Mental Health Screening in Pediatric Primary and Specialty Care Settings

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Mount Sinai

Disclosure

Outside relationships, last 5 years

Funding source	Role	Comment
National Institutes of Health: NIDDK AHRQ	PI, MPI	Research support: U01, U18
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Mindich Child Health and Development Institute	Program Director	Pediatrics Clinical Trials Office
Mindich Child Health and Development Institute	Director	Precision Behavioral Medicine Initiative
Heart Initiative	PI	CP&R research project
NY Partnership / Arnhold Institute	PI	CP&R research project
PARTNERS program	Advisory Board	Volunteer
Y.H. Mirzoeff and Sons Foundation, Inc.	Advisory Board	Volunteer
Graham-Windham	Board	Volunteer

To screen or not to screen, that is the question

This evening we will…

- Focus on depression as an example
- Discuss adult as well as pediatric data
- Current recommendations and the logic behind them
- Describe my personal journey
- Reach a conclusion
- Look to the future

United States Preventive Services Task Force

The United States Preventive Services Task Force (USPSTF) is an independent group of national experts in prevention and evidence-based medicine that makes recommendations to primary care clinicians about preventive services

Current Depression Screening Recommendations

USPSTF

Population	Recommendation	Grade
Adults, including pregnant and postpartum persons, and older adults (65 years or older)	The USPSTF recommends screening for depression in the adult population, including pregnant and postpartum persons, as well as older adults	B
Adolescents aged 12 to 18 years	The USPSTF recommends screening for major depressive disorder (MDD) in adolescents aged 12 to 18 years	B

Current Depression Screening Recommendations

Canadian Task Force on Preventive Health Care (CTFPHC)

Recommendation	Rationale
For adults at average risk of depression, we recommend not routinely screening for depression	*Weak recommendation, very-low-quality evidence*
For adults in subgroups of the population who may be at increased risk of depression, we recommend not routinely screening for depression	*Weak recommendation, very-low-quality evidence*

Current Depression Screening Recommendations

UK National Screening Committee (UK NSC)

Recommendation	Rationale
Screening is not currently recommended for this condition	• The test would wrongly identify a large number of people as having depression • It is uncertain if screening would reduce the negative impact of depression • It is not known if treating milder depression reduces the development of more severe depression in the longer term • It is unclear how well depression is identified and managed in the UK at present

Based on a UK NSC evidence review (July 2020)


Arctic Circle
Alaska (USA)
Canada
Hudson Bay
Gulf of Alaska
Labrador Sea
Norwegian Sea
Iceland
Faroe Islands (Denmark)
Norway
Swede
United Kingdom
North Sea
Denmark
Ireland
Germany
France
San Marino
Monaco
Andorra
Vatican City
Spain
Italy
Portugal
Morocco
Tunisia
Malta
Algeria
Libya
Western Sahara
Canary Islands (Spain)
NORTH PACIFIC OCEAN
NORTH ATLANTIC OCEAN
United States of America
Bermuda (U.K.)
Haiti
The Bahamas
Dominican Rep.
Puerto Rico (U.S.)
St. Kitts & Nevis
Antigua and Barbuda
Mexico
Gulf of Mexico
Cuba
Belize
Hawaii Islands

“No basis for introducing a screening programme"

*Institute for Quality and Efficiency in Health Care (IQWiG)**

Hardly any Western country uses screening to actively look for depression because the data situation is insufficient.

There is also no evidence yet for the much-publicized screening apps.

— *Stefan Sauerland*
Head of the IQWiG Department of Non-Drug Interventions

**The IQWiG (Institut für Qualität und Wirtschaftlichkeit im Gesundheitswesen) is a German independent examines the benefits and harms of medical interventions for patients funded by German statutory health insurance funds (established by the 2004 Healthcare Reform laws)*

USPSTF

Cost Not a Factor in Determining Recommendation Grades

The Task Force does not consider the costs of a preventive service when determining a recommendation grade (A, B, C, D, or I).

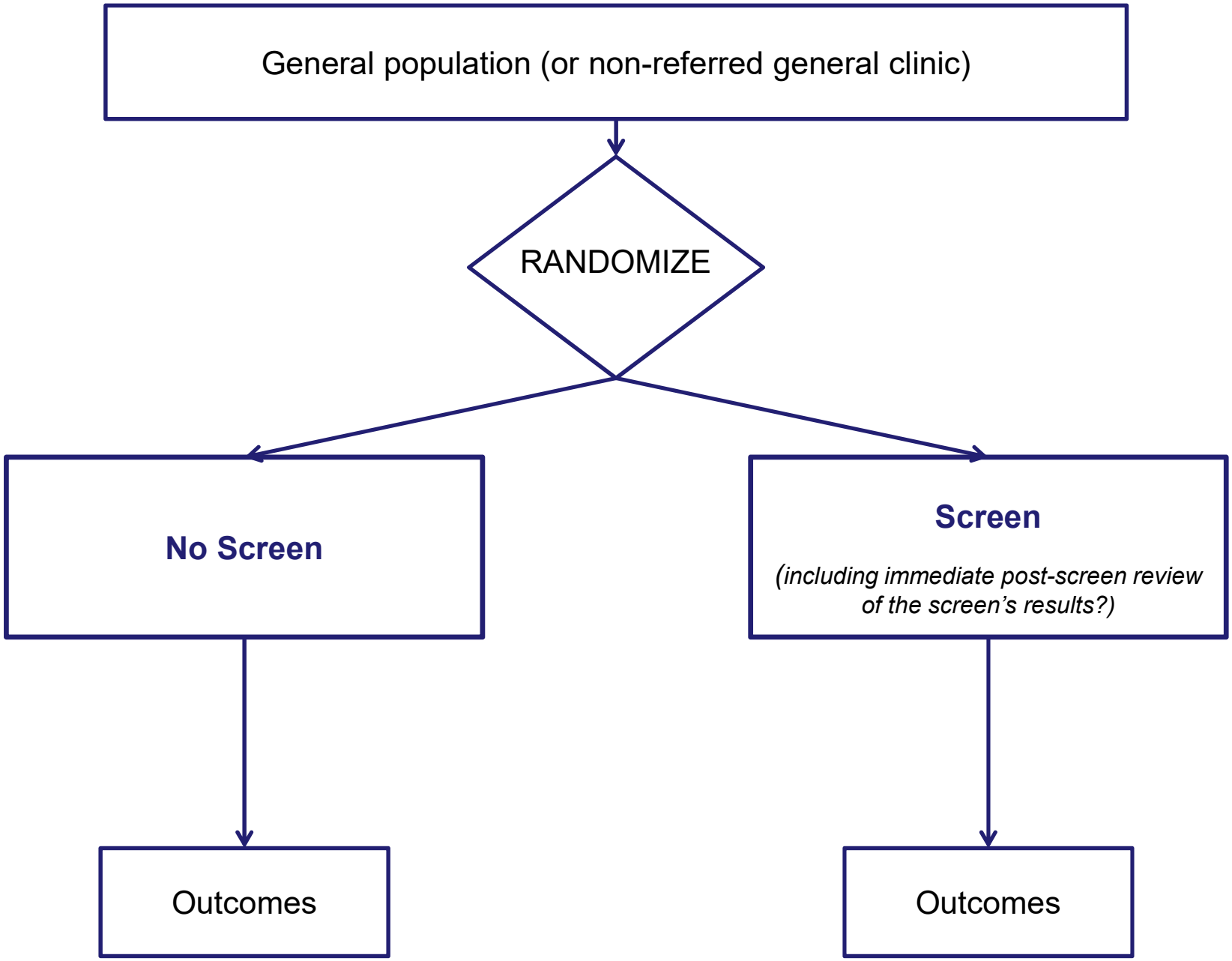
The Task Force's mission is to assess the available evidence on a particular clinical preventive service, assessing both the potential benefits and harms to patients. It is also to provide primary care clinicians with the appropriate evidence on the effectiveness of clinical preventive services. **Considering the potential costs of implementing Task Force recommendations in clinical practice goes beyond this mission and the scope of the Task Force.**

