Wake Forest™ School of Medicine

The Memphis Model: Faith and Health System Collaboration

Faith – health collaboration to improve community and population health: A Workshop

NAS Roundtable on Population Health Improvement

March 22, 2018

Teresa Cutts, Ph.D.

Wake Forest School of Medicine

Joy D. Sharp

Baptist Health Care Corporation

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Methodist LeBonheur Healthcare

Memphis Model and FaithHealth: Guiding Principles

Community scale networks and capacity building in a broader population health management strategy are necessary, not just individual care reflected in the traditional bio-medical model.

Trust building among community members is key.

Requires **humble leadership** who value community intelligence.

Asset based, not focused on gap analyses or deficits. The theory is built on the African/International Model of religious health assets (RHAs), making these assets visible through mapping, aligning and leveraging them.

Community Based Participatory Research principles drive the work: co-creation of model design, transparency and ongoing participatory analysis of data, program and outcomes; shared risk and benefits.

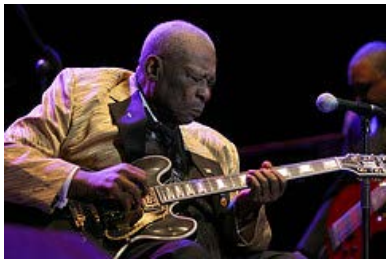
Person-centric, not hospital-centric focus needed; based on "person's journey of health."

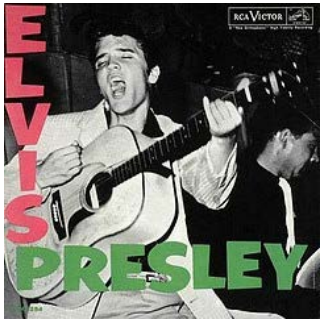
Integrative strategy, which blends community caregiving with traditional clinical medical care

Requires some **shared data protocol** across stakeholders to show proof of concept in a mixed model design (relying on both qualitative data captured from community mapping and congregational caregiving, as well as quantitative metrics captured from hospitals).

Memphis: City of *Assets*

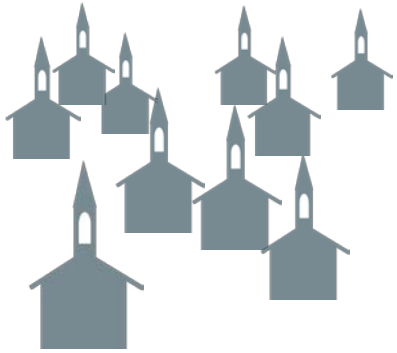
B. B. King, The Blues, Beale Street





Elvis the King, Graceland

Jesus the King
2,000+ Congregations
Mostly Christian



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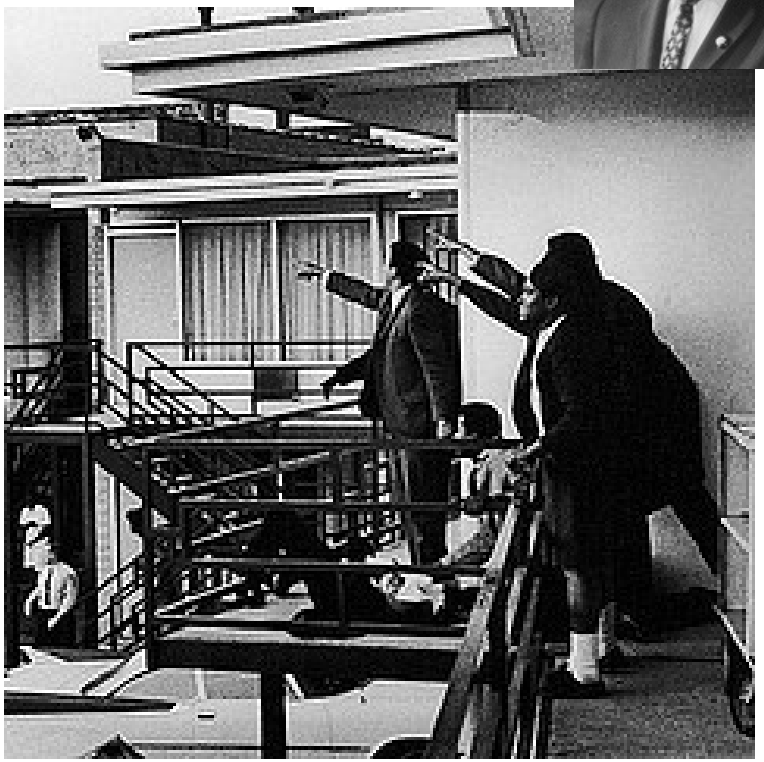
Memphis: City of Disparity



Martin Luther King, Jr.

1968 Assassination

City filled with racism, elitism, disparity

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Memphis: City of Disparity

Egregious disparity: Income, Heart Disease, Diabetes, Cancer, Suicide/Homicide, Limb Amputation

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2004: Baptist Clergy & Methodist South CEO Join Forces

2005: CEO Gary Shorb brings Rev. Dr. Gunderson Who sees Memphis with Fresh ARHAPian Eyes

Humble Leadership

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Congregational Health Network (CHN)

2006: MLH partners with congregations & community organizations to improve access and health status for all.

Dir. Faith & Community Partnerships, Rev. Dr. Bobby Baker

Builds Webs of Trust

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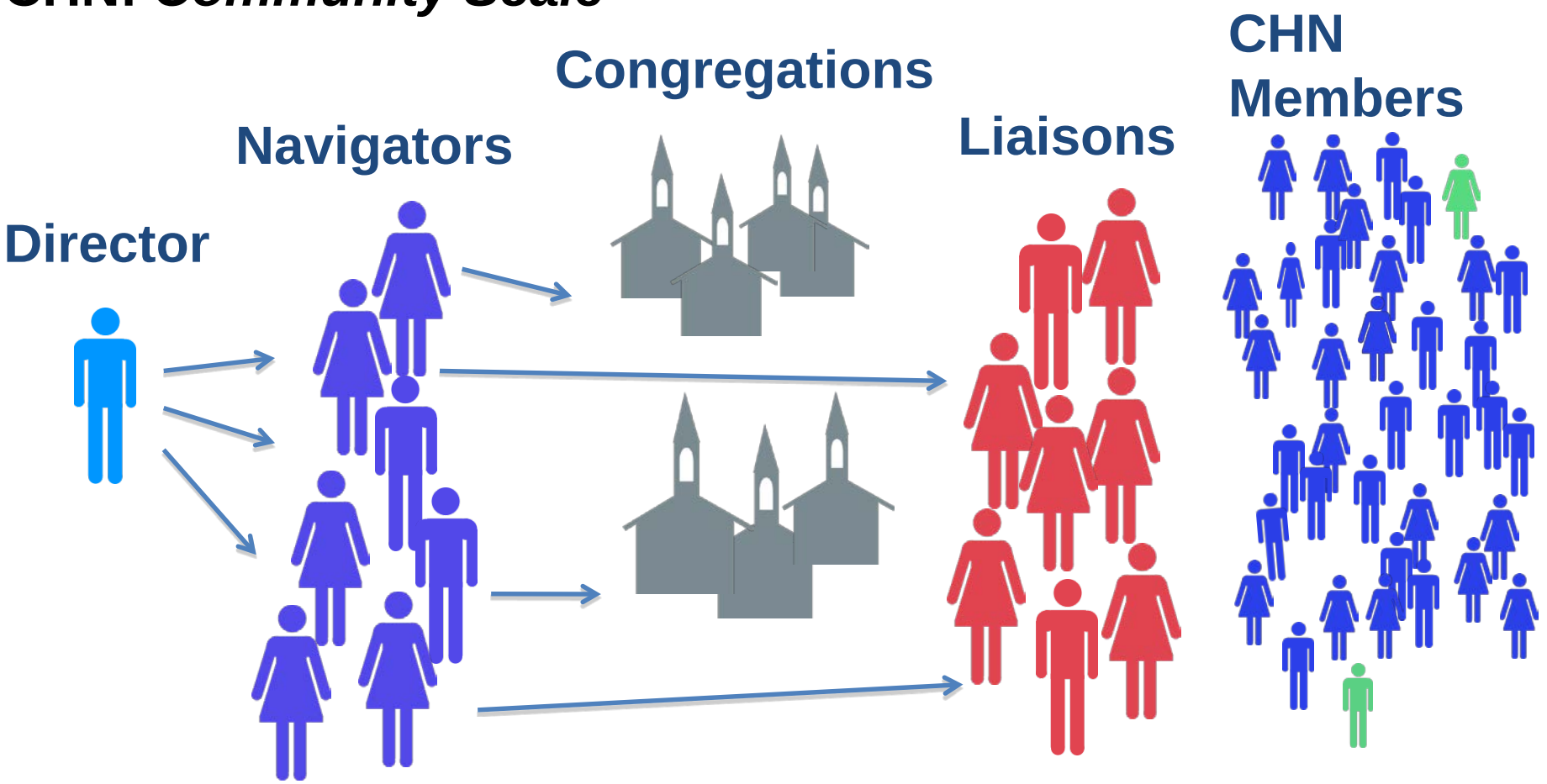
CHN: *Community Scale*



