The Rewards of Integrating Behavioral Health & Mental Health into Primary Care and the PCMH 2.0

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Behavioral and Mental Health

May 26, 2016
Housekeeping

1. **Using the control panel** - Use the control panel on the right side of your screen to minimize and expand this panel by clicking on the arrow in the upper right corner.

2. **Ask Questions** - You can submit questions using the Question section located near the bottom of the control panel. We will take time to answer as many questions as we can during Q&A at the end of the presentation. If your question was not answered, we will respond to you individually after the event.

3. **After the webinar** - We want your feedback! Please take the short survey at the completion of the webinar. Also, all registrants will receive a copy of the presentation, and the recording for on-demand replay.
Does Your Population Health Strategy Integrate Behavioral Health?

*Part 1 of a two part Series.*
Population Health Holistic Integration Compass

Clinical

Behavioral / Mental

Genomics

Social / Family / Environmental
OVERVIEW OF THE SCOPE OF THE PROBLEM

Disorders
Disease
Dollars
Faces of Depression

• Major depressive disorders affect 15 million American adults annually resulting in $70 billion in medical expenditures, lost productivity.
• People with undiagnosed and untreated depression are 4x likely to suffer a heart attack.
• 25% of all cancer patients suffer from depression
• 10%-27% of post-stroke patients suffer from depression, about the same percent as those suffering from diabetes.
Some FACTS about Behavioral/Mental Health...

<table>
<thead>
<tr>
<th>40 million</th>
<th>29%</th>
<th>26%</th>
</tr>
</thead>
<tbody>
<tr>
<td>US adults (18-54) have an anxiety disorder in given year</td>
<td>Of all patients with chronic illnesses have a mental illness</td>
<td>Americans 18 and older suffer from a diagnosable mental disorder</td>
</tr>
<tr>
<td>~80%</td>
<td>Majority</td>
<td>28%</td>
</tr>
<tr>
<td>Of all mental health drug prescriptions are written by PCPs and family doctors.</td>
<td>Of Americans receive their mental health care through their PCP and Family Medicine doctor</td>
<td>Of all patients re-admitted to hospitals suffer from mental illness</td>
</tr>
</tbody>
</table>

Source: NAMI, APA, CMS, Project Red
Mental Health Affects Clinical Conditions and Outcomes in a BIG WAY

Behavioral Health + Co-Morbidities Have Significant Impact on Healthcare Costs

- Asthma and/or COPD: $8,000 (No Mental Illness and No Drug/Alcohol Abuse), $24,598 (With Undiagnosed and/or Untreated Mental Illness and Drug/Alcohol Abuse)
- Congestive Heart Failure: $9,488 (No Mental Illness and No Drug/Alcohol Abuse), $24,927 (With Undiagnosed and/or Untreated Mental Illness and Drug/Alcohol Abuse)
- Coronary Heart Disease: $8,788 (No Mental Illness and No Drug/Alcohol Abuse), $24,443 (With Undiagnosed and/or Untreated Mental Illness and Drug/Alcohol Abuse)
- Diabetes: $9,498 (No Mental Illness and No Drug/Alcohol Abuse), $36,730 (With Undiagnosed and/or Untreated Mental Illness and Drug/Alcohol Abuse)
- Hypertension: $15,691 (No Mental Illness and No Drug/Alcohol Abuse), $35,840 (With Undiagnosed and/or Untreated Mental Illness and Drug/Alcohol Abuse)

Source: OptumHealth
## Effect of Mental Health on Various Illnesses

<table>
<thead>
<tr>
<th>Illness</th>
<th>Increased Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diabetes</td>
<td>2x risk of type 2 diabetes(^1)</td>
</tr>
<tr>
<td>Hypertension</td>
<td>Up to 3x risk of morbidity(^2)</td>
</tr>
<tr>
<td>Stable coronary artery dis.</td>
<td>3x risk of MACE(^3) Major Adverse Cardiac Event</td>
</tr>
<tr>
<td>Ischemia</td>
<td>3x risk of 1(^\text{st}) ischemic event(^4)</td>
</tr>
<tr>
<td>Unstable angina</td>
<td>3x risk of cardiac death, 6x risk of nonfatal MI(^5)</td>
</tr>
<tr>
<td>Stroke</td>
<td>3x risk of stroke(^6)</td>
</tr>
<tr>
<td>Post-myocardial infarction</td>
<td>2-3x risk of mortality(^7)</td>
</tr>
<tr>
<td>Congestive heart failure</td>
<td>8x risk of mortality(^8)</td>
</tr>
</tbody>
</table>

