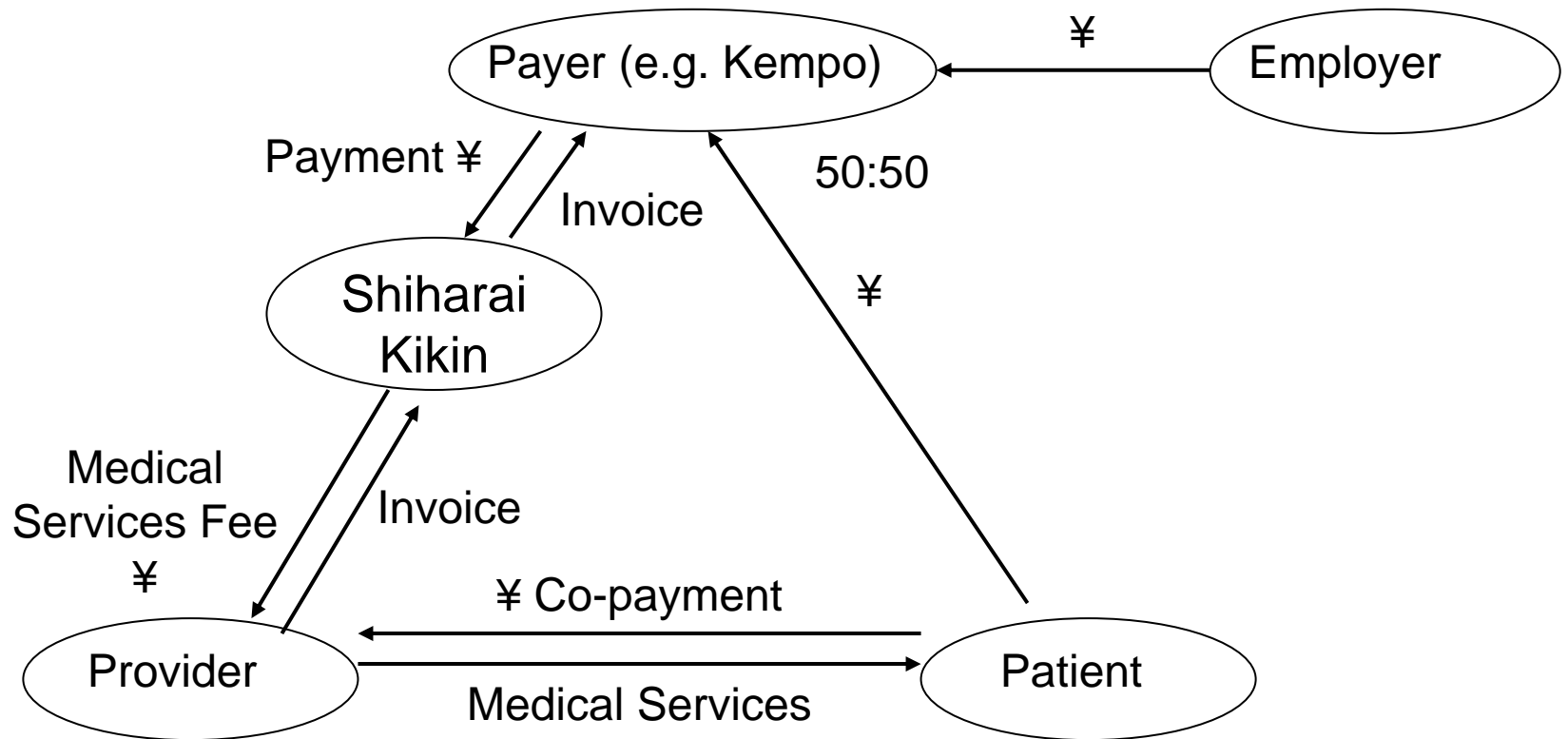
US and its market-based healthcare “system”; really just a free market

- 2007 healthcare spending was \$2.2 trillion (~220,000,000,000,000 yen), 16% of GDP 国民総生産, \$7,421 (~740,000 yen) per capita
- 6.1% growth rate was lowest since 1998
- Safety nets 安全策 for elderly (Medicare), young (SCHIP) and low income (Medicaid)
- Free market for everyone else, leads to ~15% uninsured
- Payers, providers, makers, negotiate “market prices”
 - Industry consolidation in all categories have reduced competition in recent years
- Small businesses and individual purchasers of healthcare have seen especially large increases in healthcare spending due to weak bargaining power
- World largest investment in medical research leads to many new products/services