Paid Staff

Volunteers

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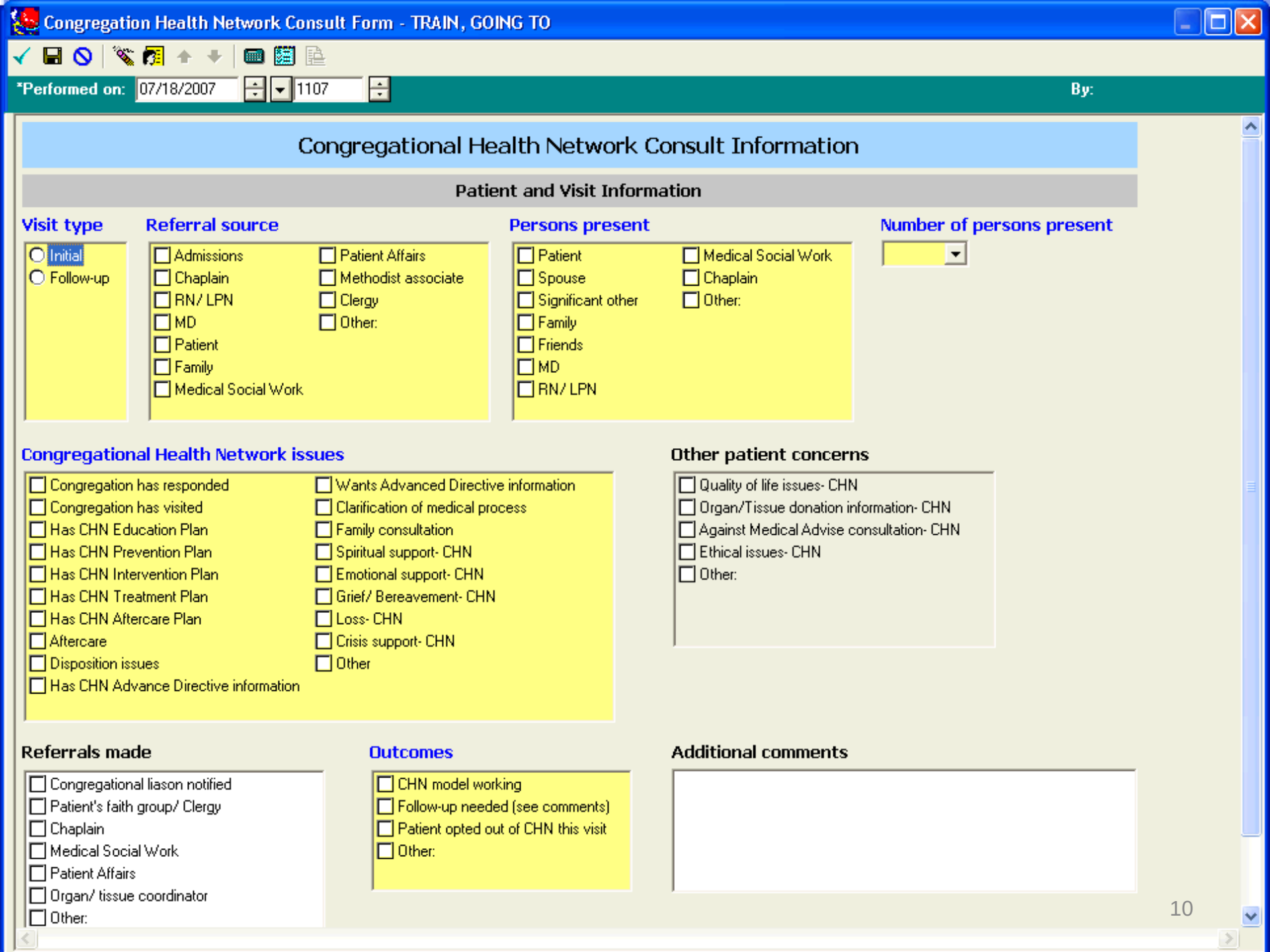

Congregation Health Network Consult Form - TRAIN, GOING TO
*Performed on: 07/18/2007 1107
By:
Congregational Health Network Consult Information
Patient and Visit Information
Visit type
Initial
Follow-up
Referral source
Admissions
Chaplain
RN/ LPN
MD
Patient
Family
Medical Social Work
Patient Affairs
Methodist associate
Clergy
Other:
Persons present
Patient
Spouse
Significant other
Family
Friends
MD
RN/ LPN
Medical Social Work
Chaplain
Other:
Number of persons present
Congregational Health Network issues
Congregation has responded
Congregation has visited
Has CHN Education Plan
Has CHN Prevention Plan
Has CHN Intervention Plan
Has CHN Treatment Plan
Has CHN Aftercare Plan
Aftercare
Disposition issues
Has CHN Advance Directive information
Wants Advanced Directive information
Clarification of medical process
Family consultation
Spiritual support- CHN
Emotional support- CHN
Grief/ Bereavement- CHN
Loss- CHN
Crisis support- CHN
Other
Other patient concerns
Quality of life issues- CHN
Organ/Tissue donation information- CHN
Against Medical Advise consultation- CHN
Ethical issues- CHN
Other:
Referrals made
Congregational liason notified
Patient's faith group/ Clergy
Chaplain
Medical Social Work
Patient Affairs
Organ/ tissue coordinator
Other:
Outcomes
CHN model working
Follow-up needed (see comments)
Patient opted out of CHN this visit
Other:
Additional comments

