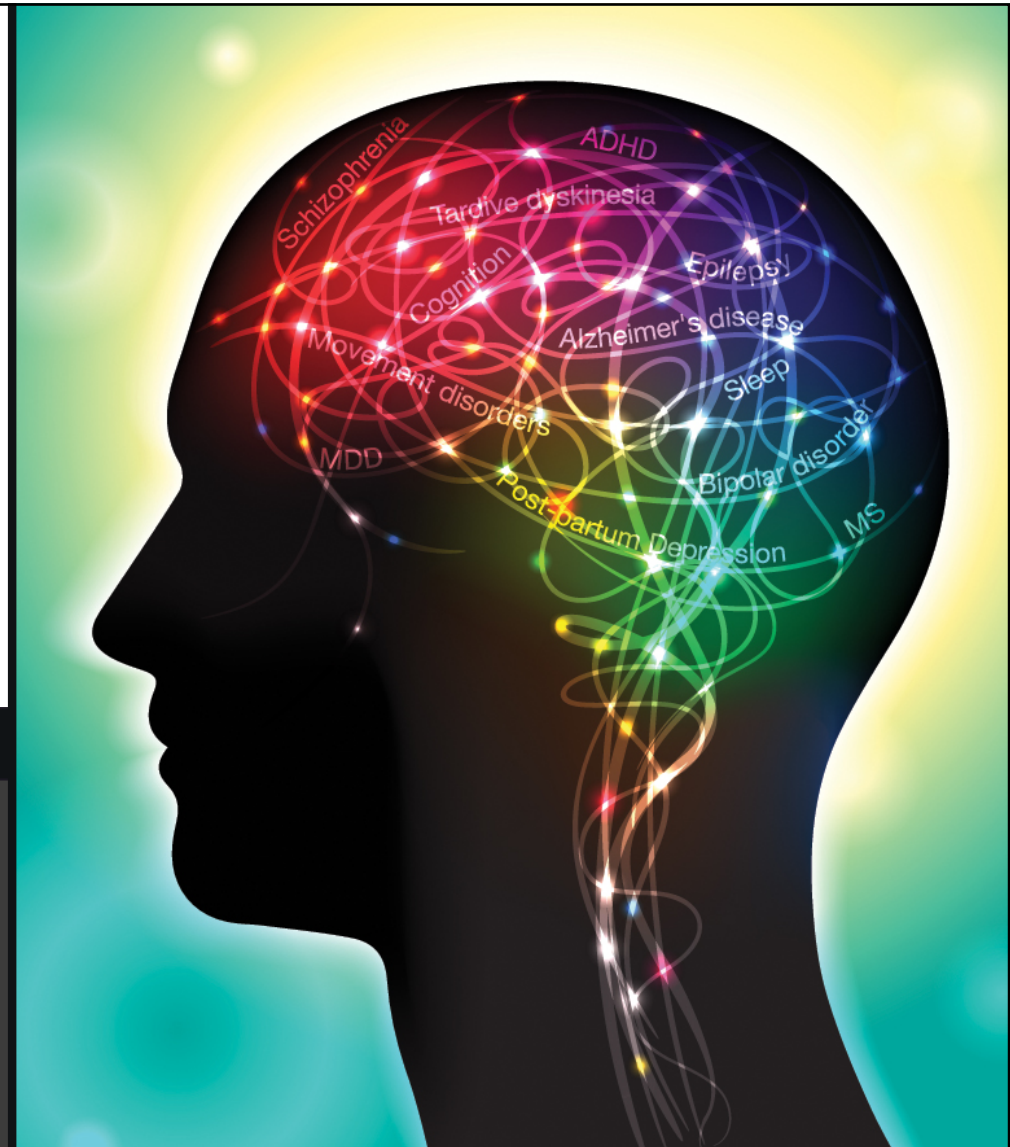


Integrated Care in an Evolving Healthcare System

Paul Summergrad, MD
Tufts University School of Medicine
Tufts Medical Center
Boston, MA



Learning Objective 1

Explore the trends and challenges affecting care of patients with mental illness.



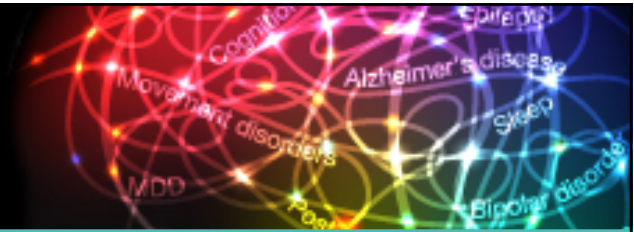
Learning Objective 2

Integrate collaborative care models to improve patient outcomes across specialties.



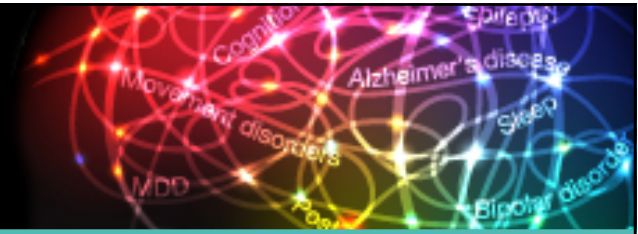
Faculty Name

Disclosures



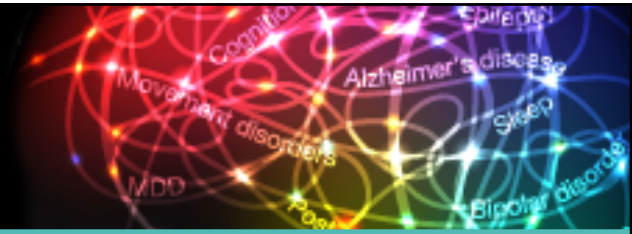
- **Consultant:** Mental Health Data Services, Inc. (MHDS); Quartet Health, Inc., Compass Pathways Ltd.
- **Stock Shareholder or Stock Options:** Mental Health Data Services, Inc. (MHDS), Quartet Health, Inc.

Agenda



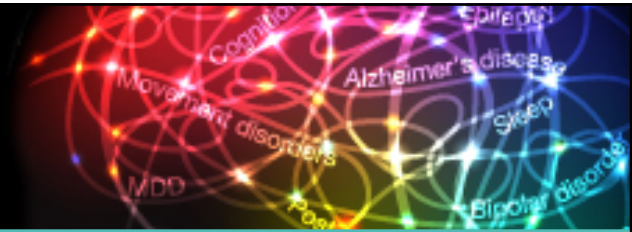
- Major trends affecting the care of patients with comorbid mental illness
- Challenges and opportunities in integrating care

Alan Gregg, the Rockefeller Foundation and the 1930's



- 25% of all beds in the US used by psychiatric patients
- In 1934, 96% of psychiatric beds were under government control and generally found in state or veterans hospitals
- Growing importance of chronic health care as infectious diseases came under control
- Care of patients with combined medical and psychiatric disorders, early recognition of disease and prevention
- Would bolster research in psychiatry by bringing it in closer relationship with neurosciences, endocrinology and other medical specialties
- Grants to establish 8 psychiatric units in General Hospitals: Colorado, MGH/Harvard, Barnes/Washington University, Yale, Billings Hospital/University of Chicago

Alan Gregg, the Rockefeller Foundation and the 1930's



- Wilder Penfield Montreal Neurologic Institute,
- National Hospital for Nervous diseases, Queen Square
- John Romano Fellow in Neurology and Psychiatry Harvard – Boston City Hospital and Peter Bent Brigham
- John Whitehorn Fellow MGH/Harvard then to Washington University then Director of Phipps at Johns Hopkins
- Leo Kanner at John Hopkins

This support equal to over \$150,000,000 in current terms was transformative to the growth of psychiatry in academic medical centers, general hospitals, and the beginnings of psychiatric Research in neuroscience, epidemiology, clinical care and training of medical students and residents

