Can We Predict The Future of Psychiatry?

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Labatt Family Chair
Outlnie

Lorenzo Pietro "Yogi" Berra (1925 –2015)

• The glorious past
  “The future ain’t what it used to be.”

What has been the most impactful change in psychiatry over the past 50 years?

• The confusing present
  “You’ve got to be very careful if you don’t know where you are going, because you might not get there.”

• The unpredictable future
  “It's tough to make predictions, especially about the future.”
10 Most Impactful Changes in Psychiatry Since WW2 (1)

Survey of 200 mental health professionals – 2011-14

- Psychopharmacology
- Deinstitutionalization
- Fall of psychoanalysis
- Non-MD professionals
- Neuroscience
- SSRIs
- Influence of ‘Big Pharma’
- DSM
- New diagnoses
- Depathologization of homosexuality

Courtesy John P.M. Court based on:
Micale MS. The ten most important changes in psychiatry since WW2
History of Psychiatry Dec 2014; 25(4): 485-491
10 Most Impactful Changes in Psychiatry Since WW2 (2)

Two Runners-up & Five Notable Omissions

- Psychiatry subspecialties (Child and Geriatric Psychiatry)
- Economic aspects (insurance; health services; cost of training)
- Advocacy
- Laws and litigations
- Discreditation of psychosurgery
- Anti-psychiatry movement
- Gender revolution

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What is the biggest challenge in contemporary psychiatry?

• The unpredictable future
  “It's tough to make predictions, especially about the future.”
REAPPRAISAL

Has increased provision of treatment reduced the prevalence of common mental disorders? Review of the evidence from four countries

Anthony F. Jorm¹, Scott B. Patten², Traolach S. Brugha³, Ramin Mojtabai⁴

¹Melbourne School of Population and Global Health, University of Melbourne, Parkville, Victoria, Australia; ²Department of Community Health Sciences, University of Calgary, Calgary, Canada; ³Department of Health Sciences, College of Medicine, Biological Sciences and Psychology, University of Leicester, Leicester General Hospital, Leicester, UK; ⁴Department of Mental Health, Johns Hopkins Bloomberg School of Public Health, Baltimore, MD, USA

(World Psychiatry 2017;16:90–99)
“These data show that the prevalence of mood and anxiety disorders and symptoms has not decreased, despite substantial increases in the provision of treatment, particularly antidepressants.”

Jorm et al (2017) World Psychiatry
[Over the past 20 years] “science did little to improve the lives of the millions of people living with persistent mental distress. Almost every measure of our collective mental health — rates of suicide, anxiety, depression, addiction deaths, psychiatric prescription use — went the wrong direction, even as access to services expanded greatly.”

US Suicide Rates - 2001–2021

Deaths per 100,000 standard population

- Male: 18.2 in 2001, 22.8 in 2021
- Total: 10.7 in 2001, 14.1 in 2021
- Female: 4.1 in 2001, 6.2 in 2021

CDC’s NCHS - Data Brief No. 464 – April 2023
US Overdose Rates - 2001–2021

CDC’s NCHS - Data Brief No. 457 – December 2022
Psychopharmacology in the Age of Evidence-Based Medicine (EBM)

• 94 meta-analyses
• 48 drugs in 20 medical diseases
• 16 drugs in 8 psychiatric disorders
• “the psychiatric drugs were not generally less efficacious than other drugs.”

Medications Effect Sizes

General Medicine (Left)
- Median: 0.37
- Mean: 0.45
- 95% CI: 0.37-0.53

Psychiatry (Right)
- Median: 0.41
- Mean: 0.49
- 95% CI: 0.41-0.57

Leucht et al (2012)
Br J Psychiatry
Comparative efficacy and acceptability of 21 antidepressant drugs for the acute treatment of adults with major depressive disorder: a systematic review and network meta-analysis


“[In] 522 trials comprising 116,477 participants […] all antidepressants were more effective than placebo, with ORs ranging between 2.13 (95% credible interval [Crl] 1.89–2.41) […] and 1.37 (1.16–1.63)”

“These data show that the prevalence of mood and anxiety disorders and symptoms has not decreased, despite substantial increases in the provision of treatment, particularly antidepressants. 

[...] 

A more strongly supported hypothesis for the lack of improvement is that much of the treatment provided does not meet the minimal standards of clinical practice guidelines and is not targeted optimally to those in greatest need.”