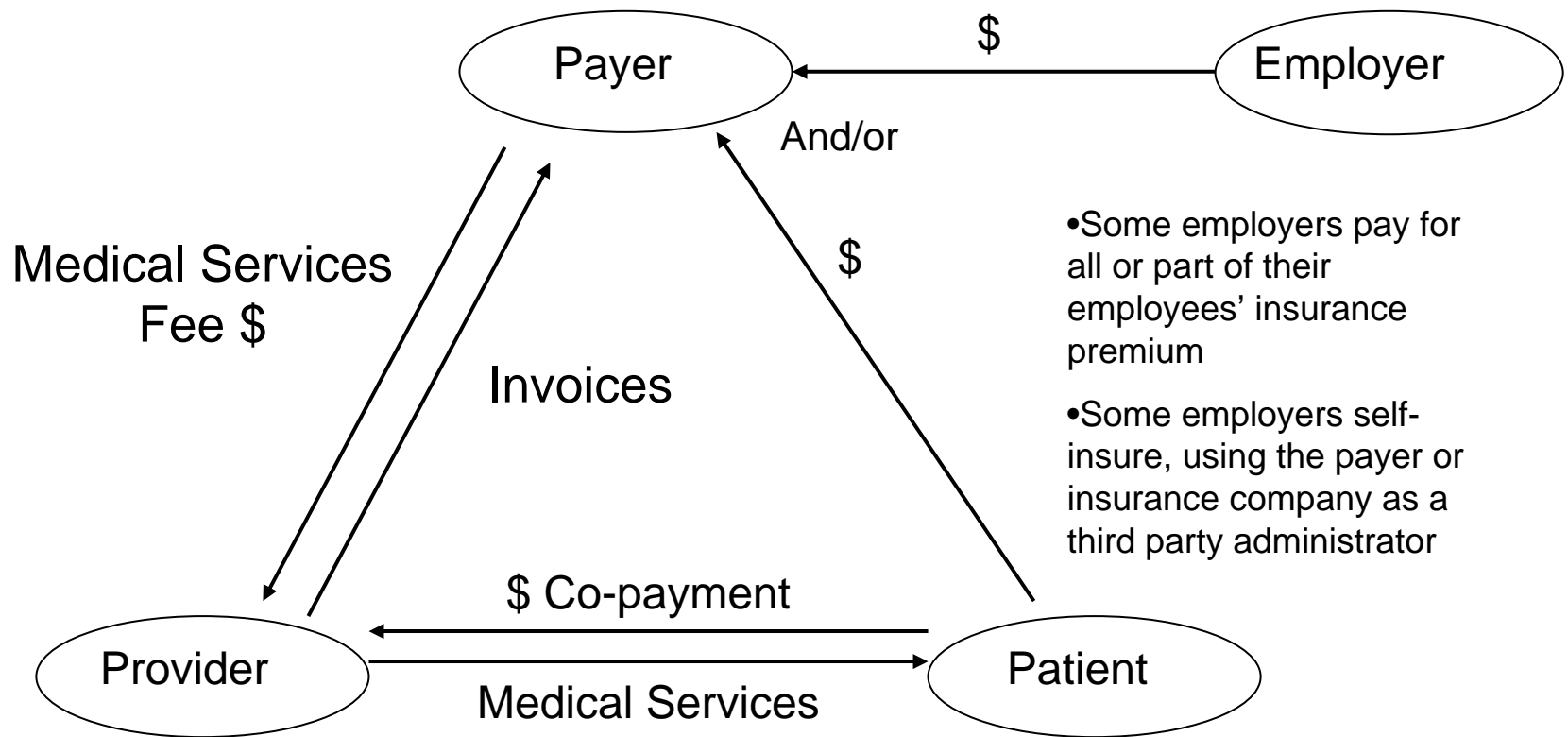
Healthcare reform a controversial topic in US

- Usually Democrats support - Republicans oppose
- This is in line with small government is good philosophy of Republicans
- Last healthcare reform effort in 1993 by President Clinton
 - Republicans organized to defeat the proposal soundly