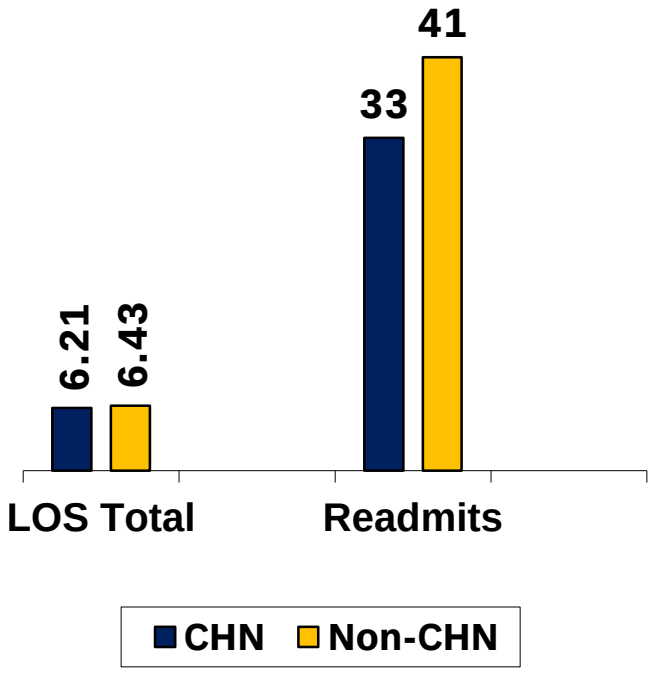
Gross Working Hypothesis

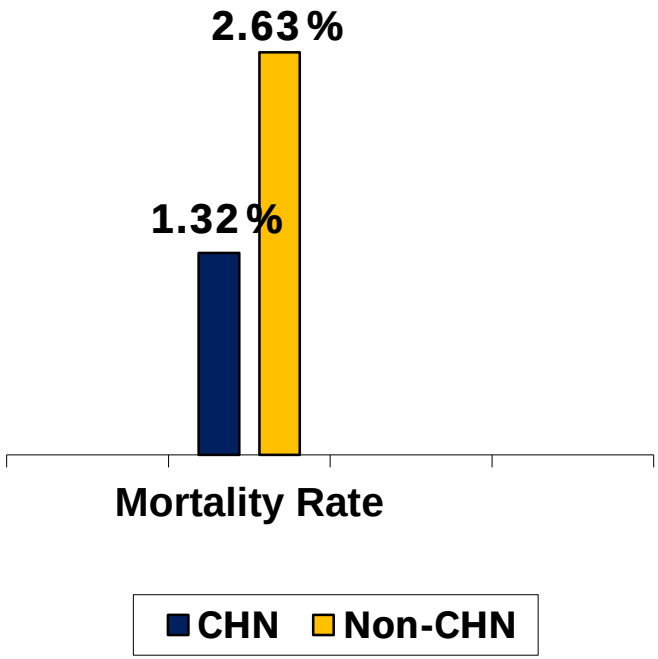
CHN as INTERVENTION: (not research per se, but *shared data protocol*)

- All patients in MLH system receive standard clinical practice (inpatient care)
- CHN members who are patients receive standard clinical practice (inpatient care) PLUS community caregiving delivered by unpaid, volunteer staff (CHN liaisons)
- Concurrent build out and development of CHN, while tracking, determining evaluation/methodology, for ascertaining impact
- Data was a cross-sectional **snapshot at 25 months into the work of CHN,** compared to controls matched on age, gender and DRGs

CHN vs. Non-CHN Length of Stay, Re-admissions and Mortality rate

CROSS-SECTIONAL SNAPSHOT AT 25 MONTHS INTO THE WORK OF CHN





LOS - No difference between cohorts
Readmits and Mortality Rates – Significant difference in favor of CHN

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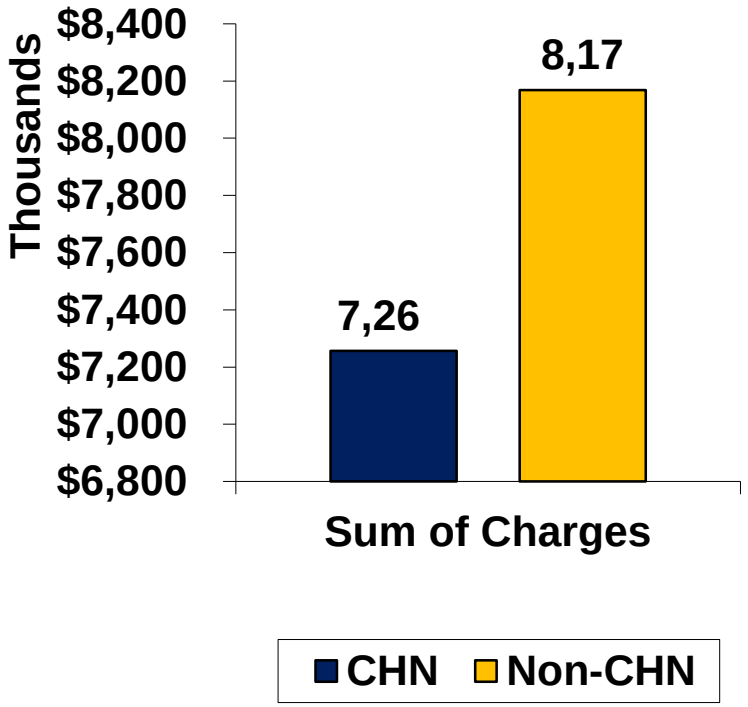
CHN vs. Non-CHN: Per Capita Charges

CROSS-SECTIONAL SNAPSHOT AT 25 MONTHS INTO THE WORK OF CHN

Per capita charges for the CHN patients vs. non-CHN controls. Aggregate charges were ~$4M less for CHN.



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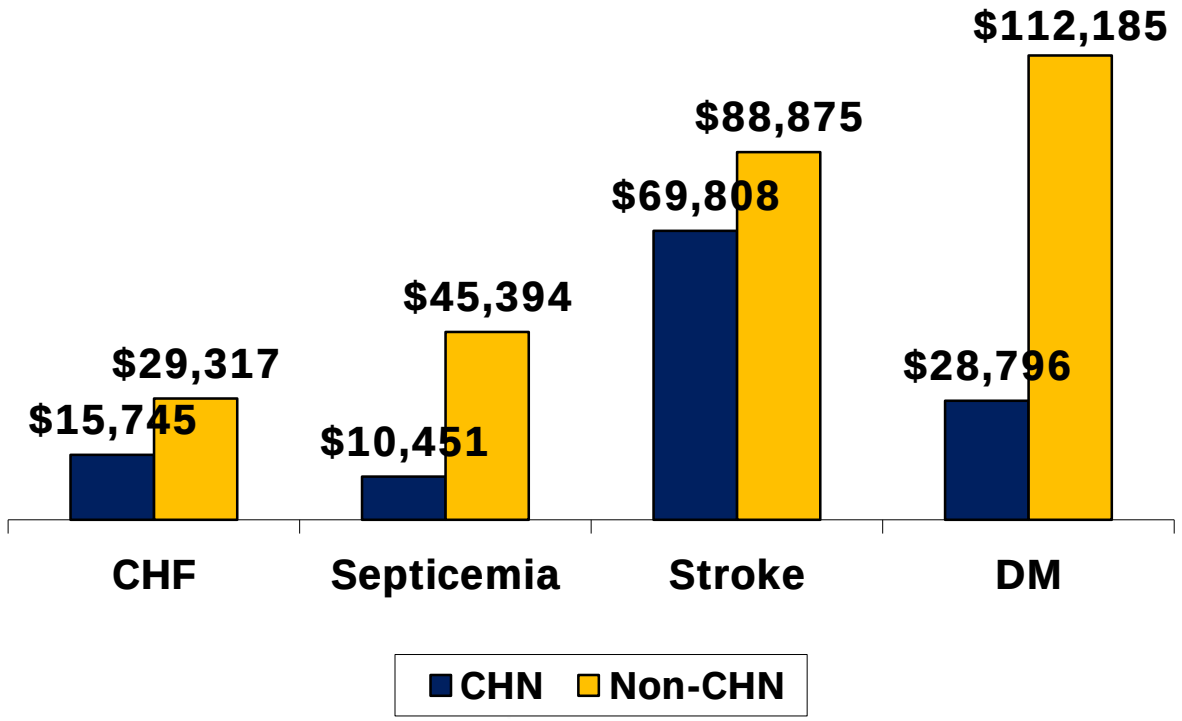
CHN vs. Non-CHN
CHF, Septicemia, Stroke and DM Charges

