

Rochester Psychiatry with Permeable Boundaries

Toward Integration of Medicine and Psychiatry

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John Romano Professor and Chair
Department of Psychiatry

MEDICINE *of* THE HIGHEST ORDER



Goals Today

1. Introduce Department of Psychiatry at University of Rochester Medical Center (URMC)
2. Provide examples of in clinical integration at URMC
 - Integration in Acute Medicine Units:
 - Proactive, multidisciplinary CL psychiatry model
 - Behavioral Intervention Team at Yale New Haven Hospital
 - PRIME-Medicine Team at University of Rochester
 - “Reverse Integration” in Acute Psychiatric Hospital
 - Medicine in Psychiatry Service and Vertical Integration
 - MIPS Primary Care
 - iMIPS Unit at “R” Wing
3. Summary and Future Directions

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Rochester, New York

Greater Rochester – located in Western New York – approximately 1.5-2 million people in the area

Close to Niagara Falls, Toronto, and New York City

Next to the Lake Ontario.



University of Rochester Medical Center

- URMCC's overall academic and clinical enterprise has a annual revenue of \$3.5 billion and includes:
 - Strong Memorial Hospital – 820 beds
 - One of 7 hospitals in URMCC system.
 - Eastman Institute for Oral Health
 - University of Rochester School of Medicine and Dentistry
 - University of Rochester School of Nursing



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Origin of Department of Psychiatry at URMC



Friendship between a psychiatrist and an internist began in Boston (1941).

- Soma Weiss, Physician-in Chief at Peter Bent Brigham Hospital

John Romano – an “embedded” psychiatrist in the medicine unit

George Engel – a “graduate assistant” in Medicine

“R” Building – Support of William McCann

Helen Rivas initially wanted to donate funds for a cancer center.

William McCann, Chair of Medicine Department, proposes to use the fund to build a new wing for the psychiatry department.

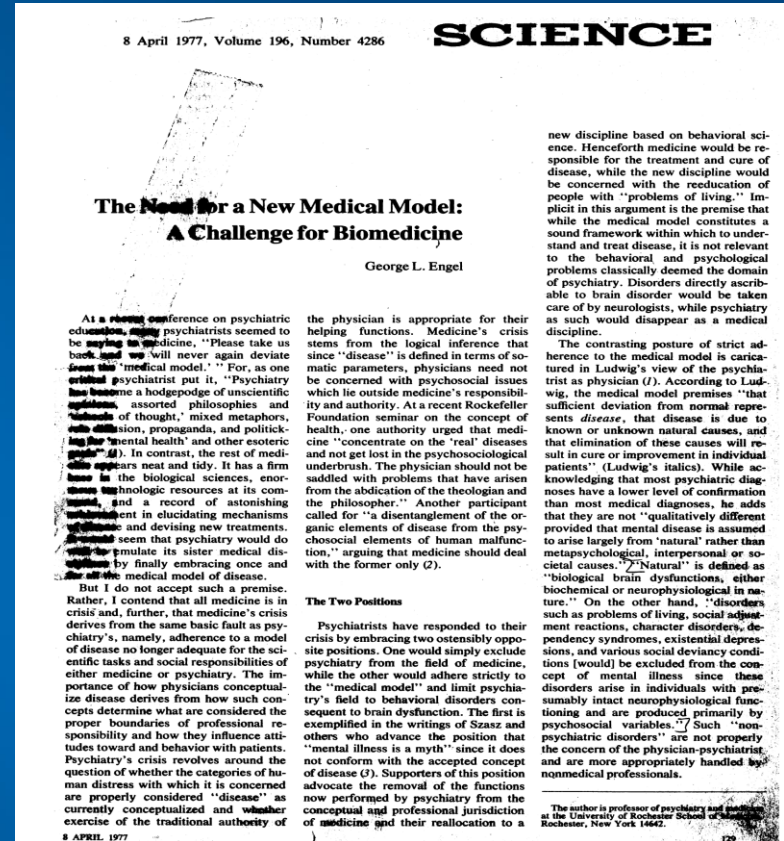
May 25, 1946: “R” Wing construction begins under John Romano’s Chairmanship.



University of Rochester: Home of **Biopsychosocial Model** (Engel, 1977)

"Illness experience results from complex interaction among biological, psychological, and social factors that impacts clinical care between the patient and physician."

THE organizing principle for training of nearly all medical schools and psychiatry residency programs in the united states and beyond.



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Department of Psychiatry at URMC

- **Home of Biopsychosocial Model – (George Engel, Science, 1977)**
- **Clinical Service – largest behavioral health service outside of NYC**
 - 110 full and part-time faculty members (800+) staff members
 - 93 certified inpatient beds (24 child and adolescent beds)
 - 250K outpatient visits annually (largely from OMH-certified programs)
 - New York State Comprehensive Psychiatric Emergency Program (CPEP), seeing over 30,000 patients annually.
- **Training and Education – largest pipeline of behavioral health service providers outside of NYC**
 - Psychiatry Residency (adult: 8 per year; child: 4 per year)
 - Pre- and Post-doc Psychology (16 per year) program.
 - Research and Clinical Fellowship programs in several areas
 - Family therapists (n = 26), Social workers, Addiction counselors, etc
 - Partner with School of Nursing: Psychiatric APNs (n = 52),

Notable Features of Rochester Psychiatry

Our research/grant portfolio is largely service-oriented

- The only CDC-funded suicide prevention research center (PI: Caine)
- The only VA Center of Excellence for Suicide Prevention (PI: Pigeon)

Outreach Clinical Service and Advocacy Research in Psychiatry

- Forensic ACT team – first started in Rochester in 1999 (PI: Lamberti)
- Women's Initiative Supporting Health-Transitions Clinic (PI: Morse)
- Laboratory Interpersonal Violence and Victimization (PI: Cerulli)
- Telepsychiatry Program – ECHO/Rochester PAO model (PI: Hasselberg)