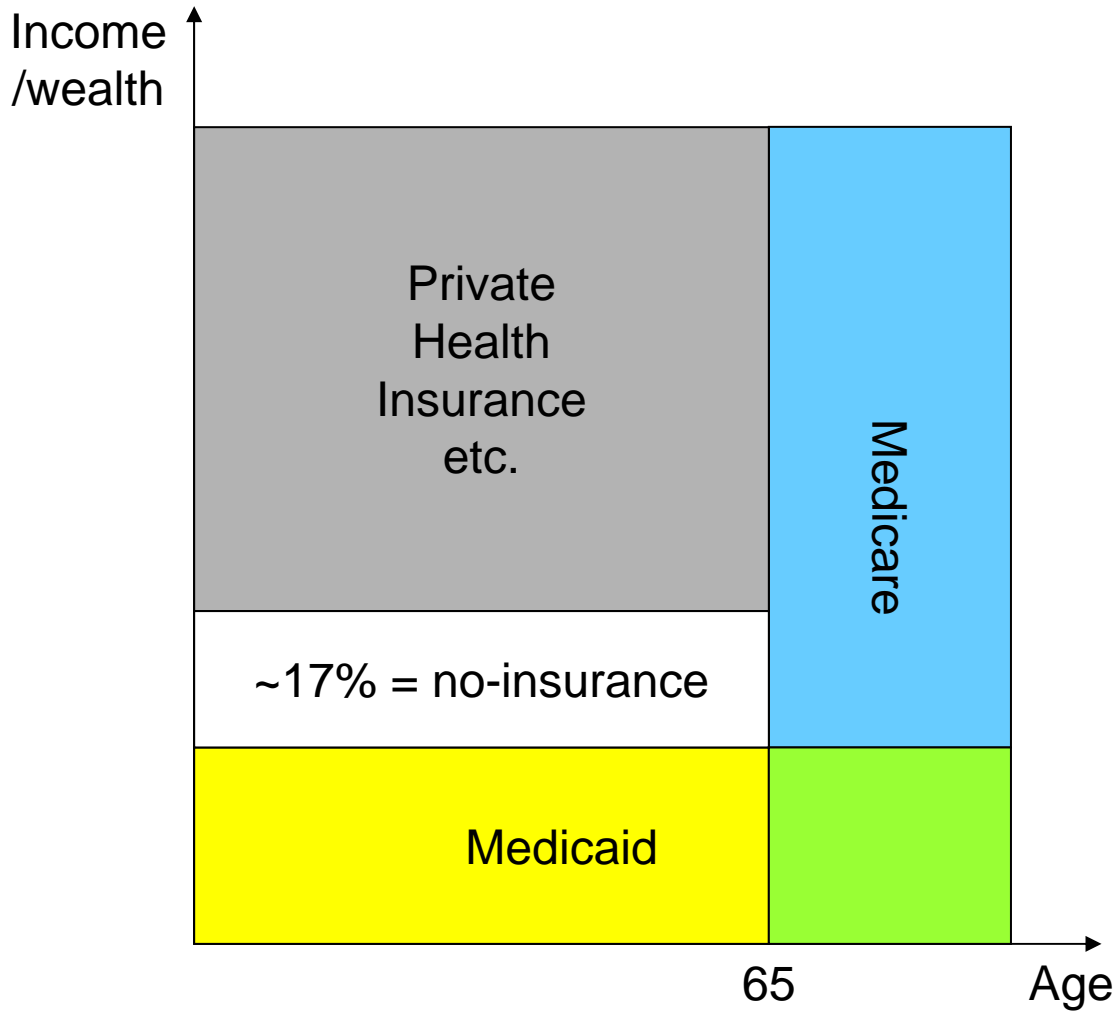
Japanese Healthcare System



US Healthcare “System”/Market

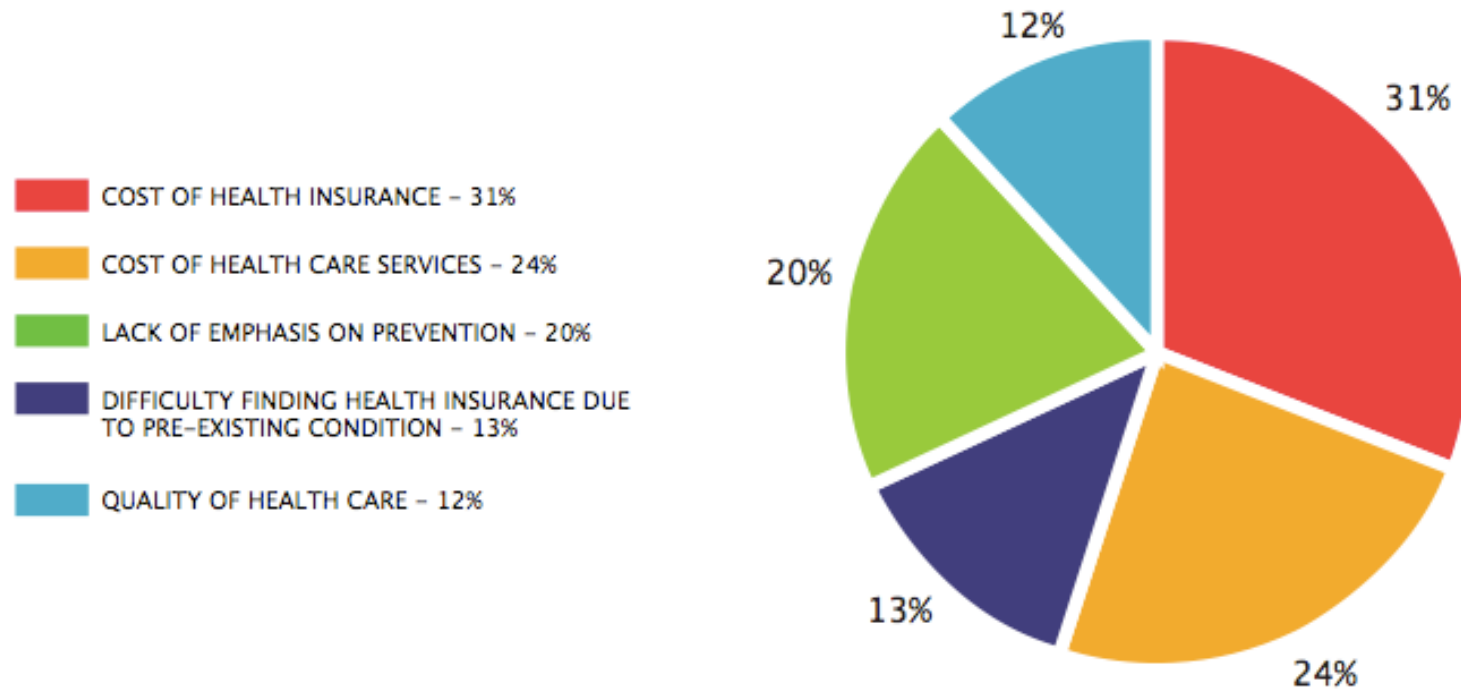


Healthcare Coverage in the US



The Need: Top Concerns Expressed

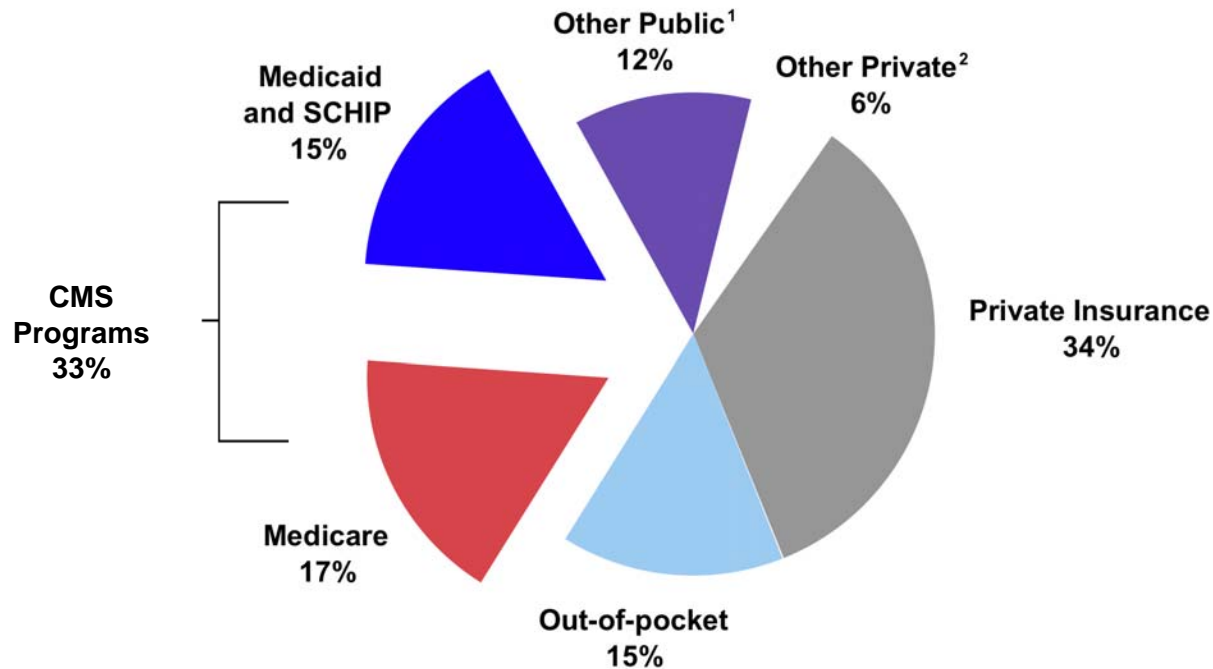
FIGURE 2: TOP CONCERNS OF HEALTH CARE COMMUNITY DISCUSSION PARTICIPANTS



Source: Presidential Transition Team Health Care Community Discussions, December 2008, 30,603 survey respondents.

The Nation's Health Dollar, CY 2000

Medicare, Medicaid, and SCHIP account for one-third of national health spending.