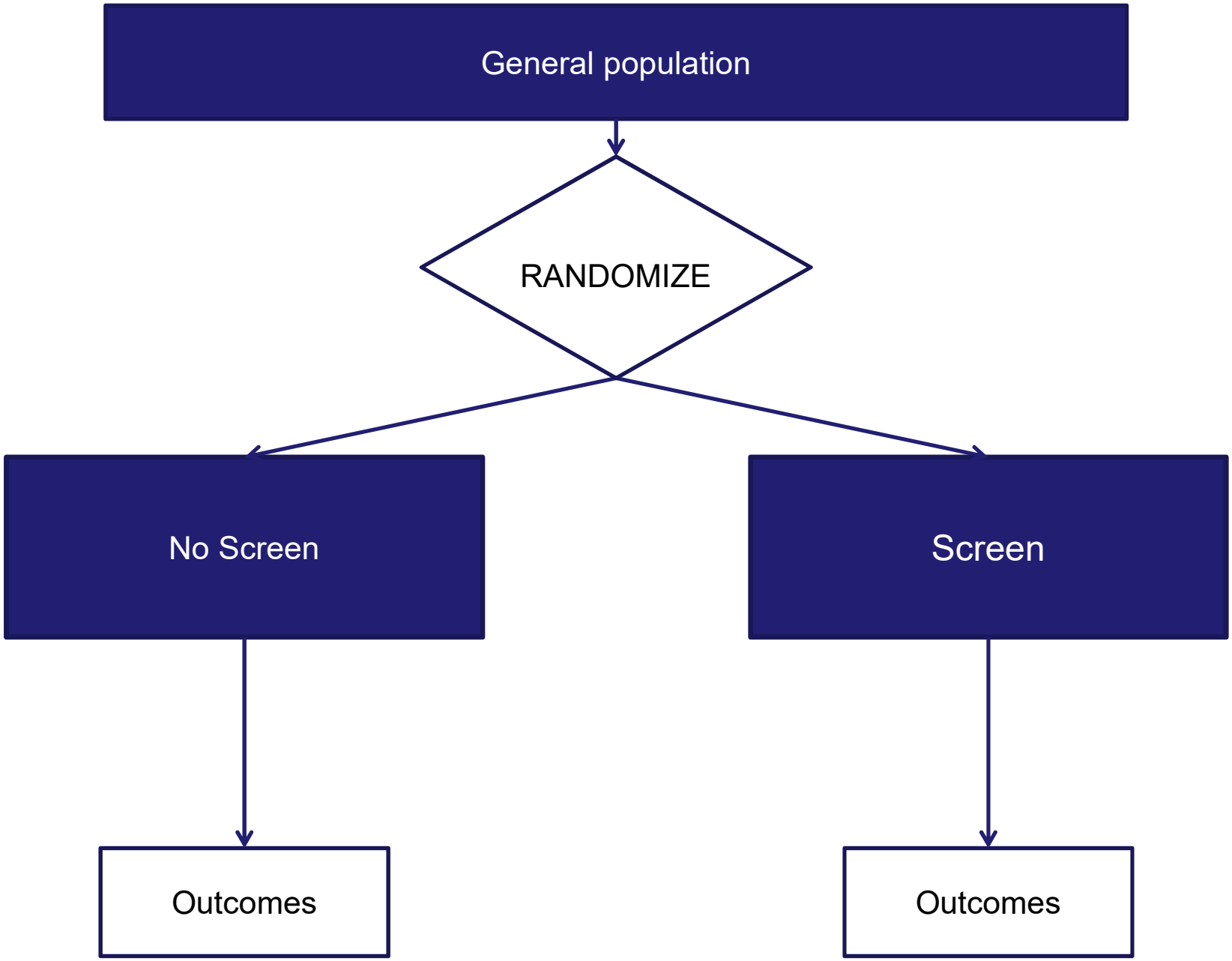
Hardly any Western country uses screening to actively look for depression because the data situation is insufficient.

There is also no evidence yet for the much-publicized screening apps.

Stefan Sauerland,
Head of the IQWiG Department of Non-Drug Interventions

How many studies of screening for depression had a "conclusive" design?