CROSS-SECTIONAL SNAPSHOT AT 25 MONTHS INTO THE WORK OF CHN



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Summary of Findings

At 25 months into the work of CHN, there were 473 people in the network. We have identified a subset that came through the hospital prior to CHN and looked at hospital utilization for the subset pre and post CHN, excluding trauma, expiration and hip replacement.

SUBSET N=50 Pre-Post Within Subject Cohort Comparison		
Hospital Metrics	**Pre-CHN**	**Post-CHN**
Total admissions	159	101
Admits/patient	**3.2**	**2**
Total readmits	37	17
Readmits/patient	**0.74**	**0.34**
Total patient days	1,268	772
Days/admit	8	7.6
Days/patient	**25.4**	**15.4**
Total charges	$6,396,111	$3,740,973
Average charge/admit	$40,277	$37,409
Average charge/patient	**$127,922**	**$74,819**
ER admissions	84.90%	80.20%

Cutts, T. The Memphis Congregational Health Network Model: Grounding ARHAP Theory. In: When Religion and Health Align: Mobilizing Religious Health Assets for Transformation. Pietermaritzburg: Cluster Publications; 2011: 193-209.

Longitudinal Database (2005-2011): Predictive Modeling

The database contained all electronic medical records from 7 facilities dated from Oct. 2005 to Dec. 2011.

It includes 409,061 records, from 240,057 individual patients.

As the Congregational Health Network was tracked in EMR starting in Nov. 2007, we only focused on CHN electronic medical records after Jan. 1st, 2008 in this analysis.

Barnes PB, Cutts TF, Dickinson SB, Hao G, Bowman S and Gunderson G. Methods for Managing and Analyzing Electronic Medical Records: A Formative Examination of a Hospital-Congregation Based Intervention. Population Health Management. October 2014, 17(5): 279-286.

Propensity Score Matching (Design for the predictive modeling)

Patients were matched on their first visit after Jan 1st, 2008.

Logistic Regression

* Dependent variable: Treatment group (1=CHN, 0=Non-CHN)

*Conditioning variables: sex, age, race, insurance type, facility, zip code, admit date, length of stay, and charges in hospital

→

Matching

The propensity-score - matched sets (1:2 matching) were formed using calipers of width 0.01

*Estimated propensity score: Predicted probability

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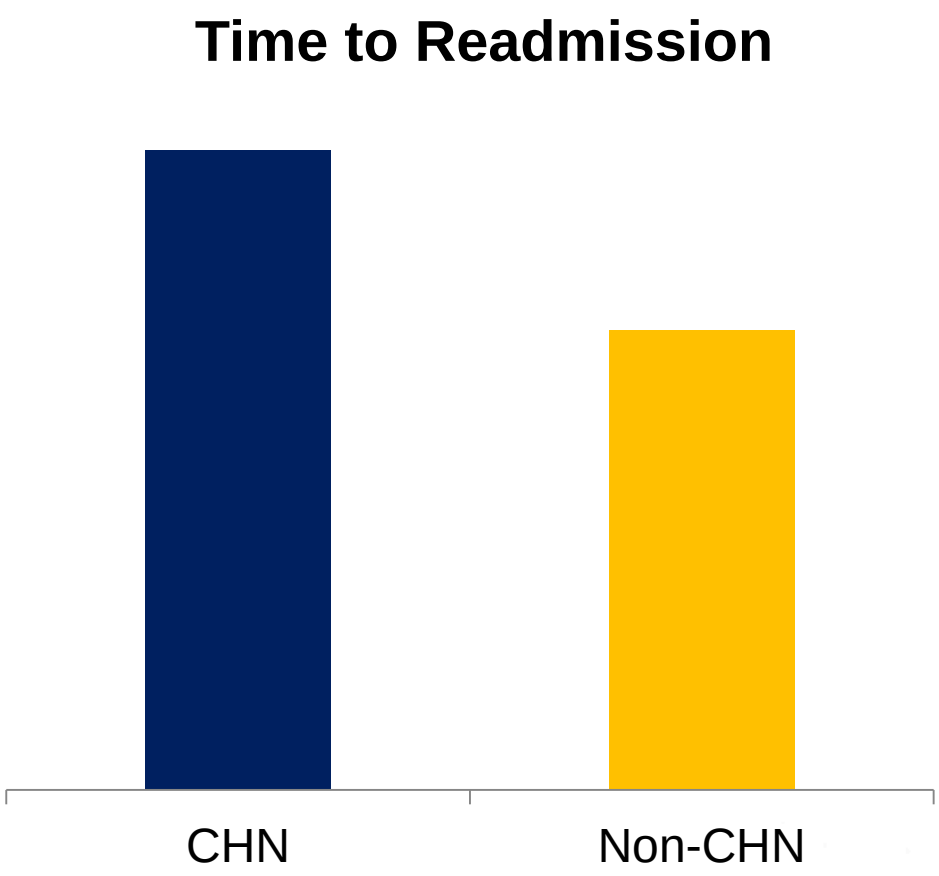
All CHN Patients Have Significantly Longer Time-to-readmission

LONGITUDINAL DATABASE (2005 -2011)



Regardless of diagnosis or conditions, **all patients** in the Congregational Health Network had **significantly longer time-to-readmission** than matched patients out of the network (**Hazard Ratio (HR)=0.74, p<0.001**) from 2008 through 2011, full quartiles.

