Information Technology on the Road to an ACO

June, 2011
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Senior Medical Director

Advocate Physician Partners
Inpiring medicine. Changing lives.
Disclosure

- Nothing in Today’s Presentation Should Be Construed as Advising or Encouraging Any Person to Deal, Refuse to Deal or Threaten to Refuse to Deal with Any Payer, or Otherwise Interfere with Commerce
- Opinions Expressed by Speakers are Their Own
- Advocate Physician Partners is a Partner in CI-Now
Agenda

- Advocate Structure
- New Day and Clinical Integration
- Technology
- ACO Care Management and Data Feedback
Advocate Health Care

- $4.5 Billion Annual Revenue
- AA Rated
- 12 Acute Care Hospitals
  - 2 Children’s Hospitals
  - 5 Level 1 Trauma Centers
  - 4 Major Teaching Hospitals
  - 4 Magnet Designations
- Over 250 Sites of Care
  - Advocate Medical Group
  - Dreyer Medical Clinic
  - Occupational Health
  - Imaging Centers
  - Immediate Care Centers
  - Surgery Centers
  - Home Health / Hospice

Advocate Physician Partners
Joint Venture: Advocate Physician Partners

- Physician Membership
  - 1,100 Primary Care Physicians
  - 2,700 Specialist Physicians
  - Total Membership Includes 900 Advocate-Employed Physicians

- 10 Acute Care Hospitals and 2 Children’s Hospitals

- Central Verification Office Certified by NCQA

- 230,000 Capitated Lives/700,000 PPO Lives

Advocate Physician Partners delivers services throughout Chicagoland.
Advocate’s Physician Platform

Total Physicians on Medical Staffs ~ 5,700

Total APP Physicians = 3,800

Employed / Affiliated = 900

AMG (Employed) = 700

Independent APP = 2,900

Affiliated (Dreyer) = 200

Independent Non-APP ~ 1,900
- Advocate Structure
- New Day and Clinical Integration
- Technology
- ACO Care Management and Data Feedback
Value Based Purchasing Requires Integration

- Bundled Payments
- Payment Denials
- Accountable Care Organizations
- Cost Pressures

Advocate Physician Partners
BC Acknowledges Difficulty Controlling...

- Utilization of High End Imaging
- Readmissions
- Outpatient Trend
- New Drugs & Technologies
- Ambulatory Sensitive Conditions

…But That APP Is Well Positioned to Do So.
Blue Cross PPO Contract

- Three-Year Deal
- “Attributes” PPO Members to APP Physicians
- Focus on Reducing Trend Relative to Non-APP Providers
  - All Expenses, Including Pharmacy
  - Risk Adjusted
- Regular Incentive Payments
Shared Savings Model

$ Per Attributed Life Per Year (Risk Adjusted)

0 Yr 1 Yr 2 Yr 3 Yr 4 Yr 5

Market

APP

Shared Savings

Advocate Physician Partners
# Summary Results of the Physician Group Practice Demonstration

*Performance Years 1-4*

<table>
<thead>
<tr>
<th>Physician Group Practice</th>
<th>Percentage of Quality Goals Attained</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YEAR 1</td>
</tr>
<tr>
<td>Billings Clinic, Billings, MT</td>
<td>90.91</td>
</tr>
<tr>
<td>Dartmouth-Hitchcock Clinic, Lebanon, NH</td>
<td>95.45</td>
</tr>
<tr>
<td>Everett Clinic, Everett, WA</td>
<td>86.36</td>
</tr>
<tr>
<td>Forsyth Medical Group, Winston-Salem, NC</td>
<td>100.00</td>
</tr>
<tr>
<td>Geisinger Clinic, Danville, PA</td>
<td>72.73</td>
</tr>
<tr>
<td>Marshfield Clinic, Marshfield, WI</td>
<td>81.82</td>
</tr>
<tr>
<td>Middlesex Health System, Middletown, CT</td>
<td>86.36</td>
</tr>
<tr>
<td>Park Nicollet Clinic, St. Louis Park, MN</td>
<td>95.45</td>
</tr>
<tr>
<td>St. John’s Clinic, Springfield, MO</td>
<td>100.00</td>
</tr>
<tr>
<td>University of Michigan Faculty Group Practice, Ann Arbor</td>
<td>95.45</td>
</tr>
</tbody>
</table>

Because the CMS applied different weights to each quality measure, the agency calculated the quality goals attained as percentages, rather than absolute numbers of measures. Data are from RTI International.

