Setting the Pace for System-Based Functional, Integrative and Chinese Herbal Medicine

Integrative Healthcare Symposium
Thursday, February 25, 2016
1:15 AM – 2:45 PM

John Weeks
The Integrator Blog/Integrative Practitioner/IMCJ/Huffington Post

Melissa Young, MD
Tanya I. Edwards Center for Integrative Medicine, Cleveland Clinic

Jamie Starkey, LAc
Chinese Herbal Therapy, Cleveland Clinic

Mark Hyman, MD & Patrick Hanaway, MD
Center for Functional Medicine, Cleveland Clinic
Tanya Edwards, MD, MEd
The Tanya I. Edwards Center for Integrative Medicine
Main Campus: 41 Buildings, 160 Acres
Founded 1921, 1440 Beds
Ambulatory Sites in Cleveland: 18
Total Patient Revenues (2013): $6.45 Billion
Reputation: High, Some Challenges
Other locations: Florida, Nevada Canada, Abu Dhabi

Delos (Toby) Cosgrove, MD
CEO, Cleveland Clinic

Michael Roizen, MD
CC Wellness Institute
Timing: Second Era for Integration: Value-Based Medicine

In two surveys, IHM leaders express

The Triple Aim
Cleveland Clinic: Cluster of Related Initiatives (but not always connected)

- Wellness Institute
- Center for Integrative and Lifestyle Medicine
  - Chinese Herbal Therapy
- Center for Functional Medicine
- Cleveland Clinic Children’s Center for Pediatric Integrative Medicine
Some Questions to the Panelists

• Location – pros and cons
• Clientele data/demographics/conditions
• Outcomes/data
• Integration into regular medicine
  – Referrals, quality initiatives, etc.
• Integration with each other/overlap
• Challenges/next steps
Panel

Melissa Young, MD
Tanya I. Edwards Center for Integrative Medicine, Cleveland Clinic

Jamie Starkey, LAc
Chinese Herbal Therapy, Cleveland Clinic

Mark Hyman, MD &
Patrick Hanaway, MD
Center of Functional Medicine, Cleveland Clinic
Center for Integrative & Lifestyle Medicine
Melissa Young, MD

Lyndhurst Campus

Cleveland Clinic
The Cleveland Clinic Center for Integrative Medicine

Melissa C. Young, MD
Tanya I. Edwards, MD Center for Integrative Medicine, Wellness Institute, Cleveland Clinic
February 25, 2016
Center for Integrative Medicine
Wellness Institute

- Patient Care
- Education
- Research
2001

Concept

Begins with Joan Fox, Ph.D.

June 2003

Planning

Preparation and development of a new Center begins

September 2004

First Location

First site opened in Broadview Heights with Tanya Edwards, M.D., M.Ed., at the helm
History (continued)

August 2005

Expanded Services

CIM services open at Cleveland Clinic Main Campus

November 2005

New Service

Acupuncture services open at the first Family Health Center (Beachwood)

February 2006

Expanded Services

CIM services open at the Willoughby Hills Family Health Center
April 2006

New Service

Acupuncture services open at the Strongsville Family Health and Surgery Center

June 2006

Expanded Services

CIM services open at the Westlake Medical Campus

August 2008

Expanded Services

Acupuncture services open at Marymount Hospital
December 2008

Lyndhurst

Services shift to east side suburb with expanded and enhanced space

February 2010

EBIDA

First month positive EBIDA!

June 2010

New Service

Holistic Psychotherapy services offered and 2nd IM physician added
April 2011

**InterContinental**

CIM services open at three (3) hotels

October 2011

**New Service**

Shared Acupuncture Medical Appointments (SAMA) offered

January 2012

**Expanded Services**

Acupuncture services offered at the Avon Family Health and Surgery Center
March 2012

New Service

Chiropractic services offered in Lyndhurst

October 2012

New Service

TRIM-LIFE 2.0 Weight Management Shared Medical Appointment (SMA) offered

September 2013

New Service

Wellness Store opens in Lyndhurst
3rd Physician added
November 2013

New Service

Women’s Wellness Week annual retreat offered in Captiva, Florida

January 2014

New Service

Chinese Herbal Therapy services offered

February 2014

Re-Dedication

CIM re-named The Tanya I. Edwards, M.D., Center for Integrative Medicine
September 2014

