Becoming an Influencer for Equity & Population Health

September 19, 2014

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Chief Officer for Population Health & Equity, Baylor Scott & White Health
Dallas, TX
Overview of Baylor Health Care System

More than 300 access points of care including:

- 30 hospitals owned, operated, joint-ventured or affiliated with BHCS
- 28 ambulatory surgery/endoscopy centers
- 209 locations for the HealthTexas Provider Network (the BHCS-affiliated ambulatory care physician network)
- 91 satellite outpatient facilities for imaging, rehabilitation, and pain
- 3 senior health centers
- 6 retail pharmacies
- 3 Baylor Research Institute locations
- 1 accountable care organization (Baylor Quality Alliance)

Merged with Scott & White Healthcare on September 30, 2013 to form the largest not-for-profit health care system in Texas . . .
The New Baylor Scott & White Health

- More than 500 patient care sites including 43 hospitals
- 5.3 million patient encounters annually
- More than 34,000 employees
- More than 6,000 affiliated physicians
- Scott & White health plan
- $8.3 billion in total assets
- $5.8 billion in total net operating revenue
The nation’s health care delivery system has fallen far short in its ability to translate knowledge into practice and to apply new technology safely and appropriately.

Overly devoted to dealing with acute, episodic care needs and lacking the multidisciplinary infrastructure required to provide the full complement of services needed by people with common chronic conditions.

Delivery of care often is overly complex and uncoordinated, requiring steps and patient “handoffs” that slow down care and decrease rather than improve safety.

Bringing state-of-the-art care to all Americans in every community will require a fundamental, sweeping redesign of the entire health system...
IOM Six Aims for Improvement

**Safe**
Avoids injuries to patients from care that is intended to help them

**Timely**
Reduces waits and harmful delays impacting smooth delivery of care

**Effective**
Provides services based on scientific knowledge to all who could benefit & refrains from providing services to those not likely to benefit (avoids overuse & underuse)

**Efficient**
Uses resources to achieve best value by reducing waste, production, and administration costs

**Equitable**
Does not vary in quality according to personal characteristics such as gender, income, ethnicity & location

**Patient Centered**
Respectful of and responsive to individual patient preferences, needs, and values
Baylor Health Care System’s STEEEP Journey

- The STEEEP acronym was trademarked by BHCS to communicate the challenge of achieving its objective to provide ideal care in terms of the IOM’s call for care that is **safe**, **timely**, **effective**, **efficient**, **equitable**, and **patient-centered**.

- STEEEP also communicates the “steep” challenge of ascending from current levels of care to achieving the Triple Aim (articulated by Don Berwick in 2008) of better care for individuals, better health for populations, and reduction in per-capita health care costs.
BSWH STEEEP Governance Council

**Voting members:** Chief Quality Officer (Chair), Chief Medical Officers (North & Central), Presidents (North & Central), Chief Financial Officer, Chief Nursing Officers (North & Central), Chair of Physician Groups (North & Central), President of the BSWH Accountable Care Organization

**BSWH STEEEP Governance Council Subcommittees**

- Patient Safety
- Clinical Excellence (Timeliness & Effectiveness), Efficiency and Fiscal Impact
- Equity / Population Health
- Patient Centeredness / Patient Experience

**Aligned Entities**

- STEEEP Measurement, Analytics, and Reporting
- STEEEP Care Improvement Training
- Clinical Service Lines
Population Health Management
What is Population Health?

- “…a precise definition has not been agreed upon…”
- “…the health outcomes of a group of individuals, including the distribution of such outcomes within the group…”


- “Population health, as defined, has been critiqued as being so broad as to include everything—and therefore not very useful in guiding specific research or policy.”

www.improvingpopulationhealth.org
Population Health Introduces Two New Mandates

The “Triple Aim”

Value

Value = Quality (+Access)

Cost

“The overarching goal for providers, as well as for every other stakeholder, must be improving value for patients”

– Michael E. Porter –

#1: Manage those not engaged in care

#2: Control Costs
Why Population Health Management?