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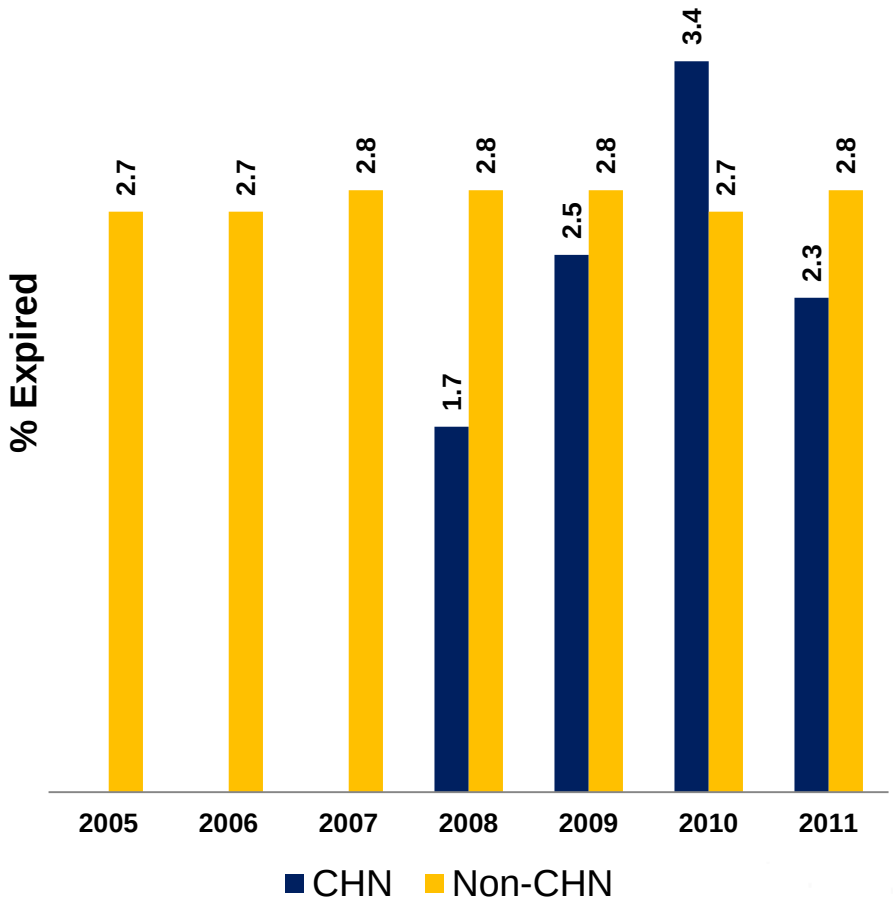
CHN Patients Have a Lower Mortality Rate

LONGITUDINAL DATABASE (2005 -2011)



Significantly lower mortality rates, on average, for CHN vs. the general population. [Odds ratio=.78,p=0.04]

97 CHN patients died (1.42%) and 249 non-CHN patients died (3.64%) during the 2008-2011 time period for analysis.

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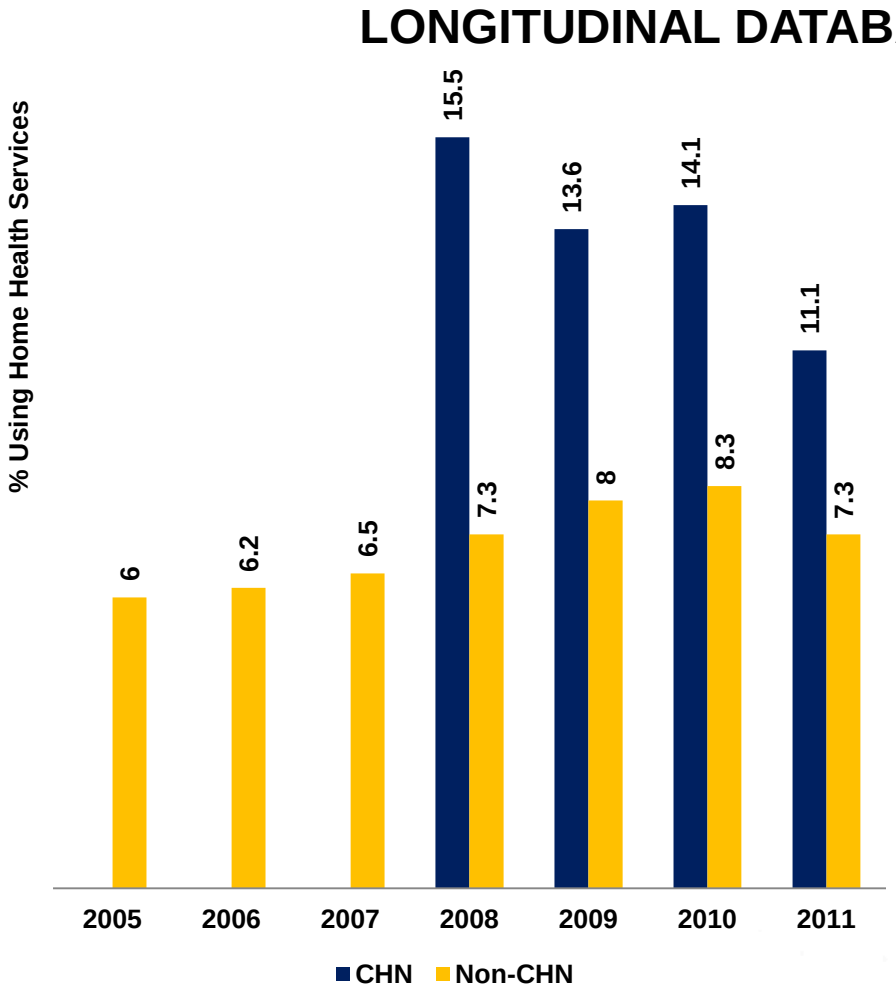
Home Health



CHN members are more likely than the general population to be discharged from the hospital to home health services [F(1,9)=65.113; p<.001]

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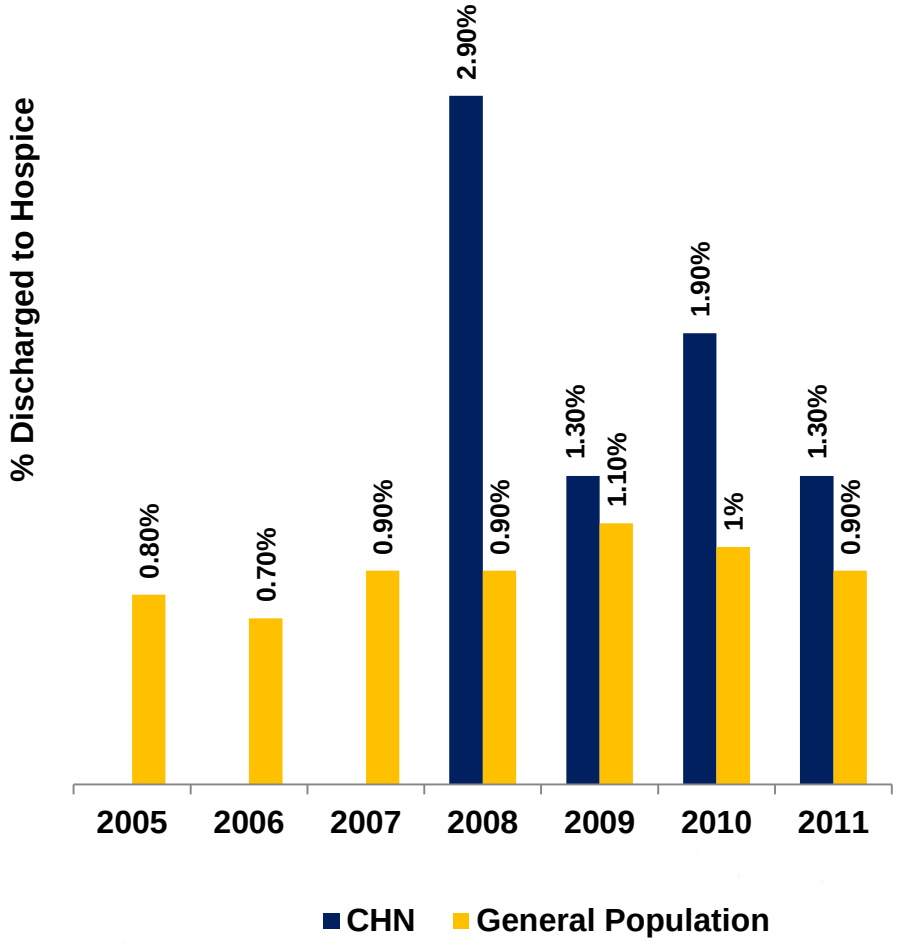
Hospice

LONGITUDINAL DATABASE (2005 -2011)



CHN members are more likely than the general population to be discharged to hospice services [F(1,9)=121.721; p<.001].