General population (or non-referred general clinic)
RANDOMIZE
No Screen
Screen
(including immediate post-screen review of the screen's results?)
Outcomes
Outcomes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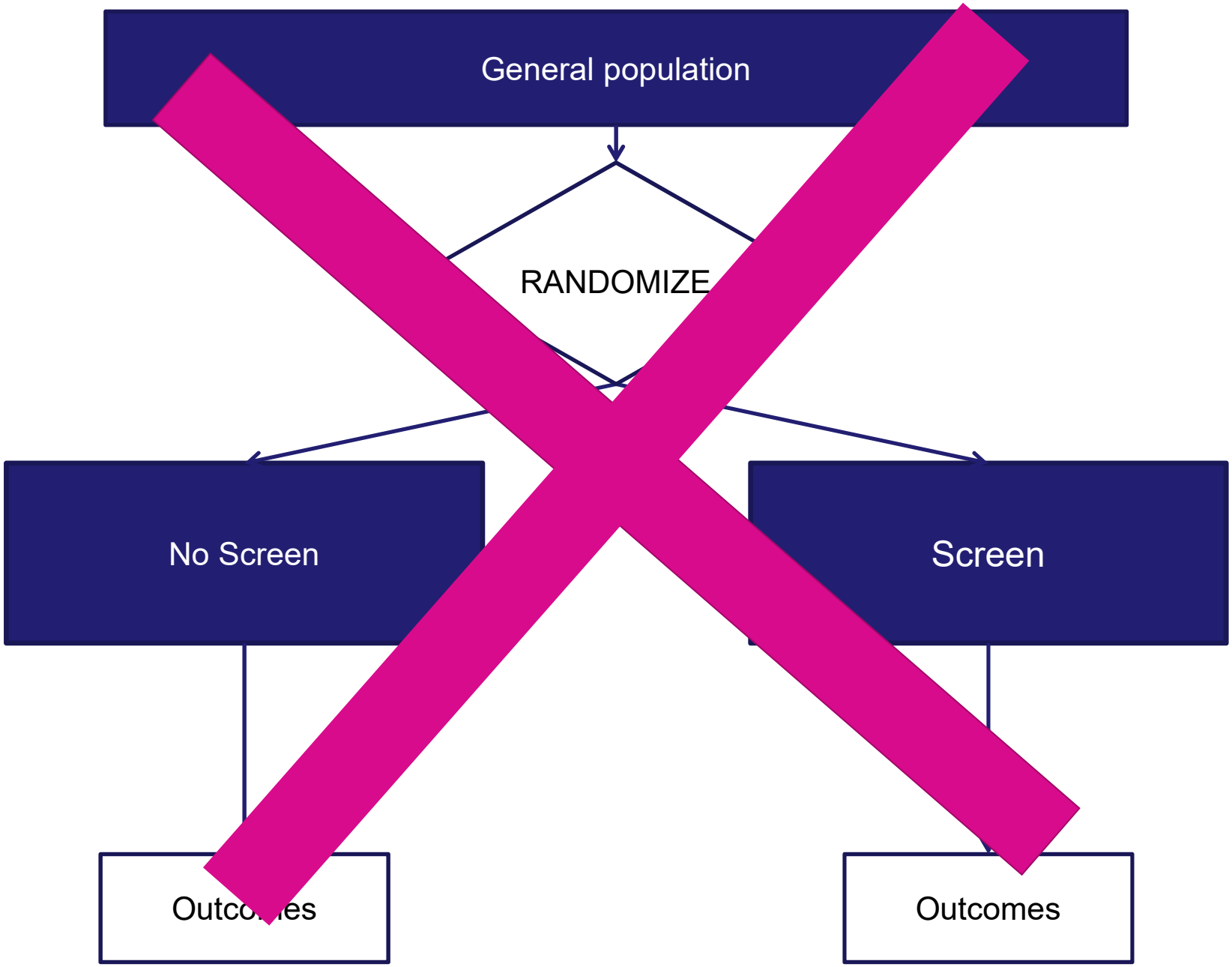
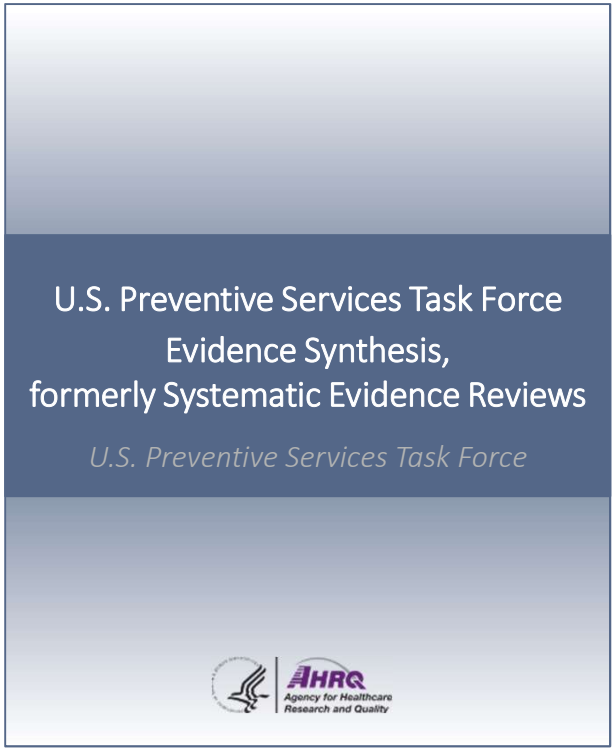

General population
RANDOMIZE
No Screen
Screen
Outcomes
Outcomes

USPSTF Technical Summary

Screening for Depression, Anxiety, and Suicide Risk in Adults: A Systematic Evidence Review for the U.S. Preventive Services Task Force