Context and Goals for Health Care Reform

The Long Term Costs of
Healthcare – Public and Private
– are Unsustainable



Challenges



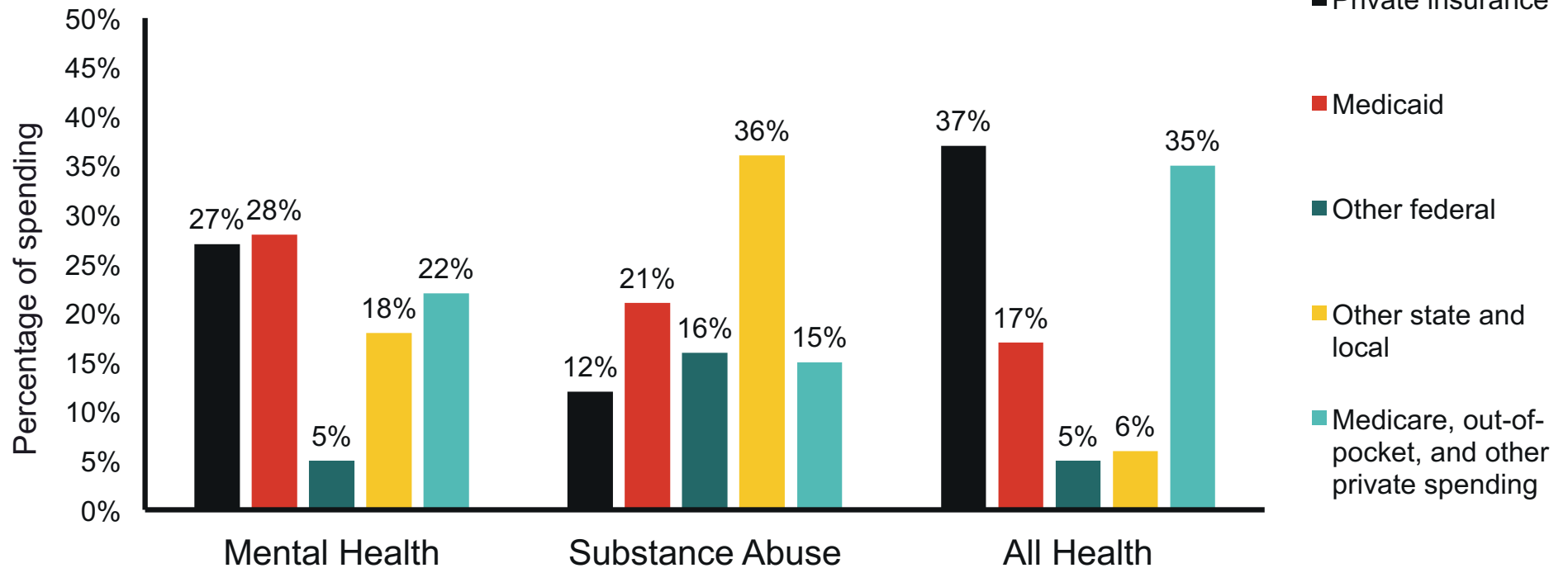
Payer and Revenue Issues in Psychiatry



Comparison of US Spending Across Mental Health, Substance Abuse, and All Health

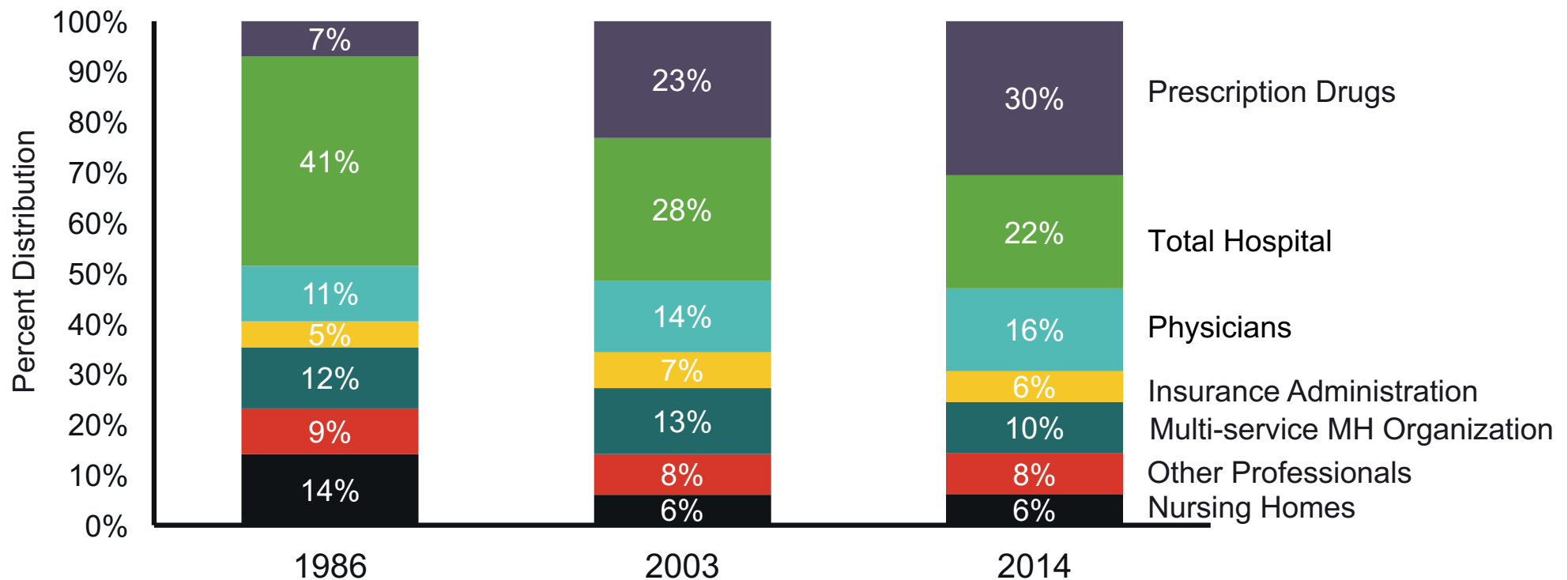


Percentage of Spending Covered by Various Types of Payers in 2005



Barry CL, Huskamp HA. *N Engl J Med* 2011;365:973-975.

Distribution of Mental Health Expenditures by Provider 1986, 2003, 2014



MH = Mental Health; Home Health is 1% or less and not labeled on this graph

Levit KR, et al. Projections of National Expenditures for Mental Health Services and Substance Abuse Treatment, 2004– 2014. SAMHSA Publication No. SMA 08-4326. Rockville, MD: Substance Abuse and Mental Health Services Administration, 2008.

Which Physicians Care for Patients with Psychiatric Disorders?

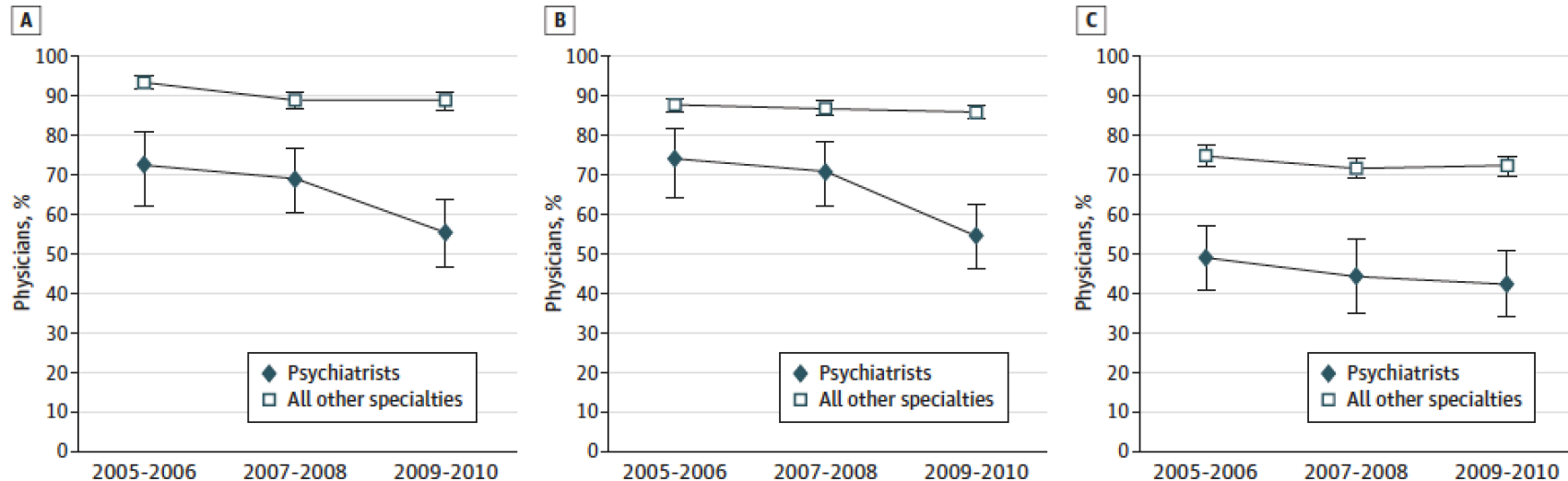


Medical Specialty	% of Visits Resulting in Mental Health Diagnosis			X ² Statistic	P Value	Group Difference
	Children (n = 1166)	Adolescents (n = 892)	Adults (n = 9264)			
Psychiatrist	27.42	47.89	36.26	13.47	< .001	1 < 3 < 2
Adult psychiatry	23.84	43.74	35.39	15.12	< .001	1 < 3 < 2
Child psychiatry	3.58	4.14	0.87	2.05	.13	1 > 3, 2 > 3
Nonpsychiatrist physicians	72.58	52.11	63.74	13.47	< .001	2 < 3 < 1
Pediatrics	53.28	23.22	0.51	41.65	< .001	1 > 2 > 3
FP/GP	14.41	23.11	32.16	17.60	< .001	1 < 2 < 3
Internal medicine	0.54	2.09	19.50	33.13	< .001	1 < 3, 2 < 3
Other specialties	4.35	3.69	11.56	15.31	< .001	1 < 3, 2 < 3

Olfson M, et al *JAMA Psychiatry*. 2014;71(1):81-90.

Psychiatrists in Ambulatory Practice Less Likely to Accept Insurance

Percentage of Office-Based Psychiatrists and Physicians in Other Specialties Who Accepted Various Forms of Insurance Between 2005 and 2010



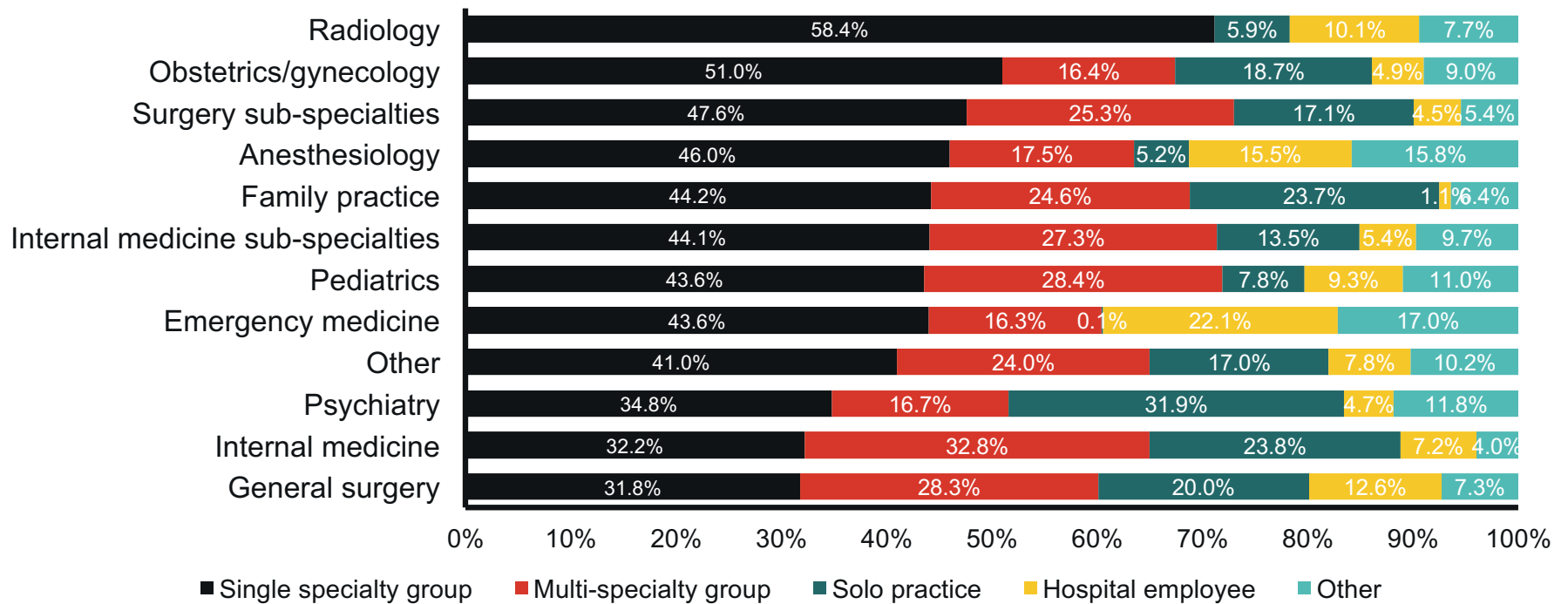
Survey-weighted percentages are based on samples surveyed and represent psychiatrists and other physicians who accepted private noncapitated insurance (A), Medicare (B), and Medicaid (C). Samples included only physicians

who accepted new patients in each study year; the Medicare samples excluded pediatricians. *P* values for trend across years: .01 (A), <.001 (B), and .29 (C) for psychiatrists; <.001 (A), .14 (B), and .25 (C) for other physicians.

Psychiatrists Most Likely to Be in Solo Practice



Distribution of Physician by Practice Type, Specialty Level Results (2016)