Relative Risk of Medical Admission for Diabetics Without & With MH and SU comorbidity
Relative risk of medical admission with & without MH and SU comorbidity

-- Maryland Medicaid Adults, 2011

COPD
Asthma
Pneumonia NOS
Bronchitis

Relative Risk

None  +MH  +SU  +MH+SU

Source: Hilltop Institute, 2012
IMPACT reduces health care costs

ROI: $ 6.5 saved / $ 1 invested

<table>
<thead>
<tr>
<th>4-yr Cost Category</th>
<th>Intervention group cost in $</th>
<th>Usual care group cost in $</th>
<th>Difference in $</th>
</tr>
</thead>
<tbody>
<tr>
<td>IMPACT program cost</td>
<td>522</td>
<td>0</td>
<td>522</td>
</tr>
<tr>
<td>Outpatient mental health costs</td>
<td>558</td>
<td>767</td>
<td>-210</td>
</tr>
<tr>
<td>Pharmacy costs</td>
<td>6,942</td>
<td>7,636</td>
<td>-694</td>
</tr>
<tr>
<td>Other outpatient costs</td>
<td>14,160</td>
<td>14,456</td>
<td>-296</td>
</tr>
<tr>
<td>Inpatient medical costs</td>
<td>7,179</td>
<td>9,757</td>
<td>-2578</td>
</tr>
<tr>
<td>Inpatient mental health / substance abuse costs</td>
<td>61</td>
<td>169</td>
<td>-108</td>
</tr>
</tbody>
</table>
| Total 4-yr health care cost           | 29,422                       | 32,785                     | -$3363          

N=551 depressed pts 60+ yrs > randomized

Reference
Unützer et al., Am J Managed Care 2008.
2008: Chronic conditions and comorbid psychological disorders

For comorbid depression, increased healthcare costs “average $505 per comorbid member per month across all chronic medical conditions we analyzed, of which nearly $400 is higher medical costs.”

79%

For comorbid anxiety conditions, they “average $651 per comorbid member per month across all chronic medical conditions we analyzed, of which nearly $538 is due to higher medical costs.”

83%
Depression Increases 30-Day Readmission Risk by Nearly 40%
Poor coordination of care cost an estimated $25 billion to $45 billion dollars per year (Donald M. Berwick, 2012). At least $12 billion of that total is considered avoidable (Health Affairs, 2012).
Mental Disorders Top The List Of The Most Costly Conditions In The United States: $201 Billion

Charles Roehrig1,*

Abstract
Estimates of annual health spending for a comprehensive set of medical conditions are presented for the entire US population and with totals benchmarked to the National Health Expenditure Accounts. In 2013 mental disorders topped the list of most costly conditions, with spending at $201 billion.
MENTAL DISORDERS BY THE NUMBERS

EXHIBIT 1

Ten medical conditions with the highest estimated spending in 2013

- Mental disorders
- Heart conditions
- Trauma
- Cancer
- Pulmonary conditions
- Osteoarthritis
- Normal birth
- Diabetes
- Kidney disease
- Hypertension

Billions of dollars

SOURCE Author's analysis of study data. NOTES Institutionalized populations include nursing home residents, long-term patients in psychiatric hospitals, and prisoners. Trauma is fractures and wounds. Pulmonary conditions include chronic obstructive pulmonary disease, asthma, and other pulmonary diseases.

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LATEST CHANGES IN CARE MODELS AND DELIVERY SYSTEMS
Practice Transformation: Moving Away from Provider-Centric Episode of Care & Fee for Service

- Preventive medicine
- Chronic disease monitoring
- Medication refills
- Acute care
- Test results

Doctor

Case Manager
Clinical Specialists
Medical Assistants
Nursing

Source: Southcentral Foundation, Anchorage AK
To an Evolving PCP-based Patient-Centered Medical Home and Value-Based Payments for Patient/Member Care

Source: Southcentral Foundation, Anchorage AK
Example Value Stream Defined by the 2014 Standards:
Behavioral Health Integration Sequence in PCMH

Standard 2: Team-based care includes behavioral health providers and services

Standard 3: Assesses each patient and the population for behavioral health issues

Standard 3: Implements point of care reminders related to behavioral health conditions

Standard 4: Provides coaching and self-management support for behavioral health conditions

Standard 5: Coordinates and tracks referrals to behavioral health services

Standard 6: Measure, evaluate, take action, improve, re-measure

How Do Daily Huddles and Pre-Visit Prep Fit In this Sequence?