- Common populations that are managed
  - Payer
  - Chronic disease
  - Race/ethnicity/SES
  - Risk

- This helps set strategy
  - Funding and incentives
  - Technology resources-information management and delivery
  - Coordination plans
  - Team members
  - Grants and pilots
  - Educational needs-patients/families and providers
  - Community resource
  - Supports the case for clinical integration
“I think you should be more explicit here in step two.”
Industry experts agree that the most effective approach for reorienting the health care system to efficiently and effectively manage growing patient panels with complex medical conditions is for health providers to initiate ACO models that provide the infrastructure and incentives to facilitate population health through collaboration across the continuum.

Source: Health Affairs: Payment and Delivery. How The Center of Medicare and Medicaid Innovation Should Test Accountable Care Organizations
Leveraging Resources/Expertise

Leadership/Governance

Network Management

Quality Initiatives (Disease Mgmt/Preventive Health)

...To Build CI Infrastructure

PCMH/Care Coordination

Information Technology

Marketing
Focus is essential

- The sickest 5% **drive half the cost**; intensive needs
- The 15% “rising risk”: timely effort to prevent worsening
- 80% Healthy people need **prevention** and education

Source: The Advisory Board
### Four Chronic Conditions

**Comprise 74% of Costs**

<table>
<thead>
<tr>
<th>Condition</th>
<th>Total Cost</th>
<th>% Preventable</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cardiovascular Disease</td>
<td>33%</td>
<td>80% Heart Disease/Stroke</td>
</tr>
<tr>
<td>Cancer</td>
<td>20%</td>
<td>30% - 60%</td>
</tr>
<tr>
<td>Diabetes</td>
<td>11%</td>
<td>80% Type II</td>
</tr>
<tr>
<td>Obesity</td>
<td>10%</td>
<td>Nearly all can improve</td>
</tr>
<tr>
<td>Other Chronic</td>
<td>9%</td>
<td></td>
</tr>
<tr>
<td>All Other</td>
<td>17%</td>
<td></td>
</tr>
</tbody>
</table>

Total Health Care Costs: 100%

## Population Health Portfolio

<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient-Centered Medical Homes</td>
<td>Physician directed teams. EMR. Coordination with specialists. Service. Disparities.</td>
</tr>
<tr>
<td>Evidence-based Medicine</td>
<td>Guidelines/protocols that are created and agreed to by the providers.</td>
</tr>
</tbody>
</table>
5% of the sickest patients account for 50% of Health Care Spending

Which group do we prefer to treat?
BSWQA Year 1 Results

All Cause Re-Admission Rate
BSW NTD Employee Plan

30 Day Re-Admission Rate

- 2011: 20.0%
- 2012: 16.4%

18% drop
BSWQA Year 1 Results

Admissions per Thousand
BSW NTX Employee Plan

- Admissions per Thousand
- 4.3% drop

<table>
<thead>
<tr>
<th>Year</th>
<th>Admissions per Thousand</th>
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<tbody>
<tr>
<td>2012</td>
<td>97</td>
</tr>
<tr>
<td>2013</td>
<td>93.0</td>
</tr>
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</table>
BSWQA Year 1 Results

**Source:** Optum One

- BHCS Employee Health Plan Population
- Towers Watson Shared Savings Methodology

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Employee Health Plan Medical Costs Reductions (PMPM)

<table>
<thead>
<tr>
<th>Budget Expenses</th>
<th>Actual Expenses</th>
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</thead>
<tbody>
<tr>
<td>$516.22</td>
<td>$480.63</td>
</tr>
</tbody>
</table>

7% cost reduction (as compared to expected expenses) in our employee health plan medical costs generated savings approaching **$14 million** overall (based on 34,000 lives)
Equity
History of Health Equity: Timeline
Mission to Business Case

- **1998:** The Volunteers in Medicine (VIM) Program is started to encourage physician volunteerism.