Total National Health Spending = \$1.3 Trillion

¹ Other public includes programs such as workers' compensation, public health activity, Department of Defense, Department of Veterans Affairs, Indian Health Service, and State and local hospital subsidies and school health.

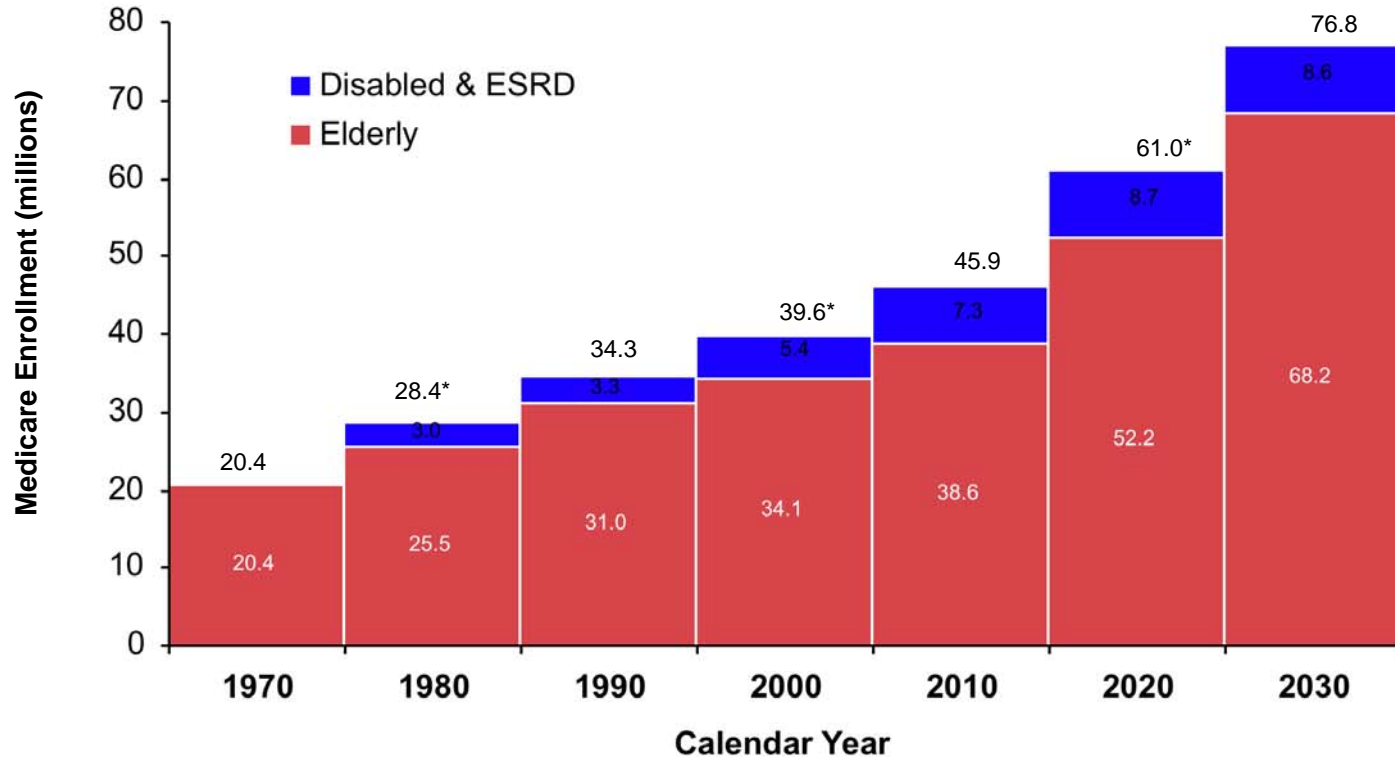
² Other private includes industrial in-plant, privately funded construction, and non-patient revenues, including philanthropy.

Note: Numbers shown may not sum due to rounding.

Source: CMS, Office of the Actuary, National Health Statistics Group.

Number of Medicare Beneficiaries

The number of people Medicare serves will nearly double by 2030.



* Numbers may not sum due to rounding.

Source: CMS, Office of the Actuary.

The Campaign

Key Elements of Barack Obama's Plan for Health Care Reform.

- “Play or pay” employer mandate requiring businesses either to offer workers insurance or to pay a tax (very small businesses would be exempt)
- Creation of a new national health plan (similar to Medicare) for the uninsured and small businesses
- Establishment of new national health insurance exchange that would offer choice of private insurance options for the uninsured and small businesses
- Mandate that all children must have coverage
- Subsidies for lower-income Americans to help them afford coverage
- Expanded coverage financed through the payroll tax, letting tax cuts for families making over \$250,000 expire, and savings from electronic medical records, disease management, and other system reforms
- Regulation of all private insurance plans to end risk rating based on health status
- Establishment of federal reinsurance program to insure businesses against the costs of workers' expensive medical episodes
- Other proposed measures to control costs and improve quality:
 - Reduction in the administrative costs of private insurance
 - Accelerated adoption of electronic medical records
 - Promotion of disease management
 - Emphasis on prevention and public health
 - Payment of providers on the basis of performance and outcomes
 - Reduction in excessive payments to private plans contracting with Medicare
 - Allowing Medicare to negotiate with drug companies
 - Establishment of a comparative-effectiveness research institute

Gaps in Care

- More than 50% of US patients with diabetes, hypertension, tobacco addiction, hyperlipidemia, congestive heart failure, asthma, depression, and chronic atrial fibrillation are currently managed inadequately
- Half or more of the costs of chronic illness are associated with potentially avoidable complications, due to lack of compliance with recommended medical care
- 12% of Medicare enrollees accounted for 75% of costs, most of them ill with one or more chronic illnesses, and most costs associated with multiple hospitalizations
- Most care for chronic diseases is in the hands of the patient himself (i.e. lifestyle modifications, medication compliance, self-testing, visiting the right doctor at the right time, listening to, understanding, and following doctors' orders)



Similar problems worldwide everywhere it has been looked for

Background:

“Old School” = Disease Management

Disease Management is a system of coordinated healthcare interventions and communications for populations with conditions in which patient self-care efforts are significant. Disease management:

- Supports the physician or practitioner/patient relationship and plan of care
- Emphasizes prevention of exacerbations and complications utilizing evidence-based practice guidelines and patient empowerment strategies
- Evaluates clinical, humanistic, and economic outcomes on an ongoing basis with the goal of improving overall health

Disease Management *Components* include:

- Population identification processes
- Evidence-based practice guidelines
- Collaborative practice models to include physician and support-service providers
- Patient self-management education (may include primary prevention behavior modification programs, and compliance/surveillance)
- Process and outcomes measurement, evaluation, and management
- Routine reporting/feedback loop (may include communication with patient, physician, health plan and ancillary providers, and practice profiling)

Full Service Disease Management Programs must include all 6 components

Programs consisting of fewer components are **Disease Management Support Services**

- 
- DM provides support for populations with defined diseases/conditions
 - **Five core chronic diseases: diabetes, CHF, CAD, asthma, COPD**

Background:

“New School” = Population Health Management

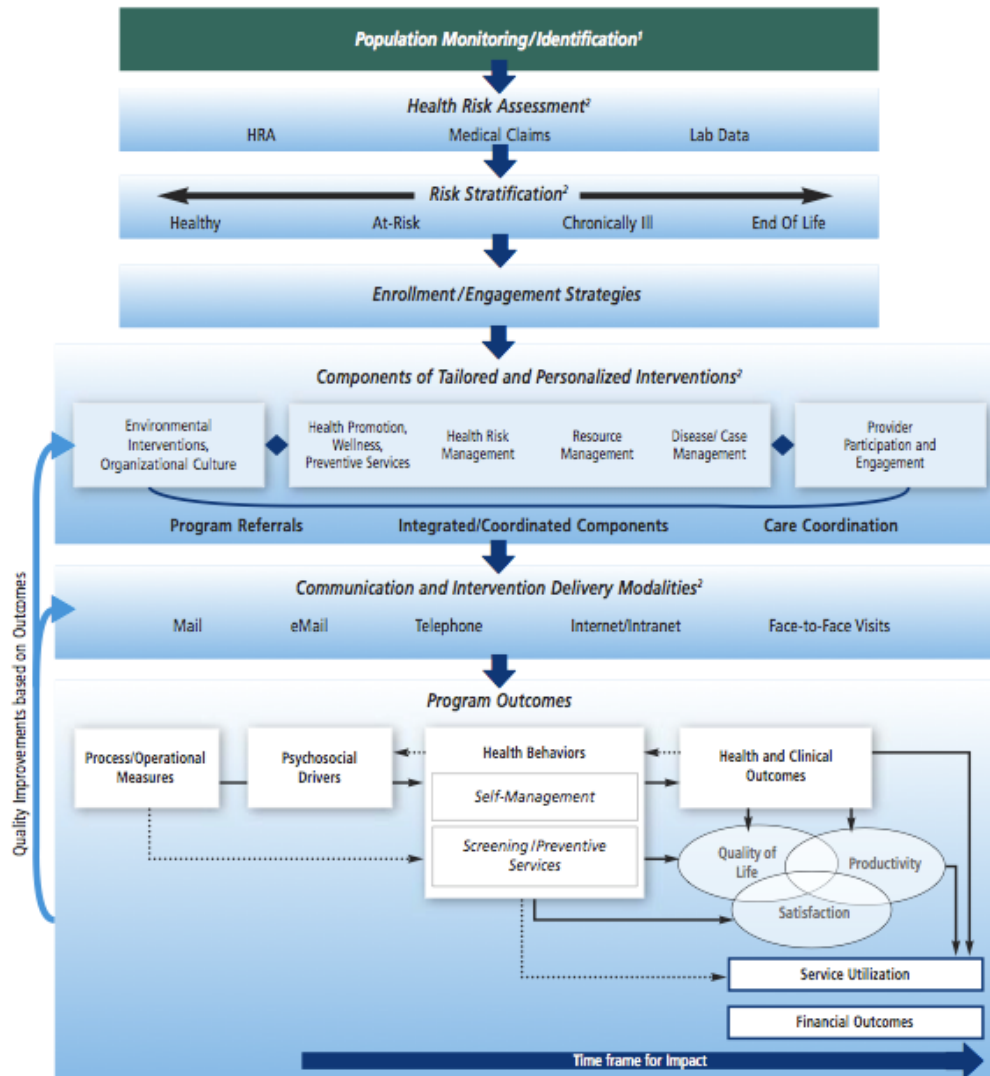
- “A population health management program strives to address health **needs at all points along the continuum** of health and well-being, through participation of, engagement with and targeted interventions for the population. The goal of a population health management program is to **maintain and/or improve the physical and psychosocial well-being** of individuals through cost-effective and tailored health solutions”.



Whereas PHM addresses the needs of all members of a population, along the entire physical and mental health continuum, including those needing DM

