Achieving Patient Well-Being at Lower Cost

Population Health through Mental Health Integration and Team-Based Care

"Using Complex Health Data to Drive System Change"

Brenda Reiss-Brennan, PhD, APRN

Chief Clinical Implementation Science Advisor

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One Intermountain

We are on a Measured Implementation Journey –

"Helping people live the healthiest lives possible®"

The Science of Mental Health Integration

Key Implementation Findings

Cultural Vision Alignment
Equitable Workflow
Complex Data Transparency
Continuous Trusting Relationships
Connecting Outcomes Overtime

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Culture of Learning Builds Value

Common Vision | Clinical Work Processes | Data and Evaluation Transparency

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American Healthcare

Amazing Successes and Tragic Failures

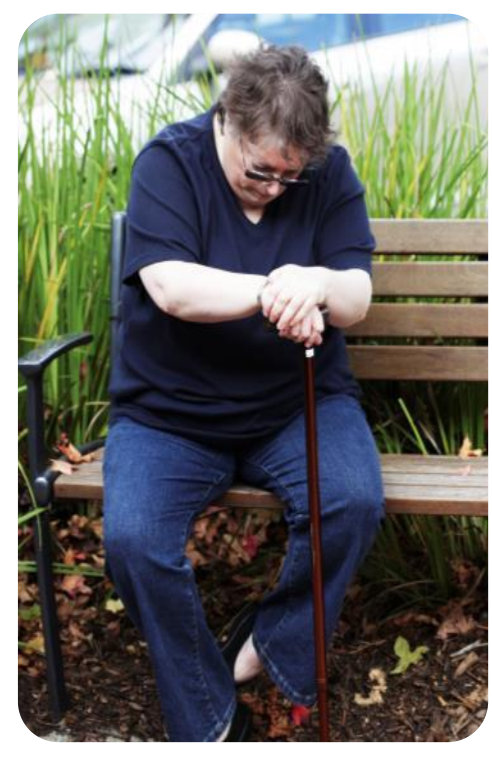
Most crushing healthcare problems of our society remain

Acute Care

Siloed Rescue Care

VS.

Prevention, Resilience-Building and Effective Team Management of Chronic Conditions



Primary Care

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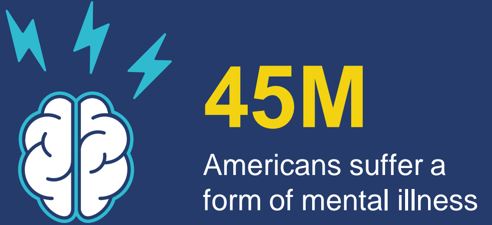
PROBLEM: The global mental health crisis overwhelming healthcare delivery impacting quality - out of control costs - exhausting staff, patients and families

Global Mental Health Crisis



45M
Americans suffer a form of mental illness

300M
People worldwide live with depression

68% of adults
with mental disorders have other medical conditions

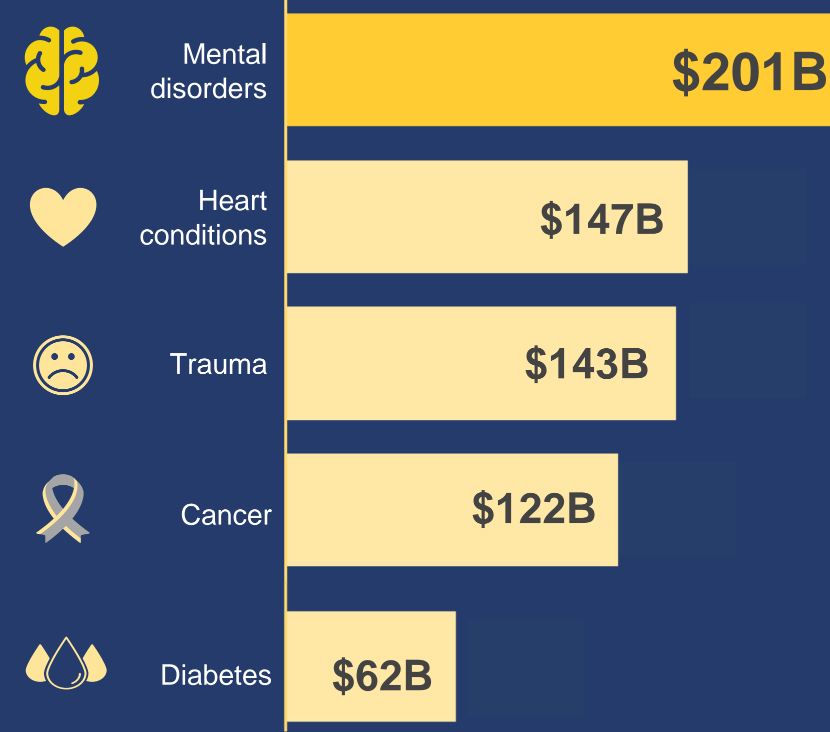
Rising Death Toll

20M
Americans suffer from mental illness associated with substance abuse

~64,000
drug overdose deaths annually in 2016

1
suicide death every
20 seconds
(2020)

Significant Cost



"Mental health is a state of successful performance of mental and physical functioning, resulting in productive activities, fulfilling relationships with others, and the ability to adapt to change and cope with adversity"

David Satcher, M.D.
Surgeon General of the United States

Team based, mental health integration is focused on prevention and access via normalizing mental and behavioral health as routine medical care through unified connected team interactions

Transforming the Value of Primary Care

Mental Health Clinical Integration: Team Management of Complex Chronic Disease in Primary Care - including Substance Use Disorders

Mental Health Integration Infrastructure		
Diabetes, Asthma, Heart Disease, Depression, Hypertension, ADHD, Obesity, Chronic Pain, SUD, etc.		
2/3 – cared for routinely in primary care	1/6	1/6
Patient & Family, PCP, and Care Manager (CM) as needed	PCP, CM + mental health as needed	PCP with MHI Specialist Consult