New Service

Wellness Primary Care services offered at Lyndhurst Campus

March 2015

New Service

Biofeedback services offered at the Lyndhurst Campus

April 2015

Expanded Services

Chiropractic services offered at the Twinsburg Family Health and Surgery Center
April 2015: Expanded Services
Chiropractic and Massage Therapy services offered at Willoughby Hills Family Health Center

September 2015: New Service
Integrative Pain Management Consults offered at Lyndhurst Campus

November 2015: Expanded Services
Acupuncture services offered at Willoughby Hills Family Health Center
Center for Integrative Medicine Services

- Integrative Medicine Consults
- Chinese Medicine
  - Acupuncture (SAMA, Individual)
  - Chinese Herbal Therapy
- Holistic Psychotherapy
- Chiropractic Therapy
- Massotherapy
- Reiki and Craniosacral Therapy
- Shared Medical Visits (SMA)
- Biofeedback and Heart Math
- Wellness Primary Care
- Integrative Pain Management Consults
Center for Integrative Medicine Providers

- 4 Integrative Medicine Physicians
- 4 Wellness Primary Care Physicians
- 5 Holistic Psychotherapists
- 6 Massage Therapists
- 2 Chiropractic Physicians
- 1 Integrative Pain Management Physician
- 6 Licensed Acupuncturists
- 2 Licensed Chinese Herbalists
- 1 Neuromuscular Biofeedback and Certified Heart Math Provider
Center for Integrative Medicine Locations

Integrative Medicine Consults initially offered at one location

Integrative Medicine Services are now offered at 8 locations throughout Cleveland Clinic. Benefits of providing services in multiple locations is improved patient access.
Center for Integrative Medicine
Total Annual Patient Visits—All Services

- 2005 Visits: 1,489
- 2006 Visits: 2,888
- 2007 Visits: 5,257
- 2008 Visits: 6,889
- 2009 Visits: 7,662
- 2010 Visits: 11,929
- 2011 Visits: 10,634
- 2013 Visits: 15,286
- 2014 Visits: 24,872
- 2015 Visits: 26,058
Top 13 Diagnoses 2010-2013

1) Back Pain (includes cervical, thoracic, and lumbar pain)
2) Depression/Anxiety
3) Vitamin D deficiency
4) Fatigue
5) Headache
6) Stress

7) Insomnia
8) Hyperlipidemia
9) Fibromyalgia
10) IBS
11) Migraine
12) Knee pain
13) Hypertension
Covered by Insurance

Center for Integrative Medicine

IM Consult (1 hr)

Follow Up Visit (0.5 hr)

Acupuncture

Holistic Psychotherapy

Chiropractic

Shared Medical Appointments (SMA)

Wellness Primary Care

Integrative Pain Consults
Center for Integrative Medicine

Covered by Insurance

- IM Consult (1 hr)
- Follow Up Visit (0.5 hr)

Self-Paid

- Massage therapy
- Reiki
- Craniosacral therapy
- Acupuncture
- Chinese Herbal therapy
- Therapeutic Yoga classes
- Biofeedback and Heart Math

Services:
- Acupuncture
- Holistic Psychotherapy
- Chiropractic
- Shared Medical Appointments (SMA)
- Wellness Primary Care
- Integrative Pain Consults
Covered by Insurance

Center for Integrative Medicine

IM Consult (1 hr)

Follow Up Visit (0.5 hr)

Obesity, HTN, Pre-DM, DM, HLD

Shared Medical Appointments (SMA)

Trim Life SMA

Chronic Pain SMA

Brain Health and Wellness

Healthy Pregnancy

Multiple Sclerosis

Breast Cancer

Prostate Cancer
1 Hour Appointment **Covered By Most Medical Insurance To Date**
Detailed Medical, Psychosocial, Lifestyle History Is Taken At First Visit
Provide Education About Lifestyle Influences on The Chronic Disease(s) of That Patient
Develop, *In Partnership With That Patient*, A Specific Integrative Medicine Treatment Plan
Make Appropriate Referrals To CIM Providers As Integral Part Of Treatment Plan
1. Traditional Talk Therapy
Clinicians are licensed in clinical social work, clinical counseling or psychology
Covered by most Medical Insurance