Jorm et al (2017) World Psychiatry
Efficacy of Treatments and Controls for Depression (N = 10,310)

Red bars: unblinded trials
Blue bars: blinded trials

Measurement-Based Care (MBC) vs. Standard Treatment While Controlling for Antidepressants

- Teaching hospital
- Adult outpatients with moderate to severe major depression
- Pharmacotherapy restricted to paroxetine or mirtazapine in both groups

Am J Psych 172:1004-13
“How do we improve the quality of mental health care? […] We can do much better by delivering the treatments we have today. We can save lives – many lives – simply by closing the unconscionable gap between what we know and what we do.”

Tom Insel
Final blog as NIMH director
October 29, 2015
A Tale of Two Approaches

What We Know:
Systematic MBC Approach
• Based on best evidence or guidelines
• Clinical experience based on large number of patients
• Keeping the course: the clinician is protected against personal biases, pressures from the patient or family
• Focus is on the patient

What We Do:
Usual Care
• Based on fad “du jour”
• Little cumulative experience due to small numbers of patients receiving many different medications
• Ill-advised or ill-timed changes in treatment
• Focus is on the treatment (making decisions is exhausting)
Outline

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Which factor will lead to the most impactful advance in psychiatry in the next 20 years?
WPA-Lancet Psychiatry Commission on the Future of Psychiatry

1. “Therapeutic alliance will remain central”
2. Reformed structure of services: stepped care; teamwork; public health approach; integration with physical care
3. Social interventions and advocacy
4. Evolution of mental health law
5. Digital psychiatry
6. Implications for training

Bhugra et al, Lancet Psychiatry 2017
Predictions About the Unpredictable Future (circa 2015)

- Continuing reduction of stigma
- The neuroscience revolution?
- Reform of mental health services
  - Access
  - Quality
  - Impact of technology
- Prevention
Predictions About the Unpredictable Future

• Continuing reduction of stigma

• The neuroscience revolution?

• Reform of mental health services
  – Access
  – Quality
  – Impact of technology

• Prevention
More than half of college students meet the criteria for one or more mental health conditions, a study in *Psychiatric Services in Advance* has found.

Sarah Ketchen Lipson, Ph.D., Ed.M., of the Boston University School of Public Health and colleagues analyzed 2016-2019 data from the Healthy Minds Study, an annual web-based survey. Data were drawn from:

“More than 50% of the students met the criteria for one or more mental health conditions, including roughly 33% who screened positive for depression and for anxiety and roughly 15% who reported suicidal ideation.”

Lipson et al, Psychiatric Services 2021
More than 1 in 6 adults have depression as rates rise to record levels in the US, survey finds

By Deidre McPhillips, CNN
Published 4:02 AM EDT, Wed May 17, 2023

“About 18% of adults say they are depressed or receiving treatment for depression, a jump of more than 7 percentage points since 2015 [...] Nearly a quarter of adults under 30 say they are currently depressed.”

CNN Gallup poll, May 17, 2023
“Increased use of psychiatric language means ordinary distress is being medicalised, while the seriously ill are not being heard.”

“While attitudes towards milder and more common mental health conditions such as anxiety, low mood, stress or burnout have improved [...] when it comes to schizophrenia, we seem to be getting less enlightened.”

https://www.theguardian.com/commentisfree/2023/may/14/the-definition-of-mental-health-has-been-widened-so-much-that-its-now-almost-meaningless
The Urgent Problem With Seeking Psychiatric Diagnoses for Every Problem

Psychiatrists are being overwhelmed by people perceiving themselves to have a mental disorder and believing psychiatric treatment and or therapy to be the answer to their problems.

What Are “Mental Disorders,” and Are They Increasing in Youth?

Defining mental disorders is slippery, contributing to rising rates of diagnosis and self-diagnosis. Young people are especially prone to psychiatric self-labeling.
Predictions About the Unpredictable Future

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• The neuroscience revolution?

• Reform of mental health services
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• Prevention
The Neuroscience Revolution? Yes, and...
“The scientific progress in our field was stunning, but while we studied the risk factors for suicide, the death rate had climbed 33 percent. While we identified the neuro-anatomy of addiction, overdose deaths had increased by threefold. While we mapped the genes for schizophrenia, people with this disease were still chronically unemployed and dying 20 years early.”