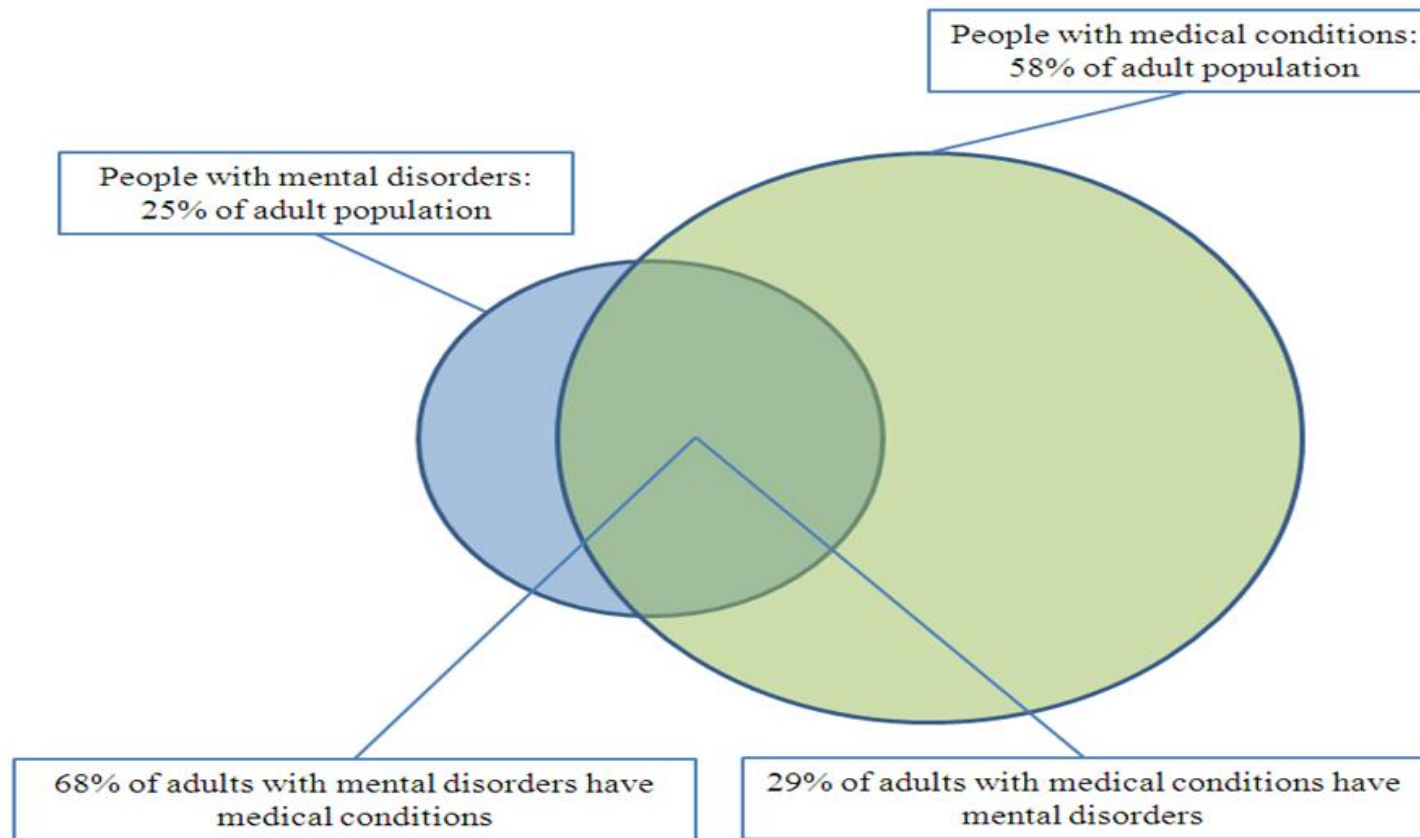


Kane CK. Author's analysis of AMA 2016 Physician Practice Benchmark Survey. Available at: <https://www.ama-assn.org/sites/default/files/media-browser/public/health-policy/PRP-2016-physician-benchmark-survey.pdf>

Co-Morbidity of Medical and Psychiatric Illness

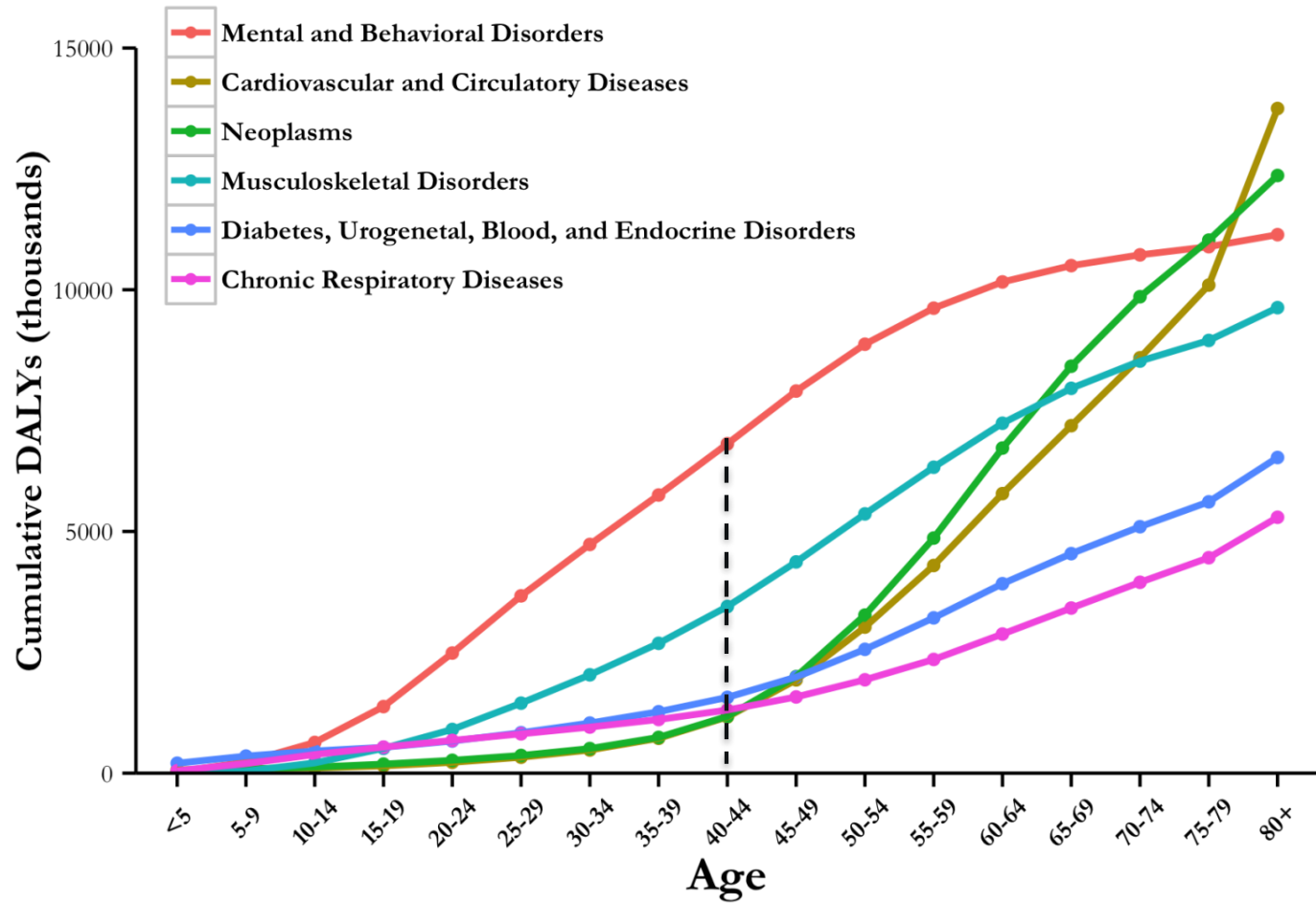


Medical Psychiatric Co-Morbidity



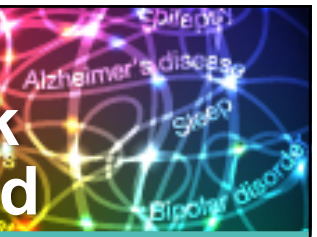
Druss BG, Walker ER. Mental Disorders and Medical Comorbidity. Robert Wood Johnson Foundation, Research Synthesis Report No 21, February 2011. www.policysynthesis.org

The Most Disabling Disorders Before Age 50

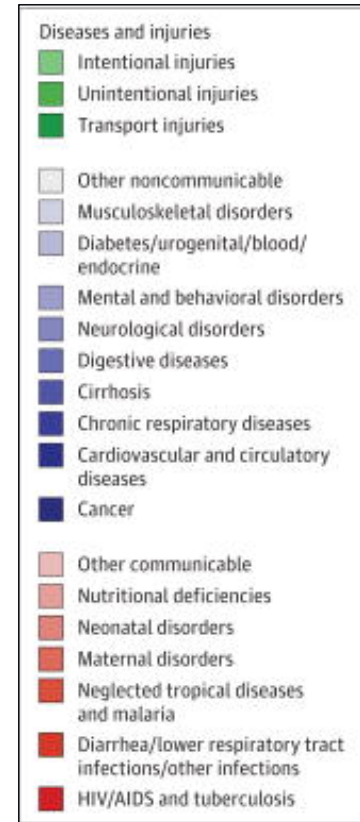
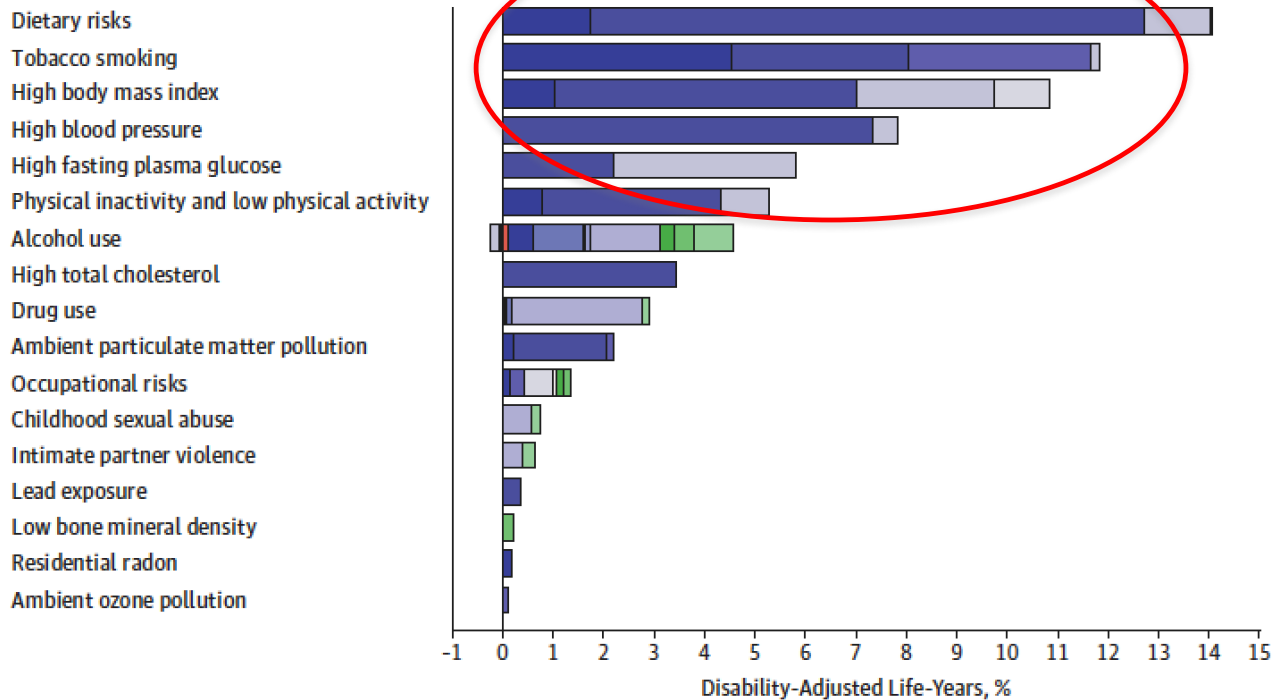


The State of US Health, 1990-2010: Burden of Disease, Injuries, and Risk Factors. *JAMA*. 2013;310(6)581-608.

