The New Breed Health System
Adapting Strategy to the Evolving Market Environment
Health Care Advisory Board

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The New Breed Health System
Adapting Strategy to the Evolving Market Environment

Road Map

1. Past the Point of Incremental Change
2. Attributes of the New Breed Health System
3. Ambition Beyond Survival
Extinction and Adaptation Constantly Reshaping the Landscape

Geologic Timeline

Hadean Archaen Proterozoic Paleozoic Mesozoic Cenozoic

Formation of Moon 4.5B Formation of Earth 4.6B

Cambrian Explosion 500M
Massive Glaciation 750-255M

K-T Extinction

First Humans 2M First Mammals 65M Dinosaurs 235-65M

Major Extinction Events


Survival of the Fittest
Ultimately Determined by Those Best Adapted to Local Environment

Key Evolutionary Principles

- **Selective pressures**: Environmental forces—such as scarcity of food or extreme temperatures—that result in the survival of organisms with certain characteristics
- **Natural selection**: Organisms that are best adapted to their local environment are more likely to survive relative to less well-adapted organisms
- **Adaptation**: Any heritable characteristic of an organism that improves its ability to survive in its environment
- **Mutation**: A change in the genome that creates genetic variation

Selective Pressures on the Health Care System
Forcing an Evolutionary Moment to Adapt to a Changing Environment

A Fragile Equilibrium

Industry Characteristics Only Incrementally Changed for Decades
- Relatively reactive; slow shift from hospital-centric to provider-centric
- Centralized around hospital footprint, bringing patient to site of care
- Siloed across continuum, limited collaboration among providers
- Patients engaged only for acute episode

Facing Major Forces of Change

Baby Boomers

Information Revolution

Public Health Crisis

Health Reform

Source: Health Care Advisory Board interviews and analysis.

Climate Change #1—Baby Boomers

The Looming Demographic Conundrum
Aging Beyond Our Ability to Support

Number of People 20-64 for Every Person >65

<table>
<thead>
<tr>
<th>Year</th>
<th>Ratio</th>
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<tbody>
<tr>
<td>1950</td>
<td>7.2</td>
</tr>
<tr>
<td>1980</td>
<td>5.1</td>
</tr>
<tr>
<td>2011</td>
<td>4.1</td>
</tr>
<tr>
<td>2050</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Living Longer
US Life Expectancy at 65
1940: 12 years
2007: 18 years

623 K
New Medicare beneficiaries each year 1995-2010

1.6 M
New Medicare beneficiaries each year 2010-2030

2X
In 2030, Medicare will have twice as many beneficiaries as 2010


1) Organization for Economic Cooperation and Development (OECD) average.
2) Males.
3) Projected.
Climate Change #2—Information Revolution

Everything a Click Away

Rapidly Increasing Access to Information Anywhere

Increasing Availability of Information

“Universal Service” for Computing
- Easy access to computers, online resources

Emergence of the “Virtual”
- Sets baseline for increasing shift to online information sharing, purchasing

The Portable Internet
- Integrates into real-world decision making
- Increases demand for rapid information
- Makes information ubiquitous, 24/7

Shift to the Cloud
- Enhances immediacy of data access
- Creates virtually limitless space for data storage
- Promotes universal sharing of data among individuals, across systems

Source: Health Care Advisory Board interviews and analysis.

Climate Change #3—Public Health Crisis

The New Global Epidemic

Modern Lifestyles Taking a Serious Toll

Chronic Disease the Top Public Health Concern

63% Percent of deaths worldwide due to non-communicable diseases

7 of 10 Deaths in the U.S. attributed to chronic conditions

122 M Adults in U.S. with at least one chronic condition; almost one of every two U.S. adults

World Health Organization Identifies Key Risk Factors

Lifestyle Factors
- Tobacco use
- Physical inactivity
- Unhealthy diet

Limited Health Care Access
- No preventative care
- Cost-effective interventions inaccessible


1) Includes CV disease, cancer, diabetes, chronic respiratory diseases.
Health Reform Changes the Rules of the Game

One Hundred Eleventh Congress of the United States of America

At the Second Session

Begun and held at the City of Washington on Tuesday, the fifth day of January, two thousand and ten.

An Act

Entitled The Patient Protection and Affordable Care Act.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE; TABLE OF CONTENTS.
(a) SHORT TITLE.—This Act may be cited as the "Patient Protection and Affordable Care Act".
(b) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

Title I. Quality Affordable Health Care for All Americans

(Finally) Bringing an End to Volume-Based Payment

"Our proposal would change incentives so that providers will give patients the best care — not just the most expensive care — which will mean big savings over time."

President Barack Obama

Past the Point of Incremental Change

Pressure on Industry Requires New Operating Paradigm

Adapting to Meet the Challenges of the New Environment

Changing Our Evolutionary Profile

Physical Footprint
- Partnering to achieve distributed footprint with multiple access points
- Connecting across entire care continuum including patient home

Information Asset
- Mining data enterprise to build high-quality care delivery pathways
- Utilizing data for proactive, individual-centric care

Clinical Workforce
- Leveraging new clinical technologies to deliver care based on EBM
- Including range of clinical and non-clinical workforce roles

Patient Engagement
- Meeting the clinical and non-clinical needs influencing outcomes
- Forming community partnerships to support longitudinal health and wellness of population

Source: Health Care Advisory Board interviews and analysis.

Attributes of the New Breed Health System

Adapting Strategy to the Evolving Market Environment

Redefining the Footprint
1. Gains operational efficiencies, market share through partnership
2. Achieves clinical advantage through affiliation
3. Maps service footprint to population need

Leveraging the Information Asset
4. Operates within an integrated enterprise data network
5. Positions leader to merge data analytics with clinical care
6. Builds competitive advantage from full data transparency
7. Leverages robust patient data set to support proactive, comprehensive care

Transforming the Clinical Workforce
8. Advances clinical care with next-generation technology
9. Merges local and virtual specialty talent to offer best-in-class care
10. Elevates PCP to “CEO” of care team
11. Leverages high-tech and high-touch approach to meet individual and community needs
12. Mobilizes community workforce to extend care team reach

Realizing Our New Reach
13. Overcomes non-clinical barriers to maximize health outcomes
14. Integrates patient’s values into care plan
15. Designs communication strategy to bridge health literacy gaps
16. Activates community stakeholders to connect patients with high-value resources
17. Expands reach beyond care continuum to anchor community health

Source: Health Care Advisory Board interviews and analysis.

Road Map

1. Past the Point of Incremental Change
2. Attributes of the New Breed Health System
3. Ambition Beyond Survival
Redefining the Footprint
Leveraging the Information Asset
Transforming the Clinical Workforce
Realizing Our New Reach

1. Gains operational efficiencies, market share through partnership
2. Achieves clinical advantage through affiliation
3. Maps service footprint to population need

Era of Consolidation

Many Health Systems Seeking Safety in Numbers

Flurry of (Unusual) M&A Activity

Providence Health System
One of the nation’s largest Catholic health organizations adding hospitals, practices

Vanguard Health Systems
Purchased Detroit Medical Center for $1.5B

Steward Health Care System
Owns six Catholic hospitals in Boston market, with plans to acquire two more

Trinity Health
Purchased Loyola Health System for $100M, plus an annual subsidy of $22.5M to the medical school

Geisinger Health System
Full merger with Shamokin Area Community Hospital

Texas Health Resources
Acquired MedicalEdge Healthcare Group and its 420 physicians and clinicians in the country’s second-largest acquisition of an independent physician practice

Community Health Systems (CHS) has withdrawn its offer to acquire all Tenet Healthcare Corporation’s outstanding shares after Tenet rejected two of its bids for buyout offers

Novant Health
Nine-hospital system experiencing recent growth through acquisition of hospitals, imaging centers

No Magic Number

Bigger Not Always Better

Heard from the Financial Advisors: How Big Is Big Enough to Survive Reform?

"...$2 billion in annual revenue, though more important than revenue may be market concentration and influence, based on an analysis by financial consultants Kaufman Hall..."

Margin Performance Suggests Size Not Necessarily the Key Differentiator

Not-for-Profit Operating Margins

<table>
<thead>
<tr>
<th>Year</th>
<th>Multi-state Health Systems</th>
<th>Stand-Alone Hospitals, Single-State Health Systems</th>
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</thead>
<tbody>
<tr>
<td>2007</td>
<td>3.2%</td>
<td>2.1%</td>
</tr>
<tr>
<td>2008</td>
<td>2.1%</td>
<td>1.8%</td>
</tr>
<tr>
<td>2009</td>
<td>2.6%</td>
<td>2.3%</td>
</tr>
</tbody>
</table>

By More Than Brute Force

Leveraging Scale for a Defined Advantage

**Financial Scale**
1. Gains operational efficiencies, market share through partnership

**Clinical Scale**
2. Achieves clinical advantage through affiliation

**Continuum Scale**
3. Maps service footprint to population need

- New geography, volume growth
- Operational efficiency
- Contracting
- Access to capital
- Clinical expertise
- Clinical capacity, talent recruitment
- Evidence-based practice, standardization
- Brand, reputation
- Footprint, scope of services
- Care coordination
- Birth-to-death patient continuity
- Community health management

Source: Health Care Advisory Board interviews and analysis.
Understanding When Bigger Is Better

Identify Specific Goals for Pursuing Scale

**Operational Efficiency**
- **Needs**: Benefit of centralized services, lean processes
- **Affiliation provides**: Economies of scale, standardization

**Clinical Operations**
- **Needs**: Capacity to deliver high-quality care
- **Affiliation provides**: Strategic scope of services, diversity of programs

**Market Outlook**
- **Needs**: Ability to meet community health needs
- **Affiliation provides**: Diversified risk portfolio, population mix

**Financial Performance**
- **Needs**: Infusion of capital
- **Affiliation provides**: Sustainable cost structure, financial valuation

**Organizational Governance**
- **Needs**: Sufficient representation for decision making
- **Affiliation provides**: Functional structure for ongoing support, leadership

**Cultural Synergy**
- **Needs**: Support of business objectives, community obligation
- **Affiliation provides**: Aligned mission for integration, accountability

Source: Health Care Advisory Board interviews and analysis.