Medicine in Psychiatry Service (MIPS) – inpatient and outpatient

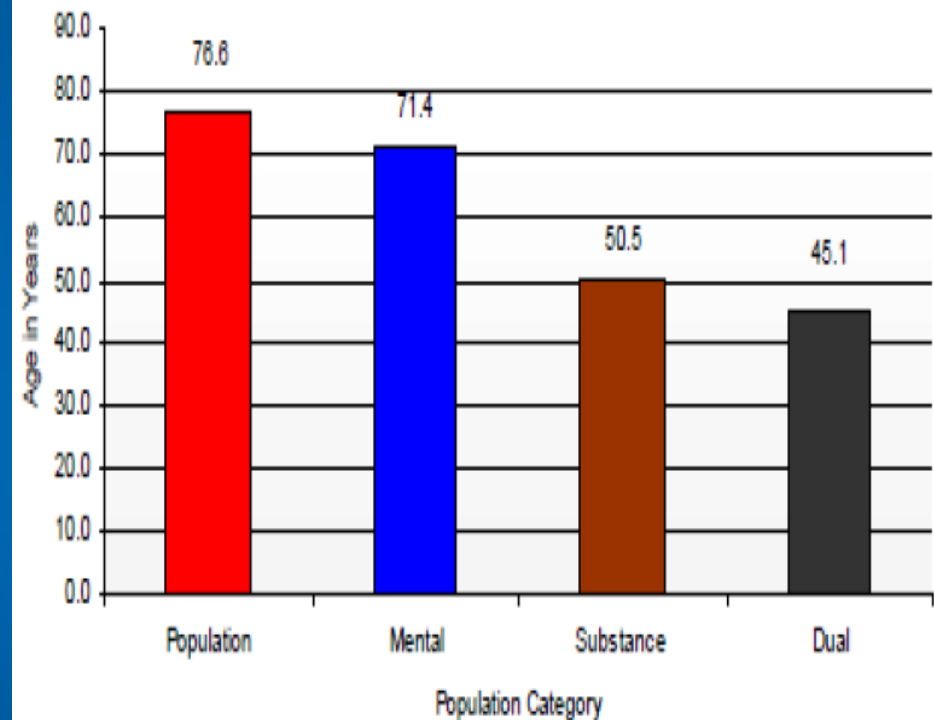
- The only acute inpatient medicine service within Department of Psychiatry in the country – as far as I know.
- Primary care for SMI – “reverse integration”

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Advocating for Physical Health of SMI: Mortality Gap in Severe Mental Illness

- Persons with serious mental illness (SMI) are dying earlier than the general population (average age of death is 53)
- 60% of premature deaths in persons with schizophrenia are due to cardiovascular, pulmonary, and infectious diseases (NASMHPD, 2006)
- Oregon state study found that those with co-occurring MH/SU disorders were at greatest risk (45.1 years)

Chart 1. Average Age at Death



How do we advocate for Patients with SMI to get better medical care?

1. Deliver better primary care and preventive medicine
 - a. Healthier lifestyle – exercise and diet
 - b. Smoking cessation
 - c. Avoiding alcohol and substance abuse
 - d. Early diagnosis and management of chronic illness
2. Deliver better Acute Care when medical crisis happens.
 - a. Effective delivery of acute services
 - b. Maximum intervention through advocacy
3. Assure better follow up after hospitalization to avoid re-hospitalization
 - a. Care management to improve transition of care
 - b. Home health, education of patient and their caregiver

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Why is it so hard to advocate for our patients to get better care?

Simple Answer:

We have a fractured healthcare system that does not allow us to advocate for our patients

Integrated Care Is the Only Solution

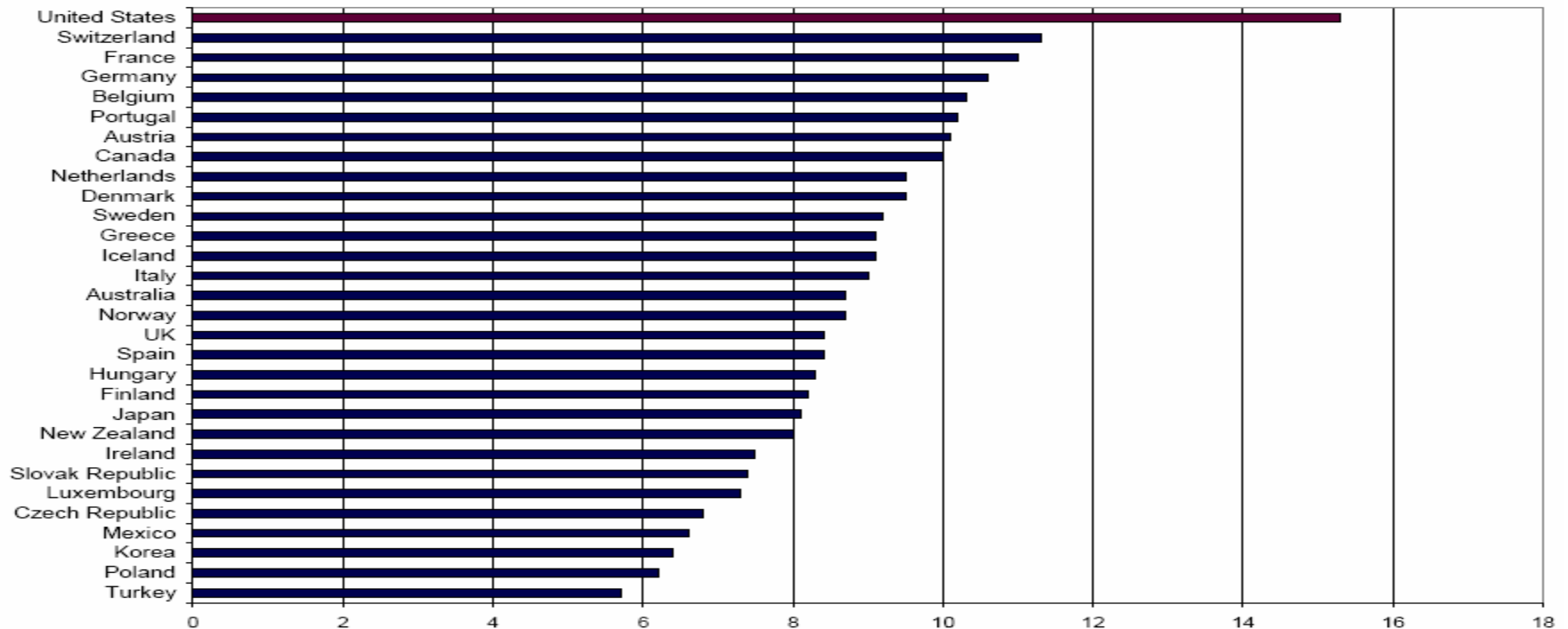
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USA spends 18% of GDP on Healthcare: 3.5 Trillion dollars (4.6% last year) in 2018

Healthcare Spending as % GDP



Source: Organization for Economic Cooperation and Development, OECD Health Data, 2008 (Paris: OECD, 2008).
Note: For countries not reporting 2006 data, data from previous years is substituted.

"Obamacare" - Affordable Care Act in 2010: National Healthcare Reform

The Triple Aim: improving outcomes,
improving quality, reducing cost

Key features: expansion of Medicaid and
managed care, **behavioral health parity**,
home and community based services
including self-directed care

Value in Healthcare: “cost-effectiveness”

Principles of Value-Based Health Care Delivery

- The overarching goal in health care must be **value for patients**, not access, cost containment, convenience, or customer service

$$\text{Value} = \frac{\text{Health outcomes}}{\text{Costs of delivering the outcomes}}$$

- Outcomes are the **health results that matter for a patient's condition** over the care cycle
- Costs are the **total costs of care for a patient's condition** over the care cycle

New York State's Challenge is our Opportunity

\$54 billion Medicaid program with 5 million beneficiaries

20% (1 million beneficiaries) use 80% of these dollars: hospital, emergency room, medications, longtime "chronic" services

- **Over 40% with behavioral health conditions**

20% of those discharged from general hospital BH units are readmitted within 30 days: NYS avoidable Medicaid hospital readmissions: \$800 million to \$1 billion annually

- **70% with behavioral health conditions; 3/5 of these admissions for medical reasons**

Example of Medicaid cost of SMI: CA

11% of Californians in the fee for service Medi-Cal system have a serious mental illness (SMI).

