The Medical Home Model as a Solution to Diabetes Disparities

Jacksonville Urban Disparity Institute

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Objectives:

1. Provide an overview of the history of the Patient Centered Medical Home (PCMH).
2. Discuss preliminary outcome data PCMH studies and demonstration projects.
3. Describe the Jacksonville Urban Disparity Institute Medical Home Model and its impact on diabetes disparities.
4. Summary: pros and cons of the PCMH.
"Americans can always be counted on to do the right thing...after they have exhausted all other possibilities."

[Winston Churchill]
What is the medical home model?

A primary care practice that provides patients with accessible, continuous, and coordinated care through a patient-centered, physician-guided, cost efficient and longitudinal approach to healthcare.
Patient Centered Care is not a new concept.

Putting the patient first — In his classic address to the 1910 graduates of Rush Medical College, Dr. Will Mayo stated...

"The best interest of the patient is the only interest to be considered."
Disparities: Now You See Them, Soon You Won’t!

• 1967 - American Academy of Pediatrics Coined the term Medical Home”

• Initially used to care for “special” populations of patients who needed specialty services and support functions for chronic diseases.

• Evolved into a partnership with families to provide primary health care to all children and adolescents.

• The care was to be accessible, coordinated, comprehensive, continuous, compassionate, and culturally sensitive.
Wagner et al. suggest that traditional health care systems are poorly configured to meet the needs of the chronically ill because they are designed to provide a symptom-driven response to acute illness.

• Represent 333,000 physicians

• An approach to providing comprehensive primary care for children, adolescents, and adults

• Facilitates partnerships between individual patients, their personal physicians, and when appropriate, the patient’s family
The Patient-Centered Primary Care Collaborative

Examples of Broad Stakeholder Support & Participation

**Providers**
- ACP
- AAP
- AAFP
- AOA
- ABIM
- ACC
- ACOI
- AHI

**Purchasers**
- IBM
- General Motors
- FedEx
- General Electric
- Pfizer
- Microsoft
- Business Coalitions
- Merck

**Payers**
- BCBSA
- United
- CIGNA
- WellPoint
- Aetna
- Humana
- HCSC

**Patients**
- NCQA
- AFL-CIO
- National Partnership for Women and Families
- Foundation for Informed Decision Making
- SEIU

The Patient-Centered Medical Home
Joint Principles of the Patient-Centered Medical Home (2007)

- Personal Physician
- Physician-directed Medical Practice
- Whole Person Orientation
- Care is Coordinated and/or Integrated
- Quality and Safety
- Enhanced Access
- Payment

Joint Principles of the PCMH
Health Care Reform and the Patient Centered Medical Home

• From H.R. 3590 Patient Protection and Affordable Care Act

• Sec. 2703. State option to provide health homes for enrollees with chronic conditions.

• Title V Sec. 5301. Training in family medicine, general internal medicine, general pediatrics, and physician assistantship.

• Sec. 5501. Expanding access to primary care services and general surgery services.

• Health Care and Education Reconciliation Act Sec. 1202. Payments to primary care physicians
How will we know a medical home when we see one?
## NCQA Medical Home Recognition

### Standard 1: Access and Communication
- A. Has written standards for patient access and patient communication**
  - Pts: 4
- B. Uses data to show it meets its standards for patient access and communication**
  - Pts: 5
  - Total: 9

### Standard 2: Patient Tracking and Registry Functions
- A. Uses data system for basic patient information (mostly non-clinical data)
  - Pts: 2
- B. Has clinical data system with clinical data in searchable data fields
  - Pts: 3
- C. Uses the clinical data system
  - Pts: 3
- D. Uses paper or electronic-based charting tools to organize clinical information**
  - Pts: 6
- E. Uses data to identify important diagnoses and conditions in practice**
  - Pts: 4
- F. Generates lists of patients and reminds patients and clinicians of services needed (population management)
  - Pts: 3
  - Total: 21

### Standard 3: Care Management
- A. Adopts and implements evidence-based guidelines for three conditions **
  - Pts: 3
- B. Generates reminders about preventive services for clinicians
  - Pts: 4
- C. Uses non-physician staff to manage patient care
  - Pts: 3
- D. Conducts care management, including care plans, assessing progress, addressing barriers
  - Pts: 5
- E. Coordinates care/follow-up for patients who receive care in inpatient and outpatient facilities
  - Pts: 5
  - Total: 20

### Standard 4: Patient Self-Management Support
- A. Assesses language preference and other communication barriers
  - Pts: 2
- B. Actively supports patient self-management**
  - Pts: 4
  - Total: 6