Number of Deaths and Percentage of Disability-Adjusted Life-Years Related to the 17 Leading Risk Factors in the US in 2010 for Both Sexes Combined

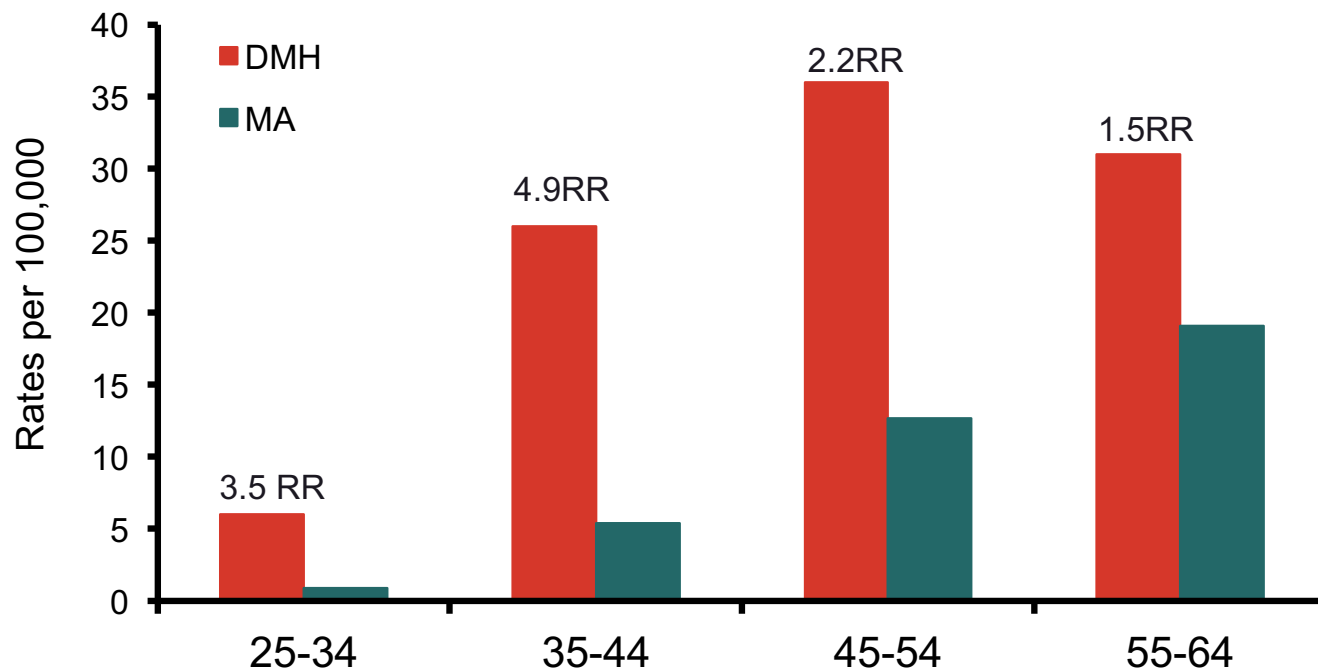


B Risk factors as a percentage of disability-adjusted life-years



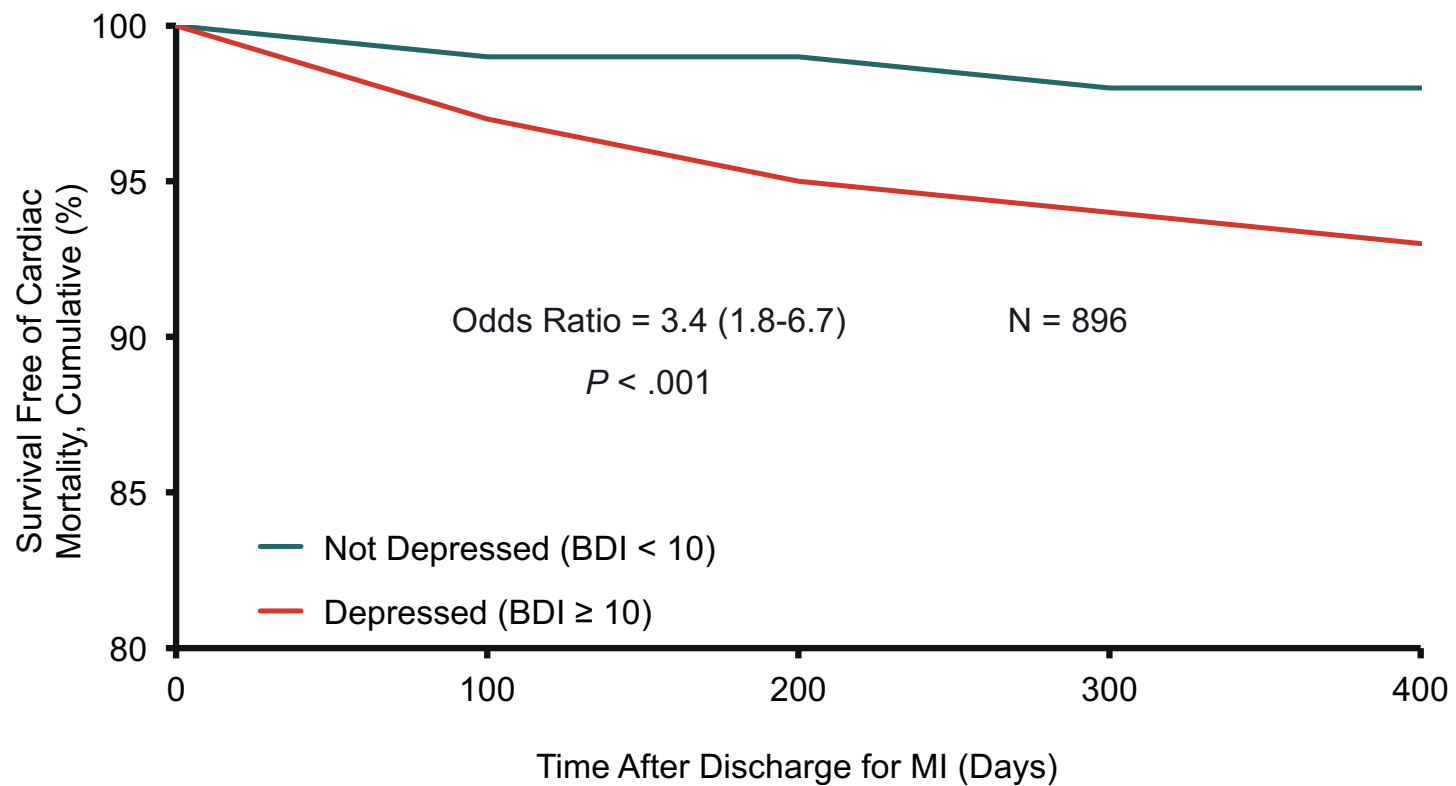
The State of US Health, 1990-2010: Burden of Disease, Injuries, and Risk Factors. *JAMA*. 2013;310(6):581-608.

Deaths from Heart Disease by Age Group/DMH Enrollees with SMI vs. Control 1998-2000



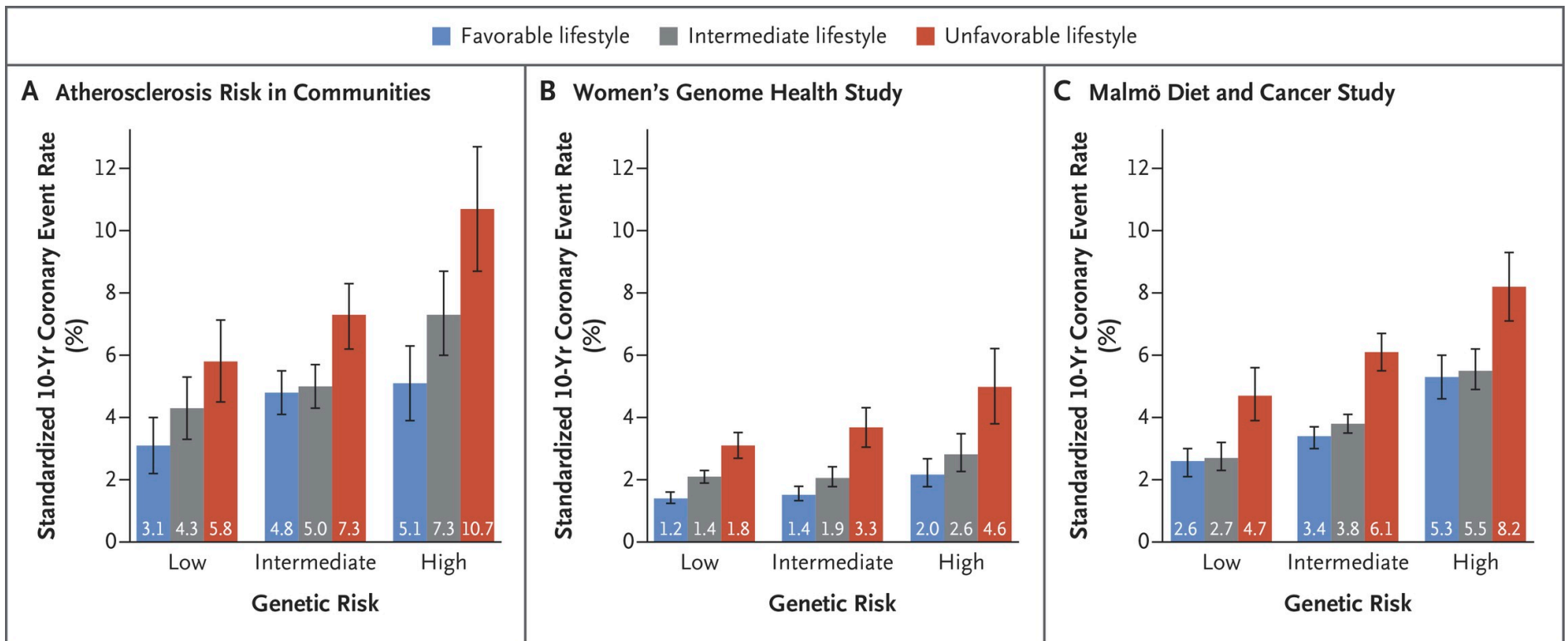
National Association of State Mental Health Program Directors Medical Directors Council July 2006

Depression and 1-Yr Post-Myocardial Infarction (MI) Cardiac Mortality



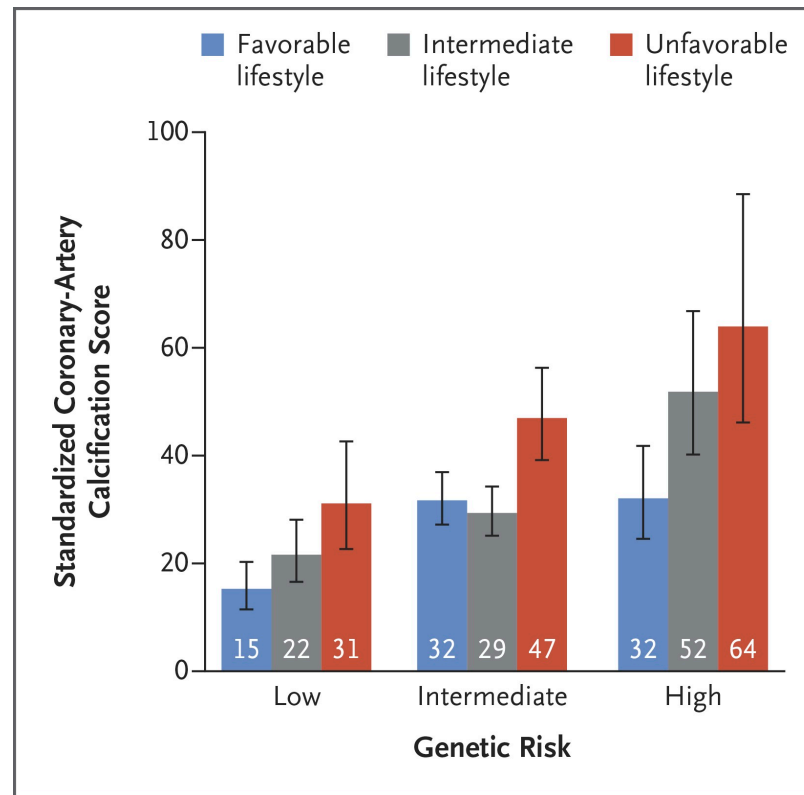
Frasure-Smith N, et al. *Psychosom Med.* 1999;61:18-20.

10-Year Coronary Event Rates, According to Lifestyle and Genetic Risk in the Prospective Cohorts



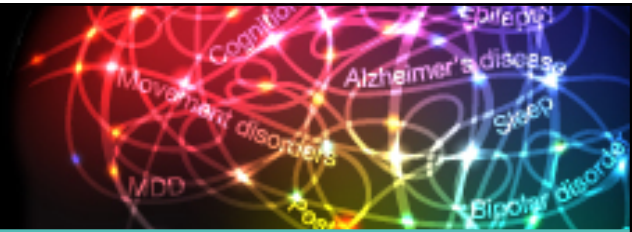
Khera AV, et al. *N Engl J Med* 2016;375(24):2349-2358.

Coronary-Artery Calcification Score in the BiImage Study, According to Lifestyle and Genetic Risk



Khera AV, et al. *N Engl J Med* 2016;375(24):2349-2358.