Healthcare spending for these individuals is 3.7 times greater than it is for all Medi-Cal fee-for-service enrollees.

(\$14,365 per person per year compared with \$3,914.)

Making the case still more compelling...

“if a **10% reduction** can be made in the excess healthcare costs of patients with comorbid psychiatric disorders via an effective integrated medical-behavioral healthcare program, \$5.4 million of healthcare savings could be achieved for each group of 100,000 insured members...the cost of doing nothing may exceed **\$300 billion per year** in the United States.” [Note: this analysis based on commercially insured population]

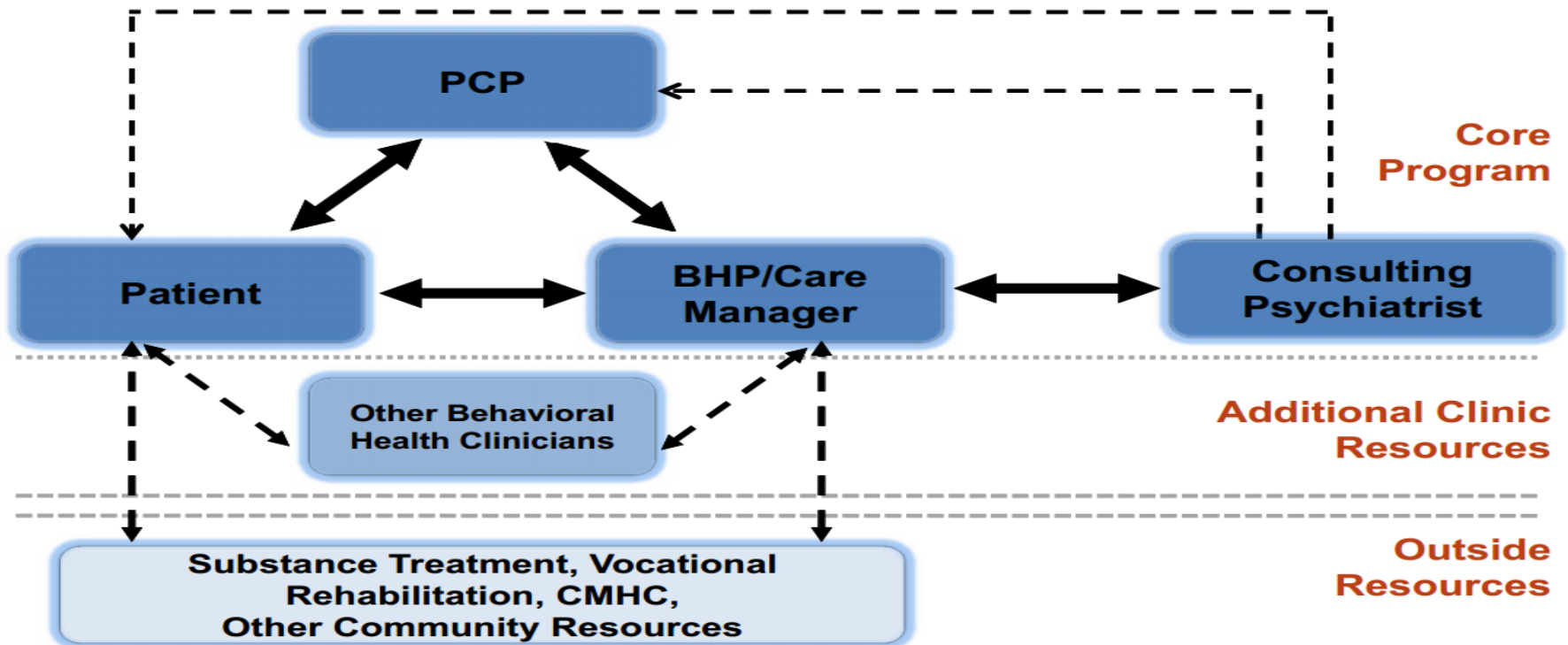
Millman Research Report, 2008

The Promise of “Integrated Care”: Example of Primary care Integration

- Describes: Mental health specialty and general medical care providers work together to address both the physical and mental health needs of their patients.
- Rationale:
 - High prevalence of high behavioral health issues in the outpatient settings
 - E.g., Diabetes, heart disease, & asthma + **depression**
 - **Worse outcomes & higher costs if both problems aren't addressed**
- Integration usually refers to outpatient setting in two directions:
 - (1) specialty mental health care introduced into primary care settings
 - (2) primary health care introduced into specialty mental health settings

IMPACT Collaborative Care Model (UW)

Collaborative Team Approach



Integrate Care for the Medico-surgical Inpatient?

- 20-40% of patients in general hospitals in US have psychiatric comorbidities
- Psychiatric and substance abuse/use co-occurrence with physical illness in hospitalized patients is associated with:
 1. **Higher cost:** greater length of stay, greater cost per episode of care, higher rate of readmission
 2. **Poorer outcomes:** longer recovery time, increased complications, greater mortality
 3. **Staff dissatisfaction:** Inefficient delivery and transfer processes, lack of training and expertise with mentally ill patients, delayed requests for assistance

SETTING THE STAGE: Case example

50 year old pt. with schizophrenia with chest pain

Smoker, HTN, High cholesterol, obesity, NIDDM.

Somewhat paranoid at baseline with intermittent AH.

Admitted through ED with Chest pain – likely, unstable angina.

Cardiac cath is scheduled for possible angioplasty or CABG

Stressful situation for the patient; Home meds missed. Becomes more paranoid and agitated. Becomes verbally abusive and makes physical threats. Refuses Cath and demands AMA discharge.

Crisis Continues – “CL psych consulted”

Patient is fully psychotic: psych meds resumed and adjusted, constant companion – “sitter” – placed.

“Temporary Conservatorship” pursued.

Cardiac catheterization is postponed; “conservative medical management” for “unstable angina” chosen.

Bed request was made to the inpatient psychiatric hospital

“Physician emergency certificate” filled out.

- No bed available. - Patient waits another three days
- Payer (CMS or insurance company) denies reimbursement.

Consequence of Psychiatric Crisis in Medical Unit

1. Cost to the Hospital

- A. Longer length of stay (medical plus psychiatric)
- B. Use of “sitters” and possible use of restraints
- C. Higher cost of care, and “denied days” by the payer.