### Standard 5: Electronic Prescribing
- A. Uses electronic system to write prescriptions
  - Pts: 3
- B. Has electronic prescription writer with safety checks
  - Pts: 3
- C. Has electronic prescription writer with cost checks
  - Pts: 2
  - Total: 8

### Standard 6: Test Tracking
- A. Tracks tests and identifies abnormal results systematically**
  - Pts: 7
- B. Uses electronic systems to order and retrieve tests and flag duplicate tests
  - Pts: 6
  - Total: 13

### Standard 7: Referral Tracking
- A. Tracks referrals using paper-based or electronic system**
  - PT: 4
  - Total: 4

### Standard 8: Performance Reporting and Improvement
- A. Measures clinical and/or service performance by physician or across the practice**
  - Pts: 3
- B. Survey of patients’ care experience
  - Pts: 3
- C. Reports performance across the practice or by physician**
  - Pts: 3
- D. Sets goals and takes action to improve performance
  - Pts: 3
- E. Produces reports using standardized measures
  - Pts: 2
- F. Transmits reports with standardized measures electronically to external entities
  - Pts: 1
  - Total: 15

### Standard 9: Advanced Electronic Communications
- A. Availability of Interactive Website
  - Pts: 1
- B. Electronic Patient Identification
  - Pts: 2
- C. Electronic Care Management Support
  - Pts: 1
  - Total: 4

**Must Pass Elements**
Results in Recognition Levels

Level 1: 25-49 Points; 5/10 Must Pass
Level 2: 50-74 Points; 10/10 Must Pass
Level 3: 75+ Points; 10/10 Must Pass

Increasing Complexity of Services

From the American College of Physicians- Michael S. Barr, MD
Community Care of North Carolina
Medicaid plan invested $40 million in 3500 primary care medical home community physician practices
Saved $231 million in 2005 and 2006
Commonwealth Fund health care quality survey
2006 – racial and ethnic access to care disparities are reduced &/or eliminated - get the care needed
(preventive care screenings improved significantly in medical homes
IBM Patient Centered Medical Homes
IBM employees pay 26-60% less overall for medical care. Family insurance premiums 6% lower and Single insurance premiums 15% lower than comparable fair market rates
DIABETES RAPID ACCESS PROGRAM

JUDI
Jacksonville Urban Disparity Institute

THE DISEASE MANAGEMENT PROTOTYPE
Historical Overview

Community Affairs Department, 1989-Present

- Elizabeth Means, former VP established the department to address unmet medical needs in underserved communities

- The initial goal was to provide health education, health promotion, and community outreach in targeted communities

- Programs are primarily funded through grants, strategic partnerships, faith-based organizations and community support

- The goal has expanded to provide free and reduced comprehensive health care to the medically underserved in the urban core.
The Perfect Storm...for health disparities

<table>
<thead>
<tr>
<th>Category</th>
<th>Jacksonville Urban Disparity Institute</th>
<th>Duval County, Florida</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>127,512 (850,251)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>53% female (48.7%)</td>
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</tr>
<tr>
<td>Adolescents ages 10-19</td>
<td>15.9% (14.2%)</td>
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</tr>
<tr>
<td>Adult ages 20-64</td>
<td>55.8% (61%)</td>
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</tr>
<tr>
<td>Senior adults 65 and older</td>
<td>14.5% (10.7%)</td>
<td></td>
</tr>
<tr>
<td>Race</td>
<td>83% African American (29%)</td>
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<tr>
<td>Median family income</td>
<td>$28,307 ($44,740)</td>
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<tr>
<td>Children below poverty level</td>
<td>38.4% (15.4%)</td>
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</tr>
<tr>
<td>Percent of population below poverty</td>
<td>28% (11.9%)</td>
<td></td>
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<tr>
<td>Unemployment</td>
<td>17% (6.8%)</td>
<td></td>
</tr>
<tr>
<td>Uninsured</td>
<td>45% (9%)</td>
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</table>


*(Parentheses denote figure for Duval County, Florida.)*
JUDI-affiliated clinics and programs reflect the major causes of morbidity and mortality in Jacksonville, in both purpose and location.
What makes JUDI a medical home?

Standard 1: Access and Communication

Standard 2: Patient Tracking and Registry Functions

Standard 3: Care Management

Standard 4: Patient Self-Management Support
What makes JUDI a medical home?

Standard 5: Electronic Prescribing

Standard 6: Test Tracking

Standard 7: Referral Tracking

Standard 8: Performance Reporting and Improvement

9: Advanced Electronic Communications
Diabetes Rapid Access Program (DRAP):

DRAP is a disease management program within the JUDI medical home model.