Figure 1 – Population Health Management Program Framework

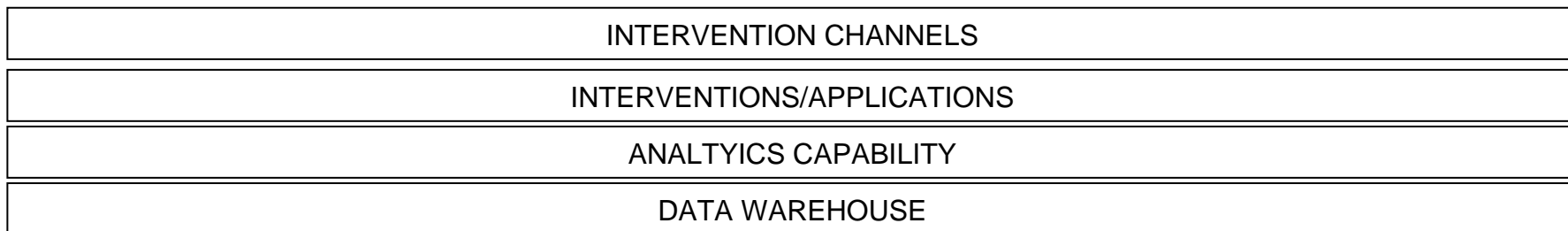
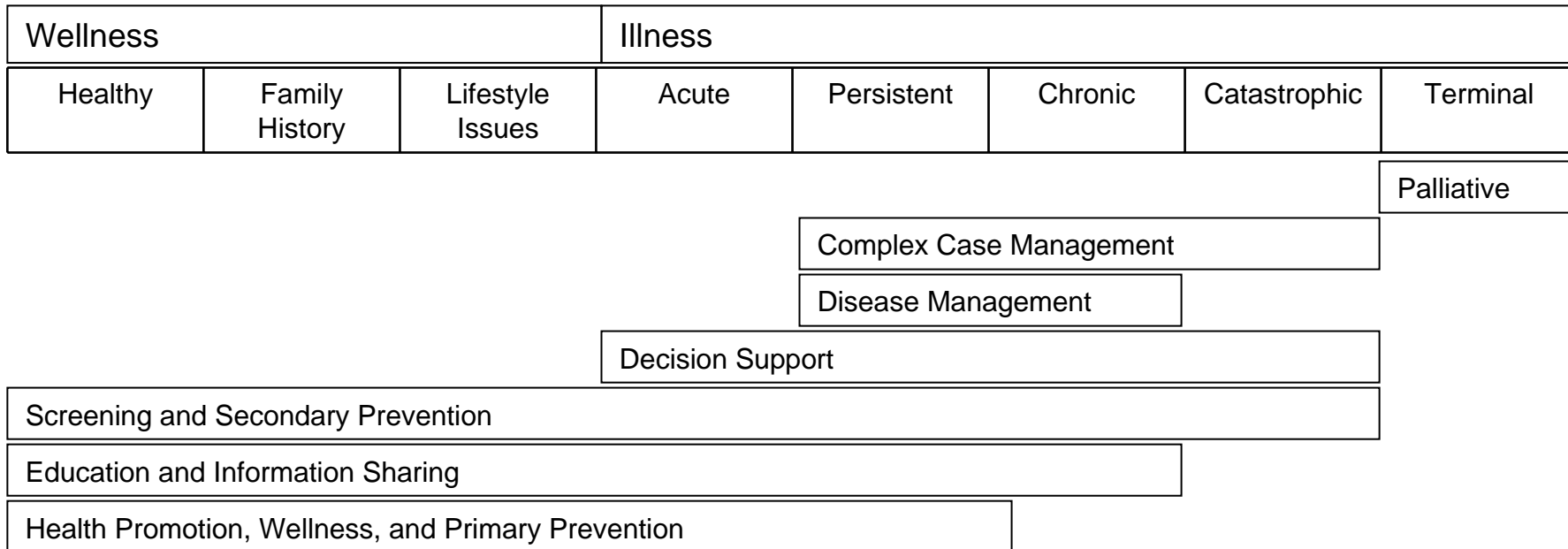
DMAA recommends the following population health management Program Framework Model:



¹ For a more detailed discussion of monitoring and identification flow please refer to the work of the Operational Measures Workgroup

The Continuum of Population Health Management Services

Few claims ←————→ Many claims



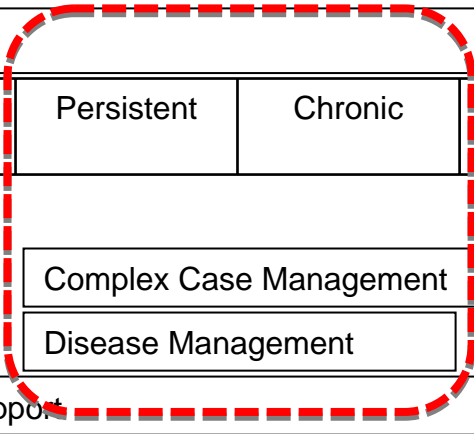
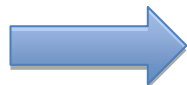
The Continuum of Population Health Management Services

Few claims ←————→ Many claims

Wellness			Illness				
Healthy	Family History	Lifestyle Issues	Acute	Persistent	Chronic	Catastrophic	Terminal

Palliative

“old school” Disease Management



Complex Case Management

Disease Management

Decision Support

Screening and Secondary Prevention

Education and Information Sharing

Health Promotion, Wellness, and Primary Prevention

INTERVENTION CHANNELS

INTERVENTIONS/APPLICATIONS

ANALYTICS CAPABILITY

DATA WAREHOUSE

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By Payer:

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PAYERS:

Commercial Insurance							
Employers							
Medicaid							
Medicare MC							

More Detail:

The Continuum of Health Support Services and Channels

Few claims ← → Many claims

Wellness			Illness				
Healthy	Family History	Lifestyle Issues	Acute	Persistent	Chronic	Catastrophic	Terminal

Palliative

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INTERVENTION CHANNELS:	mail	fitness ctr	RPM	e-mail	text msg	tel	class	clinic	home	etc.
INTERVENTION CONTENT/APPLICATIONS ("Apps"):		diet	exc.	tobacco	education	med compliance	etc.			
ANALYTICS CAPABILITY:	data mining	CSR engine	predictive modeling	EBM stds	benchmarking	etc.				
DATA WAREHOUSE:	claims	biometric tests	HRA	employee surveys	management surveys	etc.				

Mapping Healthcare Support Companies

Few claims ←————→ Many claims

Wellness			Illness			
Healthy	Family History	Lifespan Issues	SEGMENTS			
			Persistent	Chronic	Catastrophic	Terminal

Palliative

Complex Case Management

Disease Management

Decision Support

Screening and Secondary Prevention **SERVICES**

Education and Information Sharing

Health Promotion, Wellness, and Primary Prevention



INTERVENTION CHANNELS:	mail	fitness ctr	RPM	e-mail	text msg	tel	class	clinic	home	etc.
INTERVENTION CONTENT/APPLICATIONS "AREAS":		diet	exc.	tobacco	education	med compliance	etc.			
ANALYTICS CAPABILITY:	data mir	engine	predictive modeling	EBM stds	benchmarking	etc.				
DATA WAREHOUSE:	claims	biometric tests	HRA	employee surveys	management surveys	etc.				

