



Better
Health Technologies

Quality Driven Disease Management: The Next Generation of Business and Clinical Models

Presented at

The Symposium on Advances in Chronic
Disease Care

Palm Desert, CA

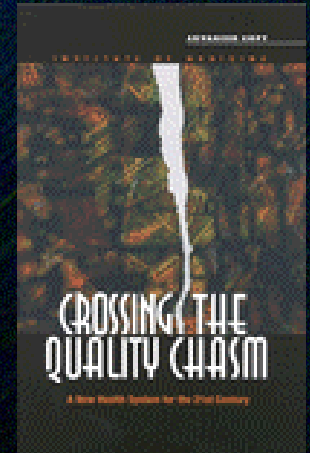
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Better Health Technologies

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Ch. 5 – Taking the First Steps



“common chronic conditions should serve as a starting point for the restructuring of health care delivery”

Overview

- I. Background and IOM Vision for Chronic Care
- II. The First Decade: Observations About DMSC Business And Clinical Models
- III. The First Decade: Lessons From DMSC Business And Clinical Models
- IV. The Next Decade Quality Driven Chronic Care Management

Better Health Technologies

- **Strategy, business models, partnerships**
- **Disease/care management and e-health**
- **Consulting/Business Development**
- **E-Care Management News**
 - Complimentary e-newsletter
 - 2,500 subscribers in 27 countries worldwide
 - www.bhtinfo.com/pastissues.htm

Recent BHT Clients

- **Pre-IPO Companies**

- Life Navigator (remote monitoring connectivity and health intermediary services)
- DiabetesManager.com (Internet diabetes DM)
- CogniMed (highest cost/risk patient management software)
- Caresoft (consumer focused DM)
- Benchmark Oncology (oncology DM)
- SOS Wireless (cellular phone technology)
- Click4Care (Internet DM)

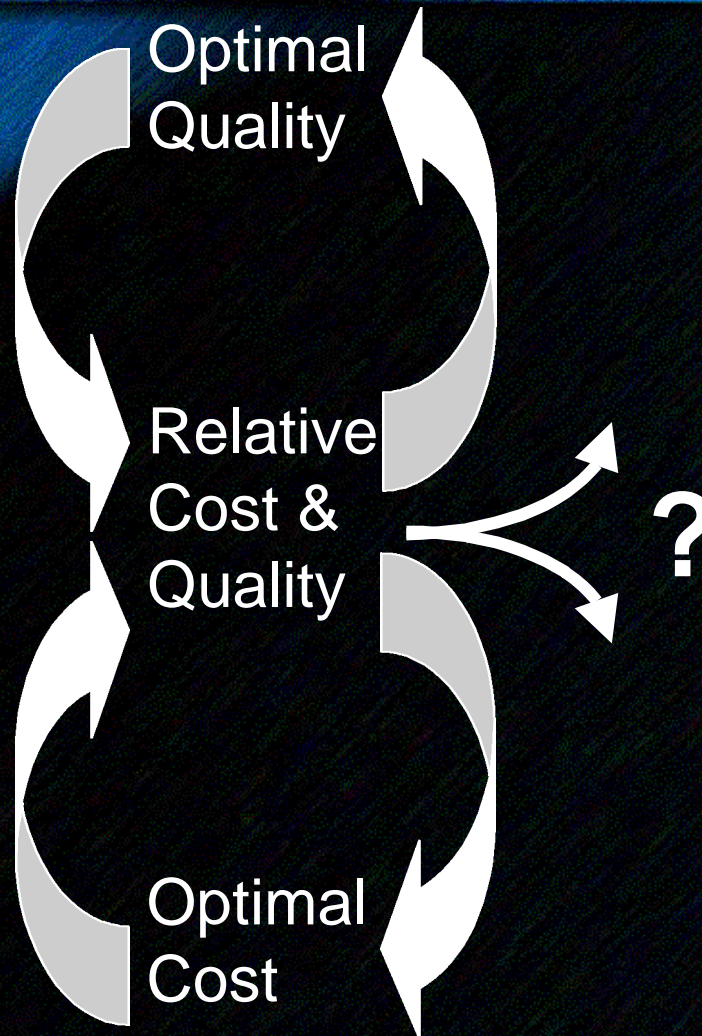
- **Established organizations**

- Medtronic -- Neurological DM (medical devices/chronic disease solutions)
-- Cardiac Rhythm Patient Management
- Disease Management Association of America (trade association)
- PCS Health Systems (PBM)
- Varian Medical Systems (oncology equipment & systems)
- VRI (behavioral health care management services)
- Washoe Health System (integrated delivery system)
- S2 Systems (medical transaction processing software)
- CorpHealth (MBHO)
- Physician IPA
- Centocor (biopharma)



I. BACKGROUND and IOM VISION FOR CHRONIC CARE

The Big Picture: Health Care in 2001 Headed Toward Middle Ground



Source: Northeast Consulting Resources

Which “disease management”?