Scaling for Efficiency Without Merger or Acquisition

Building Relationships as Assets

**Three Health Systems Collaborate to Assist Local Physicians, Hospitals**

- *MetroHealth*
- *Trinity Health*
- *University of Michigan Health System*

  - Strengthens local health care
  - Creates linkages with physicians
  - Brings high-quality tertiary, quaternary care
  - Offers operational expertise to community hospitals
  - Provides advanced health information technologies, EHR\(^1\) capacity
  - Lends experience in IT process redesign

**Case in Brief: Pennant Health Alliance**

- Three-health-system regional collaboration of Michigan providers: MetroHealth, Trinity Health, University of Michigan Health System
- Focus on collaboration to leverage economies of scale, group purchasing access, share clinical best practices, revenue cycle, IT installation, and other back-room tools
- Attractive option to support community hospitals and physician groups with a desire to remain independent

Source: Health Care Advisory Board interviews and analysis.

\(^{1)}\) Electronic Health Record.
Uncertain Times, Unprecedented Allies

Novel Partnership Meets Strategic Needs for Both Parties

Duke University Health System
- Guidance in clinical service development
- Support for enhancing quality systems
- Access to highly specialized medical services to meet community needs

LifePoint Hospitals
- Range of operational, financial resources
- Access to capital for ongoing investments in new technologies, facility renovations
- Community focused

Duke-LifePoint Joint Venture
Combines outstanding clinical leadership and resources with strong financial and operational expertise to help community hospitals prosper, offer communities better care

Case in Brief: Duke-LifePoint Joint Venture (DLP)
- Joint venture between Duke University Health System, a multi-hospital system including an academic medical center and two community hospitals, headquartered in Raleigh-Durham, North Carolina, and LifePoint, a 52-hospital system with locations in 17 states, headquartered in Tennessee
- Combined strengths offer independent hospitals option that meets clinical, operational, capital needs

Unique Vehicle Leverages Complementary Strengths
Assembling a Complete Portfolio for Community Health Needs

<table>
<thead>
<tr>
<th>Duke-LifePoint Joint Venture Strengths</th>
<th>Met by Duke</th>
<th>Met by LifePoint</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operating Margin:</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Long-term partner for financial, operations support</td>
<td></td>
<td>✔</td>
</tr>
<tr>
<td>• Sustainability of community hospital focus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical Performance:</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>• Implementation of clinical best practice across sites of care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Enhanced specialty care service offerings, clinical quality expertise</td>
<td>✔</td>
<td></td>
</tr>
<tr>
<td>Physician Alignment:</td>
<td>✔</td>
<td>✔</td>
</tr>
<tr>
<td>• Commitment to community physician network</td>
<td></td>
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</table>

Pursue System Advantage

Uncover Opportunities to Improve Overall Performance

New Management Structure Encourages Cross-System Perspective

Traditional Hospital and Foundation Leadership Teams

- Corporate Medical Division
- Clinical Operations Division
- Support Services Division
- Administrative Services Division

New Corporate Vice Presidents

$57 K  Target for Performance Improvement savings in year one from reducing variation

$15 M  Realized in first 45 days of new structure

Case in Brief: Scripps Health
- Five-hospital system located in San Diego, California
- Launched OneScripps initiative to breakdown system silos and reduce system variation
- Introduced new horizontal management role encouraging executives to identify opportunities for a unified, system-wide approach to improve quality, lower cost
- Shifted hospital Chief Operating Officers into new Corporate Vice President roles

Source: Health Care Advisory Board interviews and analysis.

Regionalizing System Services

Eliminate Duplication to Improve Quality, Reduce Variation, Lower Cost

Acting as Multiple Sites of One Organization

Areas of Immediate Focus

- Labor
- Clinical Technologies
- Ancillary Services

New Radiation Oncology Site
- Moving care from two hospital sites to new building to centralize operations, reduce system duplication
- Undergoing similar regionalization within cardiology, also evaluating regional diabetes care through organization of services into care lines

Source: Health Care Advisory Board interviews and analysis.
Adopting a Patient-Centered Approach to Scale

Integrating Access Points, Full Continuum of Providers to Improve Care

Extending the Scope of the Organization to Meet Patients’ Needs

- Medical Home
- Retail Clinic
- Hospital Network
- Post-Acute Care Providers
- Home Health
- FQHC

Ongoing Care Management  
Acute Care  
Post-Acute Care

Affiliating Across the Care Continuum

Source: Health Care Advisory Board interviews and analysis.

The Perfect Storm for Population Health

State Mandate Creates Sole Health Care Provider in Market

Three Competing Hospitals
- Ellis: “Hospital on the Hill”
- St. Clare’s: “The People’s Hospital”
- Bellevue Women’s Hospital

Force of Change
- Berger Commission

Ellis Medicine: A True Community Provider
- Medical Home
- Ellis Hospital
- Women’s Center

Case in Brief: Ellis Medicine
- 368-bed health system in Schenectady, New York
- State-required unified governance of three health providers resulted in formation of Ellis Health
- Health system and community leadership created medical home to align services to local needs
- Early success demonstrated by increased utilization of family medicine, primary care, decreased ED utilization

All Under One Roof

Redeploying Inpatient Assets as Nexus of Comprehensive Care

Ellis Health Medical Home (Former St. Clare’s Inpatient Facility)

1) Pre-admission Testing.


Establishing the Path of Least Resistance

Nurse Navigators Direct Patient to Most Appropriate Care Resources

Four Nurse Navigators Manage Patients Across Medical Home Complex

Navigators Offer System Support Beyond Physical Footprint

Ellis Health Nurse Navigators

- Two registered nurses; two navigators from local community organizations
- Help direct patients, maximize available resources

Collaborating with Local Leaders, Investing in Community Resources

**Community Leadership Collaborative**

- Consists of 25 community leaders
- Concerns over potential turf battles assuaged as group centered on common goals, concerns
- Originally met monthly, now quarterly

**Plan for Delivery of Efficient Care**

- Increased utilization of high-value preventive, primary care services
- Streamlined community offerings, less duplication, especially critical with declining funding, economic downturn
- Identified understanding culture of poverty, relationship to ED utilization as priorities
- Established common language and nomenclature for continued group momentum, collaboration, and innovation

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**Good for the Community, Good for the Organization**

Shifts in Utilization Patterns Generate Financial Returns

<table>
<thead>
<tr>
<th>Number of Visits to Family Health Center, Emergency Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Family Health Center</td>
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<tr>
<td>$2,701</td>
</tr>
<tr>
<td>$3,706</td>
</tr>
</tbody>
</table>

- $167,000 Forecasted savings for Q1 2011 if all low-acuity patients seen in primary care instead of ED
- $1.2 M Increase in revenue for medical home1 services from 2009 to 2010

---

**A Matter of Mission and Margin**

“You do it because you’re supposed to—either because you’re the sole provider of care for the community, or because if you don’t, you’ll drive the organization into the ground.”

Kellie Valenti
SVP, Ellis Health

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1) Federally Qualified Health Center.

The New Breed Health System:

1. Gains operational efficiencies, market share through partnership
   Build scale through strategic partnerships with well-defined financial, clinical and operational goals; elevate affiliations that enable the creation of operational and clinical economies of scale across participating organizations. Carefully consider whether needs can be met through affiliation or partnership, or if financial integration is necessary to achieve goals.

2. Achieves clinical advantage through affiliation
   Leverage partnerships and affiliations as assets to ensure access to best-in-class clinical care; ideal partnerships maximize ability to bring highest-quality care local. Carefully weigh service mix, clinical expertise and support, distance and depth of affiliation, and ability to expand population reach when determining ideal partner.

3. Maps service footprint to population need
   Expand scope of clinical services and assets to achieve full reach across care continuum; evaluate health needs of patient population to determine ideal distribution of services across the community and provide patients with resources to access most efficient service to meet care needs.

Source: Health Care Advisory Board interviews and analysis.

Key Questions for the Health Executive Team

Chief Executive Officer
- How do we communicate our desire to affiliate to members of our organization? How do we control message across the layers of the organization?
- Will we merge management structures across organizations? How do we create system-level leadership without adding an additional layer of management bureaucracy?
- Is there a good cultural “fit” between the two partnering organizations? How will we begin to merge the best aspects of our independent cultures?
- How will new governance structure(s) support the long-term goals of the affiliating provider organizations?

Chief Financial Officer
- Are we in a position of financial strength today? What is our long-term outlook? Can we leverage financial health today to secure favorable partnership terms?
- Are there resulting economies of scale (e.g., purchasing) from the partnership that benefit long-term financial performance?

Chief Operating Officer
- What economies of scale can result from the collaboration?
- How do we create a forum for exchange of operational best practices across organizations?

Chief Medical Officer, Chief Quality Officer
- How will the affiliation complement, improve the quality reputation of the provider organizations?
- How will clinical practices be shared across organizations?

Vice President Marketing, Vice President Planning
- What opportunities does the partnership offer to expand clinical, service line offerings?
- Have opportunities been identified for regionalization of services? Can we create economies of scale?
- How does the partnership improve capacity to meet community health needs?

Chief Information Officer
- What data needs to be shared between affiliate organizations?
- What is needed to ensure IT integration, interoperability across organizations?