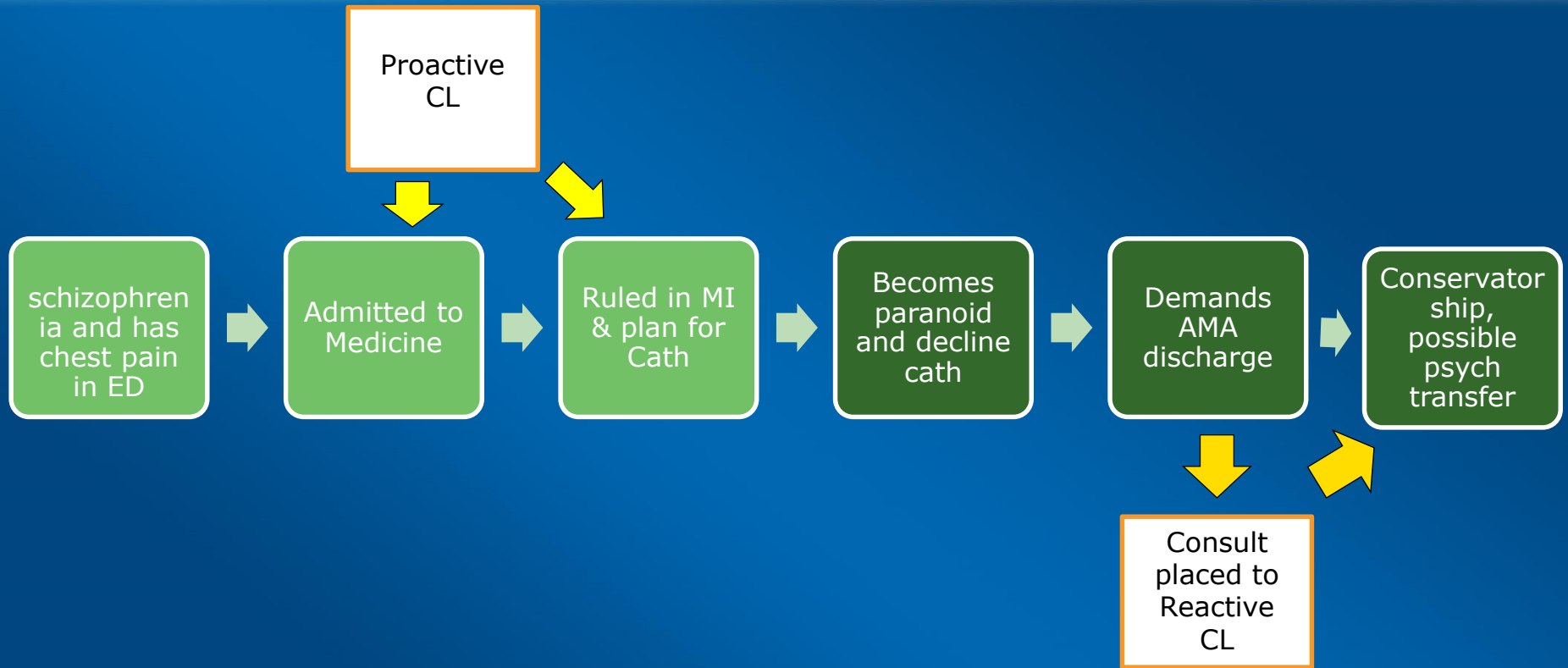
2. Medical and Nursing Staff dissatisfaction

- A. Challenging to manage psychosis by untrained staff.
- B. Risk to staff and patient

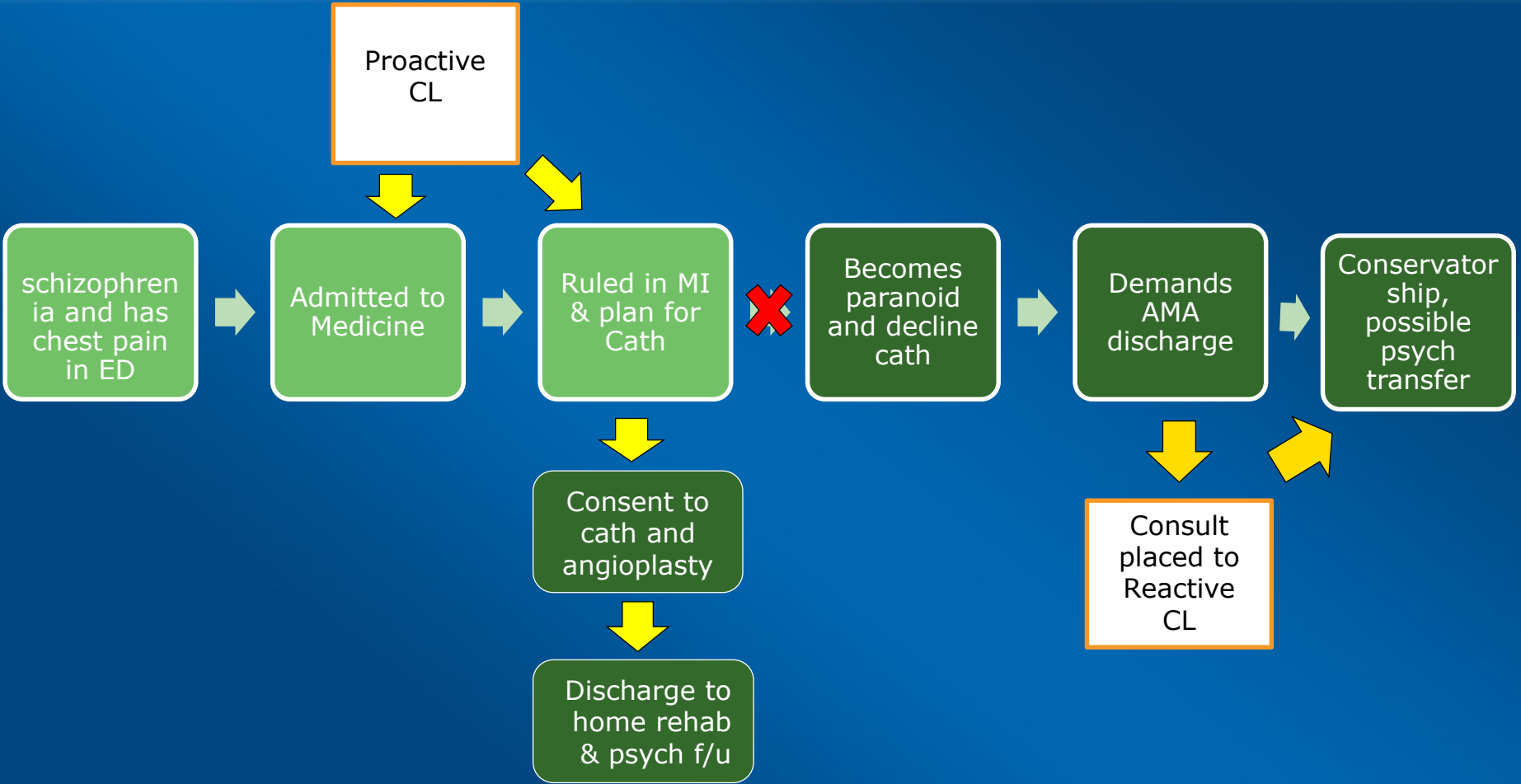
3. Patient with compromised medical care

- A. Did not get a cardiac cath and angioplasty quickly.
- B. Terrifying experience; Interruption in life

Why don't we screen them and see them earlier?