Distinguish Between:

DM as a Care Delivery Model

DM as a Business Model

Terminology for this Presentation

DM as a Care Delivery Model

Chronic Care



DM as a Business Model

Disease Management Service
Companies (DMSCs)

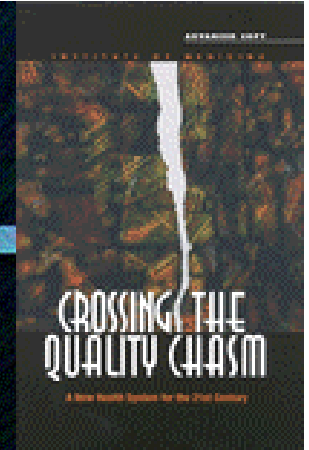
Chronic Care is Different

Differences between acute and chronic diseases

	Acute disease	Chronic illness
Onset	Abrupt	Usually gradual
Duration	Limited	Lengthy, indefinite
Cause	Usually single	Usually multiple and changes Over time
Diagnosis and prognosis	Usually accurate	Often uncertain
Technological intervention	Usually effective	Often indecisive; adverse effects common
Outcome	Cure	No cure
Uncertainty	Minimal	Pervasive
Knowledge	Professionals	Professionals and patients
	knowledgeable;	have complementary
	patients	knowledge
	inexperienced	

Source: British Medical Journal, VOLUME 320 26 February 2000, 526

Chronic Care Needs Are Increasing

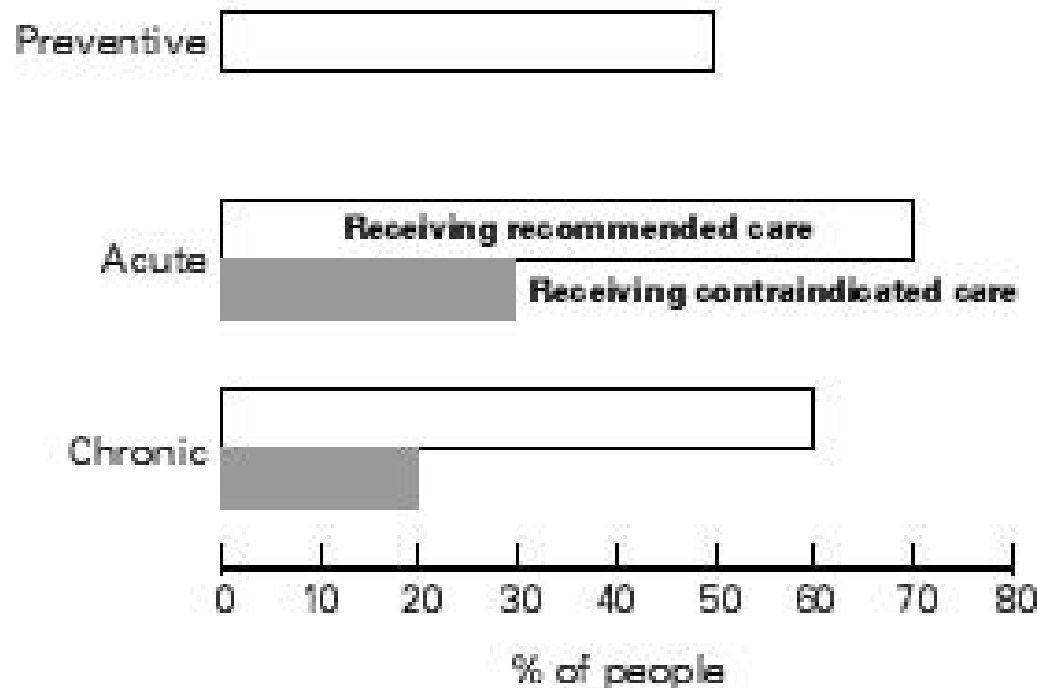


- About 100 million people (40% of population) have one or more chronic conditions
- Chronic conditions account for more than two-thirds of health care expenditures (Robert Wood Johnson Foundation, 1996)
- 80/20 Rule: Limited number of conditions account for most of these health care expenditures (Ray et al., 2000)

High Variation in Chronic Care

RAND Health

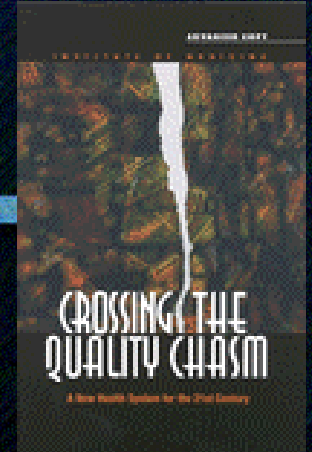
The Gap Between Recommended Care and Care Received