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

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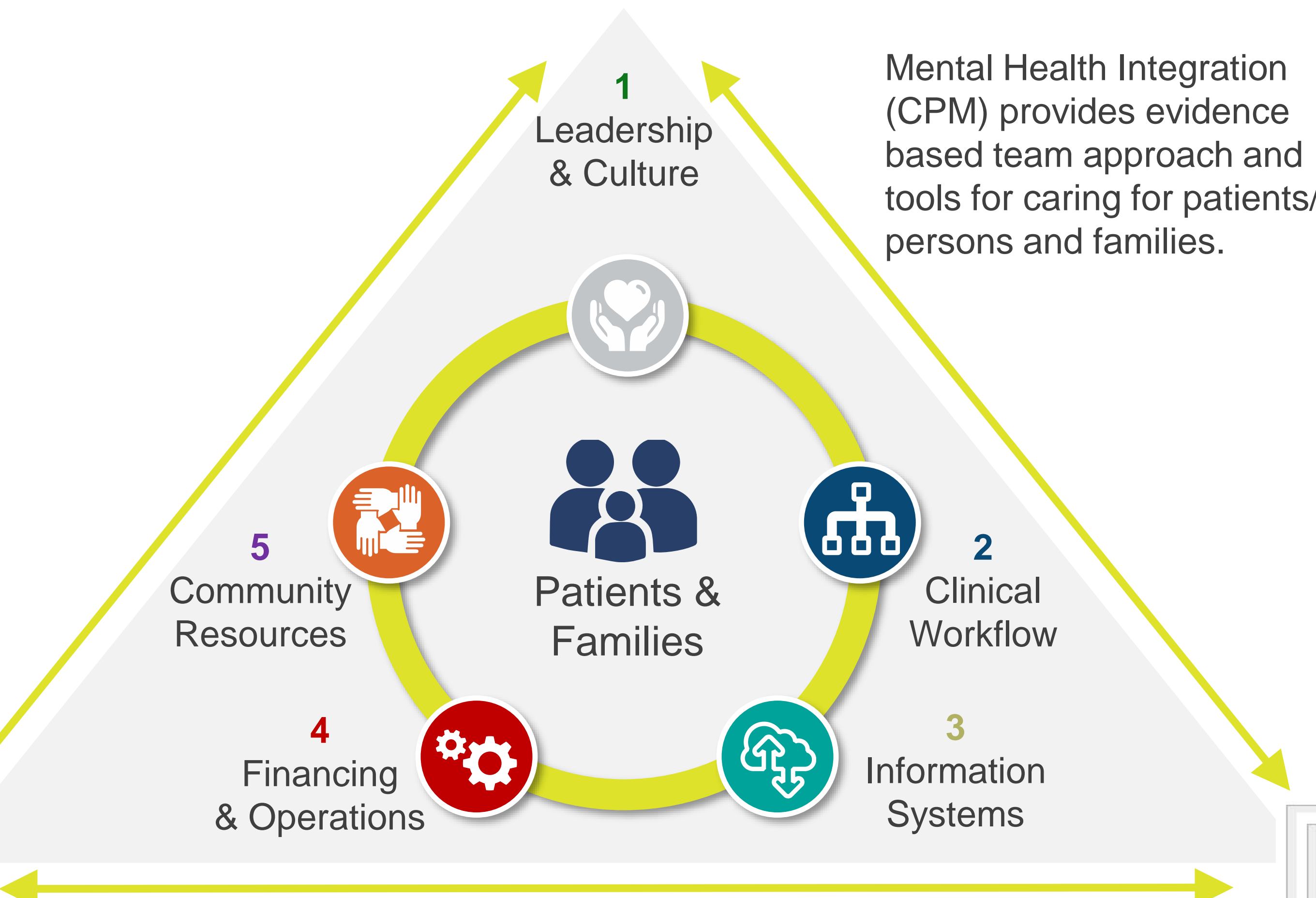
What Is Mental Health Integration (MHI)?



Mental Health Integration (CPM) provides evidence based team approach and tools for caring for patients/ persons and families.

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

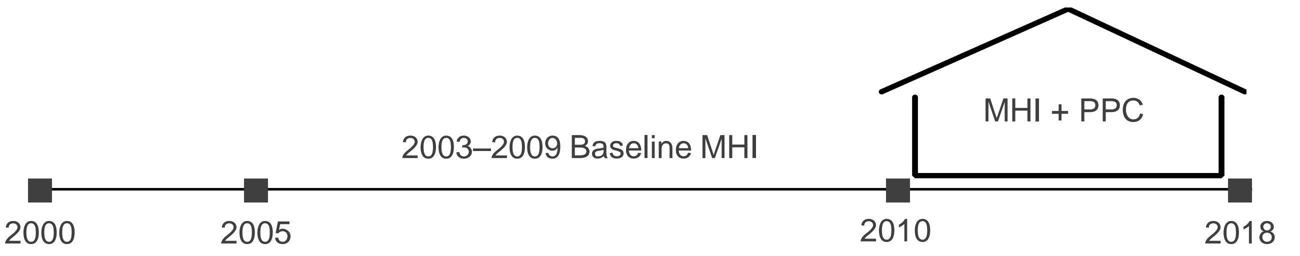
Essential Integrated Team Elements

1	**Leadership and culture** – champions establishing a core value of accountable and cooperative relationships
2	**Clinical Workflow** – engaging patients and families on the team and matching their complexity and need to the right level of support
3	**Information systems** – EMR, EDW, registries, dashboards, technology to support team decision making, communication, performance and outcome benchmarking
4	**Financing and operations** – projecting, budgeting and sustaining team FTE to measure matching stratification and workforce ROI
5	**Community resources** – who are our community partners to help us engage our population in sustaining wellness and increasing social connectedness

Planning Score: 9-25 → Adoption Score: 26-41 → Routine Score: 42-51

Mental Health Integration Team-Based Care: More Than Just a Program

Implementation Roadmap - Culture of Relational Reciprocity



Impact of a Culture of Relational Reciprocity:

'My doctor was the first person to treat me as a whole person' ($p < .001$)

'I am connected to a team that talks to each other' ($p < .05$)

'Being on the same page I get better results' ($p < .01$)