2. Non-Traditional Therapies
Hypnotherapy
Heart centered Hypnotherapy
Breath therapy
Guided Imagery
Integrative Lifestyle and Medical Weight Management Program
3 hour sessions weekly for six weeks Covered by most Medical Insurance
Focus on patients’ relationship with food
Key areas of focus are nutrition education, mindfulness, hypnotherapy

TRIM-LIFE® was designed by the late Tanya I. Edwards, MD, of the Center for Integrative and Lifestyle Medicine, and Diane Zimberoff, LMFT, of the Wellness Institute of Issaquah, Wash.
- Individual visits $100
- Shared Acupuncture Medical Appointments (SAMA) $40
Looking Toward the Future

- Continued expansion of Integrative Services into the Family Health Centers
- On-going recruitment of physicians and providers to meet growing demand
- Continue collaboration within different specialties within the Clinic
- Outcomes research
Chinese Herbal Therapy Clinic

Jamie Starkey, LAc

Cleveland Clinic
Introducing Evidence Based Chinese Herbal Medicine in a Major Medical Institution: The Cleveland Clinic Experience

Jamie Starkey, LAc
Program Manager, Lead Acupuncturist
Tanya I. Edwards MD Center for Integrative Medicine
starkej@ccf.org
History of Traditional Chinese Medicine Practice Law in Ohio

- 2000: Acupuncture Became Legal For Non-MDs in the State of Ohio
- 2008: Mandatory Physician Referral Lifted
- December 2012: Chinese Herbal Medicine Became Part of the Practice Law
FACTS + FIGURES

VITAL STATISTICS:

2013 ANNUAL REPORT FACTS FROM ACROSS THE CLEVELAND CLINIC HEALTH SYSTEM

PEOPLE:

3,220

3,220

11,200

11,200

43,430

43,430

PHYSICIANS AND SCIENTISTS

NURSES

EMPLOYEES

PATIENT CARE:

5.5

5.5

TOTAL VISITS

AMMONIUM

157,100

157,100

202,190

202,190

MEDICAL CARE

SURGICAL CARE

1,440

1,440

4,450

4,450

BEDS ON MAIN CAMPUS

RESEARCH & EDUCATION:

163

163

106

106

1,793

1,793

70

70

TOTAL GRANT AND CONTRACT REVENUE

TOTAL FEDERAL REVENUE

RESIDENTS & FELLOWS IN TRAINING

ACREDITED TRAINING PROGRAMS

MORE THAN 75 NORTHERN OHIO OUTPATIENT LOCATIONS,

INCLUDING 16 FULL-SERVICE FAMILY HEALTH CENTERS

COMMUNITY HOSPITALS

Elyria Hospital

Lakewood Hospital

Medina Hospital

Lynnwood Hospital

Lutheran Hospital

South Pointe Hospital

1840 Hospital

AFFILATE HOSPITAL: Ashbrite County Medical Center

27 INSTITUTES

2014 U.S. NEWS SPECIALTIES

TOP-RANKED IN OHIO

Cardiology & Heart Surgery

Urology

Neurosurgery

Diabetes & Endocrinology

Gastroenterology & GI Surgery

Rheumatology

Genitourinary System

Ear, Nose & Throat

Neurology & Neurosurgery

Ophthalmology

Geriatrics

Cleveland Clinic Children’s

Nationally ranked and recognized in 18 out of 19 specialties
Rational, Why the Cleveland Clinic?

