True Cost and Value of Mental Health Integration: Intermountain Healthcare’s Team-Based Approach to Population Health

Brenda Reiss-Brennan, PhD APRN

27th Annual National Forum on Quality Improvement in Health Care
12/7/15

M16 - Course Objectives:
Identify how integrating mental health services into personalized primary care improves outcomes for patients and families managing multiple and complex conditions and determines the total cost of effective team care.

Demonstrate the greater value provided by high-performing, team-based care compared to the more traditional patient management approach, as measured by outcomes, costs, and utilization.

Understand the features of a Learning Healthcare Delivery System: explicit performance, improvement, and learning goals; systematic monitoring against goals; active environmental scanning; explicit processes/policies for internal/external experimentation; supportive leadership, culture, training & resources.
Integrating Mind and Body Healing into Medical Care: Normalizing a Team Approach

Brenda Reiss-Brennan, PhD, APRN
Primary Care Clinical Program
Mental Health Integration Director

*This presenter has no relevant financial disclosures

Emma

63 year old who has hip and knee pain, questions about 2 of her 18 meds, “no energy”, has a ten minute appointment at 3:30 pm
Diabetes, Hypertension, MCI, Arthritis, CHF
Exam is unremarkable except for slight low blood sugar
You talk about management of diabetes for a few minutes, answer the med questions wish them well, stand to leave, and with one hand on the door the husband says
“Um, before you go, we need to ask you about one other thing we are really worried about…”
Emma
Missed 5 days work
Not sleeping, not eating much
Not going out of the house
Cranky
Husband exhausted

Your 3:40 is in a room and waiting, and your 3:50 is here early because they have to pick up a grandchild from soccer practice 20 minutes from now.

Rise of Chronic Disease

Projected rise in chronic disease from 2003 to 2023

Source: Milken Institute
Multiple Conditions Increase Complexity

Chronic health conditions are often interrelated

- No chronic conditions: 23%
- 1 condition: 22%
- 2 conditions: 16%
- 3 conditions: 12%
- 4 conditions: 8%
- 5 or more: 19%

Source: IBF

Usual Care

Option 1: Traditional Usual Care

- You obtain some more history (3 min)
- Assess suicide risk (3 min) positive
- Explore treatment options, insurance, access to care, will the family even follow up... (5 to 25 minutes if you include all staff time)
- Staff gives patient drug samples, referral names, husband given number for the ER, Emma is on her own
- Your 3:50 yelled at staff and left very upset
- Your receptionist has tried to reassure three other patients (4:00, 4:20, 4:30) that the doctor will be in soon (5 to 10 minutes and lots of energy used up)
Mental Health and Behavioral Disorders
22.7%
Global Burden YLD

1 death every 20 seconds by 2020 (WHO, 2014)
Emerging Trends – ‘Room with a view’

In evaluating trends across the healthcare sector from both a payer and provider perspective, it’s clear that the demand for mental and behavioral health services far outstrips the supply available. Most data highlights that this trend is likely to continue into the foreseeable future.

Emergency Department (ED) Boarding’s

<table>
<thead>
<tr>
<th>National Number of Psychiatry Beds</th>
<th>Emergency Physicians Reporting Boarding Psychiatric Patients</th>
</tr>
</thead>
<tbody>
<tr>
<td>100k</td>
<td>n=308</td>
</tr>
<tr>
<td>110k</td>
<td>71%</td>
</tr>
<tr>
<td>200k</td>
<td>75%</td>
</tr>
</tbody>
</table>

EDs Increasingly Boarding Behavioral Health Patients

- Median length of stay for patients awaiting psych evaluation in EDs: 7-11 hours
- 33% of boarded psych patients stay in EDs for at least eight hours after decision to admit
- 44% of ED visits that do not result in admission or death are due to behavioral problems

Integration Provides a Path Forward

By measuring the impact around mental and behavioral health on the emergency department and hospital visits, you can highlight the ongoing impact to cost and increase in quality that the Mental Health Integration program provides to a community and an integrated delivery system.

Behavioral Health Visits (ED and Hospital Burden 2010)

Per Capita Cost of Care for Medicaid Multi-morbid Patients

- Annual, Compared to Patients With Only Chronic Physical Illness

<table>
<thead>
<tr>
<th>Chronic Disease + Mental Health Condition</th>
<th>Per Capita Cost of Care</th>
<th>60-75%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chronic Disease + Mental Health Condition + Dual Diagnosis</td>
<td>Per Capita Cost of Care</td>
<td>200-300%</td>
</tr>
</tbody>
</table>

State Rankings of Healthiness & Value Compared to Total Health Cost Per Capita Rank

Worst Health
Best Health
Most Affordable
Least Affordable

State Rankings of Healthiness & Value Compared to Total Health Cost Per Capita Rank

WALL STREET JOURNAL
Around the Nation
A breakdown of health-care spending state by state

Overall Outlays
Health care spending per person by state for 2009

Utah: $5,031
What Shapes Population Health?