Evidence Synthesis, No. 223

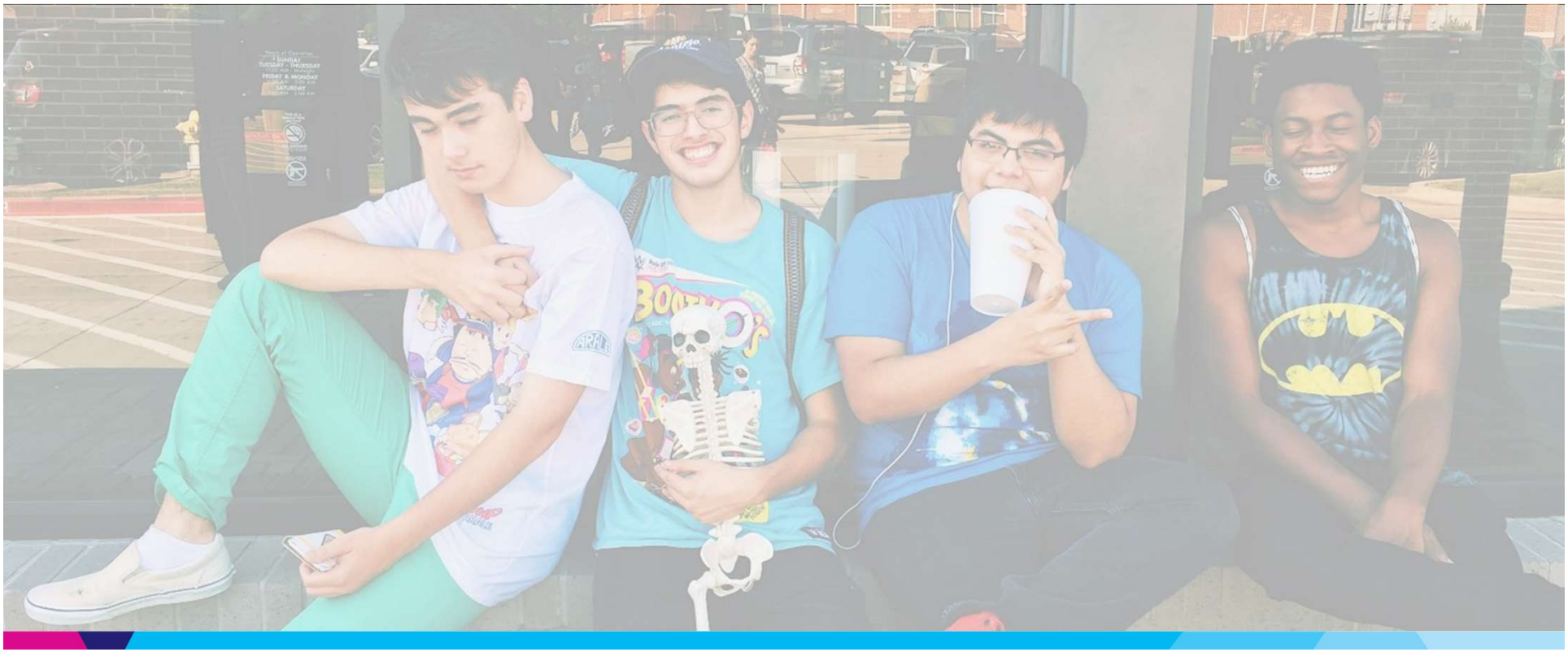
Investigators: Elizabeth O'Connor, PhD, Michelle Henninger, PhD, Leslie A. Perdue, MPH, Erin L. Coppola, MPH, Rachel Thomas, MPH, and Bradley N. Gaynes, MD, MPH.
Rockville (MD): Agency for Healthcare Research and Quality (US); 2023 Jun.
Report No.: 22-05295-EF-1



USPSTF Technical Summary

Children/Adolescents

The USPSTF found **no studies that directly evaluated the benefits** of screening for depression or suicide risk on health outcomes in screened vs unscreened participants



USPSTF Technical Summary

Adults

- Seventeen studies (n=18,437) examined the benefits of screening for depression

- Only **four** of the included studies had a control group that was not screened for depression and are considered KQ1 studies

UNSCREENED CG (KQ1)

Recruited All Available

- Williams, 1999 General
- Leung, 2011 ostpartum
- Ma ur, 2002 Pos m
- van der Zee, Postpartum

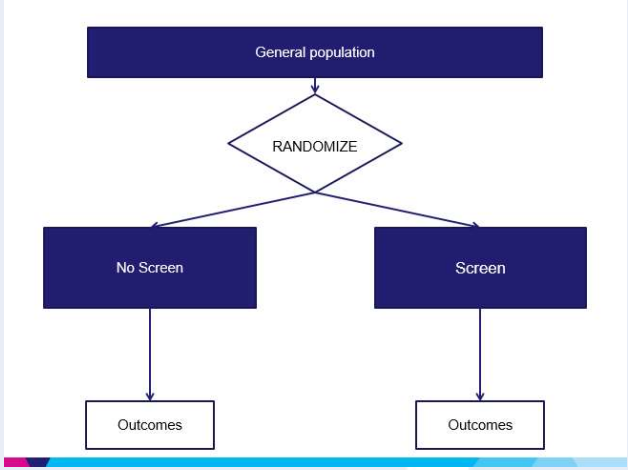
SCREENED CG (KQ1a)