Source: Health Care Advisory Board interviews and analysis.
4. Operates within an integrated enterprise data network
5. Positions leader to merge data analytics with clinical care
6. Builds competitive advantage from full data transparency
7. Leverages robust patient data set to support proactive, comprehensive care

What Could Transparency Do to Health Care?
Data Aggregator Profits by Opening the Books on Your Business

Amazon Health

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Average Price per Visit</th>
<th>Quality Rating</th>
<th>Customer Reviews</th>
</tr>
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<tbody>
<tr>
<td>Murray Health System¹</td>
<td>$50</td>
<td>★★★</td>
<td>95%</td>
</tr>
<tr>
<td>Darling Medical Center¹</td>
<td>$60</td>
<td>★★★</td>
<td>50%</td>
</tr>
<tr>
<td>Flinders Hospital¹</td>
<td>$45</td>
<td>★★★</td>
<td>100%</td>
</tr>
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</table>

Source: Health Care Advisory Board interviews and analysis.

1) Pseudonym.
Leveraging Full Data Ubiquity

Strategic Information Integration Improves Performance

4. Operates within an integrated enterprise data network

Facilitating Total Data Integration

- Leveraging Data to Redesign Care
  - 5. Positions leader to merge data analytics with clinical care
  - 6. Builds competitive advantage from full data transparency

Delivering Information-Powered Care

- 7. Leverages robust patient data set to support proactive, comprehensive care

Source: Health Care Advisory Board interviews and analysis.

4. Operates Within an Integrated Enterprise Data Network

Building the Backbone of the ACO

Operational HIEs¹ Offer Data Linkages Required for Care Continuity

Stakeholders Exchanging Data in Operational² HIEs

<table>
<thead>
<tr>
<th>Stakeholder Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Medicaid</td>
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</tr>
<tr>
<td>Medicare</td>
<td>9</td>
</tr>
<tr>
<td>Employers, Purchasers</td>
<td>10</td>
</tr>
<tr>
<td>Health Plans</td>
<td>24</td>
</tr>
<tr>
<td>Community/Public Health Clinics</td>
<td>51</td>
</tr>
<tr>
<td>Specialty Care Physician Groups</td>
<td>53</td>
</tr>
<tr>
<td>Primary Care Physician Groups</td>
<td>58</td>
</tr>
<tr>
<td>Hospitals</td>
<td>61</td>
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</table>

Percent increase in operational HIEs from 2008 to 2010: 74%


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Emerging Data Systems Change Outlook of Competitive Asset

Today: Differentiate on Data Access

- Focus on data ownership
- Health system has possession of “the wires,” proprietary data
- Data analysis conducted in silos

Disruptive Technologies

- Cloud Computing
- National Network
- Health Information Exchanges

Future: Differentiate on Data-Informed Care Plan

- Data is prescriptive, predictive
- Focus on EHR1 capability
- Compete in a world of greater transparency

Physicians on the Fast Track

“Cloud-based technologies and PHRs1 are potential examples of disruptive technologies in health IT. These types of technologies might allow the 80 percent of physicians who are non-digital to leapfrog some of the existing limitations of EHR systems directly into more modern technologies.”

Report to the President
President’s Council of Advisors on Science and Technology

Evolution in Skills of IT Expert

Changes in Health IT Role

Electronic Medical Record | Meaningful Use | Population Management
---|---|---
Installation Team | CIO1/CMIO2 | Population Analytics

Value to Organization

Time

Clinical Expert

Executive Role

IT Capability

At the Intersection of Strategy, Operations

Understands goals for data management, clinical application as they relate to business strategy


1) Electronic Health Record.

5. Positions Leader to Merge Data Analytics with Clinical Care

A Sweet Spot in the Organizational Structure
New Skills Required

Leaders Develop Operational Plan to Match Strategic Vision

Apply Systematic, Rigorous Analysis

- Study Disease Trends
- Expand Effective Programs
- Pilot Interventions
- Stratify Risk, Tailor Offerings
- Calculate Impact, ROI

Broadly Roll Out Tested, Proven Programs

- Small Businesses
- Community

Case in Brief: North Shore-Long Island Jewish Health System

- 15-hospital system with 5,000+ beds; New York City and Long Island service area
- Created Department of Population Health to develop initiatives to promote health and wellness
- Expected staffing level by end of 2011: four occupational physicians, three epidemiologists, one research psychologist, five research/program coordinators, one ergonomist, three nurses, two industrial hygienists

Source: Health Care Advisory Board interviews and analysis.

Putting Data to Work to Improve Population Health

Powerful Analytics Mobilize Physicians for Impressive Outcomes

$200 M

Estimated annual savings from efficiencies, improved outcomes

1. Advanced analytics used to identify, flag Medicaid children at risk for flu in medical record

2. Sends pop-up alerts to physicians accessing charts of at-risk children

3. Encourages physician to administer flu shot

Case in Brief: State of Michigan Health Information Warehouse

- Michigan Department of Community Health, Michigan Department of Information Technology partnered to merge data from 41 different sources into a single, unified data warehouse
- Integrated data from 15 health-related focus areas, including Medicaid, children’s health
- Applied advanced analytics to assess care, costs across multiple programs; examined statewide health issues
- Awarded $14.9M by the Department of Health and Human Services to support progress of HIT in Michigan

Hospital Comparison Data Patients Will Actually Use

Transparency Influences Patient Decision Making

<table>
<thead>
<tr>
<th>Feature</th>
<th>Description</th>
<th>Airline Analog</th>
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</thead>
<tbody>
<tr>
<td>Check Access, Availability</td>
<td>• No wait at Murray Health System\textsuperscript{1} ED</td>
<td>Seating in Zone Four</td>
</tr>
<tr>
<td></td>
<td>• Three-hour wait at Flinders Hospital\textsuperscript{1} ED</td>
<td></td>
</tr>
<tr>
<td>Make Informed Cost, Quality</td>
<td>If you wait until next week to schedule a pediatrics appointment, your waiting room time will be reduced 80 percent</td>
<td>$50 decrease in fares if you wait one week to buy</td>
</tr>
<tr>
<td>Tradeoffs</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Predict Likely Outcomes</td>
<td>Surgical complications are five times more likely after 3:00 PM</td>
<td>Flight Option A: 90 percent on-time departures</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Flight Option B: 60 percent on-time departures</td>
</tr>
</tbody>
</table>

Source: Health Care Advisory Board interviews and analysis.

Data for Health Care Decisions in Consumers’ Hands

iTriage App Offers Full Transparency into Local ED Wait Times

ED
Parrett\textsuperscript{1} ED
Five-Hour Wait

ED
Wensum\textsuperscript{1} ED
30-Minute Wait

Imperatives for Health System Strategy

1. Develop process for timely review of online activity relevant to health system performance
2. Identify patterns in shared information in order to prioritize improvement efforts
3. Design course of action for elevating concerns about shared data

Technology in Brief: iTriage

• Mobile and web health care platform developed by two ED physicians
• Provides information on symptoms, diseases, medical procedures, hospital ED wait times
• Includes a nationwide directory of hospital EDs, physicians, urgent cares, retail clinics, pharmacies, and outpatient clinics, as well as turn-by-turn directions to provider sites

A New Type of Demand
Value-Generating Attributes Shift with Next Generation of Patients

Remember Hello Health?

Visit Website  Schedule Appointment  Primary Care House Call  Facebook-Like Health Care Platform

Technology in Brief: Hello Health

- Started as one-physician virtual practice in New York in 2007
- Patients scheduled online for individual visit at most convenient location such as home or work, paid via PayPal and followed up via phone or e-mail
- Myca acquired Hello Health to build platform for online scheduling, secure e-mail, prescription renewal, video visits, lab results and personal health record

Value-Generating Attributes Shift with Next Generation of Patients

Casting a Wide Net
Integrate Multiple Sources to Build Comprehensive Patient Profile

7. Leverages Robust Patient Data Set to Support Proactive, Comprehensive Care

Complexity of Data Capture
Level of Detail, Insight


Source: Health Care Advisory Board interviews and analysis.
Data Starts with the Patient

Securing the Information Necessary to Improve Health

Virtuous Cycle of Collecting Patient Data, Crafting Care Plan
- Ask patient to complete self-assessment of healthy behaviors
- Includes questions about weight, diet, activity, smoking, alcohol consumption

   - Prioritizes goals to keep patient healthy
   - Refers to disease management programs as needed

Annual HRA

- Reconnects patient to primary care
- Verifies HRA data
- Collects additional information

Identified Care Plan

Annual PCP Visit

Case in Brief: Henry Ford Health System
- 1,679-bed, five-hospital system headquartered in Detroit, Michigan
- Strong incentives to employees enrolled in Health Alliance Plan (HAP) resulted in increased completion of HRA, primary care provider visits; goal to decrease health care costs, improve health of employee population
- Consideration of expansion of program to general patient population

Source: Health Care Advisory Board interviews and analysis.

Employee Incentives Improve Data Capture, Activation

Financial Return for Participating in Plan

Example Case Study: Annual Health Services for Family of Four
- Five preventive visits
- Seven general visits
- One gynecology visit
- One ED visit
- One outpatient surgery
- One hospitalization

81%
Employed Health Alliance Plan beneficiaries that completed HRA last year

Next Step: Broad Expansion
- 2011: Medicare to cover health engagement visit
- Pending expansion to medical home groups

$1,010
Out-of-pocket expense savings from participation in incentive program

Incenting Healthy Behaviors
"I'll tell you—I hadn't seen a PCP in at least five years prior to going into this program. It’s changed my behavior."

Henry Ford Health System Employee

Source: Health Care Advisory Board interviews and analysis.
Technology Invites Health Care Into the Home

**Intel-GE Care Innovations™ LLC Receives FDA Market Clearance for Virtual Care Coordination Platform**

“The newest version of the Intel Health Guide will give health care organizations an easy-to-use solution that allows patients to experience high-quality, personalized healthcare in the home.”