Proactive CL is the right thing to do for our patients



Original Research Reports

Proactive Psychiatric Consultation Services Reduce Length of Stay for Admissions to an Inpatient Medical Team

Paul H. Desan, M.D., Ph.D., Paula C. Zimbrea, M.D., Andrea J. Weinstein, M.A.,
Janis E. Bozzo, M.S.N., R.N., William H. Sledge, M.D.

Proactive psychiatric consultation services reduce length of stay for admissions to an inpatient medical team

Desan et al, Psychosomatics 2011; 52: 513-520

Funding by YNHH administration

“Pre-BIT” Experiment at YNHH.

- William Sledge, M.D. – PI

Methods

- A-B-A design
- 1 medical unit – high rate of psychiatric co-morbidities

Intervention - 33 day of **staff CL psychiatrist rounding with medical team each day** to review all admission and provide immediate psychiatric consultation.

Control = 10 similar control periods – 5 before and 5 after

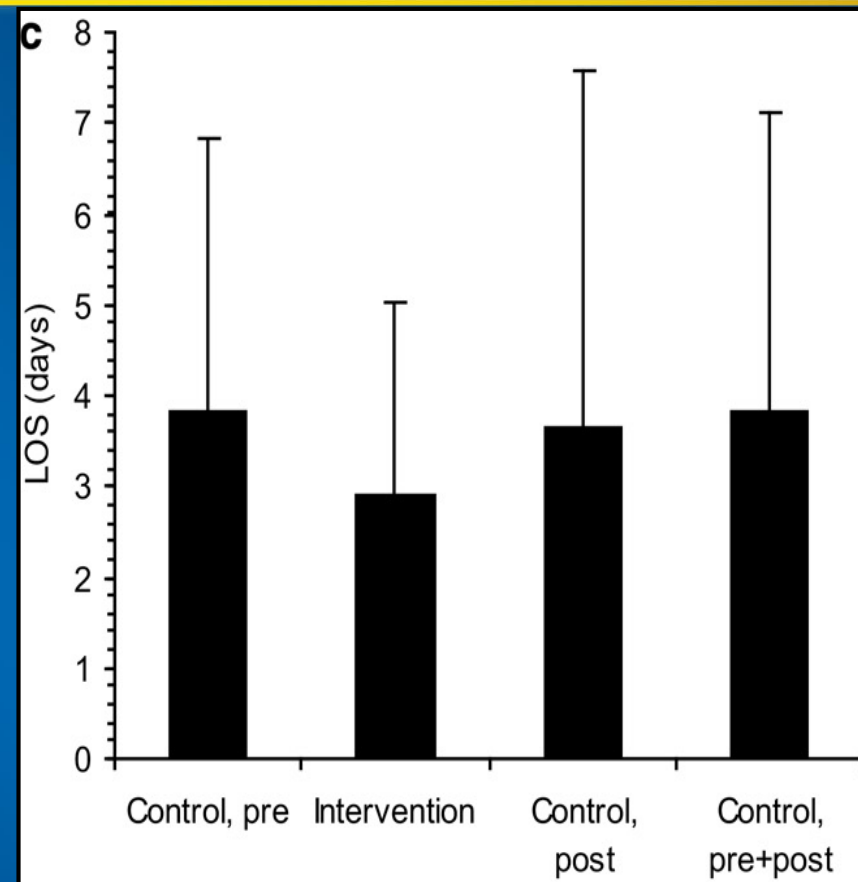
Length of Stay Before, During and After “embedding” a psychiatrist

LOS reduction

- 2.90 (+/-2.12) versus 3.82 (+/-3.30) days.

Less variance of LOS

- fraction of cases with LOS of 4 days or more was significantly lower, 14.5% versus 27.9%.



p <.04, >.01

Consultation Rate, Latency & Length of Stay Before, During & After Intervention

	Control, pre	Intervention	Control, post	Control, pre + post
Number of cases	257	62	274	531
Consultations/100 cases	9.3% (24)*	22.6% (14)	12.0% (33)*	10.7% (57)*
Consultation latency (days)	3.52 +/- 3.01*	1.44 +/- 0.88	2.64 +/- 2.58*	3.02 +/- 2.78*
LOS (days)	3.81 +/- 3.01*	2.90 +/- 2.12	3.66 +/- 3.92*	3.74 +/- 3.30*
% LOS > 4 days (# cases)	27.6% (71)*	14.5% (9)	28.1% (77)*	27.9% (148)*

LOS- length of stay.

*Significantly different from intervention, $P < 0.05$.

Lessons learned from Pre-BIT pilot

1. Psychiatric service (CL) is under-utilized in the hospital.
2. Embedding a psychiatrist can lead to increased case-identification - **ADVOCACY**
3. Proactive psychiatric consultation can lead to wider and earlier coverage of psychiatric issues on medical floors
 1. Reduction in length of stay for medical patients.
 2. Staff satisfaction - **VALUE**

Question: How do we deliver Proactive CL on a broader scale? (YNHH funds to have BIT in all medicine units)

1. What about other disciplines besides MDs?

What is Behavioral Intervention Team (BIT)?

“Proactive, multidisciplinary CL team that identifies and removes behavioral barriers that interferes with quality and efficiency of medico-surgical care”

Goal:

- 1. To screen, assess, and intervene for psychiatric issues among medico-surgical inpatients in collaboration with the primary medico-surgical team
- 2. To advocate for severely mentally ill patients with acute medical issues.

Comparison of conventional “reactive” CL model and proactive BIT models³³

Trait	Traditional CL Model	Behavioral Intervention Team Model
Delivery of Service	Reactive	Proactive
Personnel	Single discipline - MD	Multi-discipline – MD, APRN, social workers
Case identification	Request by primary team	Screening based on records and nursing staff interaction
Mode of intervention	Advice to the primary team MD	Collaboration with nurses, social workers, and clinicians through close follow-up
Service Goals	Treatment recommendation, Risk reduction and crisis management	Prevention of behavioral barriers for medical care, avoidance of crisis, etc.
Location	As requested, all over the hospital	Embedded in assigned medicine units and co-location of personnel

Behavioral Intervention Team Study at Yale

Psychotherapy
and Psychosomatics

Regular Article

Psychother Psychosom 2015;84:208–216
DOI: 10.1159/000379757

Received: November 17, 2014
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Published online: May 23, 2015

Multidisciplinary Proactive Psychiatric Consultation Service: Impact on Length of Stay for Medical Inpatients

William H. Sledge^{a, b} Ralitza Gueorguieva^{a, c} Paul Desan^{a, b} Janis E. Bozzo^b
Julianne Dorset^a Hochang Benjamin Lee^{a, b}