Published in *NEJM*, 364:198-200, Jan 20, 2011

Advocate Physician Partners
## Summary Results of the Physician Group Practice Demonstration (cont’d)

<table>
<thead>
<tr>
<th>Physician Group Practice</th>
<th>Shared Savings Payments ($)</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Billings Clinic, MT</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dartmouth-Hitchcock Clinic, NH</td>
<td></td>
<td>0</td>
<td>6,689,879</td>
<td>3,570,173</td>
<td>328,798</td>
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<tr>
<td>Everett Clinic, WA</td>
<td></td>
<td>0</td>
<td>129,268</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Forsyth Medical Group, NC</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Geisinger Clinic, PA</td>
<td></td>
<td>0</td>
<td>0</td>
<td>1,950,649</td>
<td>1,788,196</td>
</tr>
<tr>
<td>Marshfield Clinic, WI</td>
<td></td>
<td>4,565,327</td>
<td>5,781,573</td>
<td>13,816,922</td>
<td>16,154,242</td>
</tr>
<tr>
<td>Middlesex Health System, CT</td>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Park Nicollet Clinic, MN</td>
<td></td>
<td>0</td>
<td>0</td>
<td>3,143,044</td>
<td>8,185,757</td>
</tr>
<tr>
<td>University of Michigan Faculty Group Practice, Ann Arbor</td>
<td>2,758,370</td>
<td>1,239,294</td>
<td>2,798,006</td>
<td>5,222,852</td>
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Published in *NEJM*, 364:198-200, Jan 20, 2011
# Attributed Patient Cost Concentration Supports Care Management Model

<table>
<thead>
<tr>
<th></th>
<th>Person Years</th>
<th>Predicted Expenditures</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number</td>
<td>Percent</td>
<td>Mean $</td>
<td>Percent</td>
</tr>
<tr>
<td>Very Low Risk</td>
<td>54,398</td>
<td>30.5%</td>
<td>$ 784</td>
<td>3%</td>
</tr>
<tr>
<td>Low Risk</td>
<td>78,520</td>
<td>44.1%</td>
<td>$ 4,054</td>
<td>22%</td>
</tr>
<tr>
<td>Moderate Risk</td>
<td>24,906</td>
<td>14.0%</td>
<td>$11,517</td>
<td>20%</td>
</tr>
<tr>
<td>High Risk</td>
<td>16,056</td>
<td>9.0%</td>
<td>$24,054</td>
<td>27%</td>
</tr>
<tr>
<td>Very High Risk</td>
<td>4,270</td>
<td>2.4%</td>
<td>$91,062</td>
<td>27%</td>
</tr>
<tr>
<td>Total</td>
<td>178,149</td>
<td>100.0%</td>
<td>$ 7,987</td>
<td>100%</td>
</tr>
</tbody>
</table>
Challenges for ACOs

- Large Multi-specialty Groups are the Exception
- 9 of 10 Americans Get Their Medical Care in a Solo or Small Practice*
- Infrastructure is Required to Drive Quality Outcomes Demonstrated by Multi-specialty Groups
- Culture is not Created Over Night

* NEJM 360;7 Feb. 12, 2009
Clinical Integration: Definition

A structured collaboration among APP physicians and Advocate Hospitals on an active and ongoing program designed to improve the quality and efficiency of health care. Joint contracting with fee-for-service managed care organizations is a necessary component of this program in order to accelerate these improvements in health care delivery.
2011 Clinical Integration Program Overview

- Physician Commitment to a Common and Broad Set of Clinical Initiatives
  - 57 Initiatives – Broad Area of Focus
  - 146 Individual Performance Measures
    - Primary Care and Specialty
  - 5 Performance Domains
    - Medical and Technological Infrastructure
    - Clinical Outcomes
    - Efficiency
    - Patient Safety
    - Patient Satisfaction
What Clinical Integration Looks Like