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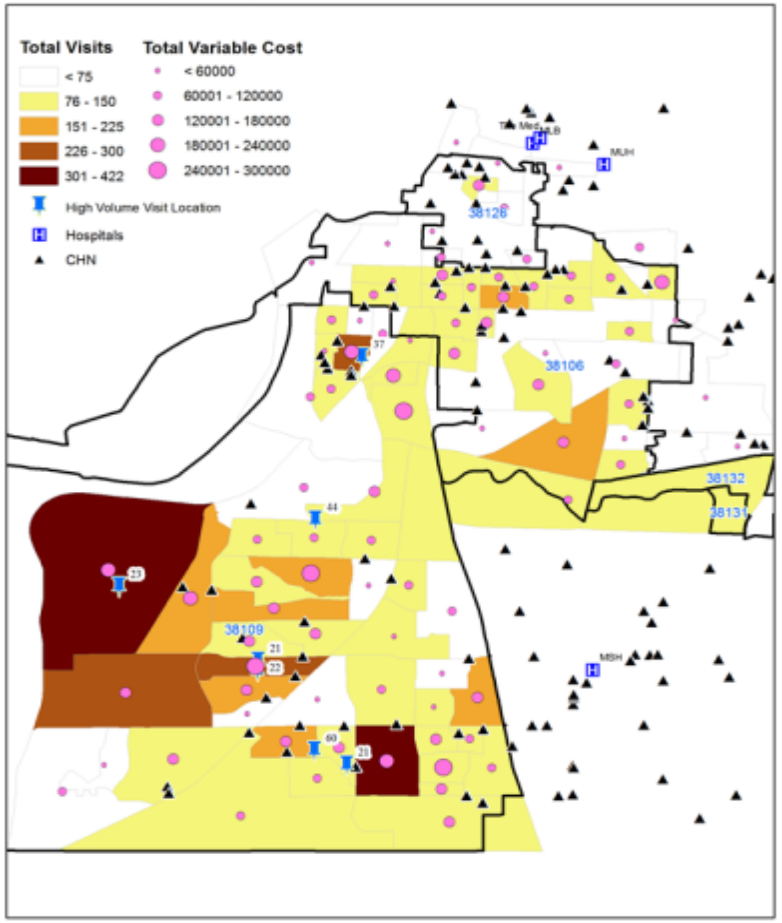
Charity Care Costs at MLH lead to Hotspotting

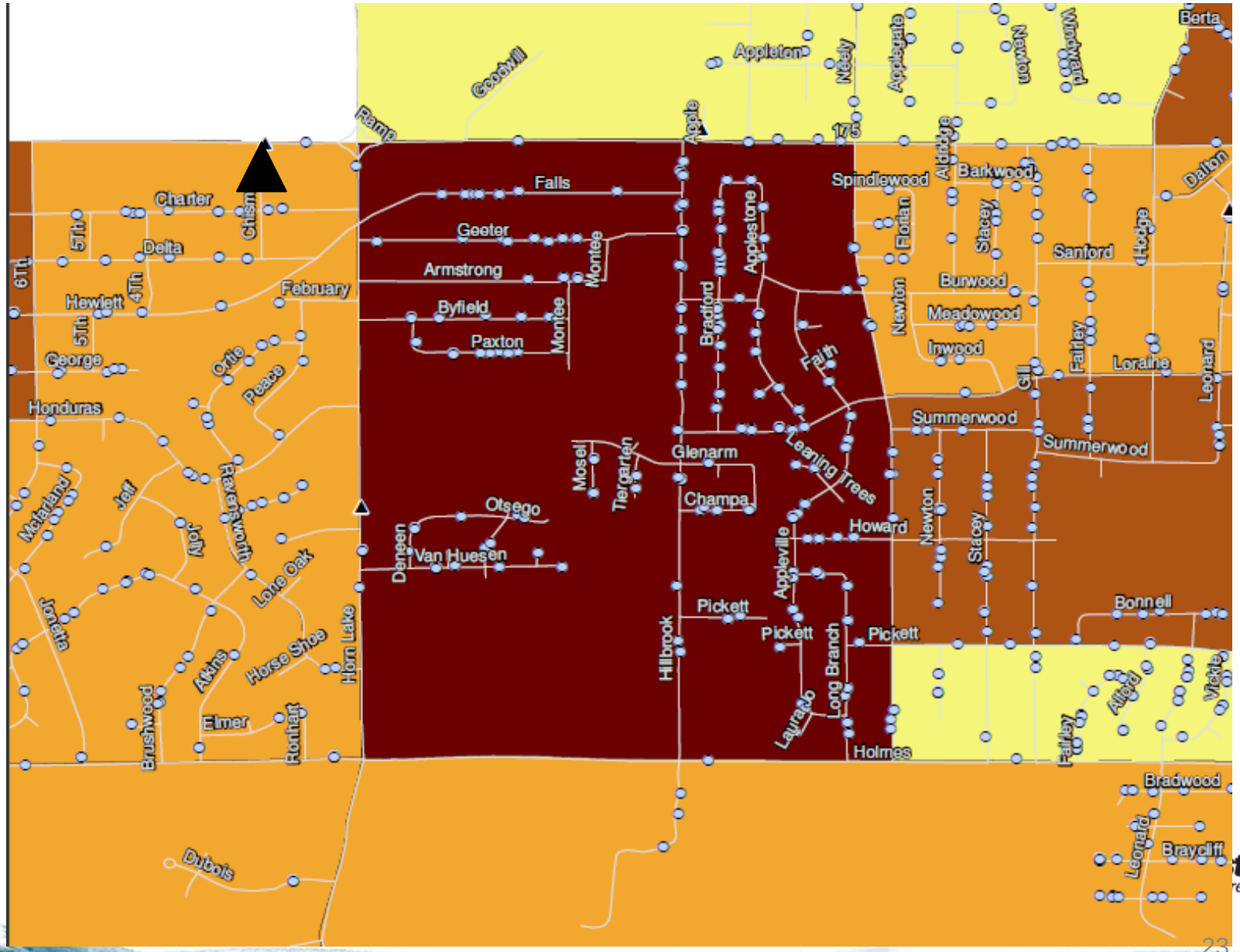
- Memphis has some of the highest prevalence of chronic disease: heart disease, stroke, lung disease, cancer, diabetes, and asthma.
- In an effort to identify ways to improve the health of its community, MLH used geocoding technology to identify hot-spots of healthcare utilization, then direct CHN and hospital resources in a targeted effort to improve the health of the neediest communities. ***Integrated strategy!***
- Top ten zip codes accounted for 56% of total system charity care.
- Patients from hot spot zip code 38109 had the highest utilization of ED, IP hospital charitable care**.** ***IP volume accounted for 9% of visits, while representing almost 65% of total charity care cost*****.**



IP and OP visits & variable cost by block group for zip codes: 38109, 38126, 38106, 38132, 38131.