- Environment 19%
- Human Biology 20%
- Lifestyle 51%
  - Smoking
  - Obesity
  - Stress
  - Nutrition
  - Blood pressure
  - Alcohol
  - Drug use

- Health Care 10%
Clinical Integration: Management of Complex Chronic Disease in Primary Care

<table>
<thead>
<tr>
<th>Mental Health Integration Infrastructure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes, Asthma, Heart Disease, Depression, Hypertension, Obesity, Chronic Pain, SUD, etc.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>2/3 – cared for routinely in primary care</th>
<th>1/6</th>
<th>1/6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patient &amp; Family, PCP, and Care Manager (CM) as needed</td>
<td>PCP, CM + mental health as needed</td>
<td>PCP with MHI Specialist Consult</td>
</tr>
</tbody>
</table>

*Primary Care Physician (PCP) includes: General Internist, Family Practitioner, Pediatrician

Primary Care Clinics by Stage of MHI Implementation

Rogers, E. *Diffusion of Innovations*, 1995—discussion of stages
First - A Key Definition

**Team-Based Care (TBC)** is the combination of Personalized Primary Care (PPC) and Mental Health Integration (MHI).

\[ TBC = PPC + MHI \]
Differences in patient-perceived coordinated team interactions by Mental Health Integration (MHI) clinic phase.

Integration

To form, coordinate, or blend into a functioning or organized whole: Unite
What is Mental Health Integration?

A standardized clinical and operational team process that incorporates mental health as a complementary component of wellness & healing

1. Culture Leadership

Our Patients and their Families

What is the mind body spirit context of your Institution/practice?
1. Leadership & Cultural Integration

Quality Investment
Local Champions
Practice Teams
Accountability
Co-production
• Train all
• Treat all
• Connect all

Distribution of patients treated at MHI and non-MHI clinics
By diabetes control and comorbidity

For patients with diabetes and depression and with 4 or less comorbidities

<table>
<thead>
<tr>
<th>Control Level</th>
<th>MHI CLINICS (N = 698)</th>
<th>NON-MHI CLINICS (N = 442)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Good Control</td>
<td>53.00%</td>
<td>47.50%</td>
</tr>
<tr>
<td>Moderate Control</td>
<td>42.60%</td>
<td>46.00%</td>
</tr>
<tr>
<td>Poor Control</td>
<td>4.50%</td>
<td>6.60%</td>
</tr>
</tbody>
</table>

P < 0.01

For patients with diabetes and depression and with 5 or more comorbidities

<table>
<thead>
<tr>
<th>Control Level</th>
<th>MHI CLINICS (N = 745)</th>
<th>NON-MHI CLINICS (N = 448)</th>
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</thead>
<tbody>
<tr>
<td>Good Control</td>
<td>53.00%</td>
<td>58.70%</td>
</tr>
<tr>
<td>Moderate Control</td>
<td>37.60%</td>
<td>42.50%</td>
</tr>
<tr>
<td>Poor Control</td>
<td>4.50%</td>
<td>3.70%</td>
</tr>
</tbody>
</table>

P < 0.01

Patient who have depression have their diabetes in better control when treated at an MHI clinic (p < 0.01)
Impact of MHI on diabetes bundle compliance

**Impact of MHI on diabetes bundle compliance**

- **Statistically significant:** $P < 0.01$
  - OR = 1.49, CI = (1.11, 2.01)
  - OR = 2.19, CI = (1.33, 3.60)

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**The Quality Challenge**

- Transitioning From Volumes to Value

**Social Context Challenge**

- The Right Care
- For The Right Person
- At The Right Time
- The Right Community?
“The circumstances in which people live and work are related to their risk of illness and length of life” Marmot (2004) The Status Syndrome

Our focus should be on the conditions for good health

Team-Based Care: More Than Just a Program

“My doctor was the first person to treat me as a whole person...”

Relational Reciprocity
What did your doctor do that was most helpful?

[Bar chart showing different categories and their respective planning, adoption, and routine values.]