- **2001:** Central Dallas Ministries (CDM) becomes first charitable clinic to have an employed HTPN physician.

- **2002:** Project Access Dallas (PAD). The Dallas Co. Medical Society, HTPN, Central Dallas Ministries, and the DFW Hospital Council replicate a volunteer program from N. Carolina.

- **2003:** HTPN physicians from Garland develop relationship with Predisan, begin regular mission trips to Honduras.

- **2005:** HTPN’s partnership with CDM - 3 FT physicians and an annual budget of $600,000. PAD is now providing services to over 1,000 pts and has a volunteer network of 600 physicians (over 100 from HTPN).
History of Health Equity: Timeline

- **2005:** Over 50 HTPN physicians volunteer at clinics like Hope Clinic of Garland, Mission East Dallas, GRACE, and Christ’s Family Clinic.

- **2006:** HTPN’s Office of Community Health Improvement starts examining effects of community clinics and PAD on avoidable hospital utilization and costs.

- **Office of Health Equity formed**

- **2008:** BUMC opens first “Baylor-owned” community clinic known as Baylor Family Medicine at Worth Street. Primary focus of clinic is providing care to uninsured pts post-discharge in an effort to reduce avoidable ED visits and admissions.

- **2008:** Volunteer participation within HTPN peaks at approximately 40% of all employed physicians.
2009: Upper Payment Limit (UPL) funding, a government program designed to support hospitals providing charitable care.

- Increased funding for PAD which supports more physicians.
- Employ HTPN physicians at Hope Clinic and Irving Community Care growing network of clinics to 4

2009: Baylor Community Care is awarded $2M grant from Merck Co. Foundation to replicate successful diabetes education program started at CDM/CitySquare. Utilizes specially-trained community health workers (CHW’s).

- BCC also deploys CHW’s into BHCS hospitals to successfully navigate referred pts to BCC clinics
History of Health Equity: Timeline

- **2010:** Using significant UPL funding, Baylor Community Care supported by BHCS Board. Grows to 7 clinics and 14 providers with $5.5 M
  - Diabetes Health and Wellness Institute opens 5-15-80 strategy

- **2010:** Project Access Dallas enrollment peaks at 3,000pts. Network of volunteers approaches 2,000 physicians.
  - Significant shift for PAD – Almost 80% of enrollees have PCP within a community clinic rather than a private physician
  - PAD becomes resource for specialty care and medication assistance for clinic patients and remaining private PCP’s.

- **2010:** Increasing number of employed PCP’s in charitable clinics decreases demand for volunteers
  - PAD is meeting most of its PCP demand through community clinics
  - Hospitals with aligned clinics don’t need PAD to connect pts w/PCP’s
  - Clinics and PAD need specialty care more than primary care
2012: UPL funding concludes, replaced by new funding program called the Medicaid 1115 Waiver. Program incentivizes hospitals to establish or expand infrastructure for underserved pts. but introduces higher levels of accountability.
- Serves as next sustainability plan for BCC strategy
- Requires additional growth of BCC programs
- Provides opportunity for BHCS hospitals to receive millions in incentive payments to replace UPL funding

2012: Controversy about continued hospital funding for Project Access Dallas leads DCMS to cease operations of program in March 2013.

2013: FY14 budget for Baylor Community Care clinics and programs is $11.4M
Equity 2.0

- Use of data
  - Collection of demographics hard wired.
  - Core measures, Mortality, Readmissions, patient satisfaction, DM, APS

- Cultural competency training in hospitals and moving to clinics

- Cultural assessment done at discharge

- Focus on healthcare disparities and research => mechanism to drive sustainability and direction to developing strategies around access to care for vulnerable populations
Baylor Community Care
Strategy

George Truit 1903
“Is it not now time to begin the erection of a great humanitarian hospital, one to which men of all creeds and those of none can come with equal confidence”