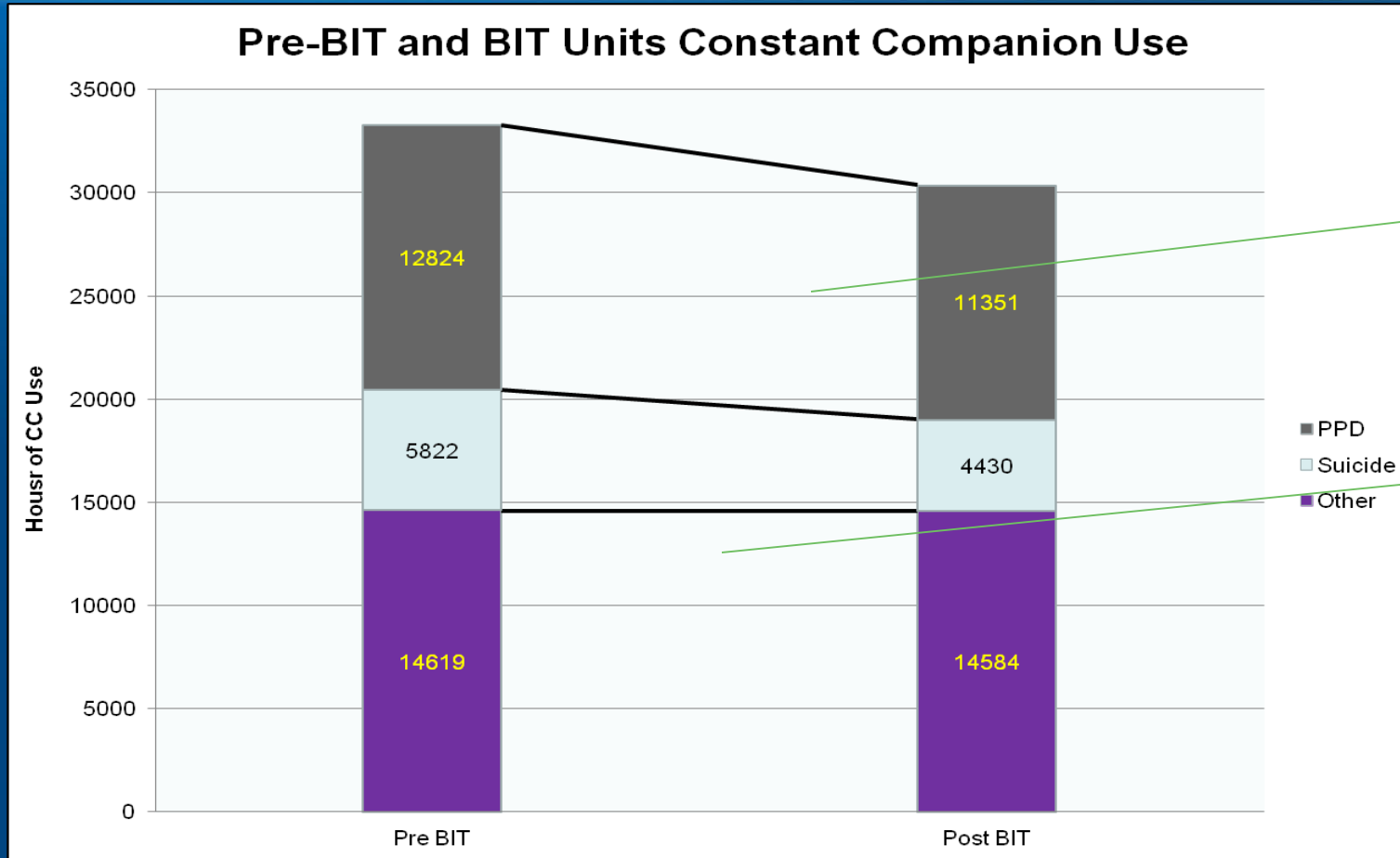
^aDepartment of Psychiatry, Yale School of Medicine, ^bYale New Haven Psychiatric Hospital, and ^cDepartment of Biostatistics, Yale School of Public Health, New Haven, Conn., USA

Outcome Measures: Length of Stay

	Pre-BIT (8/1/08 - 6/30/09)	BIT (8/1/09 - 6/30/10)	Difference
Total Discharges	535	509	26
Total Patient Days	3,900	3,385	515
ALOS	7.29	6.65	.64
SD (+/-)	5.76	5.75	.01
Total (LOS>6 days)	45.2%	39.9%	5.3%

T-test of log LOS=2.86, $p < .004$, T-test (untransformed) = 1.96, $p < .05$

Outcome Measures: Constant Companion Use



-11.4%

-23.9%

-8.7%

Outcome Measure: 30 Day Readmission

	Patients	Readmitted	Readmit %
BIT	546	103	18.9
CL	568	113	19.4

• Chi square=NS

Staff Satisfaction:

- 85% of nursing staff (n=27) rated it 4 or 5/5 for satisfaction with program
- MDs regularly claim its benefit



Financial analysis of BIT

Sledge WH, Bozzo J, McCullum BAW, Lee HB. Health Economics and Outcome Research, 2016

Research Article

OMICS International

The Cost-Benefit from the Perspective of the Hospital of a Proactive Psychiatric Consultation Service on Inpatient General Medicine Services

Sledge WH^{1*}, Bozzo J², McCullum BAW² and Lee H¹

¹Department of Psychiatry, Yale School of Medicine, 300 George Street, Suite 901, New Haven, USA

²Yale New Haven Health, 20 York Street, New Haven, USA

Abstract

Objective: Co-occurring mental illness and substance abuse disorders, highly prevalent in general medical inpatients, are associated with longer Lengths of Stay (LOS) and higher costs. We examined the increased financial costs and benefits associated with a proactive multidisciplinary intervention, the Behavioral Intervention Team (BIT) relative to the fiscal benefit.

Methods: Costs and benefits associated with a Conventional Consultation Liaison (CCL) model and the BIT on three general inpatient units of a tertiary care hospital in a before-and-after design.

Results: Inpatients seen by the BIT had reduced LOS, resulting in lower per-case costs and incremental revenue from new cases. Total financial benefit when offset by additional BIT personnel costs resulted in a return of investment of 1.7:1.

Conclusion: Compared to the reactive CCL model, the proactive BIT resulted in significant financial benefit. Further study is needed to examine the impact of BIT model on quality of patient care and staff satisfaction.