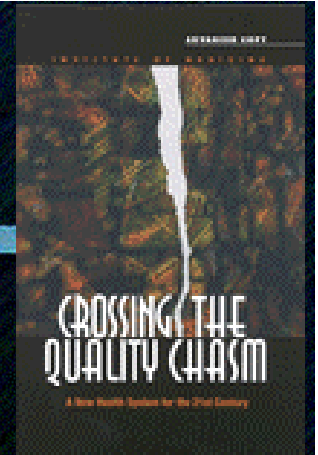
Source: Rand Health, [Taking the Pulse of Health Care in America](http://www.rand.org/publications/RB/RB4524/), 1999
<http://www.rand.org/publications/RB/RB4524/>

Chronic Care Delivery Models

- **Planned, systematic approach**
- **Attention to information and self-management needs of patients**
- **Multi-disciplinary teams**
- **Extensive coordination required across settings and clinicians, and over time**
- **Timely access to clinical information is critical**



Restructure Around Priority Conditions

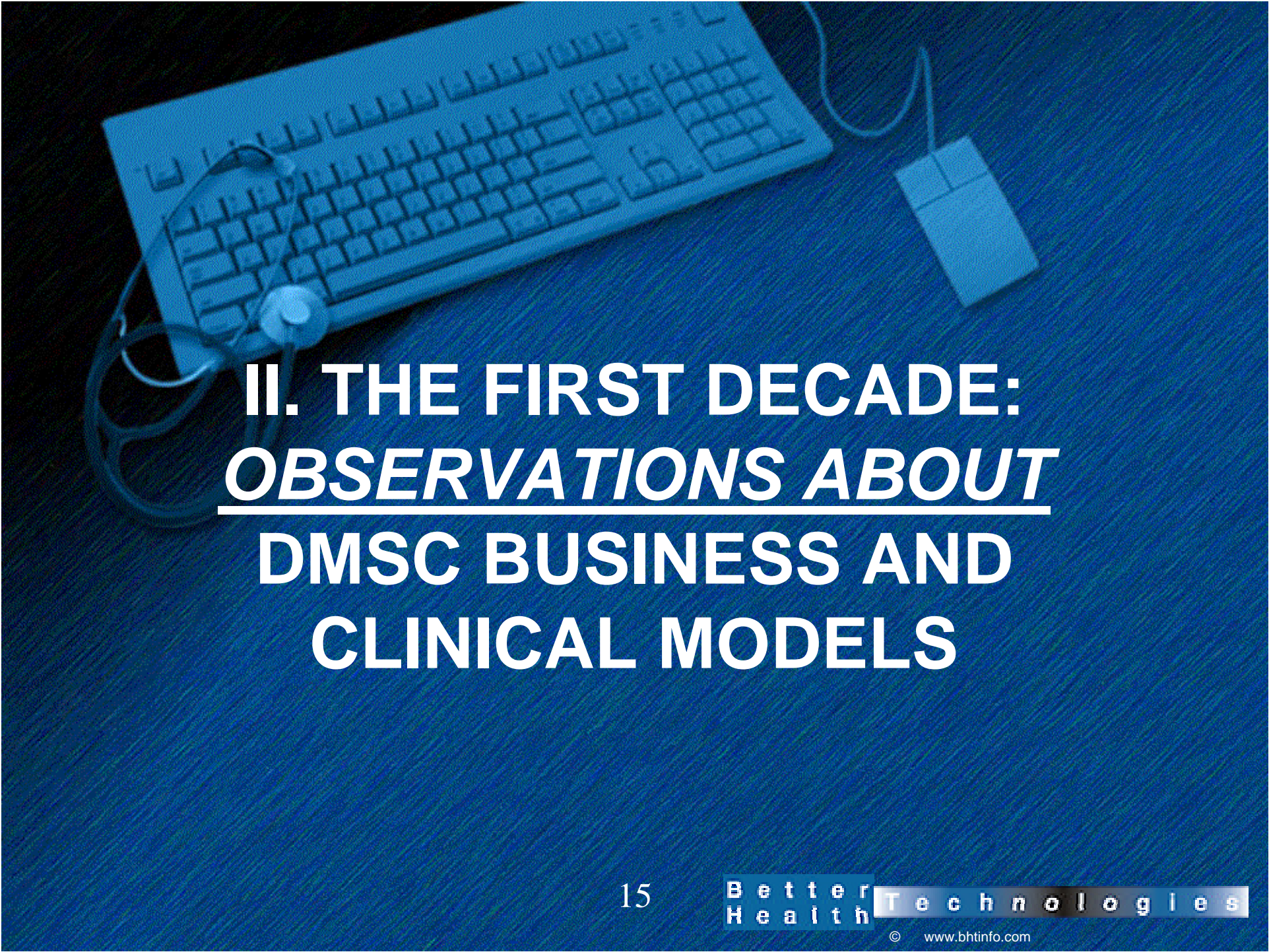


- AHRQ should identify 15-25 priority conditions (mostly chronic conditions)