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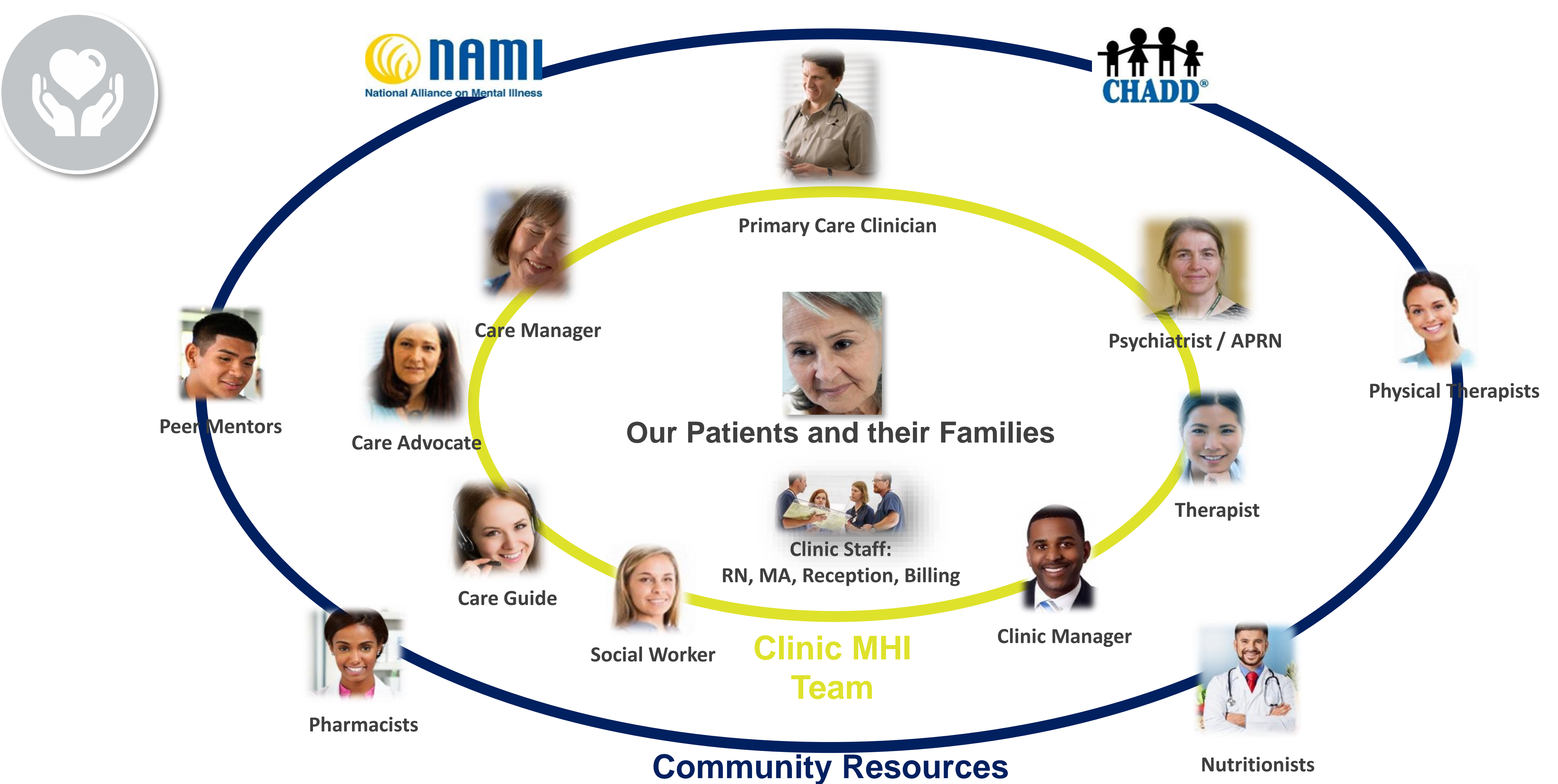
Establishing, Understanding & Connecting Roles Responsibilities of Clinical Team Social Network



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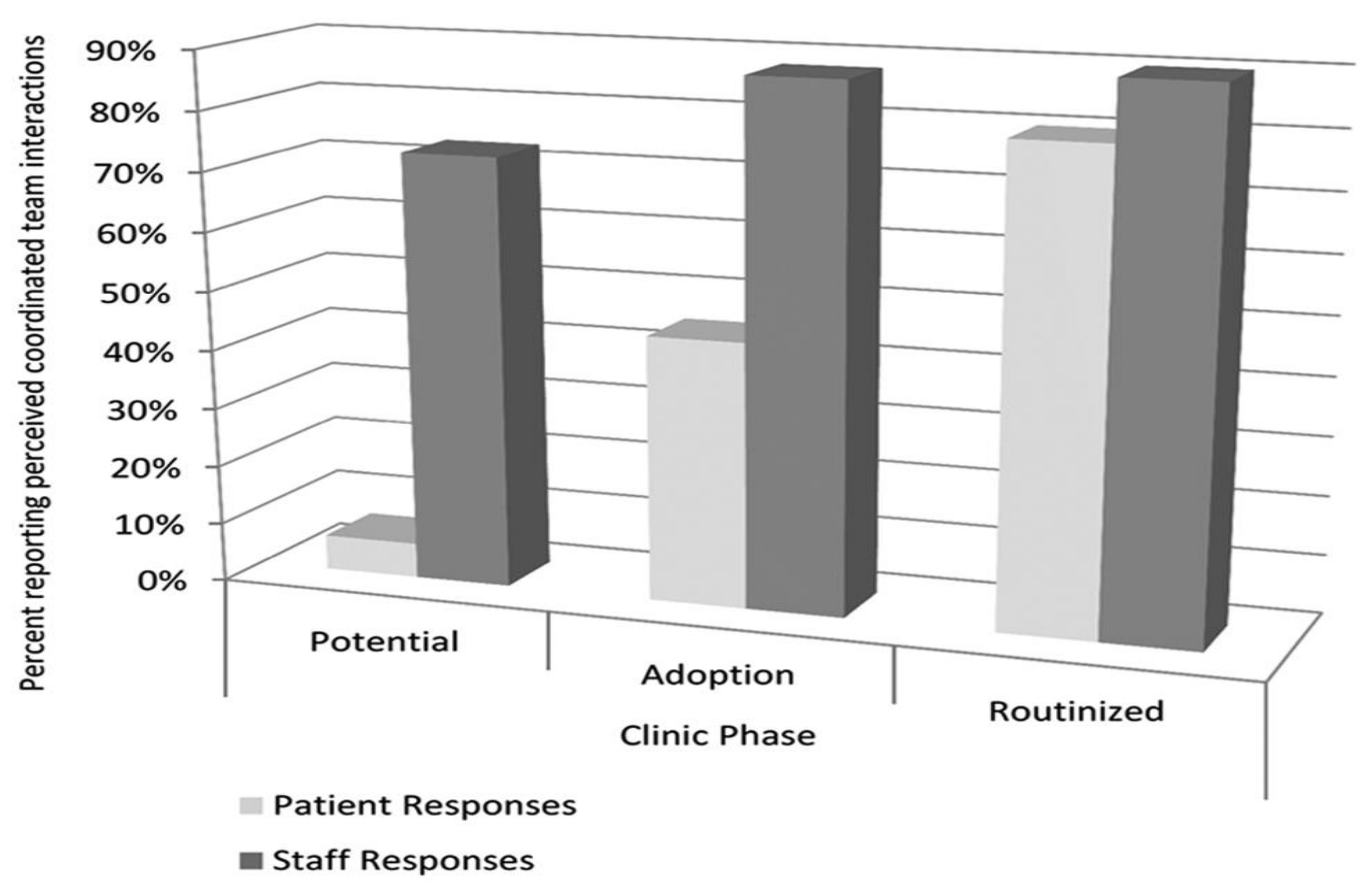
Differences in patient-perceived coordinated team interactions by Mental Health Integration (MHI) clinic level of TBC maturity