- Support the mission of BSWH and HTPN as a Christian ministry of healing
- Support BSWH and HTPN non-profit, tax-exempt status
- The business case: Reduce avoidable hospital utilization and costs
- Front line for healthcare reform in Texas
- Capitalize on available funding mechanisms
Baylor Community Care
Structure

BCC Clinics fit into one of two structural/operational models:

- **Baylor-owned Clinics:**
  - 100% funded, staffed, and operated by Baylor
  - Located on Baylor hospital campus
  - Target population is vulnerable patients referred from hospital inpatient units and emergency departments
  - **Example:** Baylor Community Care at Worth Street (BUMC Campus)

- **Partnered Clinics:**
  - Baylor and another non-profit organization have partnered to jointly operate a clinic. Both organizations contribute funding, resources, and staff.
  - Typically located in a community served by Baylor
  - Target population is comprised of community members.
  - **Examples:** CitySquare, Hope Clinic of Garland
All locations are linked with common tools/resources:

- All employed providers are members of the Baylor 501a – HealthTexas Provider Network (HTPN)
- Clinical operations are supported by HTPN administrative staff
- All but one clinic utilize HTPN EHR and practice management software
- Most clinics are PCMH Certified – Level III
- All providers/clinics are measured and held accountable for the same quality metrics as all other HTPN primary care providers
  - Achievement of recommended preventive services
  - Diabetes and Asthma care bundle
  - Patient satisfaction
BCC Target Population

- **Income and Payer Status:** BCC accept all patients regardless of coverage or ability to pay
  - Charity guidelines at BHCS & HTPN require household income $\leq 200\%$ of FPL to qualify for financial assistance
  - 85% patient population meet charity criteria

- **Age:** Primarily adult w/small pediatric population at some clinics
**Conditions:** BCC clinics largely target patients with chronic conditions requiring ongoing care and management.
- Diabetes, CHF, hypertension, hyperlipidemia, asthma, COPD

**Demographics:**

- Latino: 55%
- African American: 33%
- Other: 12%
Charity Patient Encounter

- Cost to patient $10
- Included:
  - Office visit with primary care provider
  - Lab work
  - Outpatient hospital resources: Imaging, diagnostic testing, series clinics- CHF, Asthma
  - Limited specialty providers
  - Other resources: INR clinic, spirometry, CLIA waived testing
BCC Clinic Locations

- **Dallas**
  - Baylor Community Care at Worth Street (BUMC campus)
  - CitySquare (Fair Park)
  - Diabetes Health & Wellness Institute Family Clinic (S. Dallas)

- **Garland**
  - Baylor Community Care at Garland (Baylor Garland campus)
  - Hope Clinic of Garland (Downtown Garland)

- **Irving**
  - Irving Community Care (adjacent to Baylor Irving campus)

- **Ft. Worth**
  - Baylor Community Care at Ft. Worth (All-Saints campus)

- **Plano**
  - Avenue F Family Health Center (E. Plano)

- **Carrollton**
  - Baylor Community Care at Carrollton (Carrollton Campus- Opening June 2014)
Map of Locations
FY14 Statistics

- 15 FTE employed physicians and mid-level providers
- 15,000 unduplicated patients served
- Over 33,000 visits
Diversity
Diversity Management

Need to address the growing diversity of our communities by improving the cultural competence of our workforce

Need to build culturally competent care engagement strategies to address the additional 32 million patients with new access to health care and a choice in providers

Need for enhanced focus on Talent Management – Attraction, Retention, Development and Talent Planning
Diversity Management-Platform for Change

- Aligns with our mission and founding
- Enhance health disparity reduction and understanding
- Texas’ changing patient and employee demographics (A Majority Minority State)
- Improve community partnerships and service opportunities
- Opportunity to identify and increase emerging market share
Vision for Diversity Management at BSWH

A strategy to advance our business goals, a competitive advantage to distinguish BSWH within the market, and a transformation to improve patient outcomes, satisfaction, care delivery and talent management.
Diversity Approach