Source: T. Cutts, E. Rafalski, C. Grant and R. Marinescu, "Utilization of Hot Spotting to Identify Community Needs and Coordinate Care Patients in Memphis, TN," *Journal of Geographic Information System*, Vol. 6 No. 1, 2014, pp. 23-29. doi: 10.4236/jgis.2014.61003. http://www.scirp.org/journal/PaperInformation.aspx?PaperID=42823#.VJNZEsABU

ZIP 38109 Block Group Street Level Detail



Data Source: MLH

Hotspotting becomes *Participatory Hotspotting*: Place-Based Population Health Management, 2011

CEO Gary Shorb tours Riverview Kansas with Rev. James Kendricks and Rev. Dr. Chris Bounds

Cigna funded these efforts and our first Place-Based Navigator, Joy Crawford Sharp, who led Wellness Without Walls and more…
Person-centered approach

Charity Care Charges Drop

- Net percent of *Charity Care rose from 2010-2011, then dropped 8.9% from for 38109 and 6.9% for all patients in 2012.*
- Cost associated with the write-off amount, based on TRANSACTION not DISCHARGE date - number of lives (visits v. volume) appears larger in the new methodology.

Charity Care 38109 - NEW METHODOLOGY		
Year	Write-Off Cost*	Volume
2010	$6,505,332.19	6,905
2011	$6,826,729.90	7,104
2012	$6,676,539.42	7,595
July YTD 2013	$3,012,650.18	4,930

***Cost of Write-off = cost to charge ratio applied to transaction amount**	
cost to charge ratio 2010 = 25%	
cost to charge ratio 2011 =23.5%	
cost to charge ratio 2012 =23.15%	
Cost to charge ratio 2013 = 23.15%	

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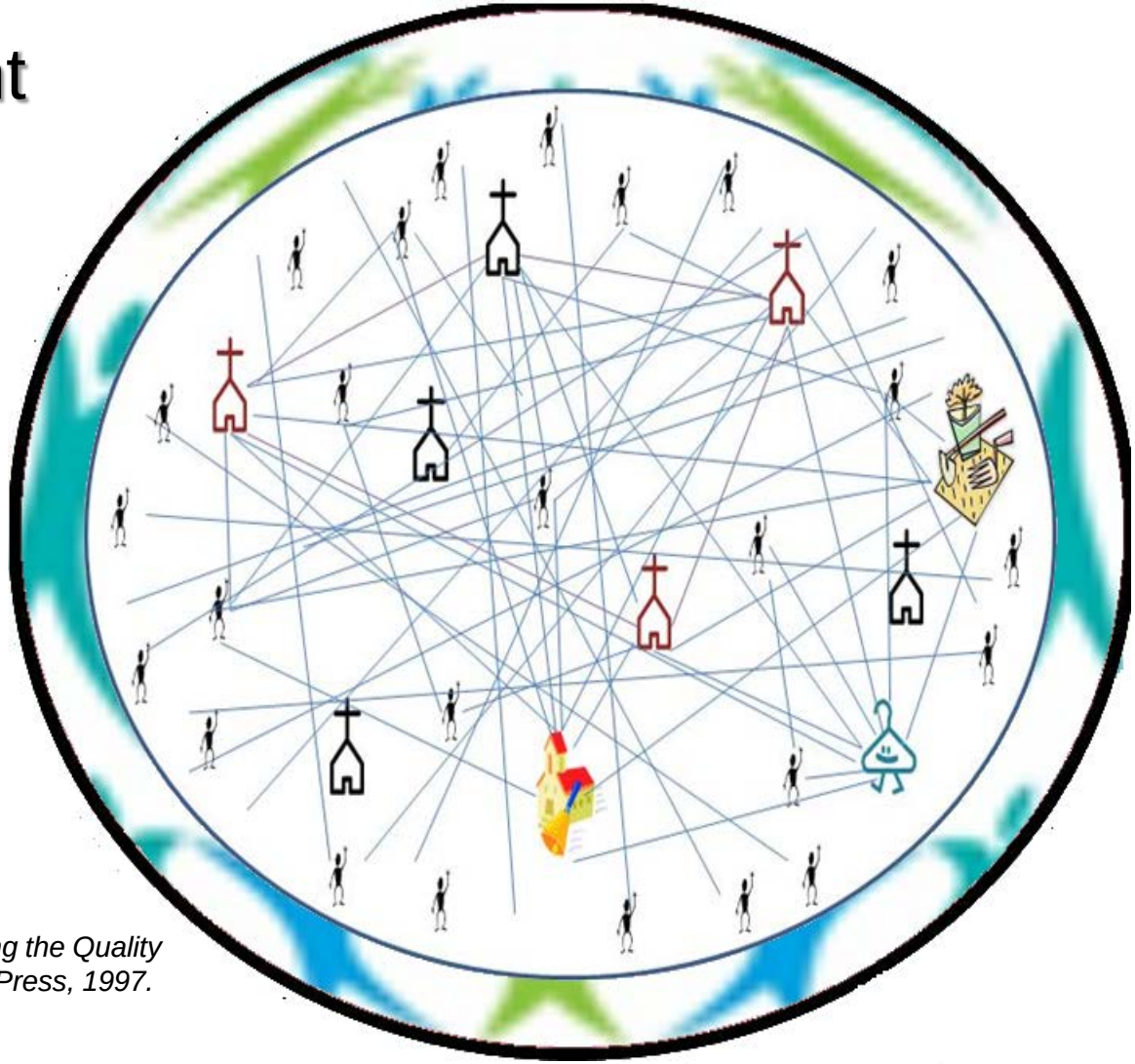
Joy Sharp
shares the rest
of the story…
PrettyPOSH
PHOTOGRAPHY

Enhance & Leverage Congregational Strengths

- Accompaniment
- Convening
- Connection
- Storying
- Sanctuary
- Blessing
- Prayer
- Endure



Gunderson, Gary. Deeply Woven Roots: Improving the Quality of Life in your Community. Minneapolis: Fortress Press, 1997.

Faith Centered Navigation

Vision: Align local hospitals, congregations and community organizations and associated resources to positivity impact health disparities in high need areas.

Approach:

- Congregational Navigation
- Population Specific Patient Navigation (Hispanic)
- Cancer Navigation
- Community Navigation

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Focus Areas → Care Pathways

Elderly and Advanced Disease

Mental Health

Chronic Disease

Infants & Mothers

Education

Prevention

Access

Intervention (Hospitalization)

Aftercare

The Goals

- To increase health awareness and disease prevention for the 38109 Riverview-Kansas Community by providing health screenings, educational information, and related activities.
- Increase awareness of local, state, and national health services and resources.
- Motivate participants to make positive health behavior changes.
- Teach self-care practices.

The Plan

As a first step in addressing population health needs MLH launched two community navigation programs:

- Place Based Navigation – Wellness without Walls
- Intensivist - Familiar Faces

Both programs emphasize interaction and communication among patients, healthcare providers, health plan partners and in many cases their faith partners or congregations.

wellness without walls

A Methodist Healthcare Program

Health Events are held within the community, that provide education, resources, and screening to the residents in hope to help them to adapt and maintain positive lifestyle changes that result in a healthier 38109.