Jane Smith, Patient with Diabetes

Primary Care Physician

Pharmacy

Endocrinologist

OB-GYN

Mammography

Lab Test Results

APP Data Warehouse and Disease Registries

Primary Care Physician • OB-GYN • Endocrinologist

Advocate Physician Partners
## Expansion of Program Over Time

<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>Med &amp; Tech Infrastructure</td>
<td>5</td>
<td>7</td>
<td>7</td>
<td>8</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Clinical Effectiveness</td>
<td>35</td>
<td>46</td>
<td>63</td>
<td>73</td>
<td>72</td>
<td>90</td>
</tr>
<tr>
<td>Efficiency</td>
<td>9</td>
<td>10</td>
<td>11</td>
<td>13</td>
<td>21</td>
<td>30</td>
</tr>
<tr>
<td>Patient Safety</td>
<td>2</td>
<td>2</td>
<td>12</td>
<td>10</td>
<td>11</td>
<td>11</td>
</tr>
<tr>
<td>Patient Experience</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>3</td>
<td>6</td>
</tr>
<tr>
<td><strong>Total Measure Count</strong></td>
<td><strong>52</strong></td>
<td><strong>68</strong></td>
<td><strong>96</strong></td>
<td><strong>107</strong></td>
<td><strong>116</strong></td>
<td><strong>146</strong></td>
</tr>
</tbody>
</table>

**Advocate Physician Partners**
## Advancing Evidence-Based Medicine and Care

<table>
<thead>
<tr>
<th>Year</th>
<th>Programs</th>
</tr>
</thead>
</table>
| 2004 | Physician Reminders for Care  
Chart Based Patient Management |
| 2006 | Patient Outreach |
| 2007 | Physician Office Staff Training  
Pharmacy Academic Detailing Program  
Generic Voucher Program |
| 2008 | Diabetes Collaboratives  
Patient Coaching Program  
Hospitalists |
| 2009 | Diabetes Wellness Clinics  
Asthma and HF/CAD Collaboratives Added |
| 2011 | Access and COPD Collaboratives Added |
Patient Outreach

- Response to Physicians’ Concerns About Patient Non-Adherence
  - Encouraging and Educating Patients to Obtain Appropriate Services
  - Enhancing Patient Education
    - Mail
    - Phone
  - Linking/Branding with APP Physicians
Highlights of 2010 CI Program “Moving the Dial on Quality”

• Generic Prescribing: 6-9% > Local Plans
• LDL Good Control in Patients with Diabetes: 43% > National Rate
• Childhood Immunizations: 55% > National Rate
• Depression Screening: 85% > National Rate
• Diabetic Care: Exceeded National Rate on All 9 Measures
• Asthma Action Plans: 75% > National Rate
## US EMR Adoption Model

<table>
<thead>
<tr>
<th>Stage</th>
<th>Cumulative Capabilities</th>
<th>2009 Final</th>
<th>2010 Final</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage 7</td>
<td>Complete EMR; CCD transactions to share data; Data warehousing; Data continuity with ED, ambulatory, OP</td>
<td>0.7%</td>
<td>1.0%</td>
</tr>
<tr>
<td>Stage 6</td>
<td>Physician documentation (structured templates), full CDSS (variance &amp; compliance), full R-PACS</td>
<td>1.6%</td>
<td>3.2%</td>
</tr>
<tr>
<td>Stage 5</td>
<td>Closed loop medication administration</td>
<td>3.8%</td>
<td>4.5%</td>
</tr>
<tr>
<td>Stage 4</td>
<td>CPOE, Clinical Decision Support (clinical protocols)</td>
<td>7.4%</td>
<td>10.5%</td>
</tr>
<tr>
<td>Stage 3</td>
<td>Nursing/clinical documentation (flow sheets), CDSS (error checking), PACS available outside Radiology</td>
<td>50.9%</td>
<td>49.0%</td>
</tr>
<tr>
<td>Stage 2</td>
<td>CDR, Controlled Medical Vocabulary, CDS, may have Document Imaging; HIE capable</td>
<td>16.9%</td>
<td>14.6%</td>
</tr>
<tr>
<td>Stage 1</td>
<td>Ancillaries – Lab, Rad, Pharmacy – All Installed</td>
<td>7.2%</td>
<td>7.1%</td>
</tr>
<tr>
<td>Stage 0</td>
<td>All Three Ancillaries Not Installed</td>
<td>11.5%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>