Cancer
Diabetes
Emphysema
High cholesterol
HIV/AIDS
Hypertension
Ischemic heart disease
Stroke

Arthritis
Asthma
Gall bladder disease
Stomach ulcers
Back problems
Alzheimer's disease and other dementias
Depression and anxiety disorders

- Congress should establish a \$1 billion Innovation Fund to seed improvement projects
- Purchasers, health care organizations, and professional groups should develop strategies and implement action plans to substantially improve quality for priority conditions over the next 5 years



II. THE FIRST DECADE: OBSERVATIONS ABOUT DMSC BUSINESS AND CLINICAL MODELS



**Current DMSC business
models have barely penetrated
the potential market.**

3 Definitions of Chronic Disease Market Size (Drawn to scale)



\$350 M
DMSCs

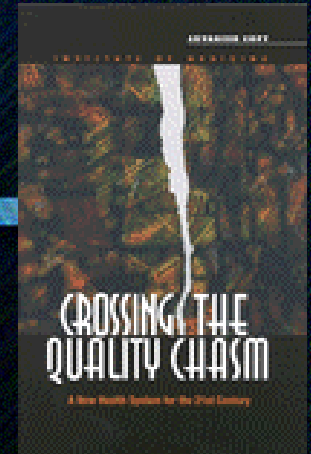
\$700 B Chronic Care Patients

DMSC Industry Dynamics

- **150+ companies**
 - \$350 million revenues in 2000
 - Primarily privately held, thinly capitalized
 - Only a handful currently are profitable
- **Primary customer has been at-risk health plans (HMOs)**
- **Typical contract structure: health plans expect guaranteed or shared savings contracts**
 - DMPC has been a central force in establishing this type of contracting
 - Difficult contract model for small, start up companies

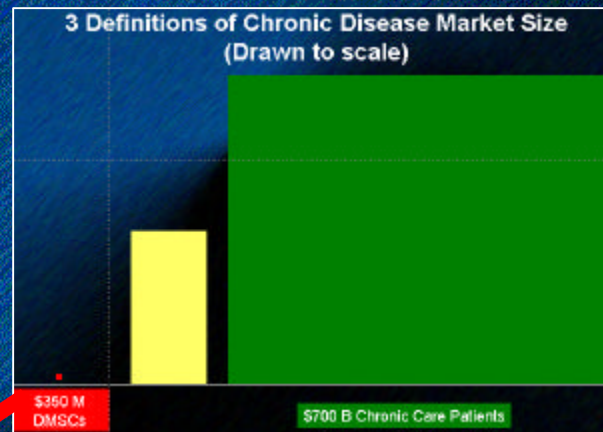
DMSC Components

- **People**
 - Clinical/technical
 - Management
- **Capital**
- **Contracts with customers**
- **Contracts with providers**
- **IT infrastructure**
- **Work flow process & systems**
 - Segmentation of patient population
 - Protocols/guidelines
 - Evidence based
 - Consensus based
 - Multidisciplinary coordination and monitoring of care
 - Patient/provider education
 - Measurement and feedback
- **Intervention infrastructure: Local and/or centralized**
 - Contact center (call center) – mail, phone, email, etc.
 - Case managers
 - Clinical staff
 - Patient education materials
 - Provider education staff
 - Etc.



“disease management programs...are frequently perceived primarily as a method for controlling costs”

DMSC Value Proposition to Payors



DMSCs

Chronic Care

- Prevent unnecessary hospitalizations and ER visits
- Save \$\$ short term on behalf of health plan
- Cost containment
- Care Coordinator = 3rd Party
- Done “to” the patient
- 5-8 top diseases
- Local/regional focus

Varying Value Propositions for Chronic Care

Who cares most about _____?

	Payors			
Short-term Medical Costs	✓			



Clinical/Operating Models: DM Works!!