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Matching Right Level of Team Resource to Complexity of Patient and Family Story

NEEDS

Patients & Families

2 Workflow

MHI Treatment Cascade

Case Identification
Shared Decision Making

Standardized Assessment Tools
PHQ-2, PHQ-9, & MHI Packet

ROUTINE CARE
Mild Complexity
PCP and Care Manager
Responsive
Family Support

COLLABORATIVE MHI TEAM
Moderate Complexity
PCP, Care Manager, &
MHI Specialist Consult
Complex Co-morbidities
Family Isolated or Chaotic

MENTAL HEALTH TEAM
High Complexity
PCP, Care Manager,
& MHI Psychiatrist
Psychiatric Co-morbidities
Family Support Variable
High Social Burden
Danger Risk

SPECIALTY CARE
High Complexity
Psychiatrist Referral
Stabilization requires
higher level of care
Safety

ALLUCEO | HOME | PATIENTS | PRACTICE MANAGEMENT | JILL FAKER | LOGOUT

Patient (TEST 8) TEST 8

Causal Complexity Score: Mild 0.12% Moderate 37.8% High 62.0%

Key Indicators	0–100
Depression:	100
Family Style:	100
Substance Abuse:	100
Abuse and Neglect:	100
Anxiety Disorder:	99.8
Neighborhood Style:	92
Mood Disorder:	88.7
Physical Disease:	77.6 (±42)
ADHD:	53.4
Social Work Function:	0
Columbia Suicide Risk:	Low / Moderate / High

Patient Assignments | GET BARCODE
No Assignment

Communications
Acknowledgement
To: 0001 TEST Edit
Hello world
Hello world
F6DC TEST
Hello world
C153 TEST

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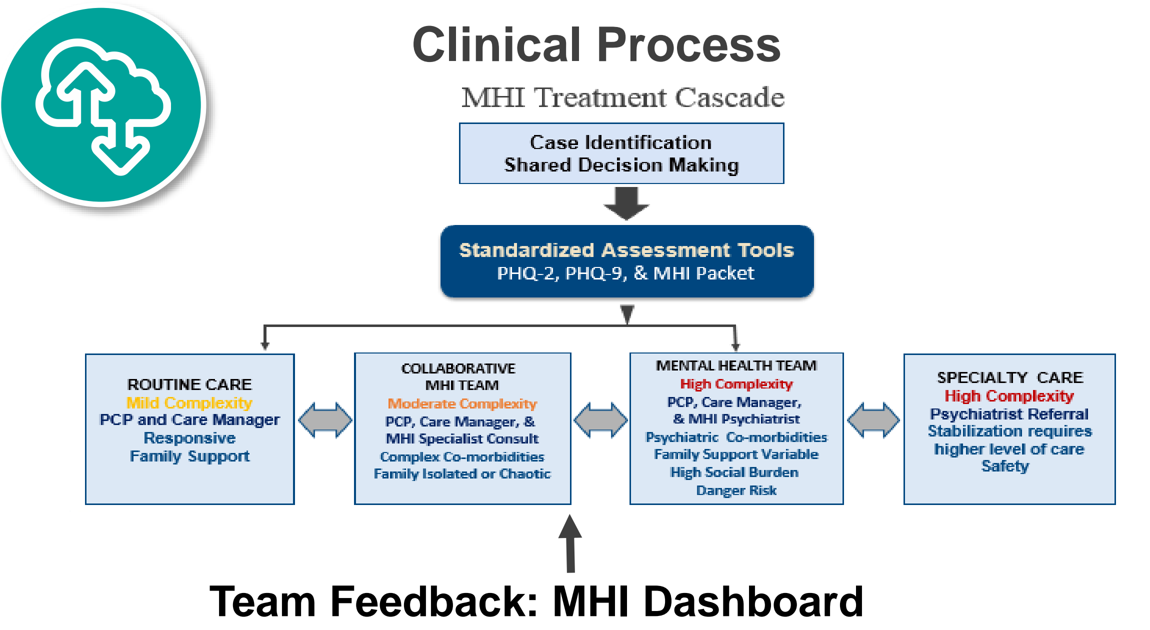
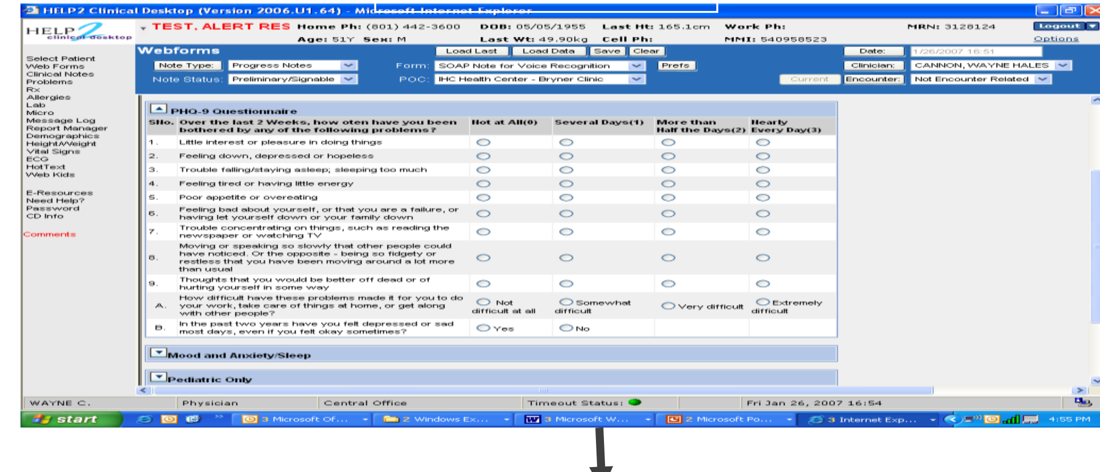
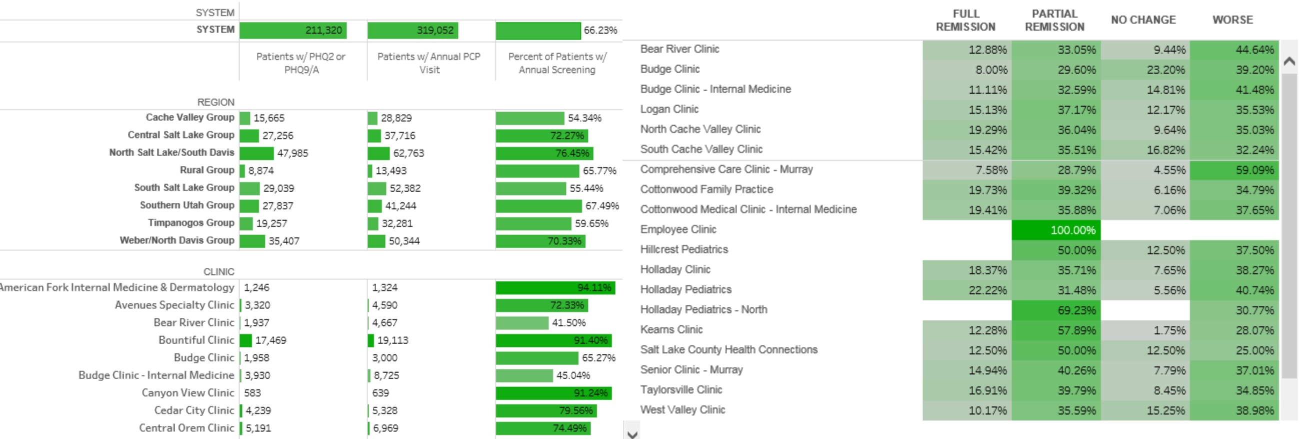
Actionable Data Helps Support Decision-Making & Care Improvement