Pearson’s chi squared test and $p$ for trend Chi square $**p < 0.01$ $*p < 0.05$

What do I (patient) do that is most helpful?

[Bar chart showing different categories and their respective planning, adoption, and routine values.]

Pearson’s chi squared test and $p$ for trend Chi square $**p < 0.01$ $*p < 0.05$
Effect My Engagement Has On My Doctor

Pearson’s chi squared test and \( p \) for trend Chi square **\( p < 0.01 \) *\( p < 0.05 \)
Staff Perceptions of Team Factors that Promote Positive Patient Outcomes

Pearson’s chi squared test and $p$ for trend Chi square **$p < 0.01$ *$p < 0.05$

Staff Perceptions of MHI on the Frontline

Pearson’s chi squared test and $p$ for trend Chi square **$p < 0.01$ *$p < 0.05$
Common MHI Team Process Steps
Patient & Staff Convergence

2. Workflow

Our Patients and their Families

How do you decide who the patient sees and how often?
II. Work Flow: MHI Team Roles

Care Manager
Health Advocates & Care Guides
Psychiatrist or Psychiatric NP
Therapist (Psychologist, LCSW, EAP)
Peer Mentor

Personalized Primary Care

Community Resources:
Integrated CM
NAMI
Community Therapists
Physical Therapists
Nutritionist
Pharmacists

Clinic Manager
Information Technology / EMR / Data / Telehealth

Our Patients and their Families
Clinic Staff:
RN, MA, Reception, Billing

Community Resources:
Integrated CM
NAMI
Community Therapists
Physical Therapists
Nutritionist
Pharmacists

II. Work Flow: MHI Treatment Cascade

Case Identification
Shared Decision Making

MHI Packets

ROUTINE CARE
Mild Complexity
PCP and Care Manager
Responsive Family Support GS=1-3

COLLABORATIVE MHI TEAM
Moderate Complexity
Complex Co-morbidities
Family Isolated or Chaotic GS=4-5

MENTAL HEALTH TEAM
High Complexity
Psychiatric Co-morbidities
Family Support Variable
High Social Burden
Danger Risk GS=6-7
II. Patient and Family Care Planning Worksheet

Mental Health Integration

Option 2: MHI

Obtain more history, explain MHI team (3 min)
Assess suicide risk (3 min)
You agree this is very important and would like to help with it. You give them an MHI packet and instructions to complete it prior to a follow up visit next week (2min)

Emma and husband leave with treatment started and hope

You see your 3:50 at 4:00, apologizing for the delay (she makes it to practice on time)

You send a message to your care manager
call this family in 3 days, help with packet and appointment
Multiple Team Touches

(p < .001)

How will you monitor and communicate your progress?
11/25/2015

The Flow of Information: Team Message Log

Case Identification

MHI Packets

Routine Care
Depression registry (EDW) – 1999 to June 2013

Collaborative MHI Team
Depression registry n = 416,433
148,527 currently active (in the last 12 months)

70,024 unique patients with phq9 and 53,316 with phq2 for patients in depression registry with a total of 183,175 phq9 and 164,502 phq2

106,784 unique patients with phq9 and 153,637 with phq2 for all patients with a total of 234,705 phq9 and 382,048 phq2

7.2% of patients not seen in primary care or behavioral health
67% female 48% private insurance

Use of EMR

Registry (EDW) – 1999 to June 2013

Our Patients and their Families

4. Financing Operations

What will be the cost to your clinic/system without?
The Triple Aim and Shared Accountability

Mark

Joni

Kendall

<table>
<thead>
<tr>
<th>Primary Care Clinic</th>
<th>Secondary Care Clinic</th>
<th>Hospital Campus Clinic</th>
<th>Multispecialty Clinic</th>
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<tbody>
<tr>
<td>Clinical</td>
<td>Quality</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Patient Experience</td>
<td>Cost of Care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RNC, Care Manager</td>
<td>OD, AOD, Clinic Manager</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Mark Joni Kendall