CHF
Asthma
COPD
CAD
Diabetes
Maternity



**DMSCs have experienced
significant industry structure
challenges .**

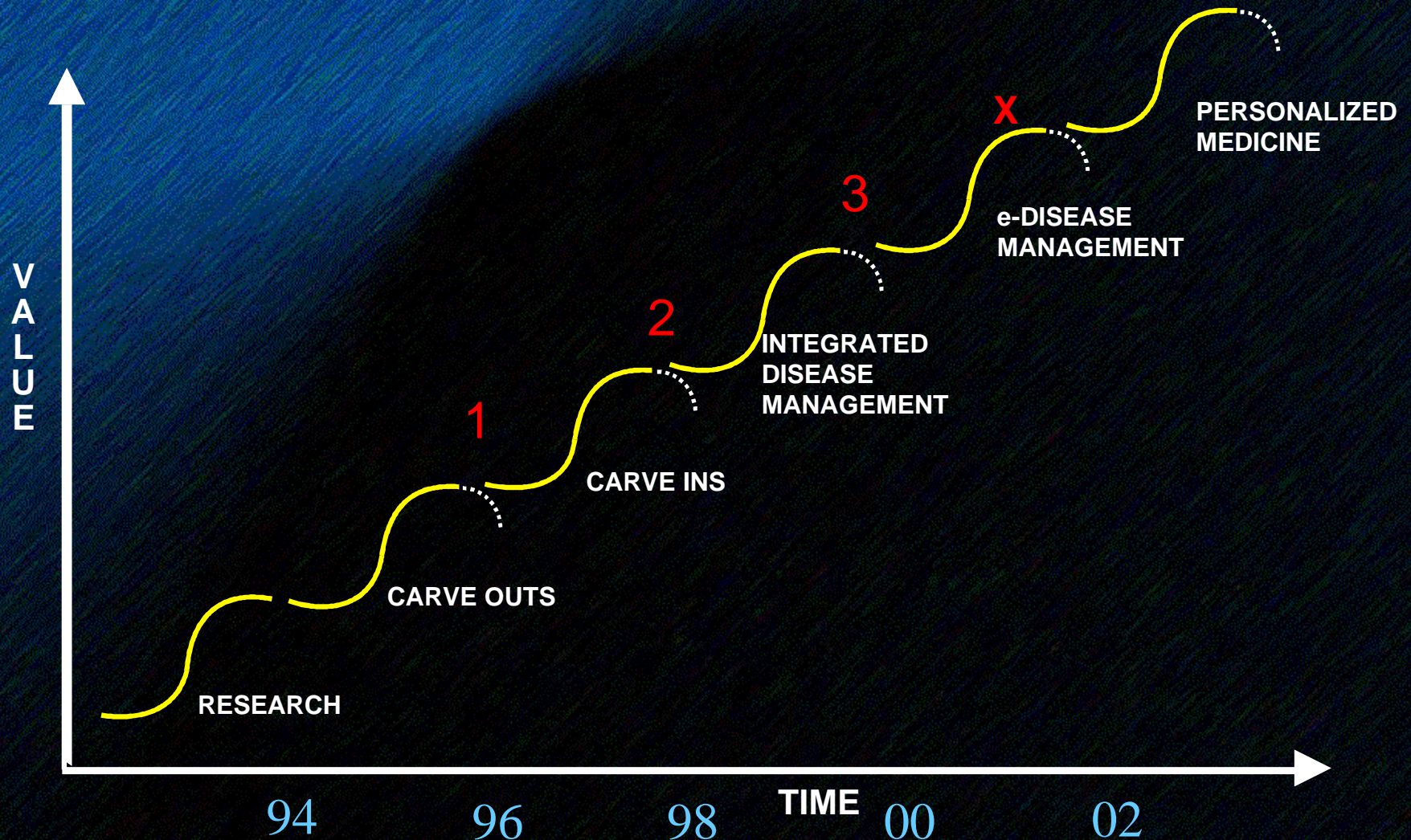
DMSC Industry Challenges

- Too many companies funded
- Premature commoditization: DMPC >> price competition
- Perception of adverse selection – health plan CFO “If we get good at DM we’ll just attract more sick patients.”
- Health plan membership churn (20%) minimizes incentives for long term ROI
- Physician resistance/ambivalence
 - Raises operating costs
 - Low switching costs
- Difficult to scale/high need for customization for local market