Think Horizontally: Create Customer-Centric Processes

NCQA PCMH 2014
Requirements to Optimize PHM

Technology
- PHM and Engagement
- EMR
- Analytics

Processes
- Efficient Ways of Working, Scale

People
- Knowledge, Skills, Teams, Leadership, Culture

LEAN & Process Design

Training

Automation

IBM Phytel
Current PCMH for Collaborative Care for Diabetes

Source: Unutzer, UW
PCMH: 2.0 Integrated Behavioral and Primary Care Model

Adapted from Unutzer
PCMH: 2.0 Integrated Behavioral and Primary Care Model
Managing a Chronic Disease and Mental Health Disorders

Adapted from Unutzer Consulting Endocrinologist & Psychiatrist
Primary Care Physician
T2 Diabetic with Depression and Bipolar Disorders
Healthcare Coaches
Other Specialists and Health Aids
Consulting Endocrinologist & Psychiatrist
Substance Treatment Centers/ Clinics
Rehabilitation Centers / Home Health Care Agencies / State Agencies

Adapted from Unutzer
BEHAVIORAL HEALTH AND MENTAL HEALTH RISK STRATIFICATION, DIFFERENTIAL ASSESSMENT AND DIAGNOSTIC TOOLS
At-Risk Populations with Co-Morbidities and Identified Mental Health Disorders

Selected Conditions
1. Diabetes Mellitus Type 2 & Unspec Type Maintenance
2. Hypertension
3. Cancer
4. Congestive Heart Failure
5. COPD
6. Depression
7. Anxiety
8. Bi Polar Disorder
9. PTSD

N = 1917 Patients with Chronic Conditions
N = 346 Patients Diagnosed with Mental Health Disorder

18% of this Patient Population has co-morbidities that include one or more diagnosed mental illnesses. How many remain undiagnosed? How will we know?

IBM Analysis of Sample Population Data—2014
Based on this patient’s personalized profile …

- Find the most similar patients (or dynamic cohort) from entire population
- Analyze what happened with the cohort and reasons why (30,000+ dimensions)
- Predict the probability of the desired outcome for this patient
- Create personalized care plan based on unique needs of this patient
Risk of Missed Behavioral Health Diagnoses is High Among Three of the Standard Screening Tests

M3 is a new test sensitive to 4 primary Conditions in one test.

2. Kroenke, 2007 Anxiety disorders in primary care
5. Das, 2005 Screening for Bipolar Disorder in a Primary Care Practice
6. Depression guideline panel. Depression in primary care: Volume 1, 1993
Anxiety disorders are twice as common as depression in primary care.

Gaynes et al, Ann Fam Med 2010

Note: No mood or anxiety disorder = 423 (65.4%).
This is an mock up ensemble array used in prediction. This is a patient with depression, anxiety and T2 diabetes. Pt is on X meds. The horizontal bars with the black dashes is the target window for all variables according to care plan XYZ. The variables being measured are the colored lines along the x axis. The blue vertical is a change in one medication and dosing in an effort to correct for the radical drop overall (except for red = depression score) that results in an immediate improvement except solid green and dotted blue (i.e. weight gain and dizziness) and a brief spike in HgA1c (black) for which dosing is changed. The green “box” is a slide bar that predicts the most likely results from these adjustments based on all historical evidence from like-patient cohort records. In the prediction widow we can now clearly see a yoyo causal relationship between the red variable and the blue (i.e. depression score and the dosage of [Brand name drug] to control appetite which makes the patient nauseous and depressed.
IBM NLP and UDMH
Content Analytics Healthcare Accelerators drive overall time to value through the following:

- Annotators focused on extracting medical terms
- Approximately 800 pre-built rules developed in IBM Content Analytics Studio
- Extracted concepts, including diagnoses, procedures, labs, and population health measures
- The transformation of unstructured data to CPT, ICD-9, and SNOMED-CT codes
- The detection of negations
- The identification, coding and uploading of family histories
IBM Watson Healthcare Content Analytics: Enhancing EHR usability through advanced natural language processing (NLP) enables Watson Cognitive Care mentor to leverage all data