Primary Care Clinical Program

The Triple Aim and Shared Accountability

Mark Joni Kendall

Primary Care Clinical Program

The Triple Aim and Shared Accountability

Mark Joni Kendall

Primary Care Clinical Program

Mental Health Integration

Financial Summary

December YTD 2009

Bryner Herefordshire Holladay Peds Layton Memorial North Ogden South Ogden Total

<table>
<thead>
<tr>
<th>Revenue</th>
<th>$59,164</th>
<th>$39,173</th>
<th>$34,158</th>
<th>$93,141</th>
<th>$55,431</th>
<th>$71,532</th>
<th>$14,542</th>
<th>$367,141</th>
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<td>Bad Debt</td>
<td>2,793</td>
<td>4,048</td>
<td>3,887</td>
<td>10,296</td>
<td>1,582</td>
<td>4,054</td>
<td>864</td>
<td>27,523</td>
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<tr>
<td>Write Offs</td>
<td>2,274</td>
<td>273</td>
<td>370</td>
<td>880</td>
<td>2,737</td>
<td>1,670</td>
<td>655</td>
<td>8,859</td>
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<tr>
<td>Contractual Adjustments</td>
<td>11,724</td>
<td>4,799</td>
<td>6,303</td>
<td>12,811</td>
<td>11,762</td>
<td>11,174</td>
<td>1,573</td>
<td>60,146</td>
</tr>
<tr>
<td>Total Deductions</td>
<td>16,791</td>
<td>9,121</td>
<td>10,560</td>
<td>23,987</td>
<td>16,080</td>
<td>16,897</td>
<td>3,092</td>
<td>96,528</td>
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<tr>
<td>Net Revenue</td>
<td>42,373</td>
<td>30,052</td>
<td>23,598</td>
<td>69,154</td>
<td>39,351</td>
<td>54,635</td>
<td>11,450</td>
<td>270,613</td>
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<table>
<thead>
<tr>
<th>Expenses</th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
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<tbody>
<tr>
<td>MD Pay</td>
<td>23,920</td>
<td>1,495</td>
<td>2,990</td>
<td>11,960</td>
<td>1,495</td>
<td>1,495</td>
<td>1,495</td>
<td>44,850</td>
</tr>
<tr>
<td>PhD Pay</td>
<td>27,865</td>
<td>19,943</td>
<td>7,592</td>
<td>57,336</td>
<td>22,436</td>
<td>49,858</td>
<td>9,972</td>
<td>195,001</td>
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<tr>
<td>APRN Pay</td>
<td>6,689</td>
<td>-</td>
<td>11,440</td>
<td>-</td>
<td>13,379</td>
<td>-</td>
<td>-</td>
<td>31,508</td>
</tr>
<tr>
<td>Care Manager Pay</td>
<td>19,050</td>
<td>69,139</td>
<td>5,545</td>
<td>12,115</td>
<td>25,818</td>
<td>16,153</td>
<td>2,649</td>
<td>150,469</td>
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<tr>
<td>Supporting Staff Pay</td>
<td>396</td>
<td>326</td>
<td>235</td>
<td>713</td>
<td>389</td>
<td>606</td>
<td>115</td>
<td>2,781</td>
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<tr>
<td>Benefits</td>
<td>14,388</td>
<td>18,106</td>
<td>5,411</td>
<td>14,257</td>
<td>14,198</td>
<td>13,548</td>
<td>2,771</td>
<td>82,679</td>
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<tr>
<td>Supply Expense</td>
<td>253</td>
<td>75</td>
<td>56</td>
<td>175</td>
<td>99</td>
<td>142</td>
<td>-</td>
<td>800</td>
</tr>
<tr>
<td>Total Expense</td>
<td>92,561</td>
<td>109,085</td>
<td>33,269</td>
<td>86,092</td>
<td>88,278</td>
<td>81,801</td>
<td>17,002</td>
<td>508,087</td>
</tr>
</tbody>
</table>

Incremental NOI (50,188) $  (79,033) $   (9,671) $    (16,938) $  (48,927) $  (27,166) $  (5,552) $    (237,475) |

No Show Appointments 35              77                25              130             38              84              29              418 |

Gross Charge/Visit 140.20 $     124.75 $       146.60 $     127.94 $     134.87 $     121.04 $      126.45 $     130.47 $ |

Net Revenue/Visit 100.41 $     95.71 $         101.28 $     94.99 $       95.74 $       92.44 $       99.56 $       96.17 $ |

Total Billed Clinic Visits 58,399        32,011          26,914        60,055        92,085        62,651        32,638        364,753 |

Billed MHI Related Visits 3,489          6.0% 4,796           15.0% 620             2.3% 7,645          12.7% 5,862          6.4% 6,271          10.0% 6,168          12.8% 32,851 |

Billed Visits utilizing MHI Provider 422             0.7% 314              1.0% 233             0.9% 728             1.2% 411             0.4% 591             0.9% 115             0.4% 2,814 |

Total Hours for Medical Directors 208             13                26              13              104             13              13              390 |

PhD 676             416              208             1,196          468             1,040          208             4,212 |