Mapping Healthcare Support Companies

- Complete Service Providers use a combination of tools to provide a DM or Population Health service(s) to a market segment(s)
- Tool Companies provide a tool(s) to Complete Service Providers (who could be payers, providers, or DM/Population Health companies)

Mapping Healthcare Support Companies

Few claims ← → Many claims

Wellness			Illness			
Healthy	Family History	Lifespan Issues	SEGMENTS			
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Palliative

Complex Case Management

Disease Management

COMPLETE SERVICE PROVIDERS

Decision Support

Screening and Secondary Prevention **SERVICES**

Education and Information Sharing

Health Promotion, Wellness, and Primary Prevention

INTERVENTION CHANNELS: mail fitness ctr RPM e-mail text msg tel class clinic home etc.

INTERVENTION CONTENT/APPLICATIONS "AREAS": diet exc. tobacco education med compliance etc.

ANALYTICS CAPABILITY: data mir **TOOLS** engine predictive modeling EBM stds benchmarking etc.

DATA WAREHOUSE: claims biometric tests HRA employee surveys management surveys etc.

Mapping Healthcare Support Companies

Complete Service Providers

- Healthways
 - Alere
 - Health Integrated
 - Health Dialog
 - The Vitality Group
 - Avivia
 - Optum Health
 - Life Masters
 - McKesson
 - HMC – Wellpoint
 - APS Healthcare
 - Matrix Medical Network
 - Quantum Health, Inc.
- 

Some Complete Service Providers are also willing to provide specific tools or services only (rather than complete services) to support payers or providers

Mapping Healthcare Support Companies

Few claims ← → Many claims

Wellness			Illness					
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Palliative

Complex Case Management

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Decision Support

Screening and Secondary Prevention **SERVICES**

Education and Information Sharing

Health Promotion, Wellness, and Primary Prevention

INTERVENTION CHANNELS:	mail	fitness	CRM	e-mail	text msg	ter	class	clinic	home	etc.	
INTERVENTION CONTENT/APPLICATION:	diet	exc.	tobacco	education	med compliance	etc.	TOOL COMPANIES				
ANALYTICS CAPABILITY:	data mir	engine	predictive modeling	EBM stds	benchmarking	etc.	TOOLS				
DATA WAREHOUSE:	claims	biometric tests	HRA	employee surveys	management surveys	etc.					

Mapping Healthcare Support Companies

Select Tool Companies and Their Major Products/Services

INTERVENTION CHANNELS:	mail	fitness ctr	RPM	e-mail	text msg	tel	class	clinic	home	etc.
<ul style="list-style-type: none"> •Insignia Health •MedAssurant •HealthMedia •Televox 	<ul style="list-style-type: none"> •Infopia •Krames •Intel Health •Bayer Viterion 	<ul style="list-style-type: none"> •CardioCom •Varolii •Aiper Mon GmbH •StayWell Comunications 		<ul style="list-style-type: none"> •Vitality Health •Direct Connect Solutions •Silver Link Communications •Pharos Innovations 				<ul style="list-style-type: none"> •SymCare •T+ Medical Americas •MedApps •iMetrikus 		
INTERVENTION CONTENT/APPLICATIONS (“Apps”):	diet	exc.	tobacco	education	med compliance	etc.				
<ul style="list-style-type: none"> •Insignia Health •MedAssurant •Sanofi Aventis •HealthMedia 	<ul style="list-style-type: none"> •Intel Health •Bayer Viterion •CardioCom •Vitality Health 	<ul style="list-style-type: none"> •Daiichi Sankyo •SymCare •Silver Link Communications •Pharos Innovations 		<ul style="list-style-type: none"> •Krames 						
ANALYTICS CAPABILITY:	data mining	CSR engine	predictive modeling	EBM stds	benchmarking	etc.				
<ul style="list-style-type: none"> •MedVentive •Quest Diagnostic •Milliman Care Guidelines •MedAssurant 	<ul style="list-style-type: none"> •MED ai •Anvita Health •Solucia •Quality Metric 									
DATA WAREHOUSE:	claims	biometric tests	HRA	employee surveys	management surveys	etc.				
<ul style="list-style-type: none"> •MedVentive •Quest Diagnostic •MedAssurant •IAI Home Access Health •Hooper Holmes •MED ai 										

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INTERVENTION CHANNELS: mail fitness ctr RPM e-mail text msg tel class clinic home etc.

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ANALYTICS CAPABILITY: data mining CSR engine predictive modeling EBM stds benchmarking etc.

DATA WAREHOUSE: claims biometric tests HRA employee surveys management surveys etc.

Example:

US "Company A" Health Support Services and Channels

Few claims ← → Many claims

Wellness			Illness				
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DATA WAREHOUSE:	claims	biometric tests	HRA	employee surveys	management surveys	etc.				

Example: Japan's Metabolic Syndrome Screening and Management

Few claims ←————→ Many claims

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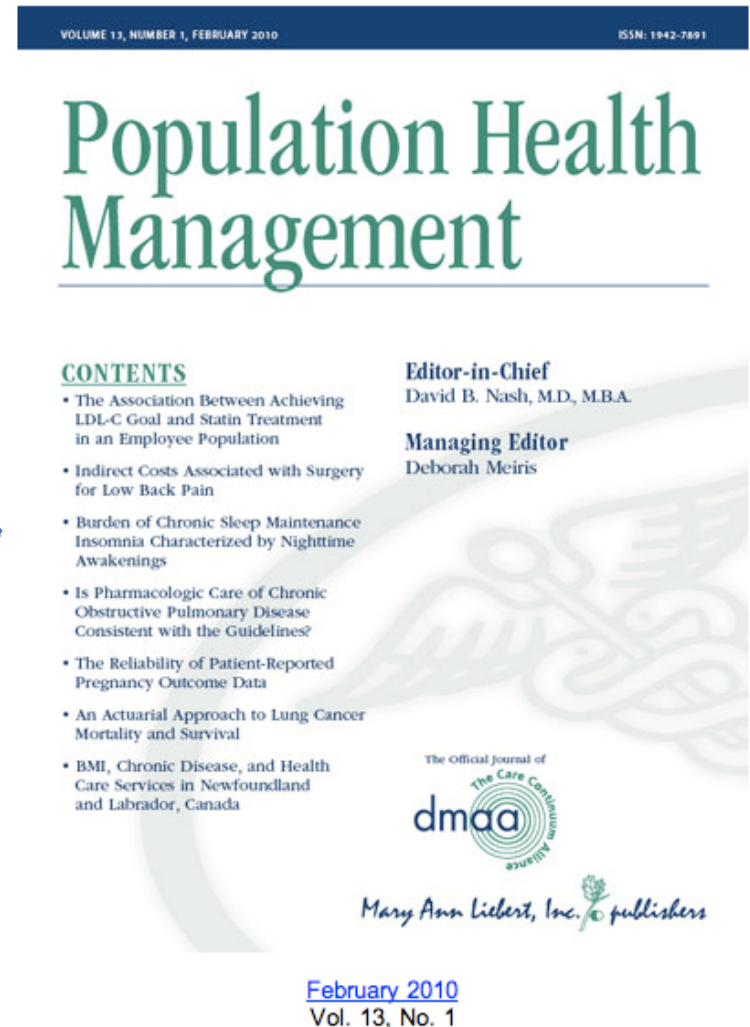
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Change in DMAA Journal Name to Reflect New Focus