III. THE FIRST DECADE: LESSONS FROM DMSC BUSINESS AND CLINICAL MODELS

Evolution of DM clinical and business models: Toward Personalized Medicine





1 DMSC Carve-Out Models are Problematic

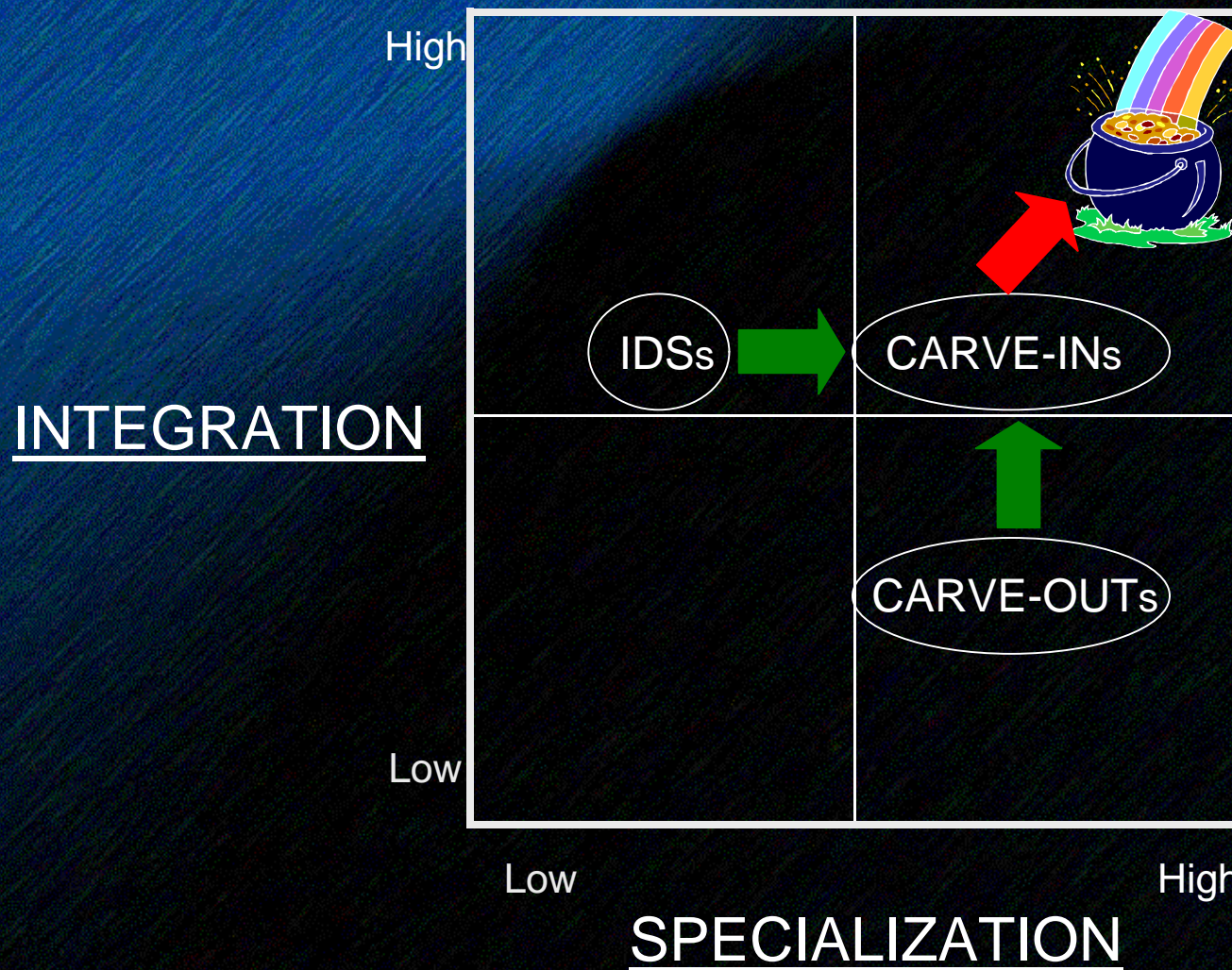
Simplified View of Carve Outs

A “pure” carve out:

- All financial risk contracted to the DM vendor.
- Entire provider network developed by vendor.
- All operating infrastructure developed by vendor (e.g., IT, provider credentialing)

....anything less and you begin to carve in

Tradeoffs Between Integration and Specialization in Current Business/Clinical Models



Both integration AND specialization are key dimensions of care management.

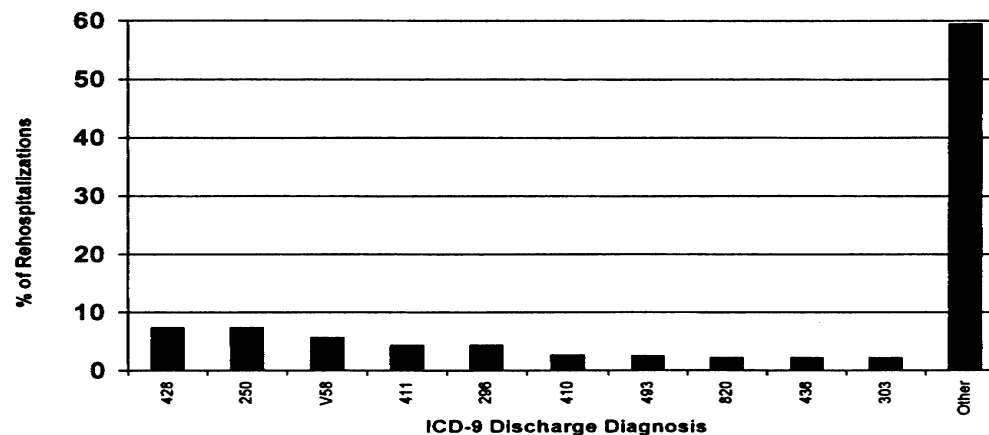
- **Integration**
 - Patients - “do my health care providers talk to one another, do they share appropriate information about my clinical condition, do they NOT share information inappropriately...”
 - Delivery system - “We coordinate care across the continuum and provide one-stop-shopping in a defined geographic region, thereby lowering costs and improving quality.”
- **Specialization**
 - Patients - “do my providers use world-class, state-of-the-art clinical guidelines, equipment, facilities, people...”
 - DMSCs - “As a national company, we treat more people with (a specific disease, e.g., diabetes, asthma, CHF) than anybody else, so we do it better and cheaper.”
- **Personalization**