Aaron Dueksen
General Manager of Disease Management, Intel-GE Care Innovations, March 3, 2011

**Technology in Brief: Intel-GE Health Guide Express**

- Scheduled to launch in Summer 2011
- Builds off previous Intel-GE provider platform, but offers access on home computer
- Offers monitoring, education sessions, video conferencing between patient and care team; patient vital sign collection enabled by wired and wireless medical technologies

**The Revolution of Home Health Self-Monitoring**

**GE-Intel Health Guide Express**

- Remote Monitoring
  - Frequent data collection better informs care trajectory
  - Enables real-time patient and physician clinical updates
- Communication with Provider
  - Video conferencing for immediate clinical concerns
  - Patient can access educational content at leisure


**Integrate into Daily Activities**

Reminders Help Patient Stay on Track and Reinforce Care Plan

**Activation On the Go**

WellDoc Alert

“Your most recent blood test shows that you have low blood sugar. It’s time to treat this before you eat your meal or take your meal time medication.”

**Advice Triaged Across Multiple Sources**

- Real-time biometric alerts via text message
- Longitudinal alerts and reminders via web portal
- Secure provider communication via e-mail

**Technology in Brief: WellDoc, Inc.**

- Health care technology company based in Baltimore, Maryland
- Initial clinical trials showed successful reduction of HbA1c levels by 2.03 percent
- Mobile health coach device can be used with variety of patients; with or without physician participation
- Two-year, 225-patient effectiveness study completed January 2010; participants included University of Maryland, Care First Blue Cross Blue Shield, Sprint, LifeScan

The Ultimate in Preemptive Medicine

Anticipates Events Before They Happen

1. Sensor, transmitter placed in pulmonary artery
2. Records daily pressure
3. Data transmitted to monitoring database
4. Individual pressure trend data collected, reviewed
5. Targeted, early treatment for abnormal pressure patterns

Study in Brief: CHAMPION1 Trial
- Prospective, 64-center, single-blind trial occurring over six months
- Compared hospitalization rates of 270 heart-failure patients with implanted sensor/transmitter to 120 control subjects with heart failure on standard treatment
- Findings include decreased hospitalizations for heart-failure patients managed with remote monitoring system due to early intervention for improved management

39% Percent decrease in hospitalizations for treatment group


Aggregating Biometric Data for Health and Wellness

Predictive, Personalized, Preventative, Participatory

Patient Ecosystem Influences Health

Dawn of Biomedical Progress
“The digitization of biology and medicine will be a bigger revolution than the digitization of information technology and telecommunications.”

Leroy Hood, PhD
Creator and Co-Founder, P4 Medicine Institute

Case in Brief: P4 Medicine Institute
- Collaboration between Ohio State University in Columbus, Ohio, and the Institute for Systems Biology in Seattle, Washington
- P4 approach integrates systems biology, informatics, clinical research, care delivery, and provider engagement with the goal of improving health and wellness
- P4 Medicine applies genomic information, real-time biometric data for personalized treatments, and advanced clinical support to comprehensively and systematically approach treatment and disease management

Integrating Biometrics to Create a Customized Care Plan

Personalized Planning and Treatment with Self-Management and Physician Support

Provider visit for initial genetic testing, biometric exam, wellness screening

Biological samples sent for baseline analysis

Team, including geneticist, reviews results and counsels patient of risks

Proactive health plan developed; includes real-time, ongoing biological screening

Self-management at home enabled by sophisticated technology; biomarkers track wellness

Tailored Assessment Based on Unique Traits

Customized Plan to Meet Individualized Health Needs

Integrate Multiple Dimensions of Health

“We are trying to understand the dimensions of health: behavioral, environmental, physical, all informed by the genetic and molecular dimensions. We want to understand, ‘where is the zone of health?’”

Clay Marsh, MD
Executive Director, Center for Personalized Health Care at Ohio State University Medical Center

A Unique Care Plan for Each Individual

Leveraging Customized Data to Move from ‘Health’ to ‘Your Health’

• Genetic, molecular analysis provides personalized health information
• Precision targeting of treatments via pharmacogenomics
• Disease-risk analysis indicates potential health issues
• Utilize lifestyle modification to prevent, delay disease onset when possible
• Sophisticated biosensors alert patient to real time health status
• Utilize technology to enable care management at home

• Harness social networks to promote health, encourage patient activation and compliance
• Activate patients to own health status using personalized information

Source: Health Care Advisory Board interviews and analysis.
Anticipating and Addressing the Needs of Each Patient

Information Access Increases Ability to Personalize Care

Migrating Care Delivery Model to Offer Personal, Proactive Care

- Biometric, Genetic Analysis
- Real-Time Clinical Data
- Daily Home Monitoring
- Individual Health Profile

Elapsed Time

- Retrospective
- Today
- Anticipatory

Granularity of Data
- Population
- Claims Data
- Disease Registry
- molecular

Source: Health Care Advisory Board interviews and analysis.

Leveraging the Information Asset

The New Breed Health System:

4. Operates within an integrated data enterprise network
   Prepare for shift to full data connectivity through health information exchanges connecting all providers working together with the same patient population. Utilize cloud technologies for lower-cost solutions to aggregate data and reach providers.

5. Positions leader to merge data and analytics with clinical care
   Elevate the role of the clinical analytics expert to leadership role, and task with balancing strategic goals with clinical expertise and IT capabilities; differentiate organization through use of information to analyze outcomes and improve care delivery.

6. Builds competitive advantage from full data transparency
   Leverage transparency as a strategy to improve the patient experience; proactively identify and select opportunities to interact with patients through public online forums. Identify leaders who will be accountable for monitoring presence online and responding rapidly to improve processes and ensure that profiles are factual and current.

7. Leverages robust patient data set to support proactive, comprehensive care
   Foster integration of data from multiple patient interactions to build a complete picture of patient health; incorporate this data into real-time operations to support clinical care decisions, allowing for proactive outreach to address care needs at lower-acuity sites of care.

Source: Health Care Advisory Board interviews and analysis.
Key Questions for the Health System Executive Team

Chief Executive Officer
• Do we have the talent to manage the transition to an integrated data enterprise? Do we have leadership dedicated to “bridging the gap” between IT and the clinical enterprise?

Chief Financial Officer
• How do we prepare for price transparency? Do we know how our prices compare to other providers in the market? Do we have mechanisms to quote an accurate price to patients who are “comparison shopping”?
• Do we have a capital plan to account for investments in information technology, data analytics?

Chief Operating Officer
• How do we prepare operationally for rapid response, feedback mechanisms required for information-driven care delivery?
• How do we leverage new information technologies and clinical data in a way that improves efficiency?

Chief Medical Officer, Chief Quality Officer
• How do patients perceive the quality of care we provide?
• How can physician data be managed to ensure it is accurate to provide the right picture of our clinical practice?

Chief Medical Officer, Chief Quality Officer (cont.)
• Are we monitoring patient feedback on our physicians?
• What skills, training are required of physicians in order to leverage advanced care delivery analytics?

Chief Nursing Officer
• What skills, training are required for nurses to capture data for advanced care delivery analytics?
• Do we monitor patient and public feedback on nursing services? How do we improve patient experience based on this information?

Vice President Marketing, Vice President Strategy
• What is the reputation, perception of the organization in the consumer-driven marketplace?
• What is our strategy to manage, respond to publicly posted reviews, comments, inaccuracies?
• How do we identify patterns in shared information to prioritize internal improvement, planning efforts?

Chief Information Officer
• What platforms, applications are required for the transition to full data integration and transparency?
• How will IT work with clinical leadership to create synergy between information systems and clinical practice?

Source: Health Care Advisory Board interviews and analysis.
From Jeopardy to Clinical Practice

Rise of Watson and Smart Technology as Part of the Care Team

Leveraging Advanced Computational Resources for Clinical Care

Clinical interaction reveals symptoms, physician forms preliminary diagnosis

Watson generates ranked differential diagnoses, treatment paths for physician consideration

Physician leverages the capabilities of Watson to confirm diagnosis, confidently pursue treatment plan

Technology in Brief: IBM’s Watson Supercomputer

- IBM designed a supercomputer with the computational ability to answer natural language questions in real time; expanding breadth of material to include medical content
- Medical diagnostic capabilities of Watson currently being tested at Columbia University; intent is to support physicians with real-time clinical information and ranked differential diagnoses
- University of Maryland physicians working to determine how Watson could best interact with medical providers to enhance care delivery


Revaluing Physician Skill Set

Impact of Disruptive Innovation on Physician Value Chain

As Technology Covers Clinical Information, Physician Value Shifts ‘Right’

<table>
<thead>
<tr>
<th>Key Attributes of Care Managers</th>
<th>IT</th>
<th>Physician, Team</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gain Patient Trust</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td>Encourage Patient Compliance</td>
<td>Maybe</td>
<td>Yes</td>
</tr>
<tr>
<td>Compass</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Clinical Perception</td>
<td>No</td>
<td>Yes</td>
</tr>
<tr>
<td>Accountability to Patient</td>
<td>No</td>
<td>Yes</td>
</tr>
</tbody>
</table>
Building the Workforce of the Future

Balance Physician, Technology, and Team for Best-in-Class Care

Merge Technological Capabilities with Physician Specific Traits for Maximum Value

8. Advances clinical care with next-generation technology

9. Merges local and virtual specialty talent to offer best-in-class care

10. Elevates PCP to “CEO” of care team

11. Leverages high-tech and high-touch approach to meet individual and community needs

12. Mobilizes community workforce to extend care team reach

Supports Physician

Impact of Technology

Supports Patient

Generating the ‘Evidence’ for Evidence-Based Medicine

Leveraging Medical Informatics to Accelerate Clinical Progress

Circumvent Traditional Clinical Trial Time and Resource Constraints

Typical Timeline: Years to Decades

Archimedes Timeline: Days to Weeks

- Set hypothesis
- Create accurate virtual population
- Pose query
- Receive actionable results that inform care, pathways, or delivery