- Patient Demand
- Physician Demand
- Personal
Program Details
Program Details: 3 Critical Decisions

I. Separate From Acupuncture Visit?

1. MD Referral
2. State Medical Board of Ohio Reporting Requirements
   - Adverse Events
   - Referring Physician
3. MD Involvement: Affects Visit Cost
4. Self-Imposed Mandatory Lab Requirement: CMP’s at Baseline, 1 Month and 6 Months
5. EMR Charting
6. Communication Flow Between Herbalist and Patient
7. Prescribing and Refill Procedure
8. Patient Preference and/or Qualification
9. Maintains Employment Opportunities for Acupuncturists
Program Details: 3 Critical Decisions

II. Quality Herbal Product

1. Pharmaceutical Grade Product – HIGH Priority!
2. Custom vs. Patent Formula Offerings
3. Separate the Prescriber and the Pharmacist: Compounding Pharmacy
   - Opposed To: In-House Preparation, Bulk Herbs, Patient Home Preparation
   - Vehicle of Administration: Capsules vs Teas vs Tinctures
   - Labeling: FDA Standards
Program Details: 3 Critical Decisions

III. Chinese Herbalist

1. NCCAOM Certified and State Licensed
2. Western Pharmacology Knowledge
3. Skillset to Translate Eastern Medicine into Western Medicine Concepts to Both Doctors and Patients
Program Launch: January 2014
Media Coverage

- Propelled Spike in Patient Volume and Inquiry
- January 2014: 6 Patients/Month
- July 2014: 90 Patients/Month!
3 Month Audit

3 Month Audit on 100% of Patients:

Highlights of 3 Month Audit Results:

1. MD Referrals Missing for Some
2. Baseline Labs Missing for Most
3. 1 Month Labs Missing for Some
4. Time Intensive for Both Chinese Herbalist and MD
5. Price-Point Was Not Appropriate
3 Month Audit

Highlight of Changes Made As a Result of 3 Month Audit Results:

1. Increased Education with Schedulers and Pre-Screen for MD Referrals Prior to Visit
2. No Herbal Formula Given Until AFTER Baseline Labs are Complete
   - First Visit Appointment - CMP Order Entered Into System
   - All Herbal Formulas Changed to Custom Formulas
3. No Herbal Refills Given Until After 1 Month Labs Complete
4. Adjusted Scheduling for Herbalist to Include Appropriate Charting and Prescription-Build Time
5. Increase Price for Both Initial Visit and Follow-up Visit
6. Tighten Communication Between Herbalist and MD: Epic
7. Tighten Communication Between Herbalist and Patient: MyChart
8. Increase Education for All Parties
6 Month Audit

6 Month Audit on 100% of Patients:

Highlights of 6 Month Audit Results:

1. 6 Month Labs Missing for Some: Patient Lost to Follow-Up

Highlight of Changes Made As a Result of 6 Month Audit Results:

1. No Changes Made. Program Flow Remains the Same.
Program Details

Statistics as of December 2015

1. 1,006 Patients Seen
2. 1,107 Herbal Formulas Prescribed
3. 168,553 Grams of Herbs Prescribed
4. No Elevation in Creatinine
5. 1 Case of Elevated LFTs
6. 4 Reported AEs to Ohio State Medical Board: 1 Unrelated, 1 Due to Herb to Caffeine Interaction, 1 Due to Herb Sensitivity, 1 Valid Reaction to Herbal Formal
Program Details

A Look To The Future:

1. 2 Chinese Herbalists Now On Staff
2. Hours Expanded From 3 Hours Per Week to 2 Full Days
3. Expand Service Offering to Other Family Health Centers
4. Chinese Herbal Research
5. Creation of Outcomes and Safety Data Registry
Thank you
Functional Medicine @
The Cleveland Clinic:
The ‘Tipping Point’ ?!

Mark Hyman, MD
Patrick Hanaway, MD

February 25, 2016
Cleveland Clinic
Every life deserves world class care.
FUNCTIONAL MEDICINE addresses the underlying causes of disease, using a systems-oriented approach and engaging both patient and practitioner in a therapeutic partnership.
The Map: The Journey

• Functional medicine is NOT a test or treatment or supplement
• It is a NEW WAY OF THINKING
• Focus on the map – the Matrix
• Focus on patterns and connections
• Focus on finding the causes that lead to the clinical imbalances
• Focus on learning how to create balance
Cleveland Clinic & Functional Medicine