2 Comorbidities matter.

Highest Cost/Sickest 1% of Patients

Figure 2. Diagnoses of Patients with Acute and Chronic Illnesses (ACI) During 1995 Baseline Year



N = 722 members in original cohort.
232 hospitalizations among surviving members still served by the health system.
724 repeat admissions/1000 PMPM.



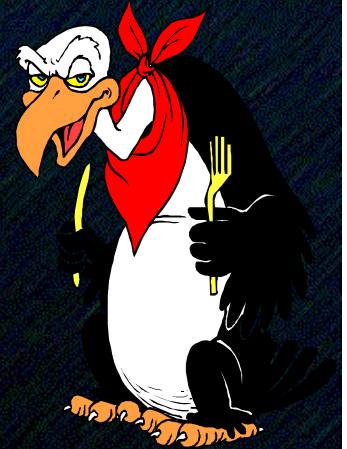


3 The Internet is a Means, Not an End: Clicks AND Mortar



Other Road Kill Autopsies

- **“What do you mean about us NOT being patient centric?”**
 - Disease centric
 - Technology centric
 - Drug centric
 - Bed centric
 - Procedure centric
- **Pharma companies: “We’d like to show you our comprehensive disease management program.”**
- **CMO of healthplan: “I told the CFO not to worry that we would attract more sick people if we got too good at disease management.”**
- **Physician software companies: “Gee, think of all the neat data we’ll gather when we just get the docs to use this.”**
- **eHealth investors: “Of course the web will revolutionize health care over night.”**