- BSWH Diversity Council launched in 2011 with 25 members, that represent a variety of levels, functions and campuses/entities across BSWH

- Council is an action-oriented group that advises and influences BSWH in identifying, creating and optimizing diversity/cultural competency improvement opportunities

- Council is focused on opportunities around:
  - Patient: Increasing market awareness and cultural competency as part of our culture
  - Talent: Increasing congruency of staff to market representation; demonstrate cultural engagement in governance
  - Market: Monitor demographic profiles to support business strategy and enhance in market appropriate community citizenship opportunities

  Supports open and candid conversation, hands-on committee towards solutions Talent, Patient & Market Opportunities
2013 BSWH North
Employee Demographics

Age (Generation)

- Baby Boomers (1943-1964) - 28%
- Gen X (1965-1980) - 42%
- Gen Y (1981-2000) - 29%
- Traditionalist (1925-1942) - 1%

Gender

- Female - 78%
- Male - 22%

Ethnicity

- White - 55%
- Black or African American - 19%
- Hispanic/Latino - 12%
- Asian - 12%
- Two or More Races - 1%
- Hawaiian/Pacific Islander - 0% (42)
- American Indian/Alaskan Native - 1%
2013 BSWH North Leadership Demographics

Age (Generation)
- Gen X (1965-1980) 42%
- Baby Boomers (1943-1964) 28%
- Traditionalist (1925-1942) 1%
- Gen Y (1981-2000) 29%

Gender
- Male 27%
- Female 73%

Ethnicity
- White 74%
- Hispanic/Latino 12%
- Asian 6%
- Black or African American 12%
- American Indian/Alaskan Native 1%
- Two or More Races 1%
- Hawaiian/Pacific Islander 0% (3)

Nationally VP+ Minority Representation is 12%. Nationally 1st & Mid-Level Management grew 2% from 2011 to 17%.

_Diversity and Disparities: A Benchmark Study of U.S. Hospitals in 2013_
BSWH NTX patient race, ethnicity and language collection remains at > 88% since 2011.
Community Health Worker and Diabetes
Projected Increase of Diabetes Cases

Figure 17: Projected Increase of Diabetes Cases by Race/Ethnicity, Texas

Texas Projected Diabetes Cases, 2000 - 2040

- Hispanic (Prevalence = 12.3%)
- Black, non-Hispanic (Prevalence = 12.9%)
- White, non-Hispanic (Prevalence = 8.5%)
- TOTAL (Prevalence = 10.3%)

Growing Use of Community Health Workers (CHW)

- Trusted peer*
  - Helps patients navigate medical, behavioral, and social services
  - Provides culturally appropriate and accessible health education and information

- Historically community based, but beginning to be utilized in health care settings
  - State of Vermont: Blueprint for Health
  - University of Pennsylvania: Patient-Centered Transition Project (PaCT)
  - New York – Medicaid’s Chronic Illness Demonstration Project
  - Temple University System: Super Utilizers

- State Certification programs growing
  - 13 states

Low Health Literacy Materials

Daily Foot Care

It is important to have the doctor or nurse check your feet when you go to the clinic.

It is just as important for you to take good care of your feet and check them yourself.

These are things you should do every day!

1. Wash your feet every day with warm (not hot) water and soap.

2. Dry your feet. Especially between the toes. After you wash them or anytime they got wet.

3. Keep your skin smooth with lotion, but don’t put it between your toes.

4. Check your feet every day for sores or blisters. Use a hand mirror to check all sides and the bottoms of your feet. Ask someone to help you.

5. Keep your toenails trimmed but not too short. Trim them straight across and use a nail file to smooth them.

6. Wear clean socks every day. Make sure your socks aren’t too big or too small.

7. Wear good shoes. Make sure the shoes fit your feet well and keep your feet protected and dry. Some diabetics need special shoes, if you think you do, talk to your doctor.

8. Check your shoes every day. Make sure they are in good condition and don’t have anything in them (like small rocks) or anything on the bottom (like a nail or broken glass).