Keywords: Hospital economics; Proactive consultation; Length of Stay (LOS); Multidisciplinary team; Cost benefit

Introduction

As the United States health care system transforms under the

among all the patients for whom we did not formally consult, compared with patients on the same services and same time period in the prior year. This reduction was despite a comparatively increased incidence of psychiatric co-morbidities and ICU stays, both factors typically associated with increased average LOS in the comparison cohort of patients. Furthermore, we could not identify a secular trend within our

1 year net revenue (3 units: beds): \$637K

Economic Summary

Incremental Costs (to the Hospital)	<u>Costs</u>	<u>Benefits</u>
Salaries (annualized)	\$ 372,349	
Benefits (savings to the hospital)		
Saved Costs (annualized)		
Cost per Case Difference (\$210 less for BIT X 509 cases)		\$116,757
Constant Companion (reduction)		\$104,093
Total Saved Costs Benefit (annualized)		\$220,850
Revenue Backfill from BIT (57 cases X \$12,682)		\$789,070
Net Gain from BIT (100% occupancy)		\$1,009,920
Total Potential Benefit		
Benefit - cost		\$ 637,571
Per case		\$ 1,252

Behavioral Intervention Team at YNHH today

Entire 8 units of Medicine units (212) beds at York Campus/ YNHH

- Covered by 2 BIT teams (BIT A and B)

3 units of Medicine beds (104) beds at St. Raphael Campus/ YNHH (BIT S)

Next: Bridgeport Hospital at YNHH Health System

Proactive CL programs elsewhere and research in UK

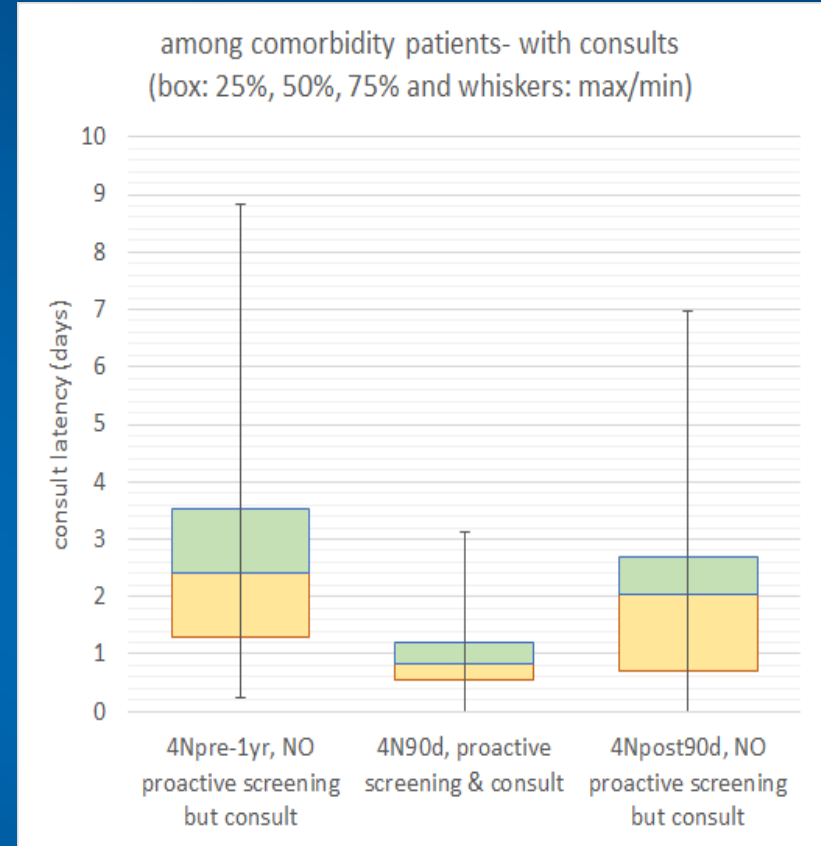
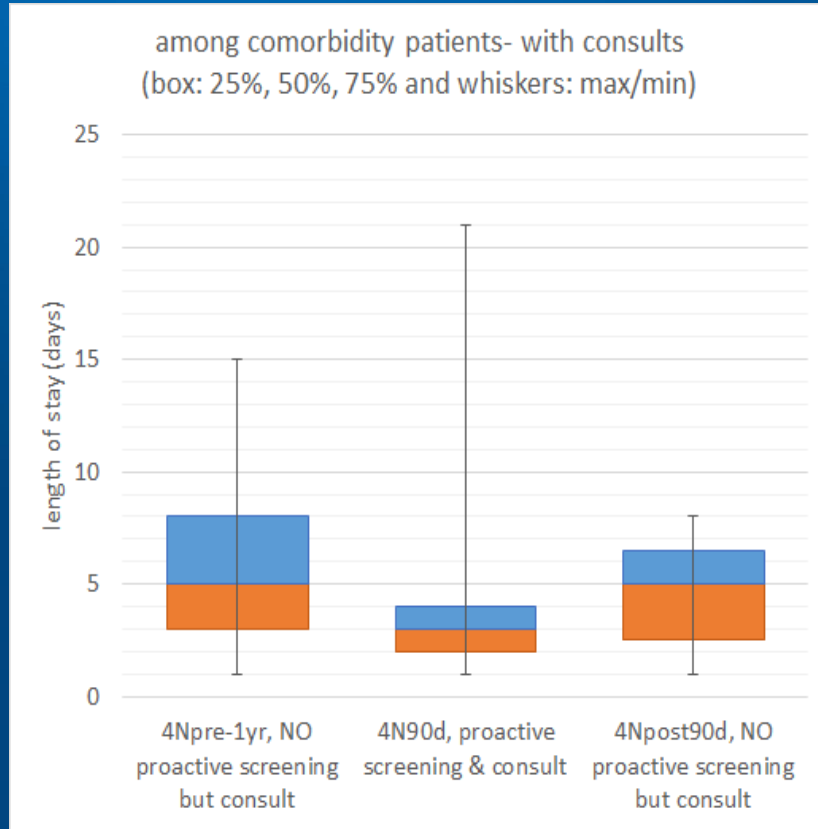
In US:

- Johns Hopkins Hospital
- Dartmouth Hitchcock
- Stonybrook Medical Center
- **Sarasota Memorial Hospital**
- Mount Sinai Hospital
- UTexas- Austin (pilot, 2017)
- University of Rochester (2018)
- **Lurie Children's Hospital in Chicago (2018)**
- Hospital of UPenn (2019)

In UK:

- **The HOME Study (4/2017)**
- PI: Michael Sharpe
- Four-site, Randomized controlled effectiveness trial of acutely hospitalized patients 65 years and older
- Target N: 3244
- One year follow up
- Funded by NHS

Seton Hall Hospital, Austin Texas: Proactive Model Pilot – Preliminary Analysis



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URMC PRIME Medicine Team– PRoactive Integration of MEntal Health Care in Medicine



3 medicine units: 6-1200, 6-1600
and 6-3600

1 year pilot trial to examine “value”
of embedded behavioral health team

Our Team



Robert Dill, PMHNP-BC
Nurse Practitioner
Pager: (585) 220-1839
Primary Contact



Carrie Bihl, LMSW
Social Worker
Pager: (585) 220-4801



Mark Oldham, MD
Assistant Professor of Psychiatry,
Medical Director, PRIME Medicine
Pager: (585) 220-9898

Why rely on others when we can take care of our own?

Medicine in Psychiatry Service at URM

Director: Telva Olivares, MD.

Primary Care: Medicine in Psychiatry Primary care

- Co-located next to Strong Ties and Strong Recovery and Case Management Program.