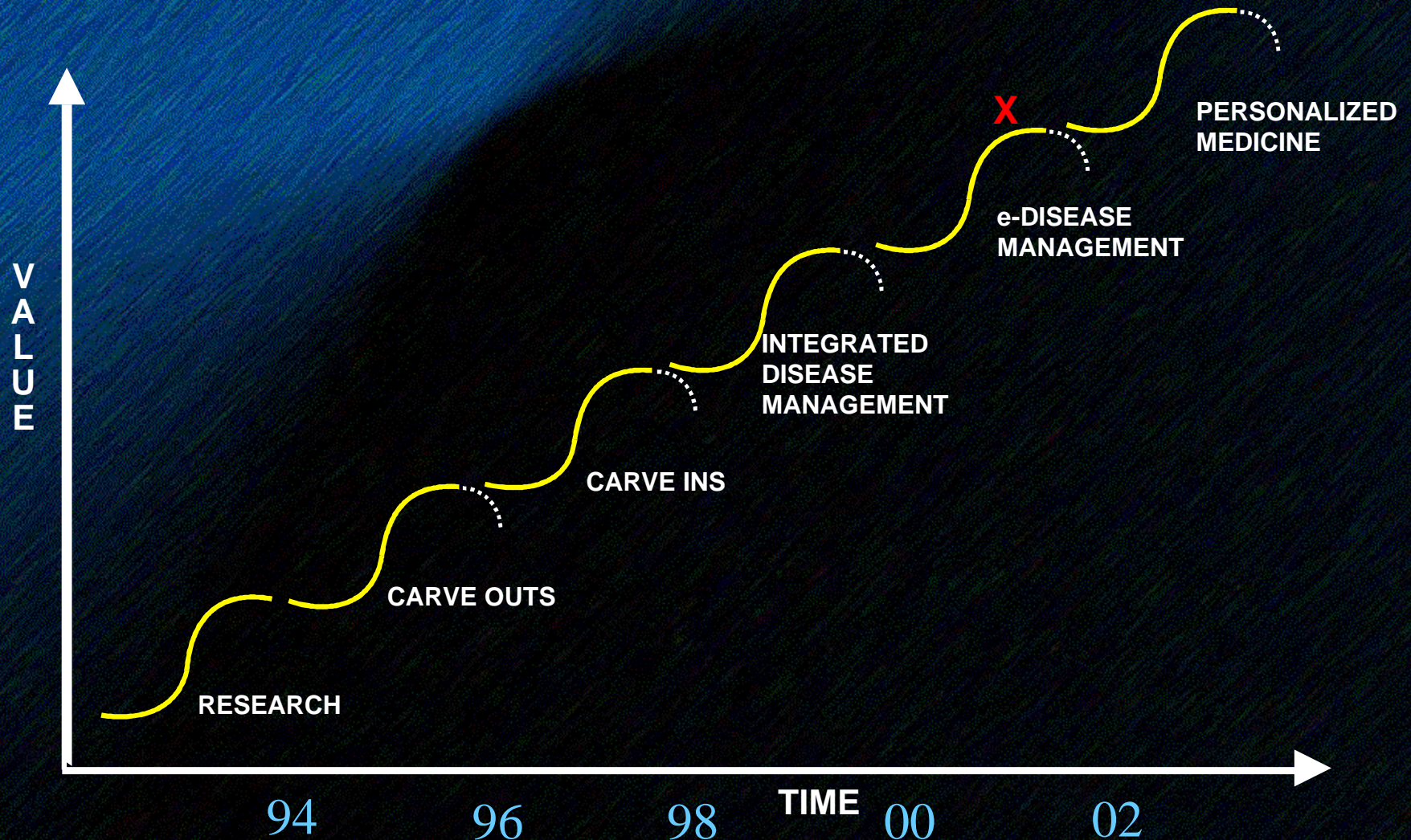


IV. THE NEXT DECADE QUALITY DRIVEN CHRONIC CARE MANAGEMENT



To date, quality has not been a significant differentiator among DM business models.


Evolution of DM clinical and business models: Toward Personalized Medicine



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Quality is Becoming an Important Part of the Chronic Care Value Proposition

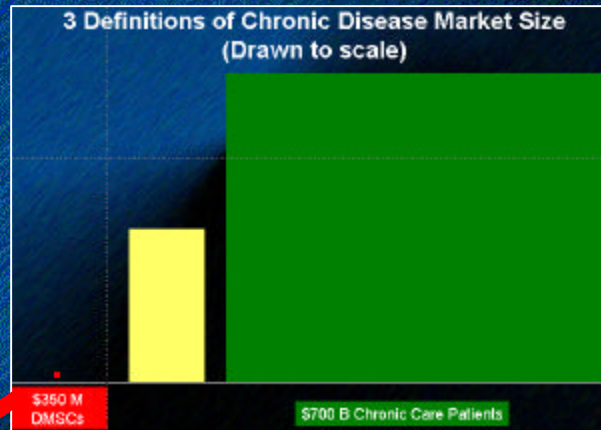
A Third Dimension of Care Management

- 1) Integration
- 2) Specialization
- 3) Personalization**

Personalization

- **Patients – “is treatment personalized, is information personalized,**
- **Delivery system capabilities**
 - **Contact center (mail, email, call center, in-person.....)**
 - **Appropriate treatment settings (home, wireless.....)**
 - ❖ **Remote monitoring**
 - ❖ **Customer Relationship Management (CRM) software**
 - ❖ **eCRM**
 - ❖ **Customized pharmaceuticals**
 - ❖ **Genomic profiling and therapies**

Differing Value Propositions



DMSCs

- Prevent unnecessary hospitalizations and ER visits
- Save \$\$ short term on behalf of health plan
- Cost containment
- Care Coordinator = 3rd Party
- Done “to” the patient
- 5-8 top diseases
- Local/regional focus

Chronic Care

- Optimize patient health status
- Save \$\$ long term on behalf of the patient
- Health care consumerism/ patient empowerment
- Care Coordinator = patient
- Done “by” the patient
- 100+ conditions/diseases
- Not geographically bound



Quality Driven Chronic Care: Multiple Value Chains, Multiple Value Propositions

4 Different Chronic Disease Value Chains Emerging

Payors
Employers
Patients
Providers

Varying Value Propositions for Chronic Care

Who cares most about _____?

	Payors			
Short-term Medical Costs	✓			

Varying Value Propositions for Chronic Care

Who cares most about _____?

	Payors	Employers	Patients/ Caregivers	Providers
Short-term Medical Costs	✓	✓		
Health/Quality of Life			✓	
Clinical Quality			✓	✓
Peace of Mind/Monitoring			✓	
Productivity		✓		
Convenience/Time Savings				✓
New Revenue Source				✓

Varying Value Propositions for Chronic Care

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New Revenue Source				✓

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Productivity		✓		
Convenience/Time Savings				✓
New Revenue Source				✓

Life Navigator Solution

Clinical home monitoring systems

Biometric and subjective data

Platform and device flexibility

Web accessible data and tools





Medtronic[®]

When Life Depends on Medical Technology

***Medtronic is the World's Leading
Medical Technology Company,
Providing Lifelong Solutions
for People with Chronic Disease***

Varying Value Propositions for Chronic Care

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Peace of Mind/Monitoring			✓	
Productivity		✓		
Convenience/Time Savings				✓
New Revenue Source				✓



END