Technology in Brief: Archimedes

- Sophisticated simulation model of disease, human behaviors, interventions and patient flow through the delivery system, from Archimedes, Inc. a subsidiary of Kaiser Permanente in San Francisco, California
- Results inform public health, preventive care, biomedical research, health care delivery, pharmaceutical research and development, and cost effectiveness studies; has modeled multiple chronic conditions, including diabetes, hypertension, congestive heart failure
- Recent Archimedes study demonstrates that using the CV Guidelines Calculator versus the JNC-7 guidelines to select patients for antihypertensive treatment results in better clinical outcomes at lower costs
Technology Offers Instant Clinical Results

Proof-of-Concept Trials Produce Actionable Clinical Information

Directs Physicians Toward the Most Valuable Care Pathway

1. New Treatment Hypothesis
   - Physician hypothesizes that three-drug combination\(^1\) will improve high-risk patient\(^2\) health outcomes

2. Barriers to Traditional Trial
   - Clinical trial too costly to pursue
   - Long-term timeframe (30 years) required to see clinical result

3. Archimedes Analysis Reveals New Treatment Results in Better Outcomes, Lower Costs

<table>
<thead>
<tr>
<th>Three-Drug Combination</th>
<th>Archimedes 30-year projections</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk of Event Compared to Control</td>
<td></td>
</tr>
<tr>
<td>Stroke</td>
<td>(71%)</td>
</tr>
<tr>
<td>Heart Attack</td>
<td>(71%)</td>
</tr>
<tr>
<td>Annual Costs/Patient</td>
<td>($500)</td>
</tr>
<tr>
<td>System Savings</td>
<td>$38M/year</td>
</tr>
</tbody>
</table>

- Drug combination immediately implemented as care standard for all at-risk patients
- Actual patient results collected after implementation mirrored Archimedes predictions


9. Merges Local and Virtual Specialty Talent to Offer Best-in-Class Care

Technology Reverberating into Specialist Workforce

New Relationships with Medical and Surgical Specialists

New Specialist Role

New Foundational Requirements
- Shifts focus from isolated acute event to longitudinal care episode
- Well-coordinated with providers along the continuum
- Consistently practices evidence-based medicine when applicable

Cognitive Skill
- Utilizes technology to supplement decision making
- May offer virtual support to local care team

Interventional Skill
- Increasingly leverages technology for surgical intervention
- Enhanced focus on high-quality, low-cost clinical outcomes

Source: Health Care Advisory Board interviews and analysis.
Unrestricted by Distance, the New Virtual Team

Access Highest-Quality Care Through Clinical Partnerships

Osh Health System Cancer Patients, 2010

<table>
<thead>
<tr>
<th>Projected</th>
<th>Actual</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,089</td>
<td>1,700</td>
</tr>
</tbody>
</table>

Local patients diagnosed at Osh Health
Patients lost to local competitor or regional AMC for treatment

Case in Brief: Osh Health System

- Multiple-hospital system that implemented the MD Anderson Physicians Network®, MD Anderson Cancer Manager® Host Affiliate Program
- Partnership elevated services at all Osh Health System hospitals which now have robust medical and radiation oncology programs
- Osh Health System physicians strongly supportive; familiar with high-quality reputation of partner

Source: Health Care Advisory Board interviews and analysis.

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The Strength of a Combined Workforce

Nationwide Program Brings Best-in-Class Care Local

MD Anderson Physicians Network®
MD Anderson Cancer Manager® Host Affiliate Program

1 Pre-acceptance Criteria
- Pre-contractual due diligence: quality reviews of physical plant, on-site evaluation of medical oncology, radiation oncology
- Selective program qualifications

2 Quality Improvement Program
- Concordance review of major cancer types
- Peer review assessment by MD Anderson Cancer Center faculty
- Established cancer quality improvement program based on best practices
- Credentialing of community network physicians

3 Clinical Resources Available
- Multidisciplinary treatment planning conferences, educational videoconferences, CME
- Evidence-based/best-practice management algorithms and treatment regimens for numerous cancer types

4 Program Support and Marketing
- Customized support for programmatic needs and development
- Co-branding with MD Anderson Physicians Network®

No Geographic Limits

“MD Anderson is a national thought leader that we could bring on site.”

CEO, Host Affiliate Site

Technology’s Influence on Specialist Workforce

More and More Support Offered Virtually

Cognitive Skill

<table>
<thead>
<tr>
<th>Complete Evidence-Based Standardization</th>
<th>Fully Automated Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technology eliminates unstructured clinical problem solving (i.e. Watson, Archimedes)</td>
<td>Robotic surgery covers all planned interventions (i.e. automated robotics)</td>
</tr>
</tbody>
</table>

Interventional Skill

<table>
<thead>
<tr>
<th>Virtual Diagnosis, Remote Care Planning</th>
<th>Telesurgery Expansion</th>
<th>Emergent Surgery</th>
</tr>
</thead>
<tbody>
<tr>
<td>Few high-quality providers handle all cases (i.e. teledermatology)</td>
<td>Surgeons practice remotely (i.e. telelaparoscopic surgery)</td>
<td>Unplanned surgical intervention remains hands-on until robotics are more cost-effective, ubiquitous (i.e. general surgeons)</td>
</tr>
</tbody>
</table>


10. Elevates PCP to “CEO” of Care Team

Shifting Ratio Toward Primary Care

Staff to Meet the Needs of Longitudinal Patient Management

Primary Care vs. Specialist Mix

United States, 2008

68% 35%

Health Systems Bearing Population Risk

40%-55% 45%-60%

Population Management Requires Different Workforce Mix

“The medical home movement is going to have an impact on the volume of services sent to specialists. So I would not be surprised if we see a shift in the ratio from specialty-dominated services to primary-care dominated services as part of accountable care. That’s certainly going to affect a lot of specialists and specialty groups, and that is happening at Dean.”

Craig Samitt, MD
CEO, Dean Health System

Innovate to Meet Growing Demand

Training Adjusts in Response to Primary Care Physician Shortage

Goal to Train Workforce Faster to Meet Needs

F-MAT: Family Medicine Accelerated Track
Three-year Medical School Curriculum

45,000
2020 PCP Shortage

Reduces time to practice
Reduces debt load
Increases trainees

Case in Brief: A Texas Tech University Health Sciences Center School of Medicine

- Multi-campus institution based in Lubbock, Texas, with regional campuses in Amarillo, El Paso, and Odessa
- Competitive, year-round F-MAT program trains students with a definitive intent to practice family medicine; post-graduation, students enter directly into three-year Texas Tech family medicine residency programs
- Students also offered a one-year scholarship, further reducing debt load

45,000
2020 PCP Shortage

Gap-to-Goal Larger than Hiring Alone

Population Management Requires a Coordinated, Cohesive Team

Prioritize Top-of-License Practice from Entire Team

“CEO” of Care Team
- Team and operational manager, leadership decisions enable top-of-license practice
- Service oriented, strong interpersonal skills
- Financial, performance, and clinical information manager
- Traditional business competencies such as leadership, strategy, delegation are key

Care Managers
- Effective communication skills crucial
- Team work ethic enables top-of-license practice
- Strong critical thinking competencies
- Longitudinal and proactive patient care focus
- Able to coordinate, manage non-clinical personnel

Source: Health Care Advisory Board interviews and analysis.
The New PCP “Curriculum”

Systems Recruiting for New Physician Skill Set

New Clinical Competencies Round Out PCP Skill Set

- Medical Home Practice
- Integrative Medicine
- Geriatrics/Palliative Medicine

New Business Skills Critical Differentiator

- Accounting: Financial Management, IT Management
- Management: Leadership, Negotiation, Delegation, Strategy
- Human Resources: Team Management, Conflict Resolution, Career Management

Case in Brief: Middlesex Hospital

- 257-bed hospital in Middletown, Connecticut
- Residents have choice to focus on a ‘Track of Excellence’ ¹, an area of interest that supplements the primary care skill set
- Program has combination of block rotations and longer-term experiences to gain maximum exposure to faculty and patients

¹) Other tracks include maternal/child, global/community health, academic & leadership, behavioral medicine, personalized track.

Study in Brief: New Competencies of the PCP

- Physician profile redefined by Richard Bohmer, professor at Harvard Business School, Boston, Massachusetts
- Practitioner and practice competencies broadly defined as: proactive – preventive care focused; bundled – longitudinal care episode; shared – multidisciplinary team care

Medical Home Practice
- Integrative Medicine
- Geriatrics/Palliative Medicine

How Far Can We Go?

Aurora’s Multipronged Approach to Panel Management

Patient Panel Size per PCP

- 2,500 Patients
- 10,000 Patients

Care Teams
- Plans to roll out medical home model across all employed practices
- Saturday, evening access at all Aurora employed PCP practices, e-visits being piloted

Expanded Hours, E-visits
- Retail Clinics
- Urgent Care Centers

Potential Target
- Network of 10 AuroraQuickCare retail clinics
- Network of 18 Aurora urgent care centers

Case in Brief: Aurora Health Care

- Fifteen-hospital system based in Milwaukee, Wisconsin
- Over 10 years, made a range of primary care network investments
- Currently piloting the medical home model, e-visits, and patient portals with its 700 employed primary care physicians

Planning 10 K Per MD?

“In the future, we may need patient panels as high as 10,000 per primary care providers…we have to start thinking how to prepare for that possibility.”