Thomas Insel (2022)
Recovery: Healing the Crisis of Care in American Mental Health
## Four Requirements for Precision Medicine

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Mental Illness?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathophysiology (and therefore heterogeneity) of illness is well-understood</td>
<td>😞</td>
</tr>
<tr>
<td>Characterization of illness and response is conceptually close to (bio-)markers</td>
<td>😞</td>
</tr>
<tr>
<td>Large sample size RCTs</td>
<td>😞</td>
</tr>
<tr>
<td>Precise measurement of the outcome</td>
<td>😞</td>
</tr>
</tbody>
</table>

“Four horsemen of the (precision psychiatry) apocalypse”

Courtesy Eric Lenze, MD
Predictions About the Unpredictable Future

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Number of outpatients seen per year by Ontario psychiatrists grouped by years since med school graduation and sex

Percentage of Ontario psychiatrists by years since med. school graduation and sex

Credit: Andrew W. Chanen, Orygen, Sidney, Australia
 Strategies to Improve Access to Care

Because of the shortage of psychiatrists in this country, Dr. Schwartz writes that psychiatry must marshal the entire workforce who cares for people with mental illness and put guild issues aside.

“We have to marshal the entire workforce who cares for people with mental illness. That includes social workers, advanced practice nurses, psychologists, mental health counselors, and peer counselors. [...] Technology can play an important role, whether it is through telepsychiatry or the creation of virtual team-based care so that if a psychiatrist needs cognitive-behavioral therapy or peer support services for a patient, another clinician on the virtual team can engage that patient in a seamless manner.”
LAY PROVIDERS CAN DELIVER EFFECTIVE COGNITIVE BEHAVIOR THERAPY FOR OLDER ADULTS WITH GENERALIZED ANXIETY DISORDER: A RANDOMIZED TRIAL

Melinda A. Stanley, Ph.D., Nancy L. Wilson, M.S.W., Amber B. Amskoper, Ph.D.,
Cynthia Kraus-Schuman, Ph.D., Paula D. Wagener, B.A., Jessica S. Calleo, Ph.D.,
Jeffrey A. Cully, Ph.D., Ellen Teng, Ph.D., Howard M. Rhoades, Ph.D.,
Susan Williams, M.D., Nicholas Masozera, M.D.,
Matthew Horsfield, M.D., and Mark E. Kunik, M.D., M.P.H.

Background: The Institute of Medicine recommends developing a broader workforce of mental health providers, including nontraditional providers, to expand services for older adults. Cognitive behavior therapy (CBT) is effective for late-life generalized anxiety disorder (GAD), but no study has examined outcomes with delivery by lay providers working under the supervision of licensed providers. The current study examined the effects of CBT delivered by lay, bachelor-level providers (BLP) relative to Ph.D.-level expert providers (PLP), and usual care (UC) in older adults with GAD. Methods: Participants were 223 older adults (mean age, 66.9 years) with GAD recruited from primary care clinics at two sites and assigned randomly to BLP (n = 76), PLP (n = 74), or UC (n = 73). Assessments occurred at baseline and 6 months. CBT in BLP and PLP included core and elective modules (3 months: skills training; 3 months: skills review) delivered in person and by telephone, according to patient choice. Results: CBT in both BLP and PLP groups significantly improved GAD severity (GAD Severity Scale), anxiety (Spielberger State-Trait Anxiety Inventory; Structured Interview Guide for the Hamilton Anxiety Scale), depression (Patient Health Questionnaire), insomnia (Insomnia Severity Index), and mental health quality of life (Short-Form-12), relative to UC. Response rates defined by 20% reduction from pre- to posttreatment in at least three of four primary outcomes were higher for study completers in BLP and PLP relative to UC (BLP: 38.5%; PLP: 40.0%; UC: 19.1%). Conclusion: Lay providers, working under the supervision of licensed providers, can deliver effective CBT.
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Measurement-Based Care vs. Standard Treatment Controlling for Antidepressants

- Teaching hospital
- Adult outpatients with moderate to severe major depression
- Pharmacotherapy restricted to paroxetine or mirtazapine in both groups