ACCESS

- Addressing Burden and Cost of Chronic Disease

VALUE BASED CARE (ROI)

- Future of health care reimbursement will drive outcomes and results based medicine

POPULATION HEALTH

- Decentralized models of care for root causes
The Cleveland Clinic Center for Functional Medicine

q Clinical Center of Excellence & Collaboration
  - Patient care, research and education
  - Cross Institute Collaborations

q Research Program
  - RCT’s, Outcomes Research and Total Cost of Care, Population Health Research

q Medical Education
  - Nutrition and Systems Biology/Medicine, Fellowship

q Community & Population Health
  - Faith based wellness model and other initiatives

q Policy Change
  - Enrich Act, appropriations, reimbursement
CCCFM

- Opened October 2014
- 2015: 942 New Patients
- 7 MD’s, 1 NP, X 4.5 RD’s, 2 Health Coaches, 36 employees and growing to 57 next year!
- Innovative POD Team Model
  - (MD, RD, health coach, MA)
- Expanding to 18,000 sq ft new space in heart of CC
- 20 percent new to Cleveland Clinic
- 1 percent “no show” rate
- Booking = 1500 + on waiting list for new patient appointments
- > 1200 calls per month
- Team of 100 + working on all projects for CCCFM
Collaboration & Integration

- Rheumatology & Orthopedic Institute
- Digestive Disease Institute
- Respiratory Institute
- Neurological Institute
- Endocrinology & Metabolism Institute
- Miller Heart and Vascular Institute
- Glickman Urologic & Kidney Institute
- OB/GYN Institute
- Genomic Medicine
- Pediatric Institute
- Sports Health
- Wellness Institute
2015 Year End Patient Demographics

CFM patient state of residence (36 states)

Alaska
Hawaii
2015 Year End Payors

N = 2,362

Anthem: 26.3%
MMO: 18.8%
Other: 16.9%
CCF EHP: 11.4%
United Healthcare: 8.5%
Medicare: 8.0%
Self Pay: 7.1%
Medicare Managed Care: 2.6%
Medicaid: 0.4%
## 2015 Year End Visit Totals

<table>
<thead>
<tr>
<th>Service</th>
<th>Jan</th>
<th>Feb</th>
<th>Mar</th>
<th>Apr</th>
<th>May</th>
<th>Jun</th>
<th>Jul</th>
<th>Aug</th>
<th>Sep</th>
<th>Oct</th>
<th>Nov</th>
<th>Dec</th>
<th>Total</th>
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<tbody>
<tr>
<td>New Patient Physician Visits</td>
<td>71</td>
<td>74</td>
<td>89</td>
<td>90</td>
<td>75</td>
<td>84</td>
<td>65</td>
<td>72</td>
<td>81</td>
<td>90</td>
<td>81</td>
<td>70</td>
<td>942</td>
</tr>
<tr>
<td>Ext Patient Physician Visits</td>
<td>71</td>
<td>64</td>
<td>71</td>
<td>87</td>
<td>75</td>
<td>122</td>
<td>119</td>
<td>140</td>
<td>130</td>
<td>151</td>
<td>164</td>
<td>228</td>
<td>1,422</td>
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<td>Virtual Visits</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>3</td>
<td>3</td>
<td>7</td>
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<tr>
<td><strong>Total Physician Visits</strong></td>
<td>142</td>
<td>138</td>
<td>160</td>
<td>177</td>
<td>150</td>
<td>206</td>
<td>184</td>
<td>212</td>
<td>211</td>
<td>242</td>
<td>248</td>
<td>301</td>
<td>2,371</td>
</tr>
<tr>
<td>Nutritionist - New Patient Visits</td>
<td>73</td>
<td>75</td>
<td>87</td>
<td>90</td>
<td>75</td>
<td>81</td>
<td>66</td>
<td>72</td>
<td>86</td>
<td>90</td>
<td>84</td>
<td>69</td>
<td>948</td>
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<tr>
<td>Nutritionist - Ext Patient Visits</td>
<td>62</td>
<td>61</td>
<td>59</td>
<td>80</td>
<td>79</td>
<td>115</td>
<td>123</td>
<td>129</td>
<td>132</td>
<td>111</td>
<td>144</td>
<td>66</td>
<td>1,161</td>
</tr>
<tr>
<td><strong>Total Nutrition Visits</strong></td>
<td>135</td>
<td>136</td>
<td>146</td>
<td>170</td>
<td>154</td>
<td>196</td>
<td>189</td>
<td>201</td>
<td>218</td>
<td>201</td>
<td>228</td>
<td>135</td>
<td>2,109</td>
</tr>
<tr>
<td>Health Coach Total Visits</td>
<td>7</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>6</td>
<td>10</td>
<td>21</td>
<td>53</td>
<td>83</td>
<td>96</td>
<td>92</td>
<td>195</td>
<td>475</td>
</tr>
</tbody>
</table>
Center for Functional Medicine
Randomized Controlled Trials