Bruce Van Cleave, MD
CMO, Aurora Health Care

Source: Health Care Advisory Board interviews and analysis.
11. Leverages High-Tech and High-Touch Approach to Meet Individual And Community Needs

Population Management from the Front Lines

Longitudinal Care Management Needs Guide Staffing

Patient at the Center, Providers at the Top of Their License

- First to deploy the MyChart iPhone app
- Increasing number of patients utilizing IT actively

- Service oriented
- Team manager
- Panel manager
- Task delegator to team

- Focus on clinical support working at the top of their license
- Goal is 1-2MD:1AP\(^1\) ratio at PCP offices

Case in Brief: Dean Health System

- Integrated delivery system including a multispecialty clinic network and health plan, located in Madison, Wisconsin; business model focusing on value-based care has been a priority since 2004
- Undergoing significant primary care redesign; focus on growing primary care and becoming magnet institution for PCPs

1) Advanced practitioner, primarily physician assistant and nurse practitioner.

Flex Staff According to Patient Panel Needs

Dean’s Primary Care Redesign Provides Comprehensive Team Coverage

Aligning Practice Resources to Needs of Local Population

<table>
<thead>
<tr>
<th>Demographic:</th>
<th>Older Generations</th>
<th>Younger Generations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Care Timeline:</td>
<td>Lifelong</td>
<td>Intermittent, temporary</td>
</tr>
<tr>
<td>Clinic Culture:</td>
<td>Medical Home</td>
<td>Convenient Access Point</td>
</tr>
<tr>
<td></td>
<td>• Strong family doctor loyalty</td>
<td>• Address low-acuity issues in a timely manner</td>
</tr>
</tbody>
</table>

1) Advanced practitioner. Other team members may include social worker, physician assistant, nurse practitioner.

Source: Health Care Advisory Board interviews and analysis.
Compensation Model Drives Organizational Goals

Physicians Rewarded for Transition into Population Management

Productivity Measures on the Way Out, Quality Measures On the Way In

PCP Compensation 2006

- 98% Productivity
- 2% Other

PCP Compensation 2011

- 60% Productivity
- 55% Other
- 20% Incentive Elements
  - Panel Size
- 35% Sample Metrics:
  - Patient IT utilization
  - Efficient prescribing
  - Patient satisfaction
  - Quality

Effectively Driving Change

“We made the incentive portion large, with the hope that it would reduce the inclination for doctors to make it up on volume.”

Craig Samitt, MD
CEO, Dean Health System

Panel Size

<table>
<thead>
<tr>
<th>Incentive Elements</th>
<th>2006</th>
<th>2011</th>
</tr>
</thead>
<tbody>
<tr>
<td>Productivity</td>
<td>98%</td>
<td>60%</td>
</tr>
<tr>
<td>Other</td>
<td>2%</td>
<td>55%</td>
</tr>
</tbody>
</table>

Incentive Elements

Productivity

Other

Panel Size

Source: Health Care Advisory Board interviews and analysis.

Risk Stratification Guides Staff Mix

Advanced Analytics Highlight ‘True’ Staff Need

Leveraging Information to Design Medical Home

The Science of Panel Management

“The main goal of extensive panel stratification and health coach staffing is to enable our primary care practices to eventually see two times the numbers of patients, at twice the current quality, but at half the current cost.”

Jim Jirjis, MD
CMIO, Vanderbilt University Medical Center

Case in Brief: Vanderbilt University Medical Center

- 575-bed hospital in Nashville, Tennessee
- Primary care team pilot launched in 2010, efforts focused on stratifying chronically ill patient panel by severity, dividing health coach role across RN, MA teams
- Health coaches work with mixed patient panel, devoting appropriate time and resources to patients in each category

RN: Patient Ratio

- Three Chronic Illnesses: 1:100
- Two Chronic Illnesses: 1:500
- One Chronic Illness: 1:1,500

Source: Health Care Advisory Board interviews and analysis.
Matched Teams Support Top-of-License Practice

Effectively Match Task and Team Member to Offer High Value Care

Health Coach Activity Log

- RN Tasks: 72%
- MA Tasks: 28%

Off-loaded tasks include patient phone calls, administrative duties

Change in Projected Staff Ratios

<table>
<thead>
<tr>
<th></th>
<th>Before</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>RN</td>
<td>12</td>
<td>8.7</td>
</tr>
<tr>
<td>MA</td>
<td>1</td>
<td>3.4</td>
</tr>
</tbody>
</table>

↓ 25%
Reduction in labor costs due to greater health coach efficiency

↓ 36%
Appointments required to treat patient panel after revised staffing

1. Projected, per 10,000 chronic disease patients.

Source: Health Care Advisory Board interviews and analysis.

12. Mobilizes Community Workforce to Extend Care Team Reach

Leverage Non-clinical Staff for Maximum Patient Impact

Community Health Worker Can Best Meet Some Patient Care Needs

Navigator Helps Manage System Contact with Patients
- Helps manage patient data, disease registry
- Schedules and coordinates patient contact with care team
- Calls patients with reminders, follow-up

Navigator Helps Patient Access Care Resources
- Acts as peer contact, bridging socioeconomic, language barriers
- Assists patient interaction with care team
- Helps patient navigate health system resources

Case in Brief: Carondelet Health Network
- Four-hospital system based in Tucson, Arizona
- Established Diabetes Care Center, which offers a variety of care management services
- Diabetes teams composed of RN, certified diabetes educator, and a community health worker, or “navigator,” who is leased to practices to provide care management and connect patients to services
- Navigator coordinates patient’s contact with care team, specialists, and Diabetes Care Center services; helps bridge cultural and language barriers

Source: Health Care Advisory Board interviews and analysis.
Broader Definition of Workforce

Peer Accountability Offers Additional Patient Resource

Build Peer Network to Improve Chronic Care Outcomes

- RN Health Educators conduct Diabetes 101 course
- Peers meet to discuss health, share practical advice
- Peers track clinical progress in Blue Notebook; used to spark conversations during sessions
- Both mentor and mentee improved HbA1c levels, diet, and exercise
- Mentors document all contacts with mentees, family, and neighbors on tracking forms, submit monthly
- Program administration analyzes comprehensive information to measure program impact

Case in Brief: WellMed Medical Group

- Multisite-physician organization specializing in senior care headquartered in San Antonio, Texas
- Care Companions Program funded by a Peers for Progress Grant; adapted from the Latino Health Access California program designed for 20-40 year old patients with type 2 diabetes
- Program uses peer mentors to encourage self-management, activation; mentors and mentees paired based on similar background, mentee need for better diabetes control
- Plan to extend model to heart disease in the future; long term vision involves connecting every chronic disease patient to a peer group


Peer Accountability Drives Mutual Success

Both Mentor and Mentee Care Plan Adherence Improved

Percent Increase in Blood Sugar Checks

After Six Months of Program

<table>
<thead>
<tr>
<th>After (Mentors)</th>
<th>After (Mentees)</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>32%</td>
</tr>
</tbody>
</table>

Peer Program May Inform Clinical Program

- In future, RN Health Educator connects with clinical Patient Care Coordination Team (PCP, RN, CCM)
- Will enable cross-communication about patients overall health

Future Resources Allocated to Peer Programs

“In five years, all of our chronic disease patients will be engaged with either a peer mentor or our own internal health coaches. We’ve just scratched the surface.”

Physician
WellMed Medical Group

1) Complex Case Manager.

Recognizing the New Information Economy

Clinical Workforce of 2020

<table>
<thead>
<tr>
<th>Technology</th>
<th>Mid-level Provider</th>
<th>PCP</th>
<th>Medical Specialist</th>
<th>Surgical Specialist</th>
</tr>
</thead>
<tbody>
<tr>
<td>Projected Need</td>
<td>▲ ▲</td>
<td>▲ ▲</td>
<td>▲</td>
<td>▲</td>
</tr>
<tr>
<td>Degree of Skill Change</td>
<td>N/A</td>
<td>▲</td>
<td>▲</td>
<td>▲</td>
</tr>
<tr>
<td>Degree of Cultural Change</td>
<td>N/A</td>
<td>▲</td>
<td>▲</td>
<td>▲</td>
</tr>
</tbody>
</table>

Future Skills of the Clinical Workforce

<table>
<thead>
<tr>
<th>Staff Member</th>
<th>Competencies</th>
</tr>
</thead>
</table>
| Specialist            | • Focuses on team, clinical, and operational performance  
                        • Integrates standard protocols into patient care, daily operations  
                        • Expands clinical vision from single care event to entire care episode  
                        • Incorporates new IT resources into workflow, merges information from new and traditional sources  
                        • Staff may be accessed remotely, virtually  
                        **Medical**: Financial success linked to care continuum coordination and patient outcomes  
                        **Surgical**: Financial success linked to patient outcomes and efficiencies |
| PCP                   | • Requires intense focus on team management; communication and delegation are key  
                        • Uses IT to interact with and manage patient panel  
                        • Prioritizes patient communication and interactions  
                        • Case mix shifts toward caring for more clinically complex patients |
| Mid-level Provider Staff | • Requires RN, NP, PA heavy workforce for care plan implementation,  
                            • positive clinical outcomes  
                            • Builds strong patient relationships through interpersonal and communication skills  
                            • Engages as a team player and delegates non-clinical tasks; may manage non-clinical staff  
                            • Manages patient activation, provides disease management  
                            • Requires IT proficiency  
                            • Responsibilities may include patient population management, case management |

Source: Health Care Advisory Board interviews and analysis.
The New Breed Health System:

8. **Advances clinical care with next-generation technology**

   Utilize advanced decision-support and outcomes modeling systems to augment clinicians’ knowledge base and ensure access to true best-in-class care pathways. Work with physicians to develop processes that incorporate advanced technology and new evidence-based care systems into clinical workflow.

9. **Merges local and virtual specialty talent to offer best-in-class care**

   Partner with leading organizations to elevate specialty care locally and retain patients in market; scan a nationwide market for best-in-class support. Foster connections between key talent within your system and leading virtual specialist partners to expand offerings and improve outcomes.