Acute Care: inpatient Medicine in Psychiatry Service Unit (iMIPS)

- Director: Marsha Wittink, M.D
- 20 bed acute medicine unit – likely will be expanded in future
 - Probably the only medicine unit operated by Department of Psychiatry in the country
- Hospital as a “Laboratory” to develop ways to provide better medical care for SMI population

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Integration of Psychology and Psychiatry in iMIPS unit

2018 Lean Performance Excellence Award: Innovative Thinker

2018 Innovation Award at Association of Medicine and Psychiatry

1. Integrating **proactive psychological services** into the daily unit work-flow to expedite and triage suicide risk and psychiatric assessments

- Partnering with psychology internship Program

2. Developing a **patient-centered discharge transition program.**

- Partnering with social work/care management

Proactive model addressing the psychiatric needs of patients up front rather than after crisis.

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“Horizontal” Integration at Bright Health Campus

Certified Community Behavioral Health Clinic

- Strong Ties Program (OMH)- 1500 individuals with SMI in the Monroe.
 - Outpatient clinic, care management program, a psychiatric rehab program, two licensed ACT programs, a family services program, a peer services program, and Forensic ACT program
- Strong Recovery Program (OASAS) – 1000 individuals with primary substance abuse disorders in Monroe County
 - Outpatient Chemical Dependency Program
 - Opioid Disorder Program

Medicine in Psychiatry Primary Care Clinic (DOH)

- **Primary care for patients with SMI**

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Community and Outreach Division at BHC Strong Ties, Strong Recovery, and MiPS

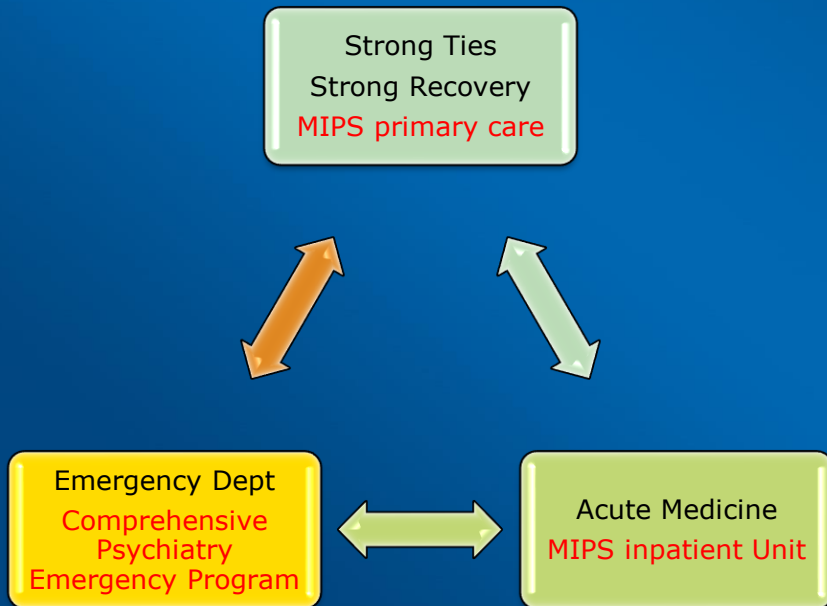


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“Vertical Integration” of SMI care at URMC



- Vertical integration of SMI medical care among three care settings
 - Primary care (MIPS) at BBC
 - ED (CPEP) at Strong Hospital
 - MIPS inpatient Unit (“R” Building)
 - 20 acute inpatient medical beds
- Developing **MIPS medical home** for SMI patients
 - Value-based care for SMI patients

Evaluation by Implementation, Dissemination, Evaluation and Analysis (IDEA) Core

Overall Goal: Examining Value of Psychiatry

Wendy Cross, Ph.D. (Core Director, Implementation science)

Members:

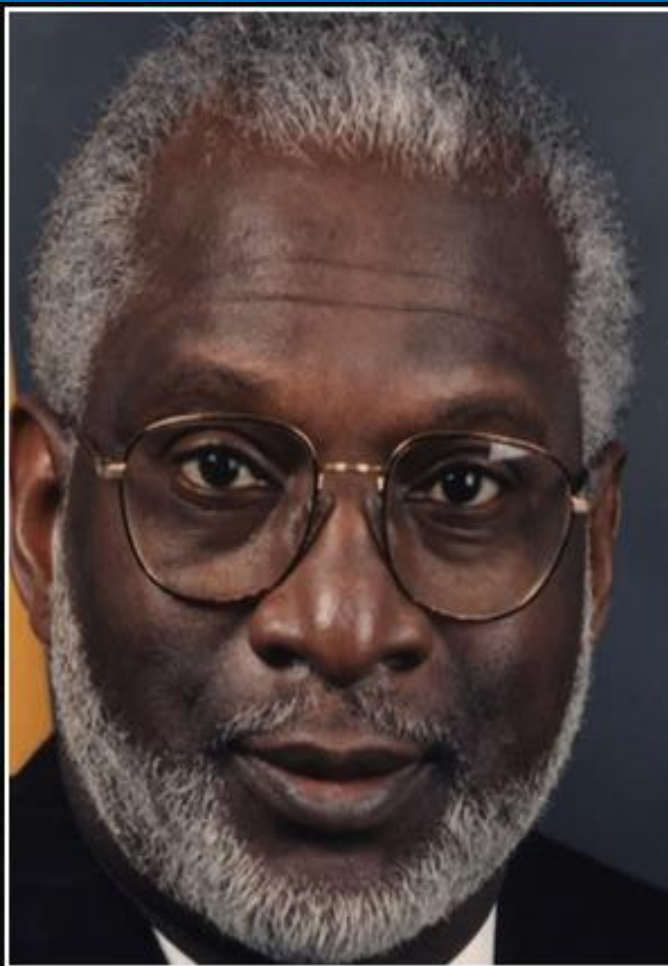
- Ben Chapman, Ph.D. (Methodology/ statistics)
- Daniel Maeng, Ph.D. (Health economics)
- Two data manager/ programmer

AIM:

1. To plan, assess and evaluate through evidence the value of the behavioral health service as we implement new programs.
2. To help transform department culture toward data-driven decision-making in clinical service.

David Satcher, MD, Surgeon General (1998-2002)

Class of 1972, Residency in Medicine, Strong Memorial Hospital



There is no health without mental
health.

— *David Satcher* —

AZ QUOTES

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"NOR IS THERE MENTAL HEALTH WITHOUT PHYSICAL HEALTH"

Psychiatry with "Permeable Boundaries"

University of Rochester Medical Center

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Summary

1. Department of Psychiatry at University of Rochester advocates for our patients based on biopsychosocial model
 - Will advocate for the body as well as the mind
2. Our unique heritage and services (e.g. MIPS) led us to be innovative in delivery of integrated care in the time of value-based health care
 - Proactive CL psychiatry Models are spreading across the country
 - MIPS model should be tested and evaluated for dissemination elsewhere.
3. By achieving horizontal and vertical integration of care, we will advocate for our patients and help them attain longer and better lives.

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Rochester 2021: 26th World Congress of Psychosomatic Medicine by ICPM



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Montanus
PHOTOGRAPHY

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