Data from HIMSS Analytics™ Database © 2011
Computerized Physician Order Entry (CPOE) Adoption and Usage Rates

- National Rate: 12%
- Advocate Physician Partners Rate: 88%

CPOE Usage Rates 2009 to 2010 (in Millions):
- 2009: 5,841,626
- 2010: 9,433,864

Advocate Physician Partners
2011 Value Report

Now Available!
The 2011 Value Report

www.advocatehealth.com/app

or call 1-800-3-ADVOCATE
(1-800-323-8622)
- Advocate Structure
- New Day and Clinical Integration
- Technology
- ACO Care Management and Data Feedback
<table>
<thead>
<tr>
<th>Year</th>
<th>Advancing Technologies</th>
</tr>
</thead>
</table>
| 2004 | High Speed internet Access in Physician Offices  
      Centralized Longitudinal Registries  
      Access to hospital, lab and diagnostic test information through a centralized Clinical Data Repository (Care Net and Care Connection) |
| 2005 | Electronic Data Interchange (EDI) |
| 2006 | Computerized Physician Order Entry (CPOE)  
      Electronic Medical Record Roll out in Employed Groups |
| 2007 | Electronic Intensive Care Unit (eICU) use |
| 2008 | e-Prescribing |
| 2009 | Web-based Point of Care Integrated Registries (CIRRIS) |
| 2010 | e-Learning Physician Continuing education  
      Electronic medical records Roll out in Independent Practices |
Clinical Integration Registry and Reporting Information System (CIRRIS)

- Web-Based Commercial Registry
  - Integrates All Registries, Pharmacy, Labs, Claims and Performance Reporting
  - Integrates Physicians
  - Integrated with EMR
CIRRIS Infrastructure Data Inputs

- Hospitals
- Primary Care Physicians
- Medicare Intermediary
- Specialists & Ancillary Providers
- Web Based Administrative Data Inputs
- EMRs
- Hospital & Physician Office Labs
- National & Regional Labs
- Pharmacy Benefit Managers

Advocate Physician Partners
Data Populates Disease & Preventive Care Registries

- Smoking, BMI, BP Clinical Observations
- Acute and Chronic Cardiovascular Diseases
- Breast, Cervical, & Colorectal Preventive Care
- Childhood Flu Immunizations
- Diabetes and Other Chronic Diseases
- Generic Prescribing Efficiency
- Seamlessly View Patients Across Registries
- Employer & Population Management

APP DATA WAREHOUSE

Advocate Physician Partners
## Progress Report - Examples

### Advocate Physician Partners

#### 2016 Clinical Integration Progress Report - IMPACT overview 1st Quarter data collected through Feb 2016

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Target</th>
<th>Quality</th>
<th>Results</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinical Integration Requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Demographic</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Compliance</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Impact</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Patient Safety</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Satisfaction</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>MIPS</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Value</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Quality Improvement</td>
<td>80</td>
<td>80</td>
<td>80</td>
<td></td>
</tr>
<tr>
<td>Patient Experience</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall Patient Experience</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Patient Safety Satisfaction</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
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<tr>
<td>Patient Engagement</td>
<td>100</td>
<td>100</td>
<td>100</td>
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<tr>
<td>Access</td>
<td>100</td>
<td>100</td>
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<tr>
<td>Communication</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>Patient Experience</td>
<td>100</td>
<td>100</td>
<td>100</td>
<td></td>
</tr>
</tbody>
</table>

**Example 1:**

- **Indicator:** Clinical Integration Requirements
- **Target:** 80
- **Quality:** 80
- **Results:** 80
- **Notes:**

**Example 2:**

- **Indicator:** Patient Safety
- **Target:** 100
- **Quality:** 100
- **Results:** 100
- **Notes:**

**Example 3:**

- **Indicator:** Value
- **Target:** 80
- **Quality:** 80
- **Results:** 80
- **Notes:**