10. **Elevates PCP to “CEO” of care team**

    Position PCPs as leaders of robust care team with all members practicing at top-of-license; prioritize management and business skills as necessary PCP competencies.

11. **Leverages high-tech and high-touch approach to meet individual and community needs**

    Augment care team resources with technology to improve patient access and care team reach, mapping resource mix to the attributes of local patient population and scope of patient need.

12. **Mobilizes community workforce to extend care team reach**

    Build non-clinical workforce to expand support for patients; train these team members to engage patients, bridge social and cultural care gaps, support non-clinical staff with defined access to clinical team member for elevated care needs.

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**Key Questions for the Health System Executive Team**

**Chief Executive Officer**

- How do we reprioritize physician partnerships to reflect new skill needs? How do we plan for long-term shifts in demand for key specialties?

**Chief Financial Officer**

- How do we support investments in expanded clinical workforce and support technologies? How do we balance long-term investments with near-term ROI needs?
- Do staff compensation plans reinforce system values and desired behaviors?

**Chief Medical Officer, Chief Quality Officer**

- How do we balance clinical skills with other needs (management, leadership, business savvy) in physician recruitment and partnership decisions?
- Does our physician culture support consensus development of evidence-based protocols and adherence to these standards?
- Have we determined ways to leverage technology to support evidence-based care delivery? How do we integrate these tools into clinical practice?

**Chief Medical Officer, Chief Quality Officer (cont.)**

- Are we collecting all qualitative and quantitative data necessary to test the effectiveness of care standards? Have we developed processes to quickly assess outcomes and revise practices as needed?

**Chief Nursing Officer**

- Does the system recognize when to deploy technology or “touch” solutions to meet patient needs?
- Are we implementing processes to unify nurses across the care continuum for longitudinal accountability?
- What new nursing roles will we want to create (and staff) to deliver cross-continuum care? What nurses today could be retrained to fill these roles? What level of training is necessary to support new competencies?

**Vice President of Marketing, Vice President of Planning**

- How do we market new care team competencies and services to patients?

Source: Health Care Advisory Board interviews and analysis.
13. Overcomes non-clinical barriers to maximize health outcomes
14. Integrates patient’s values into care plan
15. Designs communication strategy to bridge health literacy gaps
16. Activates community stakeholders to connect patients with high-value resources
17. Expands reach beyond care continuum to anchor community health

The Ultimate Reluctant Consumer
Today’s Health System Not Part of a Person’s Daily Life

Sphere of Patient Activity and Interactions

Source: Health Care Advisory Board interviews and analysis.
Beyond the Clinical Continuum

Extending Scope of Services to Meet Population Needs

Contemplate Your Maximum Reach and Impact

- **Care Episode**
  - 13. Overcomes non-clinical barriers to maximize health outcomes

- **Care Continuum**
  - 14. Integrates patient’s values into care plan
  - 15. Designs communication strategy to bridge health literacy gaps

- **Wellness**
  - 16. Activates community stakeholders to connect patients with high-value resources
  - 17. Expands reach beyond clinical care continuum to anchor community health

Integration into an Individual’s Daily Life

--

13. Overcomes Non-Clinical Barriers to Maximize Health Outcomes

Mitigate Confounding Factors to Achieving Health

Care Management Program Meets Needs of Challenging Demographic

**2,500 Highest Risk Medicare Beneficiaries**

- **$68 M**
  - Annual Medicare spending on population

- **12.6**
  - Average number of medications per beneficiary

- **3.4**
  - Average annual hospitalizations per beneficiary

- **$24,000**
  - Average annual costs per beneficiary

**Case in Brief: MassGeneral Care Management Program**

- 900-bed academic medical center in Boston, Massachusetts
- Part of the six-year CMS Medicare Care Management for High Cost Beneficiaries Demonstration
- Multidisciplinary team provides comprehensive clinical care, non-clinical support to high-risk, co-morbid Medicare patients

Meet Full Range of Patient Needs

Interconnected Providers Offer Comprehensive Coverage

Multilevel Team Allows Coverage of Clinical, Non-clinical Patient Needs

**Primary Care Physician**
- Exclusive clinical practice
- Time saved by team averages 15-20 minutes per day

**Community Resource Specialist**
- Non-clinical background
- Handles non-clinical patient issues that interfere with clinical outcomes

**Nurse Case Manager**
- Average 200 patients in panel
- RN, 20+ years experience
- Primary contact for patient

**Additional Care Management Program Team Members**
- Social Worker
- Pharmacist
- Medical Director

**Sophisticated IT System**
- Open worklist allows transparency, accountability
- Notes section enables team communication, timely patient updates

Non-clinical Patient Needs Equally Important

Goal to Connect with, Not Create, Best Community Resources

**Community Resource Specialist**

**Patient Social Assistance**
- Transportation arrangement
- Appointment reminders
- Community health resources
- Caregiver assistance
- Socialization groups
- Friendly phone calls to isolated patients

**Resource Coordinator**
- Compiles repository of community resources
- Forges relationships with local organizations
- Fields direct patient requests

**Non-clinical Home Services**
- Durable medical equipment ordering
- Medical device replacement
- Home care services
- Meals on Wheels

Community Resource Specialist Addresses ‘Atypical’ but Frequent Case Issues

High-risk patient arrives for specialist appointment. Anxiety while waiting causes patient to leave prior to appointment; multiple “no shows” on record.

Community resource specialist arranges for volunteer to wait with patient at next appointment.

Community resource specialist sets up volunteers for future appointments, notes need in patient’s chart.

No appointment available for several months; patient at risk for adverse clinical event.

Patient completes appointment.

Outstanding Results with High-Risk Patients
MassGeneral Program Makes Substantial Quality and Cost Gains

Enrolled Beneficiaries Realize Improved Clinical Outcomes

ED Visits↓13%
Hospitalizations↓20%
Lower Mortality Rate↓4%

7% Annual net savings on enrolled patients
$2.65 Savings generated for every dollar spent

Focus Primary Care on the Primary Patient Need

Innovate Care Delivery to Accommodate the Highest-Risk Patients

Mental Health the Principal Concern Among Aged, Blind, and Disabled Population

<table>
<thead>
<tr>
<th>44%</th>
<th>Traditional Medical Home</th>
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<tbody>
<tr>
<td>Medicaid and Medicare dual-eligible patients have at least one mental illness</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>5%</th>
<th>Behavioral Health Centered Medical Home</th>
</tr>
</thead>
<tbody>
<tr>
<td>Claims reduction by patients treated in behavioral health focused medical home</td>
<td></td>
</tr>
</tbody>
</table>

**Case in Brief: Molina Healthcare**
- Provides managed care for 1.6 million Medicaid, Medicare, and dual-eligible members in 16 states
- Physicians in behavioral health medical home are mental health specialists, trained to address primary care clinical concerns; other physicians consult as needed
- Core staff includes non-clinical Care Specialist and Community Health Worker, RN Care Coordinator

**1. Integrates Patient's Values into Care Plan**

**Hospitals and Patients Aligned on End-of-Life Care**

Site of Care Shift in Response to Patient Goals

**Case in Brief: Sutter VNA & Hospice Advanced Illness Management Program**
- Part of Sutter Health, a 24-hospital system based in Sacramento, California
- Providers refer patients to the AIM program; high percentage of patients optionally enroll
- Home-based palliative care program provides concurrent disease-modifying and comfort care to patients with advanced illness; transition to hospice as needed, if desired
Include Patient Goals in All Aspects of Care Planning

Shift Home Improves Care Delivery and Increases Value for Patient

1. Site of Care
   - AIM\(^1\) eases transition from hospital to home care or hospice
   - Aligns with patient desires
   - Curative care still available

2. Type of Care
   - Clinical interventions tailored to personal goals; mutually chosen by patient and care team
   - As illness progresses, patients and families adjust goals from curative toward supportive care

3. Caregiver Team
   - Multidisciplinary team enables top-of-license practice (physician, nurse case manager, social worker)
   - Nurse case manager attends eight-hour training session, biweekly conferences

- 68% Hospitalizations during the 30-days after enrollment compared with 30-days before\(^2\)
- 66% vs. 20% AIM enrolled patients who chose hospice care vs. patients not enrolled
- $2,000 Per patient per month inpatient direct cost savings of AIM program

1. Advanced Illness Management
2. Patients enrolled in AIM that lived at least 30 days

Source: Health Care Advisory Board interviews and analysis.

15. Designs Communication Strategy to Bridge Health Literacy Gaps

Addressing Fundamental Challenge of Communication

Clear and Appropriate Message a Necessary First Step

<table>
<thead>
<tr>
<th>Health Compromised When Patient Literacy Low</th>
</tr>
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<tbody>
<tr>
<td>36% Total US adults with basic or below basic health literacy</td>
</tr>
<tr>
<td>8th Average reading grade level in the US</td>
</tr>
<tr>
<td>10th Reading grade level of most written health information</td>
</tr>
<tr>
<td>50% Adults have difficulty understanding, using health information</td>
</tr>
</tbody>
</table>

- Readmissions
- ED Use
- Inpatient Care
- Health Status

Literacy Assistance is Only a Click Away
Tailor Communications to Each Audience to Improve Outcomes

Health Literacy Advisor™ Formats Information to Each Patient’s Need

- **Hyperlipidemia**
  - Please share these discoveries with your family and primary care physician.
  - Patients with hyperlipidemia may be at elevated risk for myocardial infarction.

- **High Cholesterol**
  - Please share these results with your family and family doctor.
  - People with high cholesterol may have a higher risk for heart attack.