It was developed in 2006 and was the first of five disease management programs.
Background

The leadership within JUDI postulated that although providers were well trained and compassionate, the system of diabetes care within the practice and larger community was problematic.

Providers:

• Unaware of the specific number of diabetic patients they cared no system in place to track patients and insure they were receiving appropriate and regular care.

• Functioning at full capacity providing services to an average of 25-30 patients needed assistance to organize and deliver complicated time-intensive care to these patients optimizing disease outcomes.

Expanded Providers (help):

The expanded provider’s role was developed within JUDI to meet this goal. This expanded provider group included nurses, clinical pharmacologists, medical assistants and registry specialists.
Patient Enrollment:

All diabetic patients in the JUDI medical home clinic system are enrolled in the Diabetes Rapid Access Program (DRAP).

Patients are identified through physician referral and active patient registries.

Patients may be enrolled in the DRAP and become targeted for individualized intervention.
**DRAP “Active disease management”:**
The care management nurses can initiate therapy based on established DRAP protocol (see Figure 1),

Any suggested modification in therapy is sent to the patient’s primary care physician via the EHR. Physicians can accept, decline or modify recommendations.

If the primary care physician accepts the recommendation, then medication additions are made or medication is titrated per protocol.

Using this method, patients may visit the disparity clinics for free, as often as needed until treatment goals are reached.
Addressing Barriers:

a) Cost: A free prescription program is put in place to provide medications to patients who lack insurance and/or are unable to afford their prescriptions. Insulin preparations are available through the program and are dispensed as needed.

b) Time: The hours of operation of the program’s clinics and the care management nurses availability are flexible enough to accommodate all patients with early morning and weekend clinic sessions offered as needed.

c) Education: Patients have free access to an ADA approved self-management course taught by a Certified Diabetic Educator. They can be referred to this course by their primary care physician, the care management nurse, or be self-enrolled based on their desire to learn more about diabetes.
Disparities:

Now You See Them, Soon You Won’t!
**Patient Registries:**
The patient registries are maintained and updated daily by registry specialists.

A Physician Quality Reporting Initiative (PQRI) form as defined by the Centers of Medicare and Medicaid Services (CMS) is complete at each encounter.

This information is subsequently forwarded and entered into the database by the registry specialist.

In addition, the most recent available fasting (FBG) or random blood glucose (RBG) reading for each patient is reviewed and tabulated in the registry.

Patients with a hemoglobin A1C ≥ 8%, and/or a fasting blood glucose (FBG) ≥ 130 mg/dL, or a random blood glucose (RBG) ≥ 200 mg/dL or diabetics who have not had a hemoglobin A1C visit in a period of three months or more are identified by the registry specialist.

These patients are contacted by mail and advised to come to any of the program’s clinics for evaluation by nurse case managers and/or blood testing free of charge.
<table>
<thead>
<tr>
<th>Patient name</th>
<th>Date of Birth</th>
<th>SEX</th>
<th>MRN</th>
<th>RESULTS AT START</th>
<th>1st RESULTS AFTER START</th>
<th>2nd RESULTS</th>
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<tbody>
<tr>
<td>ABRAHAM, FRANCISC</td>
<td>24-Oct-52</td>
<td>F</td>
<td>1335382</td>
<td>9/10/07 6.9 103</td>
<td>1/14/08 7.9 124</td>
<td>6/19/08 7.4 140</td>
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<td>ADAMS, RANDY</td>
<td>1-Jan-66</td>
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<td>ALLEN, LENORA</td>
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<td>8/24/06 6.2 N/D</td>
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<td>6/13/07 7.4 N/D</td>
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<td>ALVIN, NELLIE</td>
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<td>BARTLEY, JAMES</td>
<td>16-Feb-60</td>
<td>M</td>
<td>9373</td>
<td>9/29/07 15.3 138</td>
<td>3/27/08 6.8 149</td>
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<td>BARTLEY, STEVE</td>
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<td>M</td>
<td>615467</td>
<td>12/15/06 14.4 163</td>
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<td>7/17/07 10.5 111</td>
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<td>BENTON, JOANN</td>
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<td>BESHEARS, JOE</td>
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<td>BLUE, JUNE</td>
<td>18-Feb-30</td>
<td>F</td>
<td>182430</td>
<td>10/26/07 11.9 127</td>
<td>3/31/08 7.2 137</td>
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<td>BOSTIC, JANICE</td>
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<td>BROOKINS, ORSIE</td>
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<td>66693</td>
<td>6/26/07 7.0 N/D</td>
<td>8/3/07 9.3 N/D</td>
<td>12/20/07 6.4 N/D</td>
</tr>
</tbody>
</table>

Averages 9.2 136 Averages 8.2 125 Averages 7.8 118
Jacksonville Urban Disparity Institute

Average A1C Result Per Office

National A1c Average – 7.7
**Table 1:** Overall baseline characteristics of participants and data analysis by gender.