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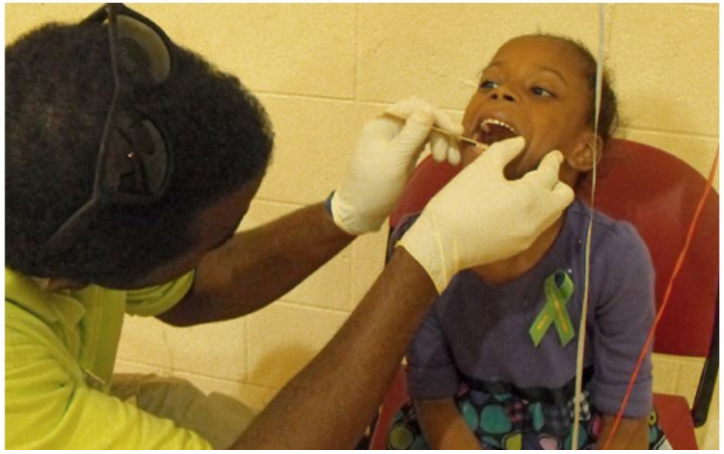
Wings Support Services
Back on Track ~ Life after cancer
Corner Boutique ~ Wigs, hats & scarves
FormFitting ~ Post-mastectomy care
Hospital Visits ~ Visits by staff & volunteers
Individual, Family and Group Support
Moving Toward Health ~ Exercise, Yoga & Tai Chi
Nutritionist ~ Advice for nutritional concerns
Partnering Program ~ Survivor to survivor support
Pastoral Care ~ Spiritual support
Patient Workshops and Programs
Research ~ Funding for cancer research
Resource Center ~ Lending library
Wings Art Gallery
Wings Labyrinth ~ Walk for healing & wholeness
Wings Newsletter and Web Site
Wings Volunteers ~ Over 250 survivors & caregivers
Imagine a place... of hope.
Cancer is a unique disease that attacks mind, body & spirit.
Wings embraces the whole person, not just the disease.

MICHAEL WADDELL | WEDNESDAY, JUNE 04, 2014

Faith heals: community, church and wellness in 38109

SHARE



Methodist Healthcare Foundation
fall 2014

foundation FOCUS
news from your friends at the Methodist Healthcare Foundation

Methodist making a difference by making it personal

Grassroots wellness initiative changing lives in South Memphis neighborhood

A lot has changed in the months since **Joy Sharp** signed on as a part-time community health navigator with Methodist Le Bonheur Healthcare. She had been handpicked to help with a new challenge Methodist was taking on—improving the health and healthcare practices in the Riverview community in South Memphis.

She had support—her work was funded in part with a $100,000 grant from the Cigna Foundation. She had passion and credibility—she grew up in the same neighborhood, she'd been a teenage mom and she'd worked in community outreach for a faith-based health service organization for eight years. But attendance at her first Wellness Without Walls health-screening event at the Riverview Community Center—held just two months after she

"They're not just patients to me.

The key to it all is building relationships, says Joy, who has been known to try her hand with some of Lyons Ridge card-playing residents.

healthcare disparities means they'll be there until the work is done.

Neighborhood in need

Wellness Without Walls came to life in 2013

center, Joy interacts with patients in a friendly manner that says, "I know who you are and where you come from,"—because she does.

"I'm the middle man," Joy says of her role. "I'm routing information back to

of organizing the wellness events. She spends a chunk of her time interacting with a group of community neighbors who use the Emergency Department 50 or more times per year.

One by one she tracks them down, listens to learn why they're in the ED so often, educates them about prevention and other options and assures them they are being looked after. She's paged by caseworkers whenever a one of the neighbors arrives in a Methodist ED and heads for the hospital to talk to them when she can. Her goal is to meet with them personally to assess their ED usage and guide them to Methodist resources or affiliated resources that will better meet their healthcare needs.

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The Findings

- <1% were a member of a CHN 38109 Congregation (We are reaching the Community)
- 12% reported having no Primary Health Physician or “Healthcare Home”
- 15% reported having no insurance The highest reported ER visit within the past year was 4. There were no overnight hospital stays reported.
- 18% of those screened had elevated blood sugar.
- 58% of them had a higher than normal blood pressure.
- 24% had Heightened Cholesterol.
- 79% of them had a calculated BMI over 28.

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How It Works

- When a patient in the program has an encounter at a MLH hospital, the electronic medical record (EMR) sends a notification to a navigator
- The navigator meets the patient in the ED or in the hospital if he/she is admitted. The navigator is responsible for building a relationship based on trust with the patient
- The goal is to create a partnership between the navigator and the patient, identify the underlying causes for frequent ED use and developing an action plan to change the individual's health behaviors

Navigator

- Provides non-clinical support to overcome the socio-economic barriers to good personal health and chronic disease management. This support ranges from:
  - Scheduling appropriate physician appointments
  - Arranging transportation to and from appointments
  - Securing a warm meal or groceries
  - Getting prescriptions filled, financial aid for prescriptions and more
- Partners with community churches in this effort to further involve community stakeholders and engage community resources

Familiar Faces

RESULTS!!

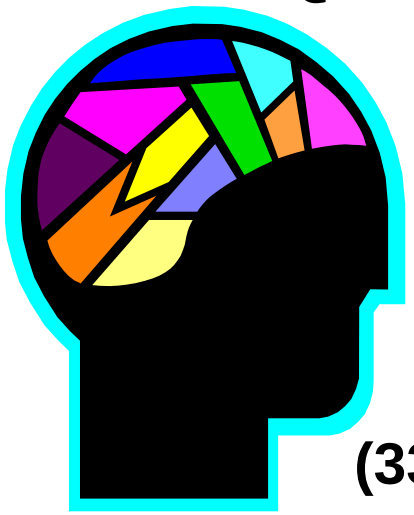
FF Cohort 1

Report Card	Baseline	2015	2016 YTD	2017 YTD	Progress
# of Patients in group (first day of month/year)	92	87	87	87	N/A
# Expired Patients (last day of month/year)	3	2	0	0	N/A
# of Patients with MLH Encounter	90	80	65	43	N/A
ENCOUNTER DATA	Monthly Avg	Monthly Avg	Monthly Avg	YTD Avg	
IP Visits/Month (total = 228)	19.00	10.2	7.2	8.5	
ALOS (Total Days=1072)	4.70	4.5	3.2	3.4	
OP Visits/Month (non-ED) (total=94)	7.83	5.9	3.8	6.5	
ED Visits/Month (total =1193)	99.42	73.9	43.4	52.0	
All Visits/Month (total =1515)	126.25	90.0	54.4	67.0	
FINANCIAL DATA				YTD Total	
Total Charges (Data updated each month for 2014 cells)	$9,868,763	$5,911,588	$3,701,063	$793,017	
Total Cost (Data updated each month for 2014 cells)	$2,619,457	$1,362,465	$1,006,465	$197,842	
Cost/Patient (DMAP Metric)	$2,416	$1,320	$964	$1,137	
% Cost Savings/Patient compared to 2013 Baseline		-45%	-60%	-53%	

FF Cohort 2

Report Card	Baseline	2016-17 YTD	Progress
# of Patients in group (first day of month/year)	82	77	
# Expired Patients (last day of month/year)	0	4	
# of Patients with MLH Encounter	82	63	
ENCOUNTER DATA	**Monthly Avg**	**YTD Avg**	
IP Visits/Month (total = 186)	15.50	7.9	
ALOS (Total Days=858)	4.61	4.8	
OP Visits/Month (non-ED) (total=88)	7.33	6.7	
ED Visits/Month (total =981)	81.75	37.9	
All Visits/Month (total =1255)	104.58	52.4	
FINANCIAL DATA		**YTD Total**	
Total Charges	$10,912,111	$3,585,056	
Total Cost	$2,305,399	$854,056	
Cost/Patient (DMAP Metric)	$2,343	$1,200	
% Cost Savings/Patient compared to 2014 Baseline		-49%	

Questions and Answers? Words of Wisdom?



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FaithHealthNC
A Shared Mission of Healing

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