Data Input



Team Feedback: MHI Dashboard



PHQ2 or PHQ9/A Screening in Past 12 Months

	Patients w/ PHQ2 or PHQ9/A	Patients w/ Annual PCP Visit	Percent of Patients w/ Annual Screening
SYSTEM			
SYSTEM	211,320	319,052	66.23%
REGION			
Cache Valley Group	15,665	28,829	54.34%
Central Salt Lake Group	27,256	37,716	72.27%
North Salt Lake/South Davis	47,985	62,763	76.45%
Rural Group	8,874	13,493	65.77%
South Salt Lake Group	29,039	52,382	55.44%
Southern Utah Group	27,837	41,244	67.49%
Timpanogos Group	19,257	32,281	59.65%
Weber/North Davis Group	35,407	50,344	70.33%
CLINIC			
American Fork Internal Medicine & Dermatology	1,246	1,324	94.11%
Avenues Specialty Clinic	3,320	4,590	72.33%
Bear River Clinic	1,937	4,667	41.50%
Bountiful Clinic	17,469	19,113	91.40%
Budge Clinic	1,958	3,000	65.27%
Budge Clinic - Internal Medicine	3,930	8,725	45.04%
Canyon View Clinic	583	639	91.24%
Cedar City Clinic	4,239	5,328	79.56%
Central Orem Clinic	5,191	6,969	74.49%
Comprehensive Care Clinic - Murray	124	125	99.20%

Categorical Change in PHQ9 by Clinic

	FULL REMISSION	PARTIAL REMISSION	NO CHANGE	WORSE
Bear River Clinic	12.88%	33.05%	9.44%	44.64%
Budge Clinic	8.00%	29.60%	23.20%	39.20%
Budge Clinic - Internal Medicine	11.11%	32.59%	14.81%	41.48%
Logan Clinic	15.13%	37.17%	12.17%	35.53%
North Cache Valley Clinic	19.29%	36.04%	9.64%	35.03%
South Cache Valley Clinic	15.42%	35.51%	16.82%	32.24%
Comprehensive Care Clinic - Murray	7.58%	28.79%	4.55%	59.09%
Cottonwood Family Practice	19.73%	39.32%	6.16%	34.79%
Cottonwood Medical Clinic - Internal Medicine	19.41%	35.88%	7.06%	37.65%
Employee Clinic		100.00%		
Hillcrest Pediatrics		50.00%	12.50%	37.50%
Holladay Clinic	18.37%	35.71%	7.65%	38.27%
Holladay Pediatrics	22.22%	31.48%	5.56%	40.74%
Holladay Pediatrics - North		69.23%		30.77%
Kearns Clinic	12.28%	57.89%	1.75%	28.07%
Salt Lake County Health Connections	12.50%	50.00%	12.50%	25.00%
Senior Clinic - Murray	14.94%	40.26%	7.79%	37.01%
Taylorsville Clinic	16.91%	39.79%	8.45%	34.85%
West Valley Clinic	10.17%	35.59%	15.25%	38.98%

Actionable Data Creation

Registry (EDW) – 1999 to present

Depression Registry

Depression registry n = 604,160

- Accurately captures “active” depression patients
- Includes various process & outcomes measures
- Aligned with iCentra EHR

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Measuring Implementation Performance towards Team Routinization
MHI TBC Yearly Scorecard (N = 120/185)

	Planning Score: 9-25	Adoption Score: 26-41	Routine Score: 42-51
Leadership & Culture	Committed Leadership Identify Population Complexity	Implement staffing & provider needs Assign all roles relative to MHI CPM Routine Meetings	Monitored adherence Continuous training & support provided Champions leading
Workflow Integration	Design patient workflow Identify Patient & Family Complexity	Implement strategies to address barrier Develop care management strategy	Identified workflow gaps; Improved process Engaged providers w/ treatment cascade Difficult case conferences
Information Systems	Complete team scorecard Design MHI Dashboard	Providers assign complexity & stratification Dashboard identifies gaps & chronic disease action plans	Tracked patient complexity data Dashboard used to target outcomes results
Financing & Operations	Review & Track clinical & operational reports quarterly ; Team FTE	Gaps identified & action plans developed Refine meaningful tools – TBC ROI	Reports used to improve performance Data used to target utilization & cost gaps
Community Resources	Inventory of potential partners Identify support groups & classes	Process developed to provide resources Team link patients to groups, classes, peer support	Documented community referrals Engage new partners; patient mentors