---

**Advocate Physician Partners**
Physician Resource Use

- Select High-Cost Tests/Procedures with High Variation
  - Compare to External Norms
- Evidence Based
  - Approved by Peers
- On Line Decision Support
  - ERMA System
- Monitor with ERMA, Ingenix and Other Tools
- Multiple Approaches to Reinforce Practice
ERMA (Electronic Referral Management Application)

- Streamline Referral Process
- Current Evidence for Appropriate Decisions in High Impact Areas
- Improve Patient/provider Satisfaction
- In Network Referrals
APP’s Clinical Protocols

Diagnostic Tests:
– MRI Brain
– MRI Lumbar Spine
– MRI Cervical Spine
– MRI Knee
– MRI Shoulder
– MRI Breast
– Pet Scan
– Sleep Studies
– Stress Test with Imaging
– Coronary CT Angiography

Other Services:
– Ophthalmology Referral
– Dermatology Referral
– Infertility
– Physical Therapy
– Occupational Therapy
– Podiatry Referral
– Gastric Bypass Consult

Surgeries:
– Cataract Removal
– Bunionectomy
– Knee Arthroscopy
– Gastric Bypass
– Lithotripsy
– Tonsillectomy/Adenoidectomy
– Tympanostomy Tubes
– Capsule Endoscopy

Drugs/Medications:
– Herceptin Infusions
– Avastin Injection/Infusions
– Erbitux Injection/Infusions
– Rituxan Infusions
– Infusable Biologics (Remicade, Orencia) Infusions
– Synagis Injections
– Eloxatin Infusions
– Xolair
– Reclast
– Prolia
– Provenge
– Zometa

November, 2010
Rules Built in to require ALL or Some of Indications to be met

Contrast recommendations given
Electronic Medical Record

- Point of Care Prompts
- Standardized Patient Education Materials
- Linked with CIRRIS
- Roll-out to Employed Physician Practices Almost Complete
- Major Roll-out to Independent Practices Began 2010
Customizations to eCW for CI

- Smart Forms
  - Asthma Action Plan
  - Asthma Control Test
  - Smoking Assessment

- Flow Sheets
  - Tracking Wellness Services
  - Tracking Chronic Disease- e.g. Diabetes

- Structured Data Fields in Templates for Quality Measures
- Advocate Structure
- New Day and Clinical Integration
- Technology
- ACO Care Management and Data Feedback
From Clinical Integration to Accountable Care

**Editorial**

Clinical Integration Provides Quality Improvement: Social Change

Crossing the Quality Chasm and other reports have underscored the importance of US health care systems embodying the tenets of the Institute of Medicine’s 2001 report, To Err Is Human. The continued use of health information technology is key to achieving the goals for health information exchange. Physicians and other health care professionals must work together to improve the safety and effectiveness of care delivery. This change could be considered a social change that requires an understanding of organizational structures and processes, but also the complex interactions between individuals and their environment. The goal of improving patient outcomes requires a coordinated approach that leverages technology and the expertise of health care providers to create a system that works better for patients. Successful strategies include the use of evidence-based guidelines and algorithms, electronic health records, and clinical decision support systems. The success of these efforts will depend on the involvement of all stakeholders, including patients, families, and providers, in the design and implementation of care improvement initiatives.
Care Management and Data Systems Work Together

- APP Selected Care Management Tool with Data Support for ACO Implementation
- Tool Provides:
  - ActiveAdvice System for Care Management
  - CareEngine for Risk Profile and Gaps in Care
  - Data Analysis and Reporting
Care Management System Linked to Data Sources

- Use Historical Data to Identify Patient and Population Management Priorities
  - Risk Profile of Population
  - Chronic Conditions and Complex Patients
  - Prioritized Gaps in Care

- Use Care Management System to Track Patient Interactions and Handoffs
  - Data Entered by Care Managers Influences Risk Profiling and Gaps in Care
Data Warehouse to Monitor Performance

- Key Utilization and Cost Metrics and Trends
- Report Results by Organization, Physician Practice Group and Physician
  - Understand Performance Improvement Opportunities
  - Create Actionable Reports on Physician Performance
- Collect Data from Care Management System to Track Results of Programmatic Initiatives
Questions / Discussion