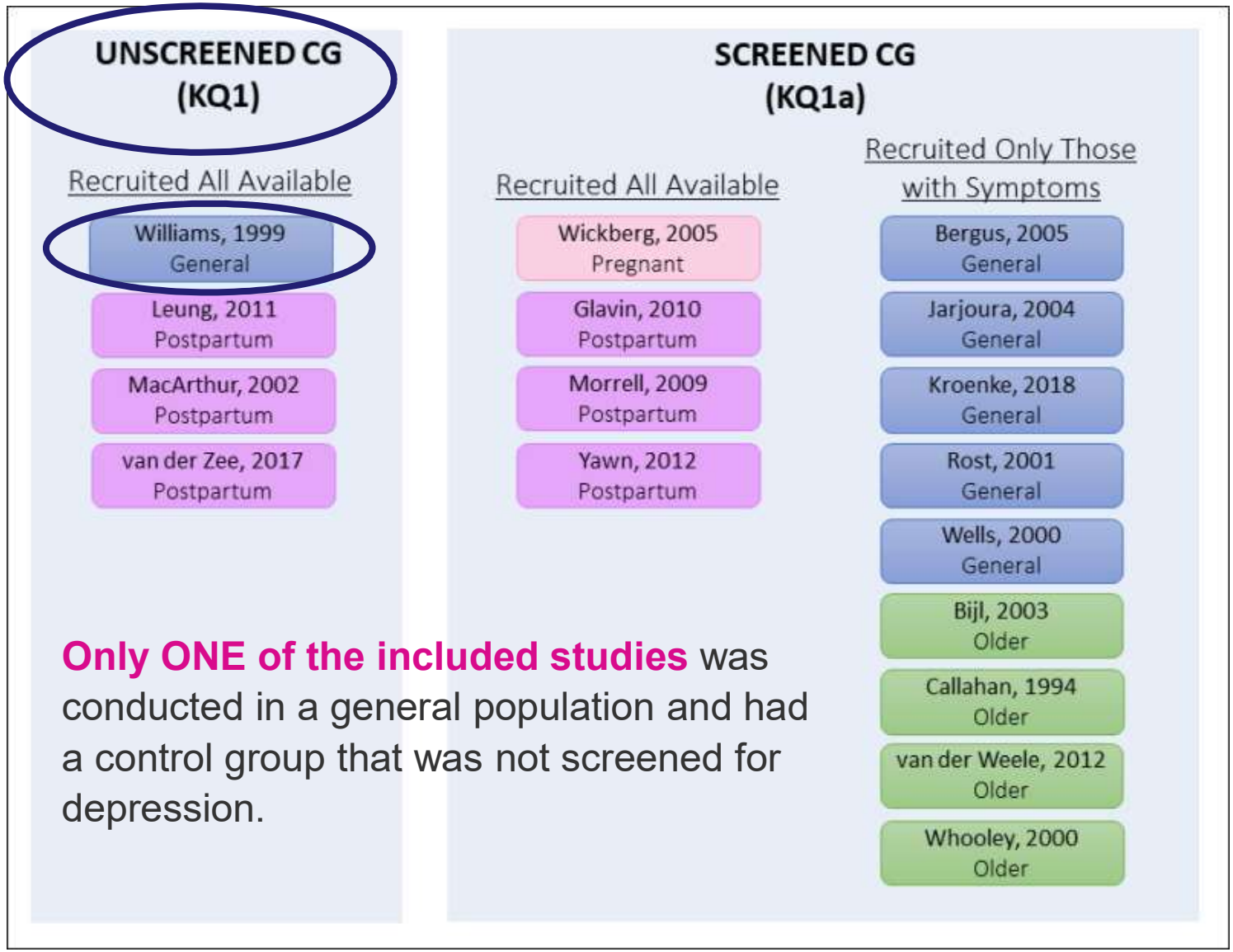
Recruited All Available

- Wickberg, 2005 Pregnant
- vin, 2010 artum
- Mo 009 Postp

Recruited Only Those with Symptoms

- Bergus, 2005 General
- ioura, 2004 General
- ke, 2018 eral
- 001 l
- We 0 Ge
- Bijl, 2 Olde
- Callahan, 1 Older
- van der Weele, 2 Older
- Whooley, 2000 Older




UNSCREENED CG
(KQ1)
Recruited All Available
Williams, 1999
General
Leung, 2011
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MacArthur, 2002
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van der Zee, 2017
Postpartum
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Recruited All Available
Wickberg, 2005
Pregnant
Glavin, 2010
Postpartum
Morrell, 2009
Postpartum
Yawn, 2012
Postpartum
Recruited Only Those with Symptoms
Bergus, 2005
General
Jarjoura, 2004
General
Kroenke, 2018
General
Rost, 2001
General
Wells, 2000
General
Bijl, 2003
Older
Callahan, 1994
Older
van der Weele, 2012
Older
Whooley, 2000
Older
Only ONE of the included studies was conducted in a general population and had a control group that was not screened for depression.

Literature review

Williams JW Jr, Mulrow CD, Kroenke K, Dhanda R, Badgett RG, Omori D, Lee S. **Case-finding for depression in primary care: a randomized trial**. Am J Med. 1999 Jan;106(1):36-43.

THE AMERICAN JOURNAL of MEDICINE

The study was conducted at three university-affiliated medical clinics and one community-based medical clinic

Consecutive patients were randomly assigned to be asked **a single question about mood**, to fill out the **20-item Center for Epidemiologic Studies Depression Screen**, or to **usual care**

Within 72 hours, patients were assessed for Diagnostic and Statistical Manual of Mental Disorders Third Revised Edition (DSM-III-R) disorders by an assessor blinded to the screening results

Process of care was assessed using chart audit and administrative databases; patient and physician satisfaction was assessed using Likert scales

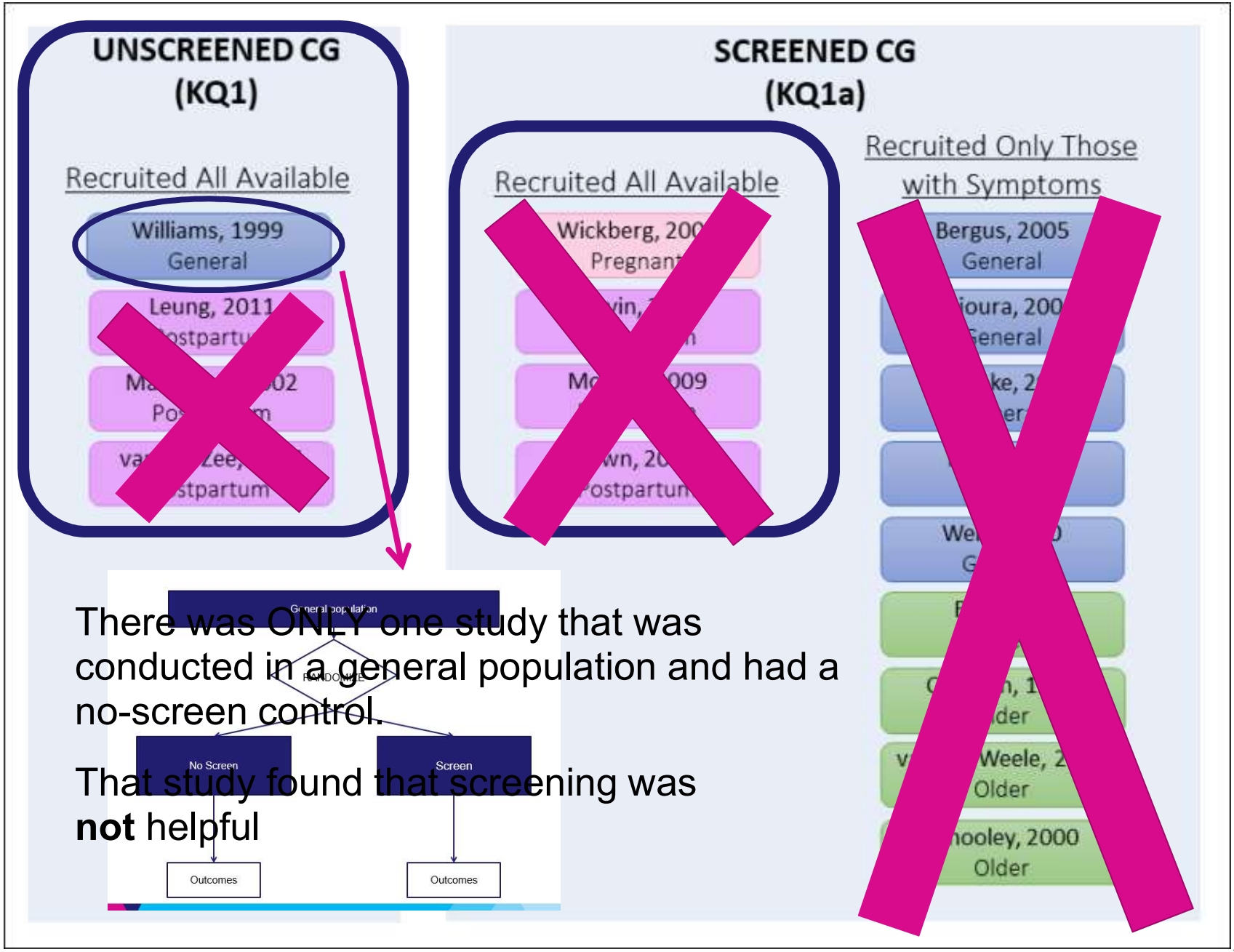
At 3 months, depressed patients and a random sample of nondepressed patients were re-assessed for DSM-III-R disorders and symptom counts