Until now structured EHR data has required manual entry. IBM software changes this. It analyzes doctors’ notes, extracting structured clinical findings for upload into patient records, automatically adding industry standard diagnoses, clinical observations, and treatment codes. This will significantly simplify administrative processes and improve patient outcomes.
IBM Unified Data Model for Healthcare includes Behavioral Health & Mental Health

*UDMH provides pre-defined data structures which help accelerate data warehouse and business intelligence projects.*

- **Terms**
  Used to create an enterprise-wide vocabulary and to help identify data structures that need to be modeled.

- **Supportive Content**
  Used to identify data structures for regulatory reports, standards and vendor interfaces.

- **Analytical Requirements**
  Used to identify the data structures required for data marts and reports.

- **Data Model**
  Specifies the data structures required to represent the concepts defined in the Business Terms.

- **Data Warehouse Models**
  Used for designing an enterprise-wide data warehouse with history management.

- **Data Mart Models**
  Used for designing structures suitable for deploying data mart solutions for analytics.

- **Clinical Patient History**
- **Mental Health History**
- **Substance Abuse History**
- **Criminal Justice History**
- **Socioeconomic History**
IBM Unified Data Model for Healthcare includes Mental Health, Substance Abuse and some Social Determinates

Healthcare Data Models are often used as foundational prerequisite frameworks for accessing, integrating, staging and managing comprehensive healthcare-related data across the spectrum of care to include mental health disorders and substance abuse.

Content that describes mental health has been added to IBM’s UDMH to cover:

- Clinical Patient History
- Mental Health History
- Substance Abuse History
- Criminal Justice History
- Socioeconomic History
- Program Activity
- Care Interaction
- Care Management Crisis Plan
- Contingency Plan and Actions
- Court Ordered Care

Updates to the existing model content have been made under:

- Care Plan
- Care Team
- Discharge
- Episode of Care
- Risk Assessment
CCD – New Behavioral Health

The Continuity of Care Document (CCD) specification is an XML-based markup standard intended to specify the encoding, structure, and semantics of a patient summary clinical document for exchange.

It provides a snapshot in time containing the pertinent clinical, demographic, and administrative data for a specific patient. This standard helps to promote interoperability between participating systems/organizations such as Personal Health Record Systems (PHRs), Electronic Health Record Systems (EHRs), Practice Management Application, Criminal Justice System, Education System.

The CCD Behavioral Health uses all of the subjects plus other subjects which are important in behavioral health such as substance of abuse, criminal justice, homelessness, income etc.

A new supportive content package called Continuity of Care Document (CCD) – Behavioral Health has been added with mappings to IBM UDMH content.
Continuum of Physical and Behavioral Health Care Integration

Solving the Problem Requires Integrated Care—Clinical, Physical, Social, and Mental

**Coordinated Care**
- **Screening & Stratification**
  - Standardized Mental Health Screening & Assessments—M3, PHQ-9—should be introduced and administered as part of SOP of Dx and treatment. Analytics are used to segment and stratify.

**Navigators**
- Sophisticated analytics and data from NLP aid Care Coaches focused on Risk-Stratified Cohorts and Equipped with Advanced Care Coordination Technologies and integrated Care Plans.

**Co-located Care**
- **Co-location**
  - Multiple, Networked points of access to coordinated care are connected with all caregivers at multiple sites working from the same master patient record.

**Health Homes**
- Inclusive of care givers knowledgeable of mental health and behavioral health strategies who can perform tests and educate teams to include preventive interventions.

**Integrated Care**
- **System-Level Integration**
  - System-wide data and process management required for fully-integrated care provisioning, delivery, assessment, care coordination, outcomes analysis and quality and cost reporting.