Example of Recent Publications:

Population Health Management Volume 13, Number 1

•Original Articles:

- The Association Between Achieving Low-Density Lipoprotein Cholesterol (LDL-C) Goal and Statin Treatment in an Employee Population Wayne N. Burton, Chin-Yu Chen, Alyssa B. Schultz, Dee W. Edington Population Health Management. February 2010, 13(1): 1-8.
- Indirect Costs Associated with Surgery for Low Back Pain—A Secondary Analysis of Clinical Trial Data Reginald Fayssoux, Neil I. Goldfarb, Alexander R. Vaccaro, James Harrop Population Health Management. February 2010, 13(1): 9-13.
- Burden of Chronic Sleep Maintenance Insomnia Characterized by Nighttime Awakenings Susan C. Bolge, Vijay N. Joish, Rajesh Balkrishnan, Hema Kannan, Christopher L. Drake Population Health Management. February 2010, 13(1): 15-20.
- Is Pharmacologic Care of Chronic Obstructive Pulmonary Disease Consistent with the Guidelines? Gregory B. Diette, Patty Orr, Meredith C. McCormack, William Gandy, Brent Hamar Population Health Management. February 2010, 13(1): 21-26.
- The Reliability of Patient-Reported Pregnancy Outcome Data John P. Elliott, Cheryl Desch, Niki B. Istwan, Debbie Rhea, Ann M. Collins, Gary J. Stanziano Population Health Management. February 2010, 13(1): 27-32.
- An Actuarial Approach to Comparing Early Stage and Late Stage Lung Cancer Mortality and Survival Sara W. Goldberg, James L. Mulshine, Dale Hagstrom, Bruce S. Pyenson Population Health Management. February 2010, 13(1): 33-46.
- The Relationship Among Body Mass Index, Subjective Reporting of Chronic Disease, and the Use of Health Care Services in Newfoundland and Labrador, Canada Laurie K. Twells, John Knight, Reza Alaghebandan Population Health Management. February 2010, 13(1): 47-53.

So How Did the Campaign Promises Fare?

Key Elements of Barack Obama's Plan for Health Care Reform.	
✓	"Play or pay" employer mandate requiring businesses either to offer workers insurance or to pay a tax (very small businesses would be exempt)
✗	Creation of a new national health plan (similar to Medicare) for the uninsured and small businesses
✓	Establishment of new national health insurance exchange that would offer choice of private insurance options for the uninsured and small businesses
✓	Mandate that all children must have coverage
✓	Subsidies for lower-income Americans to help them afford coverage
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✓	Regulation of all private insurance plans to end risk rating based on health status
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✓	Payment of providers on the basis of performance and outcomes
✓	Reduction in excessive payments to private plans contracting with Medicare
✗	Allowing Medicare to negotiate with drug companies
✓	Establishment of a comparative-effectiveness research institute

Source: Oberlander 2008 NEJM 359:781-784

Summary of US Healthcare Reform 2010: “Patient Protection and Affordable Care Act”

- Long and complex law
- Phased in over next 8 years
- Primary focus on getting most Americans insured, and helping them pay for insurance if they cannot afford it
- Secondary focus on healthcare delivery innovation through population health management with goal of increased value including:
 - Patient-Centered Medical Home
 - Accountable Care Organizations } **“new” healthcare delivery models with improved patient support**
- Strong emphasis on wellness and prevention
- Strong role of private health insurance industry assured, but changes will bring turbulence
- Healthcare industry generally gains with big increase in insured customers, but winners and losers will emerge
- Much implementation still undecided; much debate ahead!

Potential Impact of Healthcare Reform on Population Health Management

	Final Law
Prevention and wellness	<ul style="list-style-type: none"> •Establish National Prevention, Health Promotion and Public Health Council to coordinate federal prevention, wellness, and public health strategies •Require 100% coverage for preventive health services by Medicare, Medicaid, and private health insurance •Grants available to support the delivery of evidence-based prevention and wellness services •Provide grants for up to five years for wellness programs at small employers •Provide assistance and resources for to evaluate employer-based wellness programs •Permit employers to offer employee incentives for participation in wellness programs equal to 30-50% of the cost of coverage •Require vending machines and chain restaurants to show nutritional information on all food products
Improving quality and effectiveness	<ul style="list-style-type: none"> •Establish Patient-Centered Outcomes Research Institute to compare and effectiveness of medical treatments •Medicare pilot program to developed bundled payment to Accountable Care Organizations for 30 day episodes of care •Patient Centered Medical Home pilot program for chronic disease management in Medicaid •Independence at Home project to provide high-need Medicare beneficiaries with primary care at home •Develop new value-based Medicare payment plans for hospitals, SNFs, home health care, and ambulatory surgery facilities •Stop payment for medical services related to health care acquired illnesses and conditions

Summary and Conclusions

- The new “mantra” in healthcare support in the US is Population Health Management
 - Chronic Disease Management is a specific subset of Population Health Management
- Population Health Management supports all people in a population with needed physical and psychosocial support
- PHM “fits” specific programs/apps to the needs of the individual members of the population, and “delivers” them by the most convenient channel for the member
- Recently passed Healthcare Reform includes specific points that support Population Health Management
- Many small innovative companies are creating new tools to be used by Payer, Providers, Patients, and Complete Service Population Health Management Companies