**Reading Level:** College

- **Format Information to Each Patient’s Need**
  - Estimates current document reading level
  - User sets desired reading level for audience, program auto-corrects language

**Reading Level:** 6th grade

**Technology in Brief: Health Literacy Innovations™**

- Microsoft Word based program from Health Literacy Innovations
- Currently partnering with health systems and health insurers to improve medical communications
- Flags difficult health terms, suggests replacements, alternate phrasings, and clear language description


16. Activates Community Stakeholders to Connect Patients with High-Value Resources

Community Workforce Drives Neighborhood Health

Block-by-Block Surfaces Patient Care Needs Before Acute Episode

- **Humboldt Park**
  - Community Profile
    - Need for grassroots engagement
    - Strong community culture
    - Multilingual population

- **Block-by-Block**
  - Program Components
    - Peer led door-to-door health screenings
    - Building Diabetes Empowerment Center

**Humboldt Park Community Profile**

- **Type 2 diabetes risk for the 72-block Humboldt Park area**
  - 14%
- **National risk for diabetes**
  - 7%

**Case in Brief: Rush University Medical Center**

- 676-bed academic medical center located in Chicago, Illinois
- Block-by-Block is a partnership between Sinai Urban Health Institute, Norwegian American Hospital, Puerto Rican Cultural Center, Greater Humboldt Park Community of Wellness, and Pueblo Sin Fronteras
- Engages community leaders in screening initiative to proactively address population health needs
- Health system committed to accepting diabetics from Humboldt Park for ongoing care

Community Leaders Impact Individual Health Activation

Peers Promote Wellness in Local Neighborhood

**Block-by-Block Diabetes Program**

- Four-week training program for Humboldt Park volunteers
- Engage neighbors in diabetes self-management activities
- Full time dietitian, test kitchen
- Diabetes self-management, education, exercise, wellness programs
- Nutritionist engages community eateries in menu planning

---

**Block Captains Trained**

- Conduct door-to-door diabetes screenings
- Connect residents to a PCP and resources available at the Diabetes Empowerment Center

**Block Captains Deployed**

- Connect residents to a PCP and resources available at the Diabetes Empowerment Center

**Diabetes Empowerment Center**

- Residents have been connected to a health care provider to discuss diabetes risk

1,000 Residents have been connected to a health care provider to discuss diabetes risk

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17. Expands Reach Beyond Clinical Care Continuum to Anchor Community Health

**Extending Reach as Population Managers**

Range of Potential Investments, Partnerships to Support Wellness

**Creating a New Type of Health Care Footprint**

- **Ellis Health**
  - medical home campus has satellite site for school enrollment

- **Cayuga Medical Center**
  - is majority owner of health and fitness center, preparing for second site

- **Baylor Diabetes and Wellness Institute**
  - holds farmers markets

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**Extended Reach of Health Organization**

- **Alameda County Health Care Services**
  - is placing medical clinics in fire houses

- **Community Health Network and Celadon Trucking Services**
  - opened a truck stop medical clinic

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If You Know Your Community is in Need, What Do You Do?

Foundation of Health Starts Well Beyond Continuum of Clinical Care

Addressing Contributing Factors to Health May Require Multiple-Stakeholder Partnership

92%

Food stamp recipients purchase food at a liquor store, gas station or pharmacy in study of “food deserts” in Chicago, Southeast Minnesota, rural Iowa, rural Mississippi and Detroit

Addressing Nutritional Needs of Population
- Support farmer’s market development
- Start produce truck
- Get involved in school lunch programs

Source: Subcommittee on Agriculture, Food and Drug Administration and Related Agencies, June 26, 2008.; Health Care Advisory Board interviews and analysis.

Realizing Our New Reach

The New Breed Health System:

13. Overcomes non-clinical barriers to maximize health outcomes
   - Identify and reduce confounding factors to patient adherence to care plan; forge strong connections with community experts to reinforce—rather than recreate—available resources.

14. Integrates patient’s values into care plan
   - Prioritize right site and type of care to align with individual patient and family needs by understanding individual patient goals.

15. Designs communication strategy to bridge health literacy gaps
   - Address challenges with patient-provider communication by ensuring patient resources match patient literacy levels.

16. Activates community stakeholders to connect patients with high-value resources
   - Recognize unique community and cultural needs of population served by health system and proactively extend reach into the community via neighborhood leaders to encourage ongoing health.

17. Expands reach beyond clinical care continuum to anchor community health
   - Engage in partnerships beyond the traditional boundaries of the health system to improve fundamental components of population health and wellness.

Source: Health Care Advisory Board interviews and analysis.
Realizing Our New Reach

Key Questions for the Health System Executive Team

**Chief Executive Officer**
- What opportunities exist to reach beyond the traditional boundaries of the health system to improve overall population health?

**Chief Operating Officer**
- Who are the best-in-class partners in your community for services such as social needs, nutritional concerns, public health, transportation, eldercare?
- Is a list of community resources and partners readily available for staff to assist patients with non-clinical needs?

**Chief Financial Officer**
- Have high-cost patients been identified for additional care team support in improving management?
- Has financial analysis of system ‘reach’ expansion or non-clinical workers been performed?

**Chief Medical Officer, Chief Quality Officer**
- Do physicians have the training and resources to have a dialogue with patients about type and site of care including palliative care planning and end-of-life care planning?
- Do physicians readily identify the primary patient need and match patient with appropriate resources according to this need?
- How are physician care teams equipped to meet a range of patient literacy levels to improve provider-patient communication?
- Have you identified discrete populations within your community that would benefit from tailored outreach and support?
- Is the system actively providing shared decision-making resources for providers to educate patients when evidence-based medicine care pathways are unclear?

**Chief Nursing Officer**
- Has a process been created to give nursing staff ready access to resources to fulfill patient non-clinical needs?
- Has your system strongly considered investing in non-clinical support personnel to assist in high-risk patient comprehensive care management?
- Has the nursing staff audited tasks and delegated non-clinical duties to a dedicated staff member?

Source: Health Care Advisory Board interviews and analysis.

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**Road Map**

1. Past the Point of Incremental Change
2. Attributes of the New Breed Health System
3. Ambition Beyond Survival
Crowning Achievement of a Species

History’s Most Successful Dinosaur—At a Museum Near You

Tyrannosaurus Rex (”Sue”)
circa 70-65 million years ago
North America

“Sue”
circa 2011
Field Museum, Chicago, Illinois

Perfectly Adapted to Yesterday’s Environment
Rightfully Proud of Today’s Best-in-Breed

Median Aa Rated Hospital

Financial Performance and Balance Sheet

- Operating Margin: 4.7%
- Excess Margin: 8.7%
- Accounts Receivable Days: 48.3
- Maintained Bed Occupancy: 72.4%
- Return on Assets: 6.8%
- Debt-to-Capitalization: 32%
- Capital Spending Ratio: 1.3 Days
- Cash-on-Hand: 225.8

Source: Moody’s Not-for-Profit Healthcare Medians for Fiscal Year 2009, August 2010.; Health Care Advisory Board interviews and analysis.
Pacing Ourselves to Adapt with the Market

Setting Our Sights on a (Gradual) Evolution

Becoming the New Breed Health System

Developing a New Genetic Code

Taking the Evolutionary Leap

Adaptation to New Environment

Time

Physical Footprint

Clinical Workforce

Information Asset

Scaling for efficiency, clinical and continuum reach

Matching footprint to population need

Preparing for full data transparency

Proactively utilizing patient data

Elevating leadership role for leveraging information systems

Elevating clinical and non-clinical care team

Redeploying physician workforce

Extending Our Reach

Extending to meet community needs

Revising the Playbook for 2020

Anticipating Fundamental Changes in Our Approach

Playbook for 2012

• Secure scale for operational efficiency, contract negotiation
• Ensure seamless transfer from acute care to post-acute, primary care
• Prioritize Meaningful Use requirements to earn bonus, avoid penalty
• Begin to forge connections with other providers working with the same patient population
• Secure profitable specialist alignment
• Engage and secure PCP access and referral chains
• Shift PCPs to medical home practice
• Begin to identify populations—such as employees—to pilot accountable care opportunities
• Pursue payer or employer pilots to test new care delivery models

Playbook for 2020

• Leverage partnerships as assets to ensure full continuum reach, bring best-in-class care local
• View scale through lens of clinical expertise, continuum reach
• Utilize enterprise network to inform care pathway development, conduct analytics to determine population need
• Expand reach into patient home with continuous monitoring, proactive support
• Balance local and virtual workforce
• Utilize PCP as leader of care team
• Engage non-clinical peers to maximize patient outreach and support
• Mobilize community leaders to improve overall neighborhood health and wellness
• Partner to connect with, not re-create, highest-value community resources

Source: Health Care Advisory Board interviews and analysis.
Evolving Ahead of the Herd

Stealing a Page from Apple’s Playbook

Constantly Adapting to Redefine Success

Identifying the Next Step

“The cure for Apple is not cost-cutting. The cure for Apple is to innovate its way out of its current predicament.”

Steve Jobs

Apple, Inc.1


Emerging Taxonomy within the Industry

Taking on Different Attributes to Match the New Environment

Community Care Manager

Comprehensive care provider with longitudinal population relationship
• Medical home
• Retail clinic
• Worksite clinic

Acute Episode Manager

Acute, inpatient care provider offering coordinated episodes of discrete care needs
• Secondary and tertiary care hospitals
• Specialized quaternary care providers
• Skilled nursing facility

Specialized Niche Provider

Unique provider of best-in-class service for defined population
• Research and teaching organizations
• Insurance/risk manager
• Data and analytics provider

Source: Health Care Advisory Board interviews and analysis.
At the Heart of Our Genetic Code

- Putting patients and families first in identifying a care plan to achieve individual goals, high-quality outcomes
- Offering high-value care for patients including quality and service
- Building long-term relationships with providers and patients to offer an ongoing, coordinated care experience
- Pillar of community as employer, community stakeholder and partner in improving the overall health and wellness of the population