Conclusions

- A simple question about depression has similar performance characteristics as a longer 20-item questionnaire and is more feasible because of its brevity

- Case-finding leads to a modest increase in recognition rates, but **does not have consistently positive effects on patient outcomes**

Williams JW Jr, Mulrow CD, Kroenke K, Dhanda R, Badgett RG, Omori D, Lee S. Case-finding for depression in primary care: a randomized trial. Am J Med. 1999 Jan;106(1):36-43.



There was ONLY one study that was conducted in a general population and had a no-screen control.

That study found that screening was **not** helpful

Hardly any Western country uses screening to actively look for depression because the data situation is insufficient.

There is also no evidence yet for the much-publicized screening apps.

Stefan Sauerland,
Head of the IQWiG Department of Non-Drug Interventions

USPSTF

Why do we need to look at outcomes?

Suppose we know:

That we can identify a disorder

and

That this disorder can be treated

Why would this not be sufficient evidence to screen for that disorder?

Downsides and limitations of screening

- Screening **almost never** identifies all disorders and **almost always** flags people without the disorder *(sensitivity/specificity)*

- Treating patients who don't need the treatment can be **dangerous** and may lead to **inefficient use of resources**, and missing patients who should have been treated can **undermine the reason for the screening**

The specific problem with internalizing mental health disorders

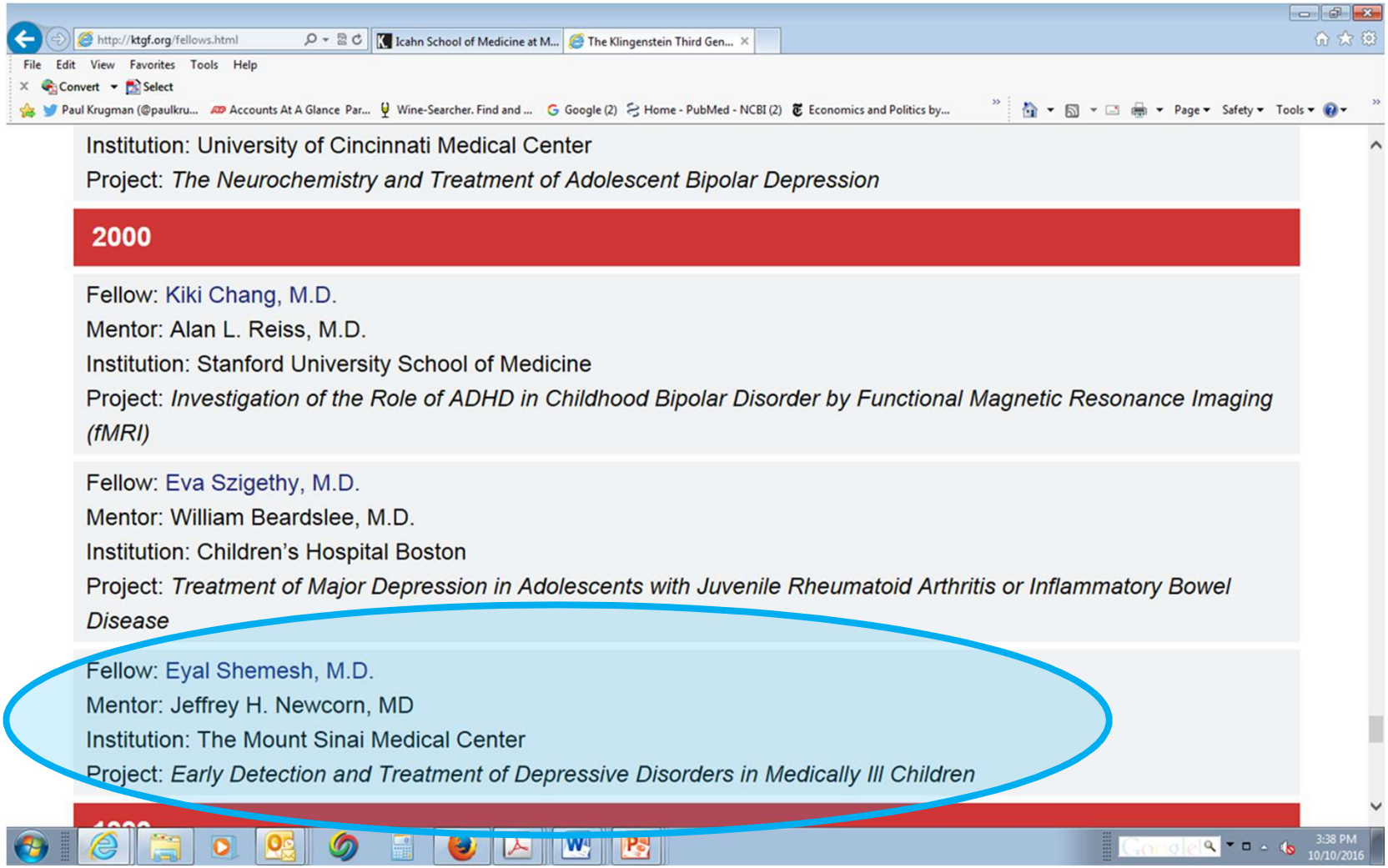
- Diagnosis relies on patient or parent report
  - In other words: patient or parent recognition of the symptoms is almost a pre-requisite for diagnosis
- The very premise of screening is that it identifies patients who are not treatment-seekers (there is no need for screening if the patient seeks treatment anyway)
- The vast majority of our treatment studies involve treatment-seekers
- So in mental health in particular, there is a chasm between patients who are identified by screening and patients who participate in treatment studies; **it is quite possible that those are not the same**
- Our **treatments may work much better with treatment seekers**
  - This is very likely when it comes to psychotherapy
  - What about medications?