Meta-Analysis of Mortality in Mental Disorders

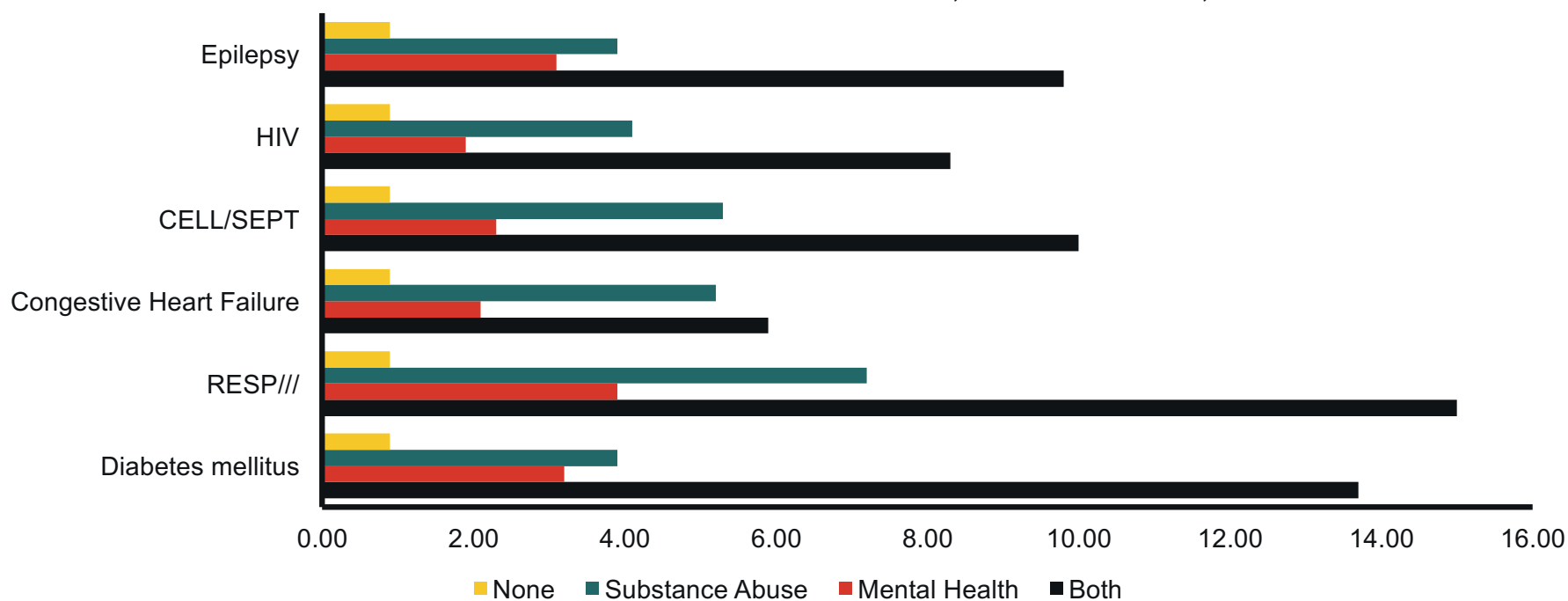


- Meta-analysis of 203 studies meeting criteria of control group in same setting without mental illness
- 29 countries, 6 continents
- Relative Risk All Cause Mortality was 2.22
- 67.3% due to natural causes rest unknown or unnatural (17.5%)
- Median years life lost = 10
- 14.3% of all deaths worldwide due to mental disorders
- 8,000,000 deaths per year

Medicaid Medical Admission Risk Stratified by Psychiatric/Substance Use and None



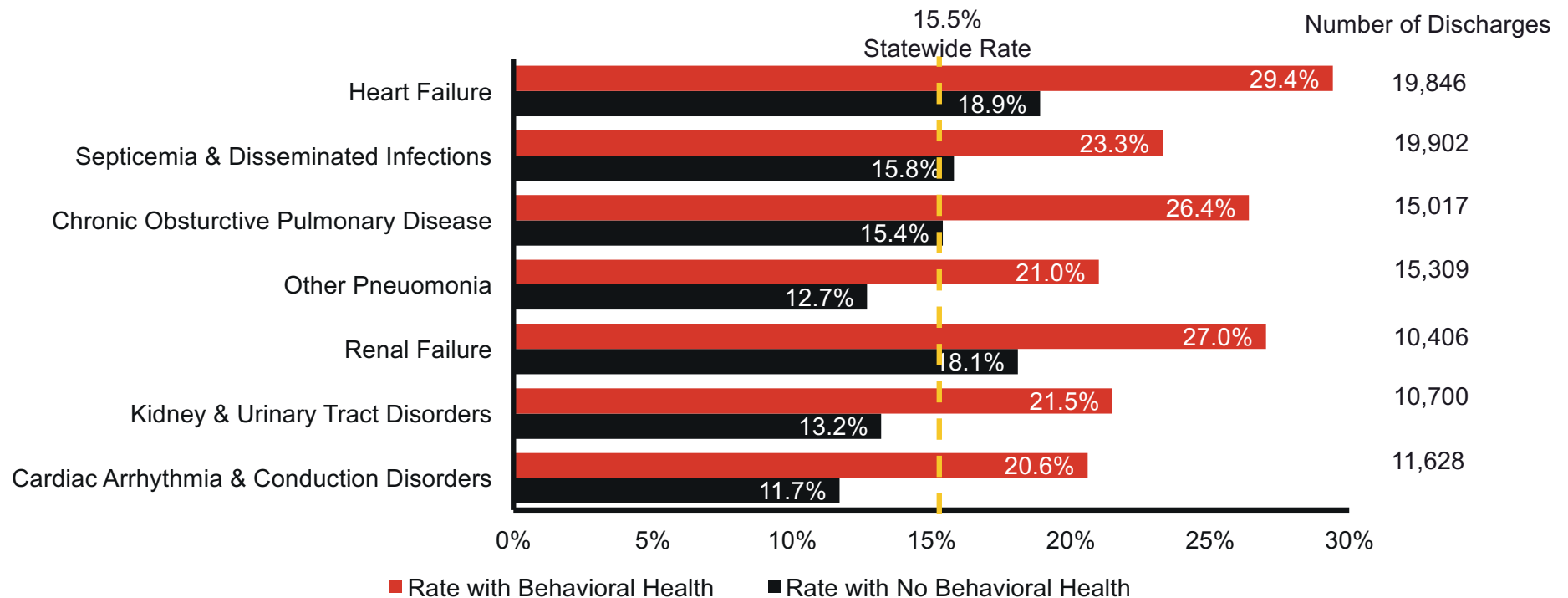
Relative Risk of Medical Admission for Mental Health, Substance Abuse, Both or None



RESP/// = Pneumonia NOS + COPD = Astma + Bronchitis.; CELL/SEPT = Cellulitis + Septicemia

Daviss D. Based on data from the Maryland Department of Health and Mental Hygiene's Behavioral Health Integration Data Workgroup.

Readmission Rates and Behavioral Health Comorbidity by Common Discharge Diagnosis




Note: Diagnostic categories are defined by the All-Payer Refined Diagnosis-Related Group (APR-DRG). Analysis includes discharges for adults (age 18+) with any payer and exclude obstetric discharges.

Data source: Massachusetts Hospital Inpatient Discharge Database. July 2-13-June 2014.

Cost of Medical Psychiatric Illness



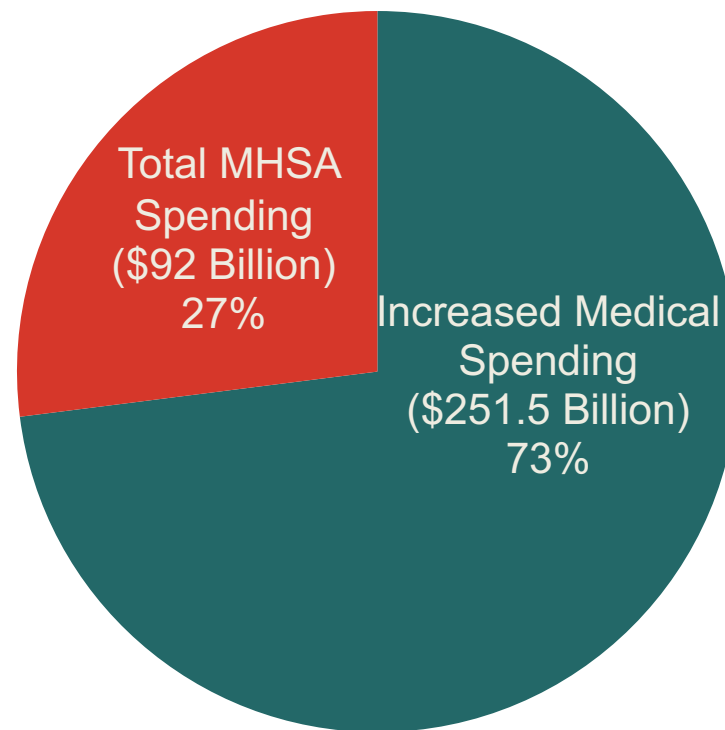
Milliman Report for the American Psychiatric Association



- Persons with a treated psychiatric and/or substance use disorder typically cost 2-3 times more in their total medical costs than those without a behavioral condition
- Persons with a treated psychiatric and/or substance use disorder constituted 14%, but were over 30% of total health spending.
- Persons with a treated psychiatric and/or substance use disorder had a higher proportion of their total medical non-prescription dollars spent on facility-based services than on professional services.

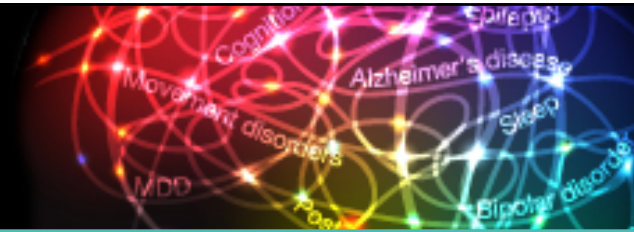
Increased medical costs are between \$250 and \$290 Billion per year

Total MHSA and Increased Medical Spending = \$343 Billion



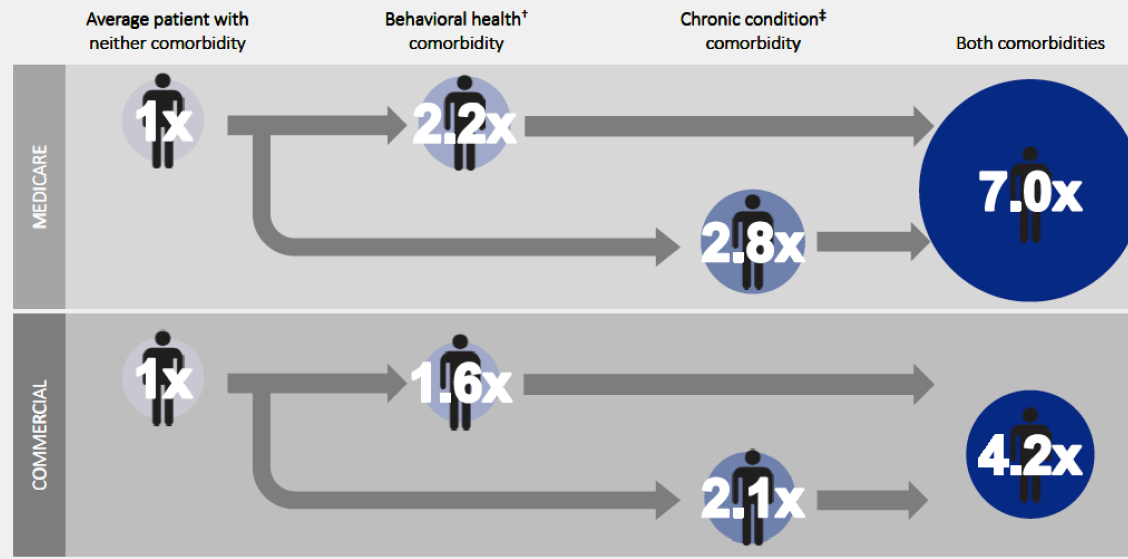
Millman Report: Economic Impact of Integrated Medical-Behavioral Healthcare. Published April 4, 2014.