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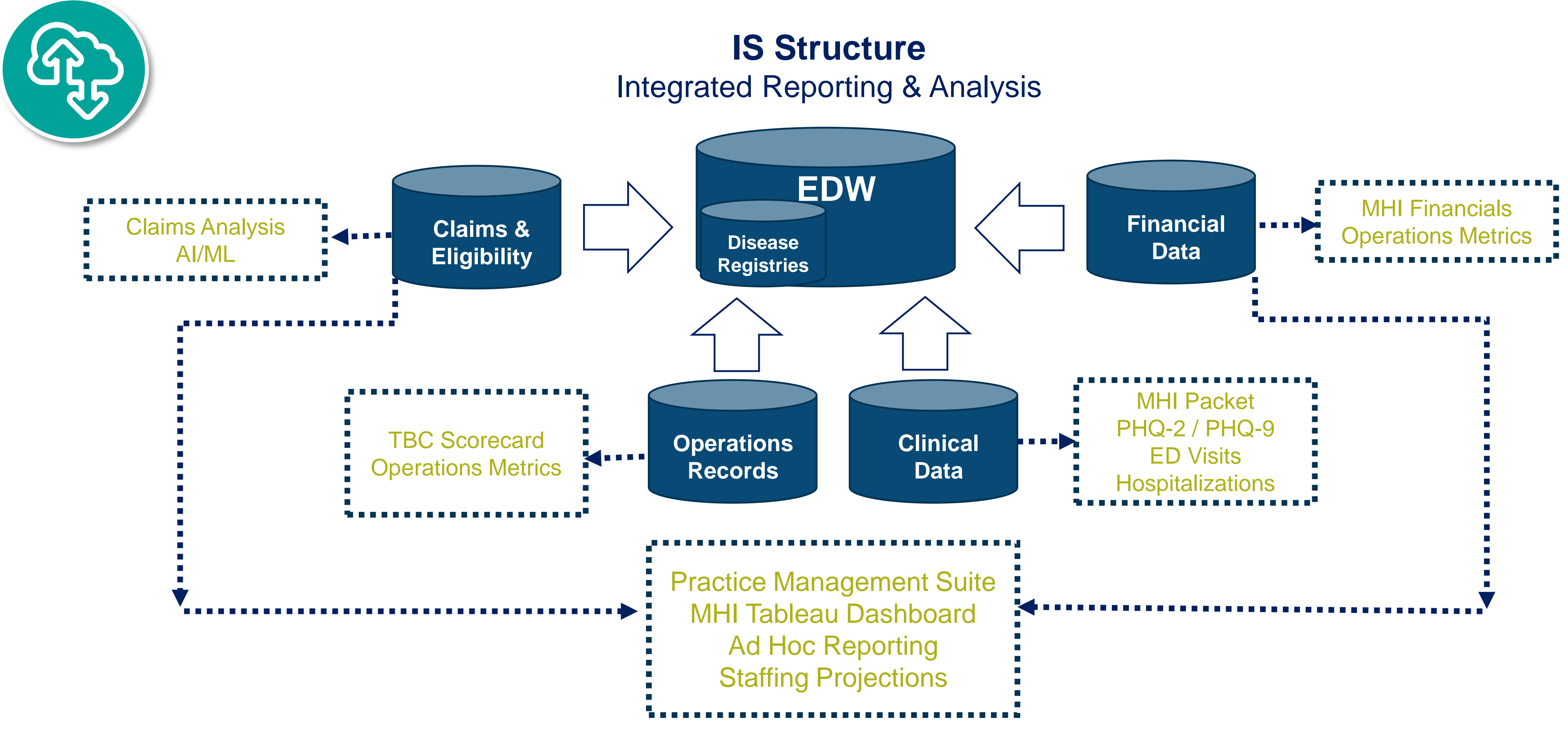
Intermountain Data Infrastructure to Support MHI TBC Primary Care Cultural Transformation



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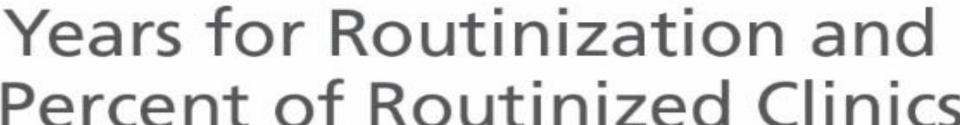
A streamlined implementation process has resulted in exponential growth in MHI clinics (N = 82)



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Integrated Team-based Care (TBC) Cultural Journey

Getting to routinized team-based care
(Study period 2003 – 2013)

Started Mental Health Integration (MHI)
Physical and mental health interdisciplinary teams in patient care.

2003 – 2009 BASELINE MHI

MHI
+
Personalized Primary Care (PPC)

MHI Program
primary care practices
18 years

2000 | **2003** | **2005** | **2010 PPC Started** | **2013** | **2018**

Patient Cohort Identified
(aged < 18 years) (aged ≥18 years)
Patients had to have at least 1 outpatient visit with a primary care physician (family medicine, internal medicine, geriatric, or pediatric specialty)

r-TBC Study Period
Continuous Encounters
Differences associated with their exposure to TBC compared with TPM

MHI tools are deployed system-wide throughout our **22** hospitals, **185** clinics and **59** urgent care/emergency departments using a common **electronic health record and screening tools**. Healthcare providers communicate with each other via notes in the patient record and track results as a united team. Total patients annually **967,445**.

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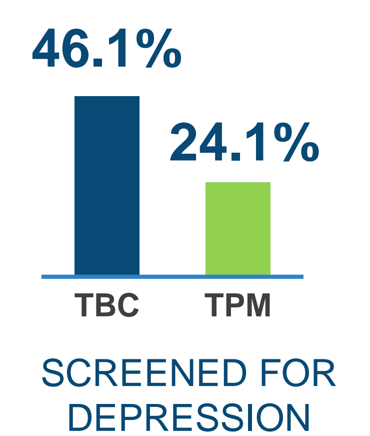
Adult Study shows that integrating mental and physical health through primary care teams results in better clinical outcomes and lower costs.

10-YEAR STUDY	
113,452	Participants
113	Primary care providers
27	Team-based care (TBC) medical practices
75	Traditional practice management (TPM) medical practices



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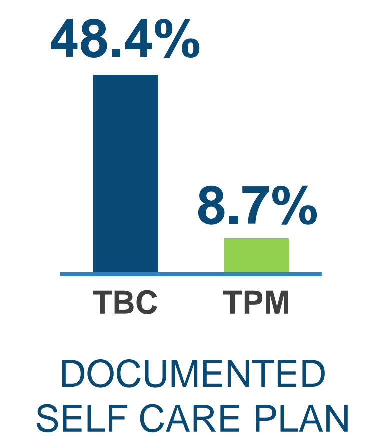
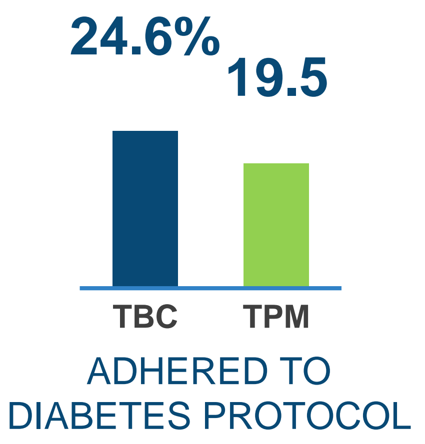
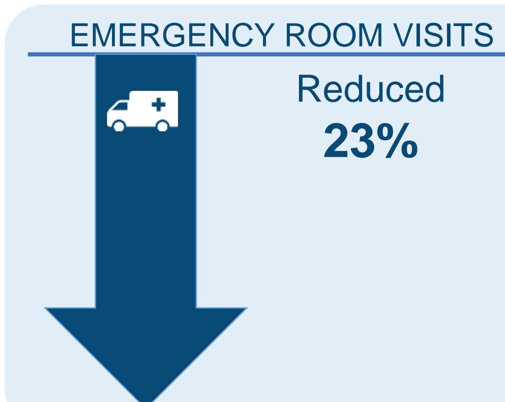