Psychiatric medications

- Can pediatric or even adult depression be treated with medications (as compared with placebo)?
- Even if you believe that SSRIs have an effect, clearly it is not as large as a placebo effect (placebo accounts for most of the effect of SSRI's for depression)
- So the best one can describe the effects of those medications is "slightly better than the placebo effect"
- Placebo is much less likely to work in patients who do not believe that they need treatment (non treatment-seekers)
- Evidence?
  - SADHART and SADHART-CHF

So there is a reason to believe that our treatments might not work as well – ***perhaps not work at all*** – in a screening situation as opposed to a treatment-seeking scenario

The Klingenstein Third Generation Foundation



Institution: University of Cincinnati Medical Center
Project: *The Neurochemistry and Treatment of Adolescent Bipolar Depression*

2000

Fellow: Kiki Chang, M.D.
Mentor: Alan L. Reiss, M.D.
Institution: Stanford University School of Medicine
Project: *Investigation of the Role of ADHD in Childhood Bipolar Disorder by Functional Magnetic Resonance Imaging (fMRI)*

Fellow: Eva Szigethy, M.D.
Mentor: William Beardslee, M.D.
Institution: Children's Hospital Boston
Project: *Treatment of Major Depression in Adolescents with Juvenile Rheumatoid Arthritis or Inflammatory Bowel Disease*

Fellow: Eyal Shemesh, M.D.
Mentor: Jeffrey H. Newcorn, MD
Institution: The Mount Sinai Medical Center
Project: *Early Detection and Treatment of Depressive Disorders in Medically Ill Children*

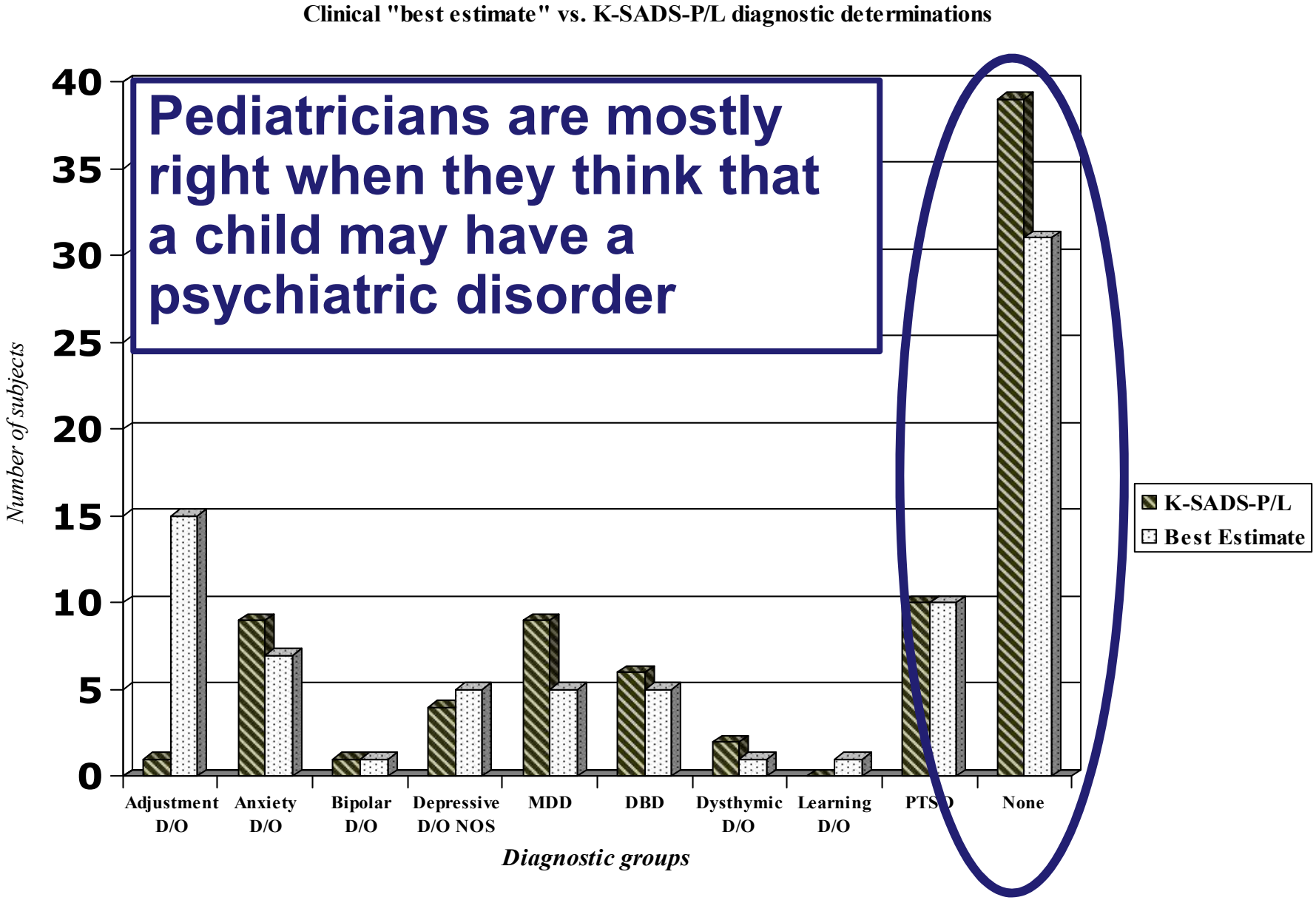
The medically-ill dilemma

- Medical illnesses can cause symptoms that may mimic psychiatric symptoms (i.e., fatigue, sleeplessness)