9. Never walk barefoot, not inside or outside.

Como Cuidar Sus Pies Diariamente

Es importante que el médico o la enfermera le examine sus pies cuando vaya a la clínica.

Es de igual importancia que usted cuide sus pies.

¡Estas son las cosas que usted debe hacer todos los días!

1. Lávese los pies todos los días con agua tibia (no caliente) y jabón.

2. Seque sus pies especialmente entre los dedos, después de lavados y cada vez que se moje.

3. Mantenga su piel húmeda con crema, pero no la use entre los dedos de los pies.

4. Examine sus pies todos los días para detectar heridas o ampollas. Use un espejo de mano para examinar el pie entero, incluyendo la planta. Si no lo puede hacer solicite ayuda de otra persona.

5. Mantenga las uñas de los pies cortas (no demasiado). Cúrtalas rectas y terminéelas con una liga.

6. Use medias limpias todos los días. Asegúrese que sus medias no son demasiado grandes ni pequeñas.

7. Use zapatos buen estado y que sean cómodos. Asegúrese que sus zapatos le queden bien y que mantengan sus pies protegidos y secos. Algunos diabéticos requieren zapatos especiales. Si usted los necesita, consulte su médico.

8. Examine sus zapatos todos los días a asegúrese que están en buenas condiciones y que no tienen nada por dentro (piedras pequeñas, etc.) ni nada en la suela (como clavos o pedazos de vidrio).


MGN

Financiado por el Programa de Buenas Prácticas del Departamento Estatal de Servicios de Salud de Texas

BaylorScott&White

Health
Preliminary Outcomes:
Percent of Patients with Good Glucose Control

DEP patients with at least 2 measures within specified period were included in the analysis. The most recent measure was used. Data source is the registry used for the DEP. Data extracted January 7, 2013. p<.001.
Preliminary Outcomes:
Percent of Patients with Poor Glucose Control

DEP patients with at least 2 measures within specified period were included in the analysis. The most recent measure was used. Data source is the registry used for the DEP. Data extracted January 7, 2013. p<.001.
Diabetes Health and Wellness Institute
Case Study—
Diabetes Health and Wellness Institute
Diabetes Health & Wellness Institute is a public-private partnership between the City of Dallas and Baylor Scott & White Health. It has been in operation since June of 2010.

Through the vision of Mr. Joel Allison and Mr. Albert Black, they transformed a recreational center into a health and wellness facility to address community needs.
Diabetes became the focus when surveillance data showed that the prevalence of diabetes was significantly higher in the zip code the facility was in and the surrounding zip codes than the prevalence for Dallas County as a whole.

The model addresses diabetes from an access to care perspective with the Outpatient Health Center and from a prevention perspective with wellness and education programs.
Membership

- Membership is free of charge and is open to anyone 18 years or older. The majority of DHWI members are from nearby communities.
- Members have access to all the programs and services offered at DHWI and a discount for certain recreational center services.
- Membership can be initiated during an Outpatient Health Center visit or by inquiring at the reception area.
- A health risk assessment and biometrics (A1C, BP, LDL, etc.) are collected periodically and recorded on an electronic record for tracking and statistical purposes.
Chronic Disease Education
- Health Partner One-on-One Education and Coaching
- Diabetes Self Management Education and Training (DSMET)
- Medical Nutrition Therapy (MNT)

Wellness Education
- Cooking Classes and Demonstrations
- Exercise Classes
- The Tweener’s Program—Healthy habits, anti-bullying, leadership, homework help, science/robotics

Professional Education
- CHW Training
- CHW Instructor Training (under development)
Services

- Outpatient Health Center
- Farm Stand
- Bible Study
- Crafting for Health
- Health Ministries/Church Partnerships
- Community Outreach
## Demographics