**Asthma** – moderate to severe, persistent
  - Co-managed with Asthma Clinic (PI = Sumitra Khatri, MD)

Null hypothesis: With respect to asthma control standard guideline-based specialist asthma treatment is equivalent to guideline-based specialist treatment plus additional Functional Medicine management approach.

The primary outcomes to be measured are those related to asthma control – symptoms, QOL(ACT/AQLQ)
  - Secondary outcomes to include:
    - Measurement of airflow (spirometry FEV1, FVC, bronchodilator response % SGaw and SRaw)
    - PROMIS-29 (CAT)
    - Noninvasive markers of airway inflammation (exhaled NO)
    - Additional biomarkers (Banked samples) for and serum/urine biomarkers
    - Quantity of controller medications needed for stability and cost of care.
Center for Functional Medicine
Randomized Controlled Trials

**Migraine** – HIT-6 > 60
- PI = Neil Cherian, MD

Null hypothesis: With respect to migraine control, standard guideline-based neurologist migraine treatment is equivalent to Functional Medicine management approach.

- The primary outcomes to be measured are those related to migraine control – HIT-6 decrease by 3.5 points and PROMIS-29 (CAT)
- Secondary outcomes include:
  - Quantity of medications needed for stability and cost of care.
Center for Functional Medicine Randomized Controlled Trials

**Diabetes** – T2DM on Insulin for 1-5 years

- PI = TBD (working with James Young, MD)

Null hypothesis: With respect to diabetes control, standard guideline-based endocrinologist migraine treatment is equivalent to endocrinologist + Functional Medicine management approach.

- The primary outcomes to be measured are those related to diabetes control – % of patients who are well-managed for T2DM (HgbA1c < 8.0) and not inquiring insulin therapy.
- Secondary outcomes include:
  - PROMIS-29 (CAT)
  - Quantity of medications needed for stability and cost of care.
Value-Based Care

VALUE = OUTCOMES/ COST

OUTCOMES –

Patient-Reported Outcomes Measures =
- PROMIS-10, PROMIS-29
  - http://www.nihpromis.org
- SF-12, SF-36
  - http://www.sf-36.org

DAYS OF WORK LOST
PROMIS-10 Scores

Patients with scores ≥ 2 visits

- Physical t-score
- Mental t-score

Function Med
N=473
- Physical: 44.6
- Mental: 44.7

Family Med
N=590
- Physical: 45.6
- Mental: 48.4

4/1/15 - 11/15/15

Better
Change in Scores
Patients with initial scores ≤ 45

Change ≥ 5 points

Mental Health

Physical Health

<table>
<thead>
<tr>
<th></th>
<th>Functional Med</th>
<th>Family Med</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mental Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worse</td>
<td>6.9</td>
<td>6.9</td>
</tr>
<tr>
<td>No Sig Change</td>
<td>62.8</td>
<td>66.5</td>
</tr>
<tr>
<td>Improved</td>
<td>30.3</td>
<td>26.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Health</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Worse</td>
<td>3.4</td>
<td>7.8</td>
</tr>
<tr>
<td>No Sig Change</td>
<td>58.4</td>
<td>64.8</td>
</tr>
<tr>
<td>Improved</td>
<td>38.2</td>
<td>27.4</td>
</tr>
</tbody>
</table>