**Template Adapted from Kaiser.org**
PUBLIC POLICY AND NEW PAYMENT / REIMBURSEMENT LAWS FOR MENTAL HEALTH, BEHAVIORAL HEALTH, SUBSTANCE ABUSE
The Kennedy Forum is working toward lasting change in the way mental health and addictions are treated in our healthcare system, through:

- PAYER ACCOUNTABILITY
- PROVIDER ACCOUNTABILITY
- INTEGRATION & COORDINATION
- TECHNOLOGY
- BRAIN HEALTH & FITNESS
- LEARN MORE ABOUT OUR PRIORITIES

www.thekennedyforum.org
Mental Health Parity and Addiction Equity Act (MHPAEA)

Millions of Americans with mental health or substance use disorders, including individuals participating in the Medicaid program do not have adequate insurance protection against the costs of treatment for mental and substance use disorders. The Mental Health Parity and Addiction Equity Act (MHPAEA) makes it easier for those Americans to get the care they need by prohibiting certain discriminatory practices that limit insurance coverage for behavioral health treatment and services. MHPAEA requires many insurance plans that cover mental health or substance use disorders to offer coverage for those services that is no more restrictive than the coverage for medical/surgical conditions.

Mental Health Parity and Addiction Equity Act

The Mental Health Parity and Addiction Equity Act (MHPAEA) requires group health plans to ensure that the financial requirements and treatment limitations that are applicable to mental health or substance use benefits are no more restrictive than the predominant financial requirements and treatment limitations applied to substantially all medical and surgical benefits covered by the plan.
Among Patients with Untreated Substanced Abuse Disorders...

45% commit suicide

Source: PsychologyToday.com
Collaborative Care is a specific type of integrated care that treats common mental health and substance use conditions such as depression and anxiety in primary care settings. In usual primary care, the treatment team has two members: the primary care provider and the patient. Collaborative Care adds two additional vital roles: a care manager (typically embedded) and a psychiatric consultant (typically engaged by phone or video link).

Collaborative Care is:

- Team-based
- Population-based
- Patient-centered
- Measurement-based
- Evidence-based
- Practice-tested
- Accountable
Medicare’s Vision for Comprehensive Primary Care (CPC): New Directions for Care Delivery

CPC and CPC+ are both payment and care delivery models. Similar to CPC, practices selected to participate in CPC+ will use defined, stepwise requirements to guide them through care delivery changes required to provide 5 comprehensive primary care functions: (1) access and continuity, (2) risk-stratified care management, (3) planned care for chronic conditions and preventive care, (4) patient and caregiver engagement, and (5) comprehensiveness and coordination of care. CPC+ will have a separate track (“Track 2”) for practices that have more experience delivering advanced primary care, and these practices will be expected to provide enhanced services within these 5 functions for patients with complex needs, including identification of psychosocial needs and resources and supports to meet those needs.
Pillar 4: Technology

We are aware of a number of key challenges that, if addressed, can lead to faster adoption:

• **Best Practices.** How can we identify, track and analyze these emerging technologies and the companies that support these initiatives?

• **Evidence-Based.** How can we best study and validate in a more timely and cost-effective manner the science behind these emerging products?

• **Regulatory Requirements.** What are the regulatory barriers that could be changed to speed up the review process?

• **Reimbursement.** How can we encourage enhanced payment mechanisms for these emerging technology applications that promote more robust treatment interventions?

• **Immediate Public Health Issue.** The Kennedy Forum and others see the systematic non- or under-treatment of MH/SU disorders as a public health emergency adding significantly to the financial and emotional costs to our nation.

Kennedyforum.org
Population-Based Payment (PBP) Model:

A payment model in which a provider organization is given a population-based global budget or payment and accepts accountability for managing the total cost of care, quality, and outcomes for a defined patient population across the full continuum of care. PBP models discussed in this paper correspond to payment models in Categories 3 and 4 of the LAN’s APM Framework (refer to Figure 1).

Total Cost of Care (TCOC):

A broad indicator of spending for a given population (i.e., payments from payer to provider organizations). In the context of PBP models, in which provider accountability spans the full continuum of care, TCOC includes all spending associated with caring for a defined population, including provider and facility fees, inpatient and ambulatory care, pharmacy, behavioral health, laboratory, imaging, and other ancillary services.
HHS/CMS just released the Notice of Proposed Rule Making on MACRA (Medicare Access and CHIP Reauthorization Act), which is an Act that Congress passed to move from fee-for-service to APMs (alternative payment models).
Warrior Canine Connections enlists recovering Warriors in a therapeutic mission of learning to train service dogs for their fellow veterans. WCC is a 501-C3 non-profit organization.
QUESTIONS?
THANK YOU!

The recording and handouts will be sent to you via email within 2 business days.

Any questions can be sent to sauer@us.ibm.com.