<table>
<thead>
<tr>
<th></th>
<th>Percent (n/N)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Overall</strong></td>
<td>4106</td>
</tr>
<tr>
<td><strong>Utilization</strong></td>
<td></td>
</tr>
<tr>
<td>Clinic Clients Only</td>
<td>19.5% (779/4106)</td>
</tr>
<tr>
<td>Wellness Clients Only</td>
<td>52.1% (2140/4106)</td>
</tr>
<tr>
<td>Clinic &amp; Wellness Clients</td>
<td>28.4% (1167/4106)</td>
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<tr>
<td><strong>Age – mean (std dev)</strong></td>
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<tr>
<td>18 to 35 y/o</td>
<td>50.5 (14.4)</td>
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<tr>
<td>18.2% (747/4106)</td>
<td>51 to 65 y/o</td>
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<tr>
<td>36 to 50 y/o</td>
<td>36.3% (1491/4106)</td>
</tr>
<tr>
<td>31.4% (1289/4106)</td>
<td>66 &amp; older</td>
</tr>
<tr>
<td>66 &amp; older</td>
<td>14.1% (579/4106)</td>
</tr>
<tr>
<td><strong>Race/Ethnicity</strong></td>
<td></td>
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<tr>
<td>African American</td>
<td>68.5% (2812/4106)</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>30.7% (1261/4106)</td>
</tr>
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</table>
| Other                 | 0.8% (33/4106)      | …as of March 2014
## Outcomes

<table>
<thead>
<tr>
<th>Statistic</th>
<th>Diabetes w/o Health Partner</th>
<th>Diabetes &amp; Health Partner</th>
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<tbody>
<tr>
<td>Overall</td>
<td>N</td>
<td>1462</td>
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<tr>
<td>A1C</td>
<td>n</td>
<td>886</td>
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<tr>
<td>Blood Pressure</td>
<td>n</td>
<td>937</td>
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<tr>
<td>Within Guidelines</td>
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<tr>
<td>(% &lt;7.0%)</td>
<td>40.1%</td>
<td>44.0%</td>
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<tr>
<td>Within Guidelines</td>
<td></td>
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<tr>
<td>(% &lt;130/80 mmHg)</td>
<td>45.8%</td>
<td>50.5%</td>
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<tr>
<td>LDL</td>
<td>n</td>
<td>700</td>
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<tr>
<td>Within Guidelines</td>
<td></td>
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<tr>
<td>(% &lt;100 mg/dl)</td>
<td>48.1%</td>
<td>58.1%</td>
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Members w/o DM
49% pre-DM
37% pre-HTN

…as of March 2014
Impact on Hospital Utilization

- An initial 2010 study of the Diabetes Health & Wellness Institute members indicated a reduction in emergency department (ED) visits. 40% decrease
- A larger study completed in 2012 looked at hospital utilization (inpatient, outpatient, same day surgery and ED visits).
- Results of the 2012 study did not show a decrease in the number of encounters outlined above but did show a modest decrease in average cost per case for Diabetes Health & Wellness Institute members receiving services at BSWH facilities during 2010 thru 2012.
Best Practices

- Maximizing the Community Health Worker as a Health Partner and resulting improvement in clinical outcomes
- PEERS (Prevention, Empowerment, Education, Resources and Support) outreach in partner churches (50%)
- Health Ministry development
- Transition of education programs outside the walls of Diabetes Health & Wellness Institute
- Farm Stand Concept
- Statistical design of population health goals
Sustainability

- The Diabetes Health & Wellness Institute serves a population that is 85% uninsured.