## 2015 Guo et al's Algorithm (1)

<table>
<thead>
<tr>
<th>Condition</th>
<th>QIDS-SR Criteria</th>
<th>FIBSER Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Remission</td>
<td>≤ 5</td>
<td></td>
</tr>
<tr>
<td>Partial response</td>
<td>6-8</td>
<td>6</td>
</tr>
<tr>
<td>Intolerable SE</td>
<td>≥ 9</td>
<td>6</td>
</tr>
<tr>
<td>Non-response</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non-response &amp; SE</td>
<td></td>
<td>6</td>
</tr>
</tbody>
</table>

**QIDS-SR:** 16-item Quick Inventory of Depressive Symptomatology–Self-Report

**FIBSER:** Frequency, Intensity, and Burden of Side Effects Rating scale

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Am J Psych 172:1004-13
## 2015 Guo et al’s Algorithm (2)

<table>
<thead>
<tr>
<th>Wk</th>
<th>Status</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Start paroxetine 20 mg/day OR mirtazapine 15 mg/day, ↑ to 30 mg/day at week 1</td>
<td>Continue</td>
</tr>
<tr>
<td>4 &amp; 6</td>
<td>Remission Partial response &quot; &amp; intolerable SE Non-response &quot; &amp; intolerable SE</td>
<td>Continue or ↑ Manage or switch ↑ or switch Switch</td>
</tr>
<tr>
<td>8, 10, &amp; 12</td>
<td>Remission Partial response &quot; &amp; intolerable SE Non-response &quot; &amp; intolerable SE</td>
<td>Continue Continue or ↑ Switch Switch Switch</td>
</tr>
</tbody>
</table>

# Five-Step Algorithm: One-Year Outcome

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Response/Remission</td>
<td>151</td>
<td>(87%)</td>
</tr>
<tr>
<td>Drop-Outs</td>
<td>15</td>
<td>(9%)</td>
</tr>
<tr>
<td>Non-Response</td>
<td>7</td>
<td>(4%)</td>
</tr>
</tbody>
</table>

N = 173

Predictions About the Unpredictable Future

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The Digital Disruption

• The world largest taxi/restaurant company owns no taxi/restaurant: Uber/Uber Eat
• The world’s largest movie house owns no cinema: Netflix
• The largest hotel company owns no hotel: Airbnb
• The largest phone company owns no telephone lines: Skype
• The largest media company creates no content: Facebook
• The fastest growing bank handles no actual money: SocietyOne

Attributed to Tom Goodwin, Havas Media, New York (Spring 2015) formerly founder and director of Tomorrow Group
“[...] traditional lawyers will in large part be replaced by advanced systems, or by less costly workers supported by technology or standard processes, or by lay people armed with online self-help tools.”
“Evaluators preferred chatbot responses to physician responses in 78.6% of the 585 evaluations […]

The proportion of responses rated as good or very good was higher for chatbot than physicians (chatbot: 78.5%; physicians: 22.1% […]

The proportion of responses rated empathetic or very empathetic was higher for chatbot than for physicians (chatbot: 45.1%; physicians: 4.6%).”

Virtual therapist discusses the Patient Health Questionnaire-9 (PHQ-9) results with the user. Information is provided both graphically and on video (Berman et al. Behav Ther. 2014; 45(3):358-75)
In New York, on April 3, 1973, Martin Cooper, an engineer from the start-up Motorola, made the first call with a handheld cell phone (to rival AT&T Bell Lab). The 2.5-lbs prototype allowed to talk for 35 minutes after being charged for 10 hours. After 10 more years of work, Motorola initiated commercial service with a 16-ounce model that cost $4,000 in 1983 ($10,000 today).
= Better care?
The key to prevention?
transcranial Direct Current Stimulation (tDCS)?
“No one pretends that democracy is perfect or all-wise. Indeed it has been said that democracy is the worst form of government except for all those other forms that have been tried from time to time.”

Winston S. Churchill
UK House of Commons
November 11, 1947

I would not pretend that RCTs are perfect or all-wise. I would say that an RCT is the worst way to assess a psychiatric intervention except for all those other forms that have been tried from time to time.

Benoit H. Mulsant
San Francisco
May 19, 2023
We will resist change. As Machiavelli noted, “the innovator makes enemies of those who prospered under the old order and only lukewarm support is forthcoming from those who would prosper under the new.”

Courtesy: David Goldbloom, MD, FRCPC