Impact of Co-Morbidity Massachusetts



Clinical conditions: interaction of conditions can result in higher than expected spending

Claims-based medical expenditures per patient (excluding pharmacy spending)
Relative to average patient with no behavioral health or chronic comorbidity in 2010



Health Policy Commission 2013 MA Cost Trends Reports. Available at <http://www.mass.gov/anf/docs/hpc/2013-cost-trends-report-full-report.pdf>.

Annual Medical and Long-Term Care Costs



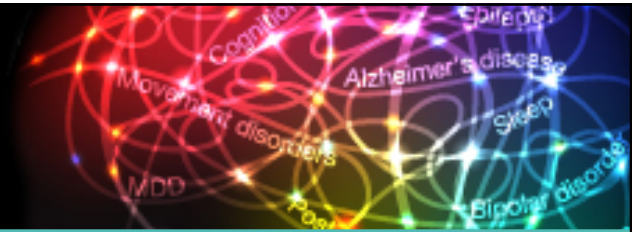
Medical Costs and Long-Term Care Costs Related to Brain Disease, 2010 (\$Billions)

Disease group	Prevalence	Treatment for brain disease (Medical + long-term care)	Higher costs for other conditions	Total medical & long-term care costs
All diseases	17.0%	\$216.1	\$260.0	\$476.1
Stroke	1.9%	\$67.0	\$76.1	\$143.1
Mood	4.3%	\$51.4	\$64.5	\$115.9
Anxiety	5.5%	\$48.4	\$66.9	\$115.3
Aneurysm	1.0%	\$36.0	\$52.8	\$88.8
Sleep	2.5%	\$22.8	\$53.7	\$76.6
Psychotic	1.7%	\$37.3	\$49.3	\$86.6
Addiction	2.3%	\$27.2	\$47.4	\$74.6

Challenge: Clinical Complexity of Medical Psychiatric Illness

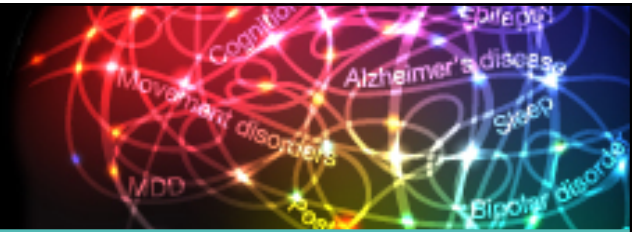


Complexity of Medical Psychiatric Evaluation



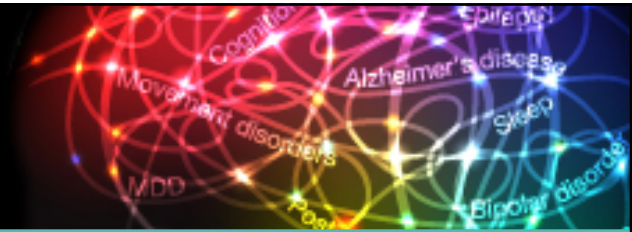
- Multiple interactions can affect the Medical Psychiatric Evaluation
 - Patient has psychiatric illness which modifies the presentation or focus of medical disorder
 - Patient has psychiatric symptoms due to unrecognized medical illness
 - Patient has medical illness which makes psychiatric diagnosis more difficult
 - Patient has psychiatric illness and co morbid unrecognized medical illness

Complexity of Medical Psychiatric Evaluation



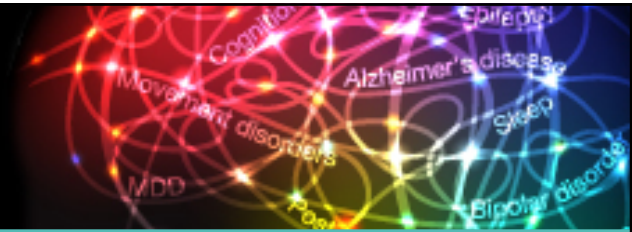
- Patient has psychiatric illness which modifies the presentation or focus of medical disorder
 - Hypochondrical, anxious, or somatizing patient
 - Presentation in primary medical care sector
 - Limited ability to focus or prioritize symptoms
 - Overlap between psychiatric and medical symptoms

Complexity of Medical Psychiatric Evaluation



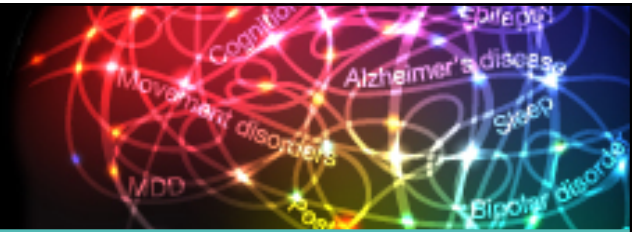
- Patient has psychiatric illness and unrecognized co-morbid medical illness
 - Patient with known psychiatric illness who cannot communicate well
 - Patient with known psychiatric illness whose medical symptoms are communicated and discounted
 - Patient with psychiatric illness who gets cursory medical examination or is seen in a setting not conducive to medical examination

Complexity of Medical Psychiatric Evaluation



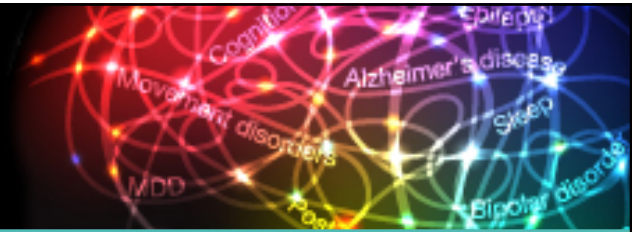
- Patient has medical illness which makes psychiatric diagnosis more difficult
 - Patient whose medical symptoms – e.g. fatigue or difficulty sleeping due to a specific medical syndrome may make use of standard symptom profiles inaccurate
 - Patient whose medical symptoms are disproportionate to psychiatric symptoms

Complexity of Medical Psychiatric Evaluation



- Patient has psychiatric symptoms due to unrecognized medical illness
 - A wide variety of psychiatric symptoms and syndromes can be caused by medical, neurologic and toxicologic disorders
 - Hyperthyroidism: Anxiety; Apathetic Hyperthyroidism in the Elderly
 - Steroids endogenous or exogenous: mania or depression
 - Streptococcal Infection: Obsessive Symptoms in Children (PANDAS)
 - NMDA antibody mediated psychosis
 - Various Neurologic disorders causing social withdrawal, confusion
 - Delirium with prominent psychotic symptoms or hallucinations

Complexity of Medical Psychiatric Evaluation



- Patients who fail to respond to standard therapies, or who have limited or unclear neuropsychiatric symptoms should be carefully reexamined
- A careful and complete history and examination, with systematic thinking about the evidence and differential diagnosis are the best guarantors against missing an illness.
- Need to be expert in the presentation and treatment of psychiatric illness

And Need to Be Expert in a Rapidly Evolving Scientific and Medical Environment

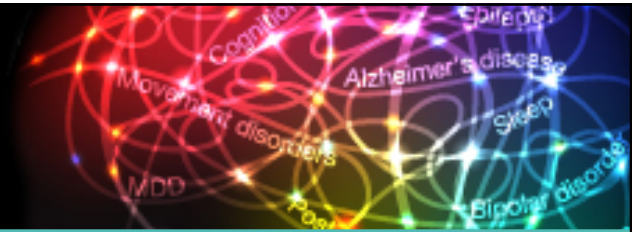
Opportunities



Models of Medical Psychiatric Integration



Core Principles of Effective Collaborative Care



Patient-Centered Care Teams

- Team-based care: effective collaboration between PCPs and Behavioral Health Providers.
- Nurses, social workers, psychologists, psychiatrists, licensed counselors, pharmacists, and medical assistants can all play an important role.

Population-Based Care

- Behavioral health patients tracked in a registry: no one 'falls through the cracks'. Population-based screening

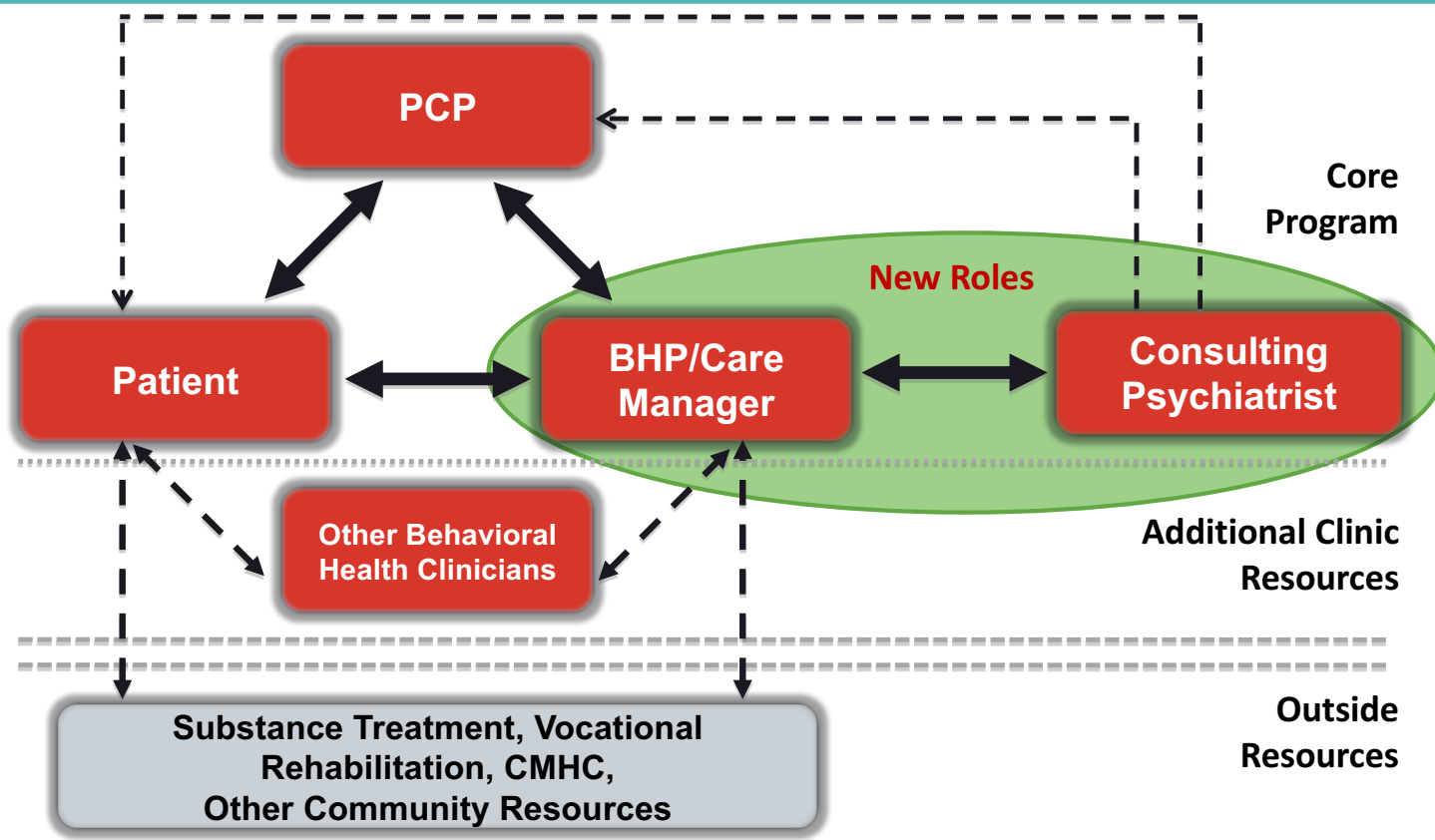
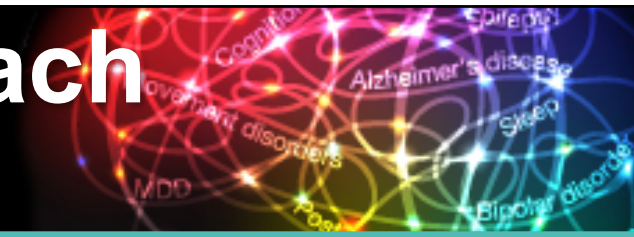
Measurement-Based Treatment to Target