- While not a cost neutral model, the Diabetes Health & Wellness Institute maximizes financial stewardship through:
  - Identification of revenue generating activities
  - Utilization of grant dollars to fund programs
  - Constant evaluation of organization structure to maximize effectiveness and efficiency
  - Strategic collaboration with other community organizations to avoid duplication and maximize impact
BHCS Hospital Utilization Analysis
Analysis Methodology

Goal:
- To compare BHCS hospital utilization by Worth Street patients prior to and after initiation of care at the clinic within the study timeframe:
  - 1 Year (12 months) pre and post initiation of care
  - 2 Year (24 months) pre and post initiation of care
- Based from Admit Date

Selection Criteria:
- Roster of unduplicated patients from BFM @ Worth St. was matched to hospital database to identify patients with visits at BHCS hospitals
- Patients had to be an established patient for at least 365 days and had some form of hospital utilization within the study timeframe
Analysis Methodology

Analysis Includes:

- Patients established at Worth St. between 7/1/2008 and 1/25/2011
- Hospital Utilization thru 2/19/2011
- Inpatient, Emergency Department, Outpatient, and Cumulative Totals
  - Number of Encounters
  - Direct Costs

*Note: Encounters with no associated financial data listed (i.e. “no shows” for a scheduled procedure/visit) were excluded from analysis*
BHCS Hospital Utilization Analysis for Worth Street Patients
1 Year Pre and Post Initiation of Care
Number of Emergency, Inpatient, and Outpatient Services
(n=1,825 patients)

<table>
<thead>
<tr>
<th>Service Type</th>
<th>1 Year Pre Initiation</th>
<th>1 Year Post Initiation</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>ED</td>
<td>2,426</td>
<td>1,610</td>
<td>33.6% Reduction</td>
</tr>
<tr>
<td>IP</td>
<td>815</td>
<td>423</td>
<td>48.1% Reduction</td>
</tr>
<tr>
<td>OP</td>
<td>683</td>
<td>1,790</td>
<td>162.1% Increase</td>
</tr>
<tr>
<td>Total</td>
<td>3,924</td>
<td>3,823</td>
<td>2.6% Reduction</td>
</tr>
</tbody>
</table>

*Note: Hospital Utilization data provided by BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2010 with hospital utilization data through 2/19/2011.*
BHCS Hospital Utilization Analysis for Worth Street Patients
1 Year Day Pre and Post Initiation of Care
Total Emergency, Inpatient, and Outpatient Direct Costs
(n=1,825 patients)

*Note: Hospital Utilization data provided my BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2010 with hospital utilization data through 2/19/2011.
BHCS Hospital Utilization Analysis for Worth Street Patients
1 Year Pre and Post Initiation of Care
Average Length of Stay per Inpatient Encounter

Average Inpatient Length of Stay

- **9.3** days (1 Year Pre Initiation)
- **6.6** days (1 Year Post Initiation)

29.0% Reduction

*Note: Hospital Utilization data provided by BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2010 with hospital utilization data through 2/19/2011.
ACO as Population Health Integrator

- ACO populations
  - Medicare Advantage
  - MSSP
  - Commercial Contracts
  - Un and underfunded-equity
  - BSWH employees and dependents
  - High risk for readmission
  - Chronic disease

- Services
  - Supportive and Palliative care
  - Care coordination-facility and ambulatory based
  - Social work-facility and ambulatory based
  - PCMH support
  - Analytics?
Appendix
BHCS Hospital Utilization Analysis for Worth Street Patients
2 Year Pre and Post Initiation of Care
Number of Emergency, Inpatient, and Outpatient Encounters
(n=789 patients)

11.4% Reduction
29.9% Reduction
143.2% Increase
11.2% Increase

*Note: Hospital Utilization data provided by BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2009 with hospital utilization data through 2/19/2011.
BHCS Hospital Utilization Analysis for Worth Street Patients
2 Year Pre and Post Initiation of Care
Total Emergency, Inpatient, and Outpatient Direct Costs
(n=789 patients)

*Note: Hospital Utilization data provided my BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2009 with hospital utilization data through 2/19/2011.
BHCS Hospital Utilization Analysis for Worth Street Patients
2 Year Pre and Post Initiation of Care
Average Inpatient Length of Stay

*Note: Hospital Utilization data provided by BHCS Decision Support / Revenue Cycle. Analysis includes patients with a 1st Date of Service at Worth Street Clinic on or before 2/19/2009 with hospital utilization data through 2/19/2011.