<table>
<thead>
<tr>
<th></th>
<th>Overall</th>
<th>Male</th>
<th>Female</th>
<th>p-value</th>
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</thead>
<tbody>
<tr>
<td>N</td>
<td>N= 457</td>
<td>N= 157</td>
<td>N=300</td>
<td>&lt;.0001***</td>
</tr>
<tr>
<td>%</td>
<td>(100)</td>
<td>(34.4)</td>
<td>(65.6)</td>
<td></td>
</tr>
<tr>
<td>Race (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African American</td>
<td>61.3</td>
<td>30</td>
<td>70***</td>
<td>.643***</td>
</tr>
<tr>
<td>Caucasian</td>
<td>35.4</td>
<td>40.7</td>
<td>59.3</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>3.3</td>
<td>46.7</td>
<td>53.3</td>
<td></td>
</tr>
<tr>
<td>Age (yr) Mean (SD)</td>
<td>52.7 (9.3)</td>
<td>52.5 (9.3)</td>
<td>54.4 (11.1)</td>
<td>.028*</td>
</tr>
<tr>
<td>Mean Baseline A1c</td>
<td>8.2(2.3)</td>
<td>8.7 (2.3)</td>
<td>8.1(2.5)</td>
<td>.011**</td>
</tr>
<tr>
<td>(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Followup A1c</td>
<td>7.7(1.9)</td>
<td>7.9(2.1)</td>
<td>7.7(1.9)</td>
<td>.226</td>
</tr>
<tr>
<td>(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mean Change A1c</td>
<td>-0.5(2.2)</td>
<td>-0.75(2.7)</td>
<td>-0.41(1.9)</td>
<td>.275**</td>
</tr>
<tr>
<td>(SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average days</td>
<td>522.6(266.6)</td>
<td>471(256)</td>
<td>549.5(268.5)</td>
<td>.0025**</td>
</tr>
<tr>
<td>between A1c</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>measurements (SD)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

* T-test
** Kruskal-Wallis
*** Chi-square
* Wilcoxon Test for Mean Change A1c p-value <.0001
Table 3: Race-related differences in demographics and hemoglobin A1c levels.

<table>
<thead>
<tr>
<th></th>
<th>African American</th>
<th>Caucasian</th>
<th>Other</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex (% female)</td>
<td>70††</td>
<td>59.3</td>
<td>53.3</td>
<td>.043††</td>
</tr>
<tr>
<td>Age in years (SD)</td>
<td>53.8 (11.1)</td>
<td>53.5 (9.5)</td>
<td>56.5 (10.7)</td>
<td>.572†</td>
</tr>
<tr>
<td>Mean Baseline A1c (SD)</td>
<td>8.4 (2.5)</td>
<td>8.1 (2.0)</td>
<td>8.5 (2.8)</td>
<td>.891†††</td>
</tr>
<tr>
<td>Mean Followup A1c (SD)</td>
<td>7.9 (2.1)</td>
<td>7.4 (1.8)</td>
<td>7.7 (1.9)</td>
<td>.069††</td>
</tr>
<tr>
<td>Mean Change A1c (SD)</td>
<td>-.44 (2.4)</td>
<td>-.66 (2.0)</td>
<td>-.85 (1.8)</td>
<td>.165†††</td>
</tr>
<tr>
<td>average days between A1c measurements (SD)</td>
<td>527 (261.5)</td>
<td>520 (274)</td>
<td>451 (288.9)</td>
<td>.502†</td>
</tr>
</tbody>
</table>

*Anova, ††Chi-square, †††Kruskal-Wallis
In summary, patients demonstrated significantly improved glycemic control regardless of race, sex or clinic location.

The success of this program across all the clinical sites highlights the applicability of the model irrespective of racial make-up of the participants seen at these sites.

Another key factor in the program’s success was the active participation of a well-trained expanded network of providers including nurses, clinical pharmacologists, and medical assistants who “took ownership” of the active disease management (DRAP) program.

This shows that allowing a team-based patient-centered approach in such programs may facilitate delivery of services and enhance outcomes.
Medical Home Model
Implications

• Cons
  – Medical Darwinism (P4P, PCMH, PQRI, MRAs, EHR, meaningful use)
  – Margins are tight
  – Barely Funded Mandate (presently reward does not justify the expense)

• Pros
  – Improved outcomes
  – Decreased disparities
  – Decreased cost