- Measurable treatment goals clearly defined and tracked for each patient
- Treatments are actively changed until the clinical goals are achieved

Evidence-Based Care

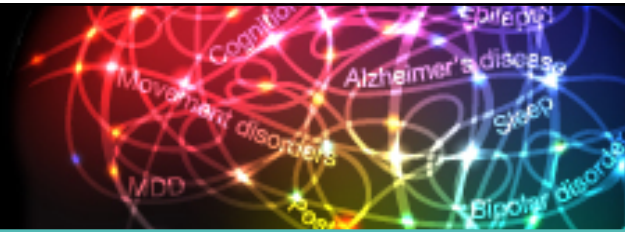
- Treatments used are 'evidence-based'

Collaborative Team Approach (IMPACT)



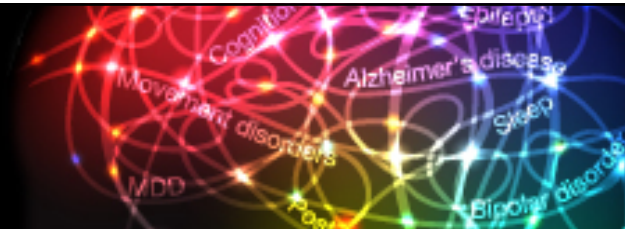
Courtesy of Lori Rainey, MD

IMPACT Study

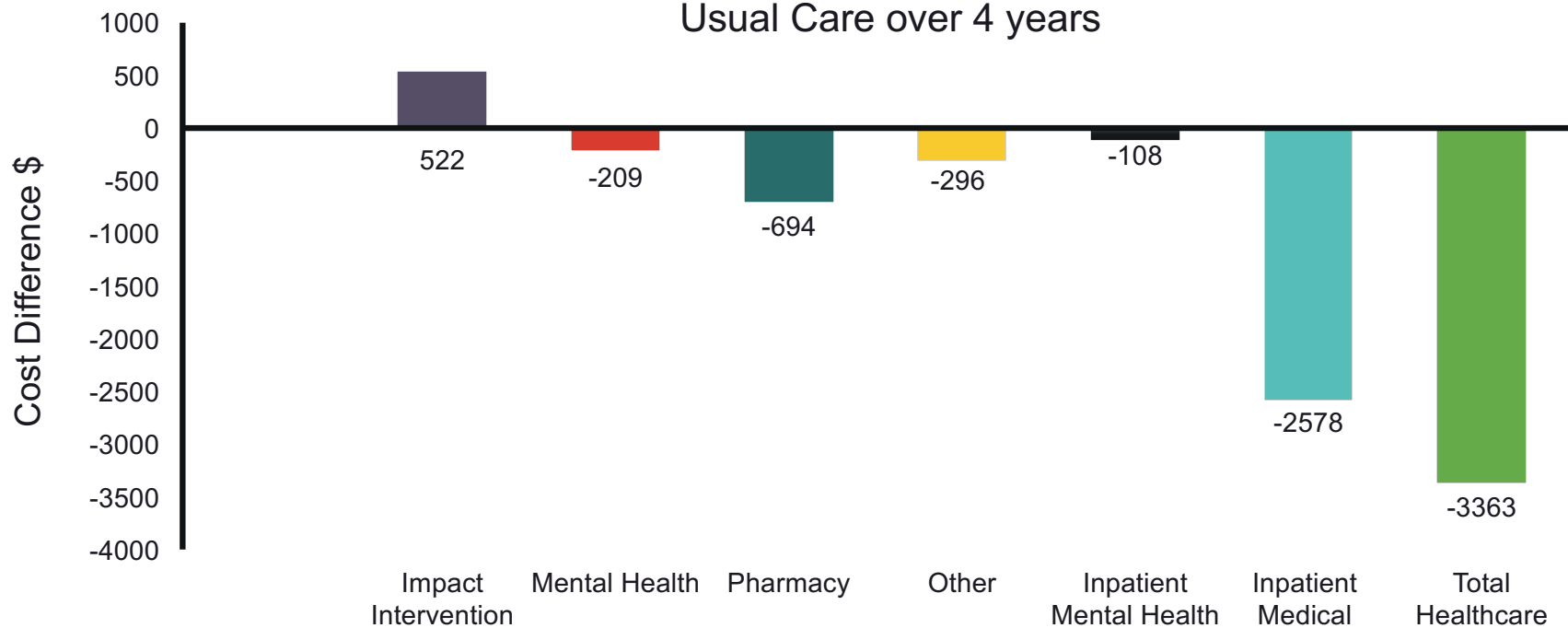


- Multi-site randomized controlled trial
- Assessed effects of collaborative care compared to usual care in 1,801 depressed primary care patients >60 years old
- Patients with depression were identified using the Scl-20 and followed-up with PHQ-9

IMPACT Study



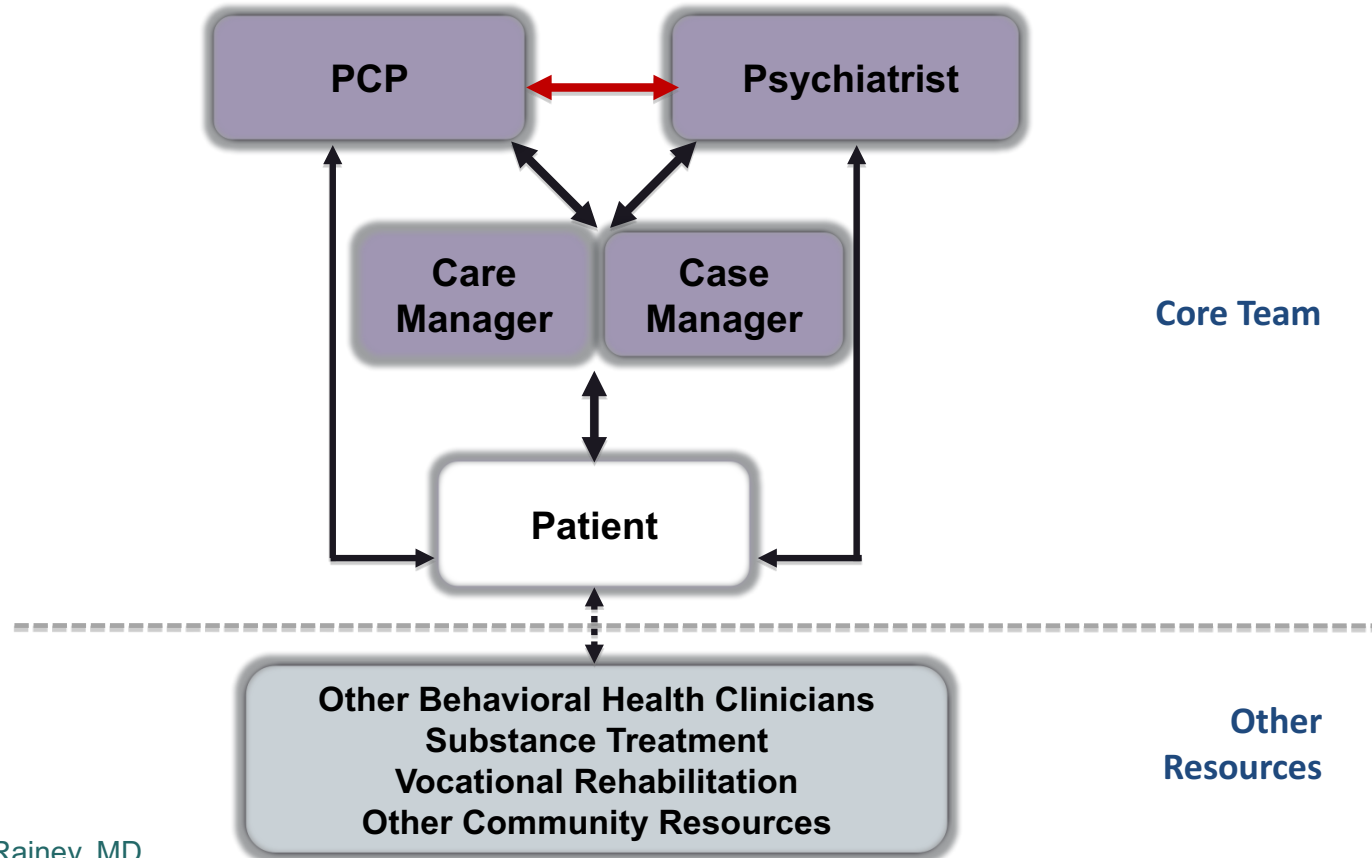
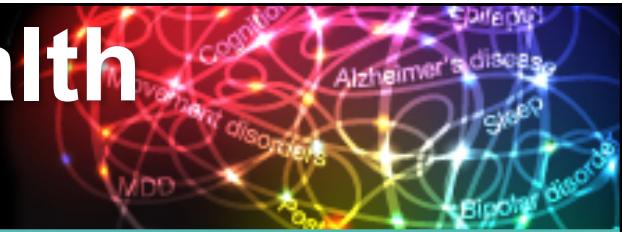
Cost Difference Between Intervention and Usual Care over 4 years



N =1801

Unutzer J, et al. *Am J Manag Care*. 2008;14(2):95-100.

Primary Care in Mental Health (PCBHI)



Courtesy of Lori Rainey, MD

Collaborative Care to Improve the Management of Depressive Disorders

A Community Guide Systematic Review and Meta-Analysis

Anilkrishna B. Thota, MBBS, MPH, Theresa Ann Sipe, PhD, MPH, CNM, RN, Guthrie J. Byard, MPH, Carlos S. Zometa, PhD, MSPH, Robert A. Hahn, PhD, MPH, Lela R. McKnight-Eily, PhD, Daniel P. Chapman, PhD, Ana F. Abraido-Lanza, PhD, Jane L. Pearson, PhD, Clinton W. Anderson, PhD, Alan J. Gelenberg, MD, Kevin D. Hennessy, PhD, Farifteh F. Duffy, PhD, Mary E. Vernon-Smiley, MD, MPH, Donald E. Nease Jr., MD, Samantha P. Williams, PhD,
Community Preventive Services Task Force

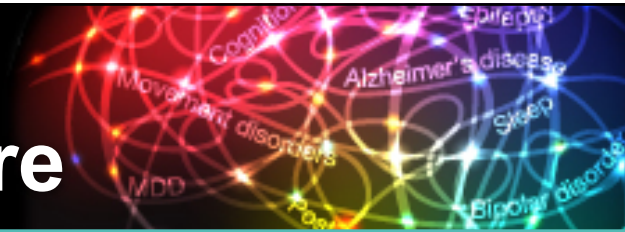
Key Findings on Collaborative Care



- Results from the meta-analyses suggest robust evidence of effectiveness (all effect estimates were significant) of collaborative care in:
 - Improving depression symptoms (SMD 0.34)
 - Adherence to treatment (OR 2.22)
 - Response to treatment (OR 1.78); remission of symptoms (OR 1.74)
 - Recovery from symptoms (OR 1.75)
 - Quality of life/functional status (SMD 0.12)
 - Satisfaction with care (SMD 0.39) for patients diagnosed with depression

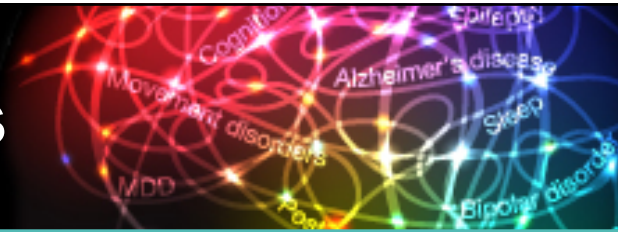
SMD = Standardized mean difference; OR = Odds ratio
Thota AB et al. *Am J Prev Med.* 2012;42(5):525-538.