APRN 208             -               208             -             416             -             -             832 |

Care Manager 458             1,664           125             312             634             416             78              3,687 |

Total Hours for Care Manager 1,550          2,093           567             1,521          1,622          1,469          299             9,121 |

Total FTEs 0.74            1.00             0.27            0.73            0.78            0.70            0.14            1.00 |

Projected 50% reduction in ER SelectHealth Savings ($68/per patient)* 18,704 $   27,787 $   1,480 $   63,176 $   32,765 $   34,178 $   31,016 $   209,106 $ |

SelectHealth Depression Patients 278             413              22              939             487             508             461             3,108 |

Patients receiving care for depression in primary care clinics with routine MHI teams and care processes were 54 percent less likely to use higher-order ED services.

What does the team score mean?

Planning
Score: 25

Adoption
Score: 50

Routine
Score: 75

A streamlined implementation process has resulted in exponential growth in MHI clinics (N = 82)
Team performance towards Routinization

Count of practices by MHI levels (2010-2014)

Planning
Score: 0-20

Adoption
Score: 21-40

Routine
Score: 41-60

Team performance towards Routinization

Count of practices by PPC levels (2010-2014)

Planning
Modified NCQA Score: 35-64
PPC Level 1

Adoption
Modified NCQA Score: 65-84
PPC Level 2

Routine
Modified NCQA Score: 85 -
PPC Level 3
High Performing Team Based Care (TBC) = MHI + PPC

Count of practices by Team Based Care (TBC) levels (2010-2014)

Who else locally cares about this value cost?
Community Resource Integration
“our health is dependent upon the health of those around us”

Vary by location and system
- NAMI
- CHADD
- ER Behavioral Health Network
- EAP

Family support
Work and vocational support
Important partners and trained patient
Advocates- peers
ICM- Team transitions to and from specialty MHI
Regional peer support group & networks of belonging
Consumers as leaders, developers and evaluators of high value wellness

2013- 2015 Community Health Priorities

1. chronic disease prevention & management
2. access to high-quality health services
3. appropriate behavioral health access
4. accident and injury prevention for kids
Community Benefit Initiatives & Mental Health Integration (TBC)

- Improve health, particularly for low-income, uninsured
- Reduce community & Intermountain costs
- Evidence-based
- Measureable outcomes
- Enhance Intermountain & community resources

Community Health Improvement Initiatives

<table>
<thead>
<tr>
<th>Pilot</th>
<th>Promising Practice</th>
<th>Best Practice</th>
</tr>
</thead>
<tbody>
<tr>
<td>New concept for Intermountain, based upon evidence</td>
<td>Concept proven through pilot process</td>
<td>Proven in multiple communities</td>
</tr>
<tr>
<td>Target: Single community</td>
<td>Target: Ready to pilot in a new community</td>
<td>Target: System-wide adoption</td>
</tr>
<tr>
<td>Example: Prescription for Exercise</td>
<td>Example: Living Well With Chronic Conditions</td>
<td>Example: Community Mental Health Networks &amp; MHI</td>
</tr>
</tbody>
</table>
V. National Communities Diffusing MHI
Common Set of Value Measures (2014)

Patients Are Looked After by a Team of Medical Professionals
At Union Square Family Health Center in Somerville, Mass.

- **Doctor**
  Kirsten Meisinger, supervises the medical team. She also diagnoses patients, performs procedures and prescribes medications.

- **Social Worker**
  Paula Coutinho helps patients with needs like transportation and financial assistance. She also connects patients to behavioral health services for depression.

- **Physician Assistant**
  Juliane Liberis handles routine consultations, manages lab results and helps patients with chronic diseases. She is the point person when the doctor isn’t available.

- **Pharmacist**
  Joseph Fidelnik advises patients on how to take drugs correctly and possible side effects and interactions. He can adjust dosages and help manage conditions like chronic pain.

- **Medical Assistant**
  Fabiola Marcolin takes patients’ vital signs and prepares them to see the doctor. A trained phlebotomist, she does blood work and tracks follow-up appointments.

- **Registered Nurse**
  Amberly Kilmer performs triage and directs some routine patient visits like prenatal counseling. She helps patients adopt healthier lifestyles.

“The Doctor’s Team will see you now”  WSJ, 2-17-2014
Whole Person Centered Care

**WHI**

What Matters Most

N = 59

- They Care
- Being Heard
- Trust Competent
- Staying Well
- We matter

What Is Value?

“Getting to the root of the problem, making it affordable and successful”
Thank You

Questions?