DOCUMENTED SELF CARE PLAN



ADHERED TO DIABETES PROTOCOL

EMERGENCY ROOM VISITS

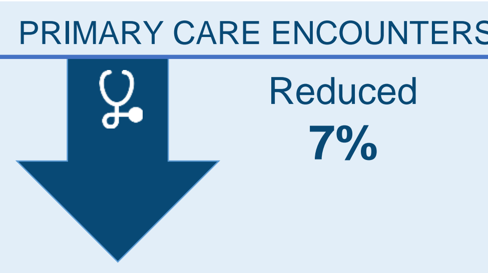


Reduced
23%

HOSPITAL ADMISSIONS

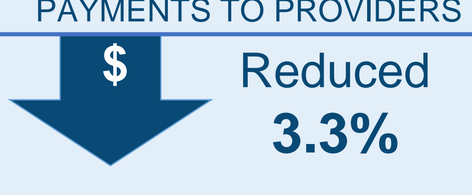
Reduced
10.6%

PRIMARY CARE ENCOUNTERS



Reduced
7%

PAYMENTS TO PROVIDERS



Reduced
3.3%

($3,401 for TBC vs. $3,516 for TPM)

Savings of **$115.00** Per patient per year (PPYR)

Savings of over **$13 Million** per year

Brenda Reiss-Brennan, PhD, APRN, et al. 2016 JAMA

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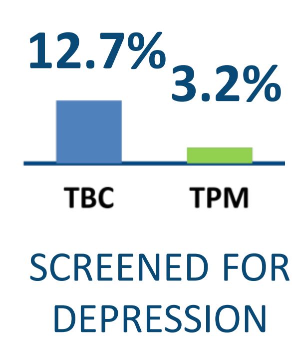
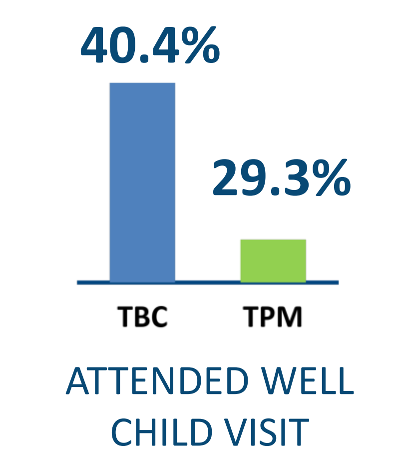
Pediatric study shows that integrating mental and physical health through primary care teams results in better clinical outcomes and lower costs.

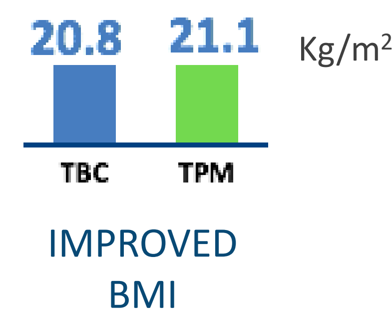
10-YEAR STUDY 2003-2013	
29,378	Participants
20	Team-based care medical practices (all 4 years)
26	Traditional practice management medical practices (all 4 years)



SCREENED FOR DEPRESSION



ATTENDED WELL CHILD VISIT



Kg/m²

IMPROVED BMI

EMERGENCY ROOM VISITS

Reduced **32.1%**

HOSPITAL ADMISSIONS

Reduced **38.5%**

WELL CHILD CHECKS

Increased **34.5%**

PAYMENTS TO PROVIDERS

Neutral-Total Cohort
Reduction Transition Cohort
(9-17 yrs.)

Savings of **$117.00** Per patient per year (PPYR)

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After JAMA evidence was published and more TBC/MHI resources were applied, rapid adoption and routinization followed

From 2013 - 2018, the number of routinized clinics doubled.

2018: Rapid Routinization

Number of Clinics

Year	No MHI	Planning	Adoption	Routinized
2000	94	0	2	0
2001	91	3	2	0
2002	83	10	3	0
2003	80	11	4	1
2004	73	10	12	1
2005	60	20	12	4
2006	45	33	8	10
2007	44	20	19	13
2008	26	32	25	13
2009	36	30	20	10
2010	34	29	19	14
2011	32	31	18	15
2012	25	32	20	19
2013	19	26	26	25
2014	17	19	38	22
2015	15	21	40	20
2016	9	20	43	24
2017	3	16	51	26
2018	1	9	35	51

Layering intuitive technology on top of TBC/MHI can even further accelerate a clinic's timeline between adoption and routinization.

DIFFERENTIATOR: We are the only solution with 10 years of proven outcomes that fully integrates with patients' holistic healthcare ecosystem

JAMA 10yr study (2003-2013) at Intermountain Healthcare

Association of Integrated Team-Based Care With Health Care Quality, Utilization, and Cost[1]

Brenda Reiss-Brennan, PhD, APRN; Kimberly D. Brunisholz, PhD; Carter Dredge, MHA; et al

Integrating Mental + Physical Health in Primary Care = Better Outcomes & Lower costs

New patient depression screening	Adherence to diabetes protocol	Emergency room visits	Hospital admissions
91% Increased	26% Increased	23% Decreased	10.6% Reduced

Financial Results

$115	PMPY savings at $22 program cost
$260	PMPY savings for commercial payer patients
$1,400	PMPY savings for patients with chronic conditions[2]
$13M[3]+	Annual savings for patients in study

1. Association of Integrated Team-Based Care With Health Care Quality, Utilization, and Cost: https://jamanetwork.com/journals/jama/fullarticle/2545685?resultClick=1 2. Chronic Patients: patients with multiple comorbidities
3.Only represented 11.7% of the Intermountain Patient Population (est. 967,445)