Cochrane Findings Collaborative Care vs. Usual Care



- In terms of primary outcomes, collaborative care for patients with depression is more effective than usual care in terms of depression outcomes at around 6 months, 12 months, and 24 months, although the effects were not significant after 24 months
- Collaborative care for patients with anxiety is more effective than usual care in terms of anxiety outcomes at around 6 months, 12 months, and 24 months

Medical Psychiatry Inpatient Models



Type 1
High Psych
Low Med
Acuity

Type 2
High Med
Low Psych
Acuity

Type 3
High Psych
Mod Med
Acuity

Type 4
High Psych
High Med
Acuity



1⁰ Psych and 2⁰
Locked DMH
Sub Acute Med
PPS exempt

1⁰ Psych and 1⁰ Med
Locked non DMH
Acute Med
DRG based unit



Psych Director
Med Consultant
Med Psych Director

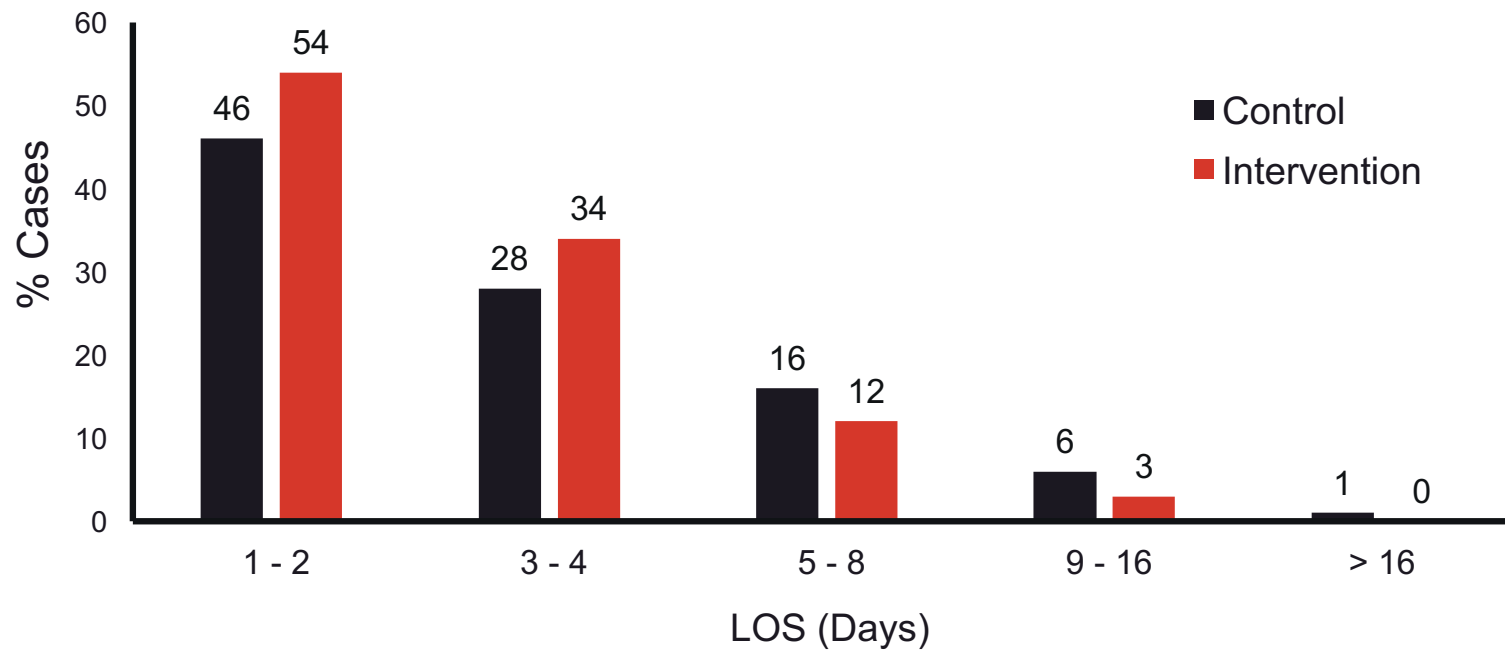
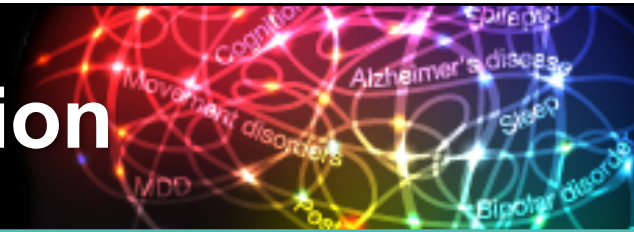
Psych Director
Med Director
Med Psych Director



IV fluids, antibiotics
Dialysis
Some post op care

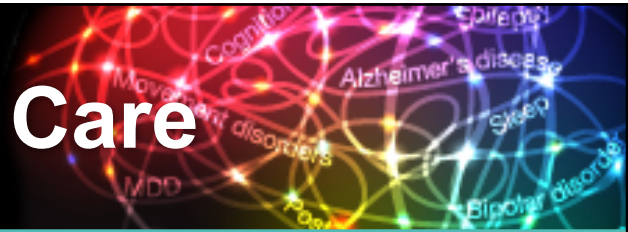
All type 3
Telemetry
DKA, Pneumonia

Proactive Psychiatric Consultation



Desan PH, et al. *Psychosomatics*. 2011;52(6):513-520.

Intermountain Health Integrated Care



- Built off Intermountain Mental Health Integration Model
- Created Team Based Care (TBC) model more broadly affecting chronic disease management
- “The core attributes of practices that achieved TBC included engaged physicians who have embraced normalizing mental health”

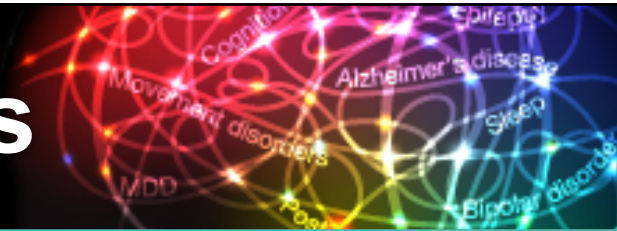
Schwenk TL. *JAMA*. 2016;316(8):822-823.

Reiss-Brennan B, et al *JAMA*.2016;316(8):826-834.

Implications

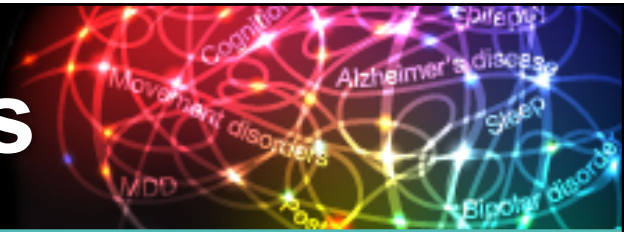


Implications - United States



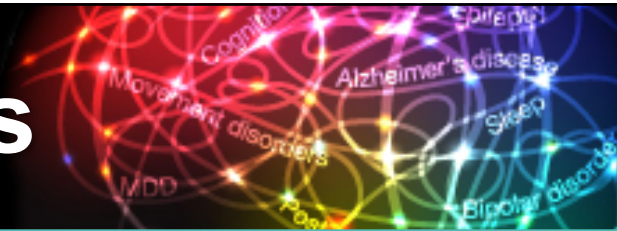
- Financing – need for integrated medical psychiatric financing to optimize quality and cost
- Models of care – including co-location - and organization will continue to be experimental as will payment models for psychiatrists and other specialists
- EMR's are not well established in psychiatry and raise operational, confidentiality and data and quality issues

Implications - United States



- Psychiatrists are more disconnected from existing payer systems and appear to be less likely to be in large groups

Implications - United States



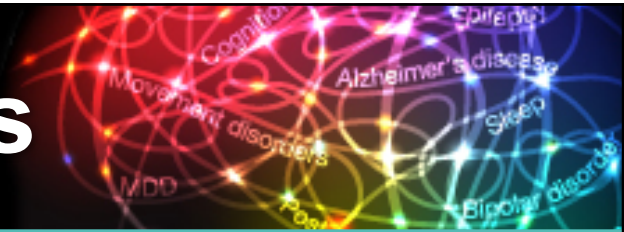
- Research

- Research in etiology of medical psychiatric co-morbid illness
- Effectiveness research in models of care are needed including econometric analyses

- Training

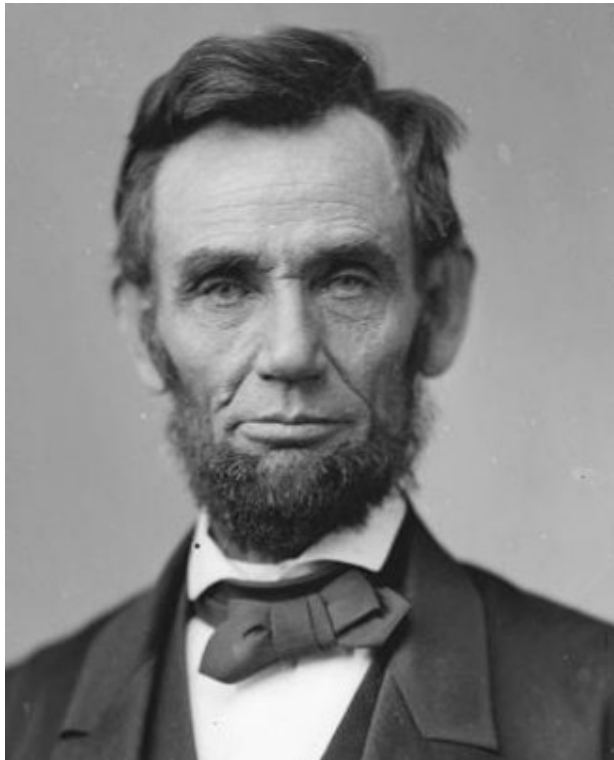
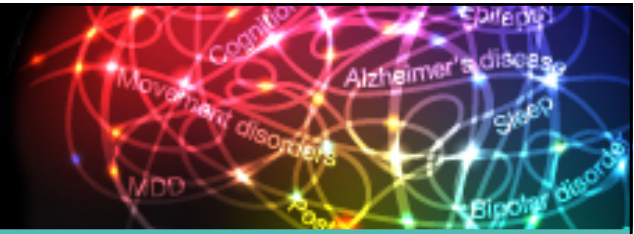
- Current RRC requirements in general and child need comprehensive review
- Psychiatrists must first be physicians and will need to retain some level of active medical skills

Implications - United States



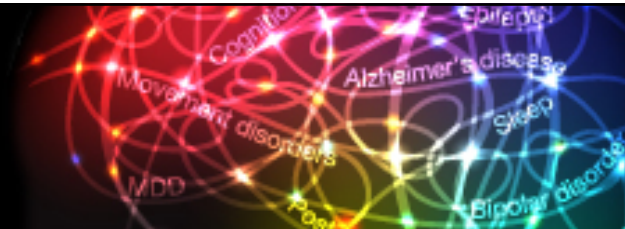
- Given high rates of psychiatric care in the general medical sector, training and education for all physicians will be needed

Lincoln on Stigma



- A tendency to melancholy, let it be observed.... is a misfortune, not a fault
 - Abraham Lincoln Letter to Mary Speed 1841

Call to Action



- Psychiatry is facing challenges and opportunities in the management of patients with psychiatric-medical comorbidities
- Integration of a collaborative team approach to depression can have a positive effect on patient outcomes

Questions & Answers

Don't forget to fill out your evaluations to collect your credit.