N: 231                           203                                                                         207                        230
Baseline score: 37.4                         38.1                                                                       36.2                        36.9
Change in Scores
Patients with initial scores \leq 45

- **Mental Health**
  - Functional Med: 63 (6%), 21 (9%), 9 (30%), 30 (30%)
  - Family Med: 67 (6%), 17 (9%), 9 (26%), 26 (26%)

- **Physical Health**
  - Functional Med: 58 (3%), 24 (14%), 14 (38%), 38 (38%)
  - Family Med: 65 (3%), 18 (10%), 10 (28%), 28 (28%)

**Baseline score:**
- Functional Med: 37.4
- Family Med: 38.1
- Functional Med: 36.2
- Family Med: 36.9

**N:**
- Functional Med: 231
- Family Med: 203
- Functional Med: 207
- Family Med: 230
Value-Based Care

VALUE = OUTCOMES/ COST

COST –

- Claims-based cost of care data
  - InPatient
  - OutPatient
  - Drugs/

- Patient-reported out-of-pocket costs
  - Supplements
  - OTC Medications
# Charges by Phase: 62yo WF Asthma

## Cleveland Clinic

<table>
<thead>
<tr>
<th>Charges by Phase</th>
<th>Days From Anchor</th>
<th>Inpatient</th>
<th>Outpatient</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>-730 to 488</td>
<td>118,930</td>
<td>83,761</td>
</tr>
<tr>
<td>Functional Medicine</td>
<td>10,101</td>
<td>10,101</td>
<td></td>
</tr>
<tr>
<td>Post</td>
<td></td>
<td>61,406</td>
<td></td>
</tr>
</tbody>
</table>

**PLCC. Encounter Detail** (each circle is a patient encounter - click on a circle to see charge detail below)

- **Inpatient**
- **Outpatient**
Payments by Phase: 62yo WF Asthma

<table>
<thead>
<tr>
<th>Phase</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>$39,380</td>
</tr>
<tr>
<td>Functional Medicine</td>
<td>$4,190</td>
</tr>
<tr>
<td>Post</td>
<td>$12,464</td>
</tr>
</tbody>
</table>
Charges by Phase: 48yo WM w/ RA

<table>
<thead>
<tr>
<th>Phase</th>
<th>Charges</th>
</tr>
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<tbody>
<tr>
<td>Pre</td>
<td>68,825</td>
</tr>
<tr>
<td>Functional Medicine</td>
<td>7,899</td>
</tr>
<tr>
<td>Post</td>
<td>46,519</td>
</tr>
</tbody>
</table>
## Payments by Phase: 48yo WM w/ RA

<table>
<thead>
<tr>
<th>Phase</th>
<th>Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre</td>
<td>$13,686</td>
</tr>
<tr>
<td>Functional Medicine</td>
<td>$3,613</td>
</tr>
<tr>
<td>Post</td>
<td>$10,097</td>
</tr>
</tbody>
</table>

### Encounter Detail

- **Outpatient**

### Payor Detail

<table>
<thead>
<tr>
<th>FM Phase</th>
<th>CCF Payor Classification</th>
<th>CCF Payor Desc</th>
<th>Payment</th>
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<tr>
<td>Pre</td>
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<td>CCHS EMPLOYEE HEALTHPENSION</td>
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<td>SELF - PAY</td>
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<td></td>
<td></td>
<td>Other - Cyrex</td>
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<td>Other - GENOA</td>
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<td>Other - SUPPLEMENTS</td>
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<tr>
<td>Post</td>
<td>Other</td>
<td>CCHS EMPLOYEE HEALTHPENSION</td>
<td>$10,097</td>
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</tbody>
</table>

![Chart and Diagram](chart.png)
Cleveland Clinic & Functional Medicine

≤ ACCESS
  • Addressing Burden and Cost of Chronic Disease

≤ VALUE BASED CARE (ROI)
  • Future of health care reimbursement will drive outcomes and results based medicine

≤ POPULATION HEALTH
  • Decentralized models of care for root causes
Cleveland Clinic

Every life deserves world class care.