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 May 2001

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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

Optimal Quality

Relative Cost & Quality

Optimal Cost

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

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

The Gap Between Recommended Care and Care Received

Source: Rand Health, Taking the Pulse of Health Care in America, 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

- 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 ________?*

<table>
<thead>
<tr>
<th>Payors</th>
<th>Providers</th>
<th>Patients/Caregivers</th>
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<td>Short-term Medical Costs</td>
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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

VALUE

TIME

94 96 98 00 02

Carve Outs
Carve Ins
Integrated Disease Management
e-Disease Management
Personalized Medicine

Research
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

INTEGRATION

Low  High

Low  IDSs  CARVE-INs  CARVE-OUTs

High

SPECIALIZATION
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**
Comorbidities matter.
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

Value

Time

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Research

Carve Outs

Carve Ins

Integrated Disease Management

e-Disease Management

Personalized Medicine

Evolution of DM clinical and business models:
Toward Personalized Medicine
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

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Short-term Medical Costs

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B H T I N F O
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Life Navigator Solution

Clinical home monitoring systems
Biometric and subjective data
Platform and device flexibility
Web accessible data and tools
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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