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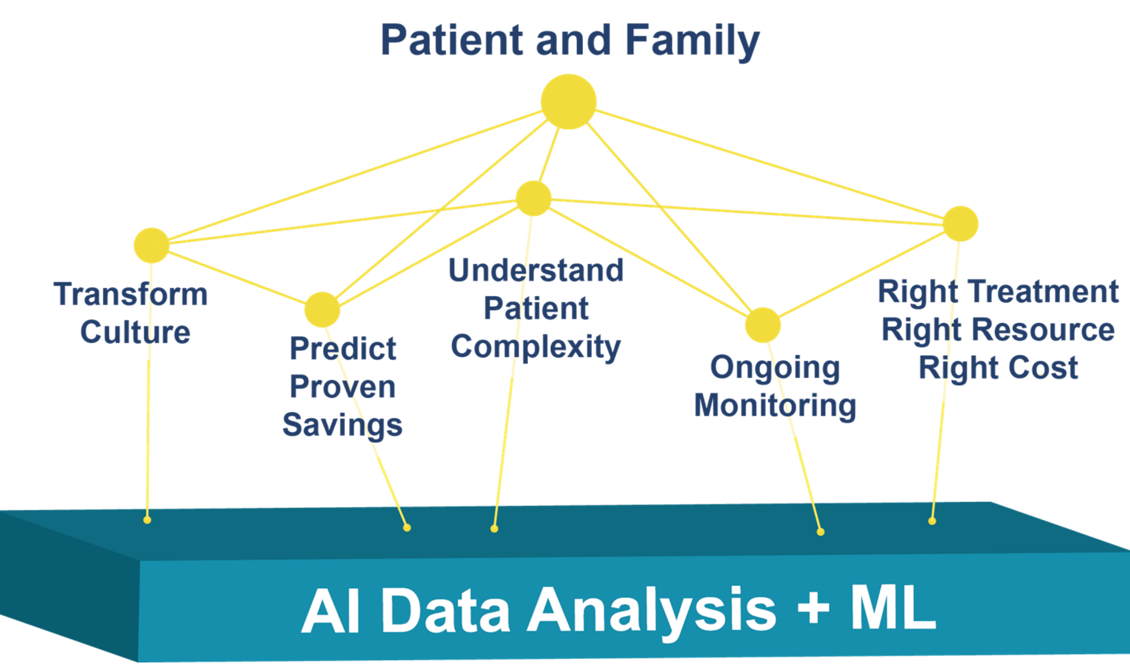
Future – Scaling Successful Innovations Beyond 'Bright Spots' Equitable Integrated Virtual Team Based Care as a 'Common Good'

Our future roadmap will build upon the patient/practice experience and existing AI/ML analysis as well as sustainable partnerships driving integration opportunities that make ***'doing good – good business'***



Patient/Family Care Life course Journey

Practice Enablement

Data Intelligence and interoperability

Whole Body Ecosystem and Social Networks

Connectivity through Community Partnership

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Scaling Population Health & Well Being

Time to rebuild the foundation of healthcare

Providing Data Driven Prevention & Effective Management

through Holistic Trusted and Connected Care Teams

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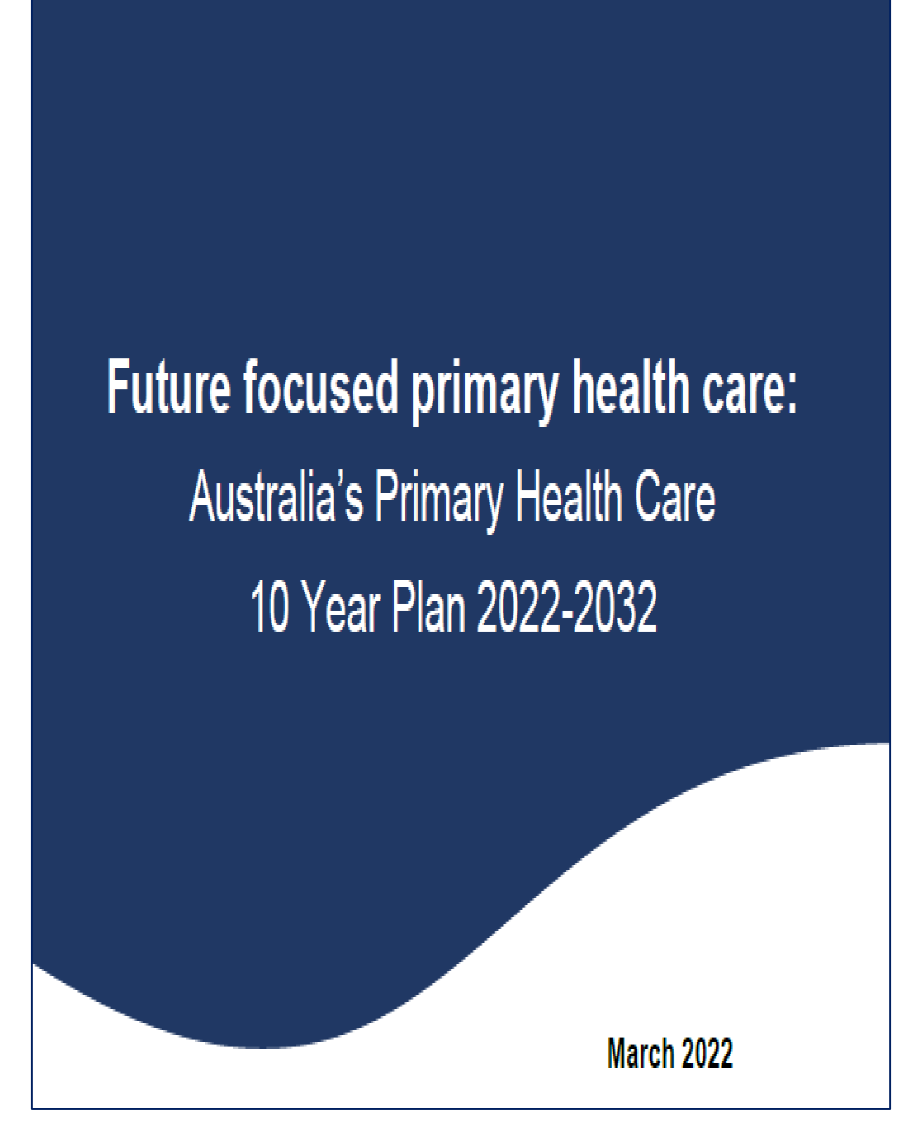
Adaptive and Accountable Leadership & Governance



5 Objectives for Achieving High-Quality Primary Care

1. PAYMENT
   Pay for primary care teams to care for people, not doctors to deliver services.
2. ACCESS
   Ensure that high-quality primary care is available to every individual and family in every community.
3. WORKFORCE
   Train primary care teams where people live and work.
4. DIGITAL HEALTH
   Design information technology that serves the patient, family, and interprofessional care team.
5. ACCOUNTABILITY
   Ensure that high-quality primary care is implemented in the United States.

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