- Therefore, we may need to develop screening tools that take this issue into account

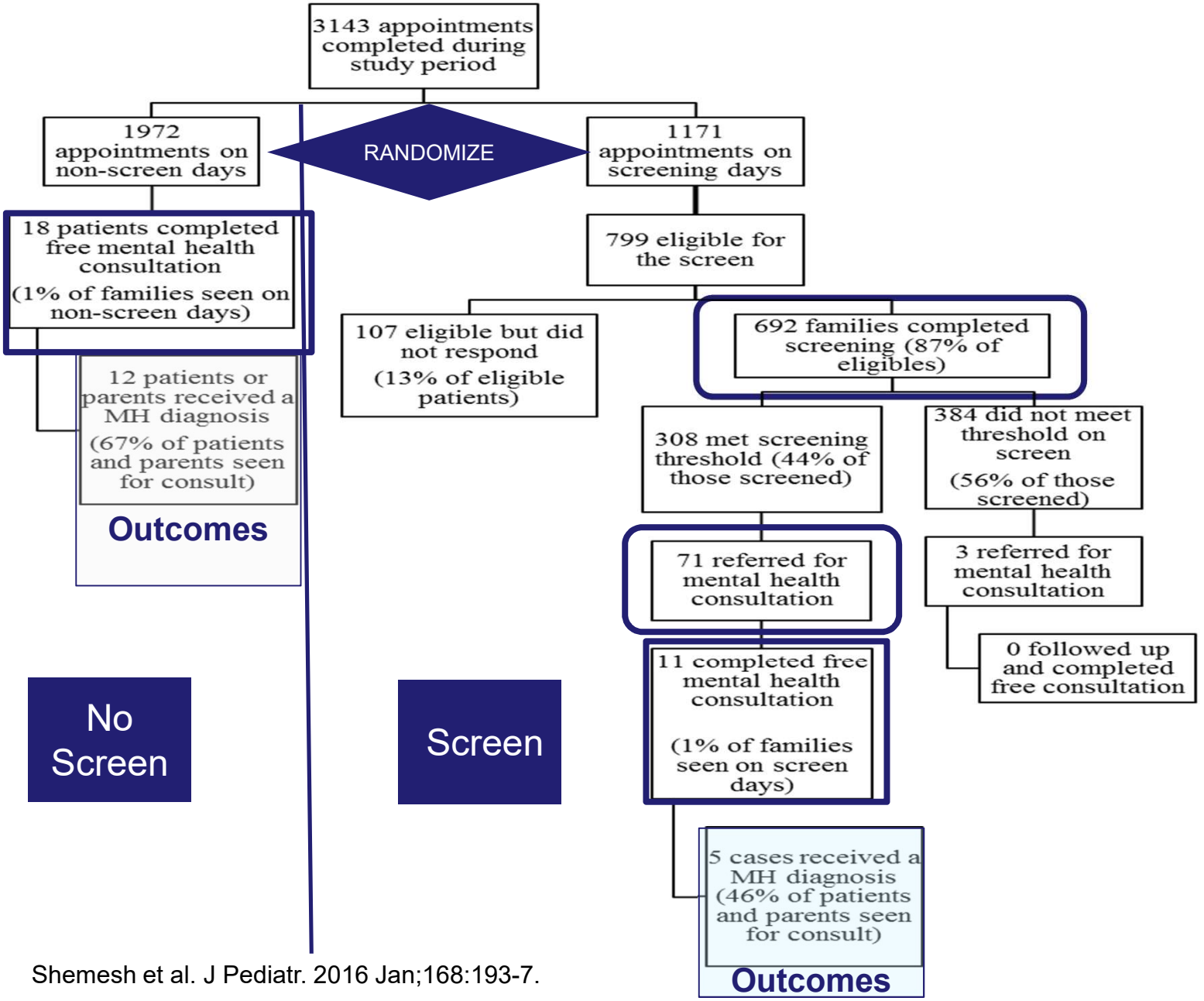
CDI as predictor of psychiatric disorders

"Best estimate" diagnostic category	CDRS-R	CDI total
Diagnosis of MDD	***0.02***	0.01
Diagnosis of any depressive disorder	***<0.005***	***<0.005***
Diagnosis of an anxiety disorder	0.37	0.41
Diagnosis of any psychiatric disorder	***<0.005***	***0.01***


Clinical "best estimate" vs. K-SADS-P/L diagnostic determinations
Pediatricians are mostly right when they think that a child may have a psychiatric disorder
Number of subjects
40
35
30
25
20
15
10
5
0
Adjustment D/O
Anxiety D/O
Bipolar D/O
Depressive D/O NOS
MDD
DBD
Dysthymic D/O
Learning D/O
PTSD
None
Diagnostic groups
K-SADS-P/L
Best Estimate

Later..

Shemesh et al. J Pediatr. 2016 Jan;168:193-7.



Shemesh et al. J Pediatr. 2016 Jan;168:193-7.

Referred Groups: those who received a MH Consult ("Consult") versus who did not ("No Consult")

Measure	Consult		No Consult		Significance
	M	SD	M	SD	
PedsQL	6.20	4.09	9.14	4.86	$t(25) = 1.25$
	($n = 5$)		($n = 22$)		$p = .22$
SCARED	5.80	5.31	5.43	3.55	$t(26) = -0.19$
	($n = 5$)		($n = 23$)		$p = .85$
Parent QoL	**16.20**	5.57	**22.65**	5.77	$t(68) = 3.29$
	($n = 10$)		($n = 60$)		$^*p = .002$

Screening did not result in receipt of more services in our setting, even though they were offered for free. Hence, screening did not result in an improvement in a process measure of care.

"…our interpretation of the present study's results in the context of the substantial body of existing data is… that screening for a MH construct is not useful…

...the fact that referred parents who came to the evaluation reported better QoL than referred parents who did not come suggests that the screening process preferentially selected for more resilient families – those who may have needed the treatment ***less*** than those who did not come."

Olfson M, Blanco C, Marcus SC. Treatment of Adult Depression in the United States. JAMA Intern Med. 2016 Oct 1;176(10):1482-1491

Design, Setting, and Participants

Analysis of screen-positive depression, psychological distress, and depression treatment data from 46 417 responses to the Medical Expenditure Panel Surveys taken in US households by participants aged 18 years or older in 2012 and 2013.

Conclusions

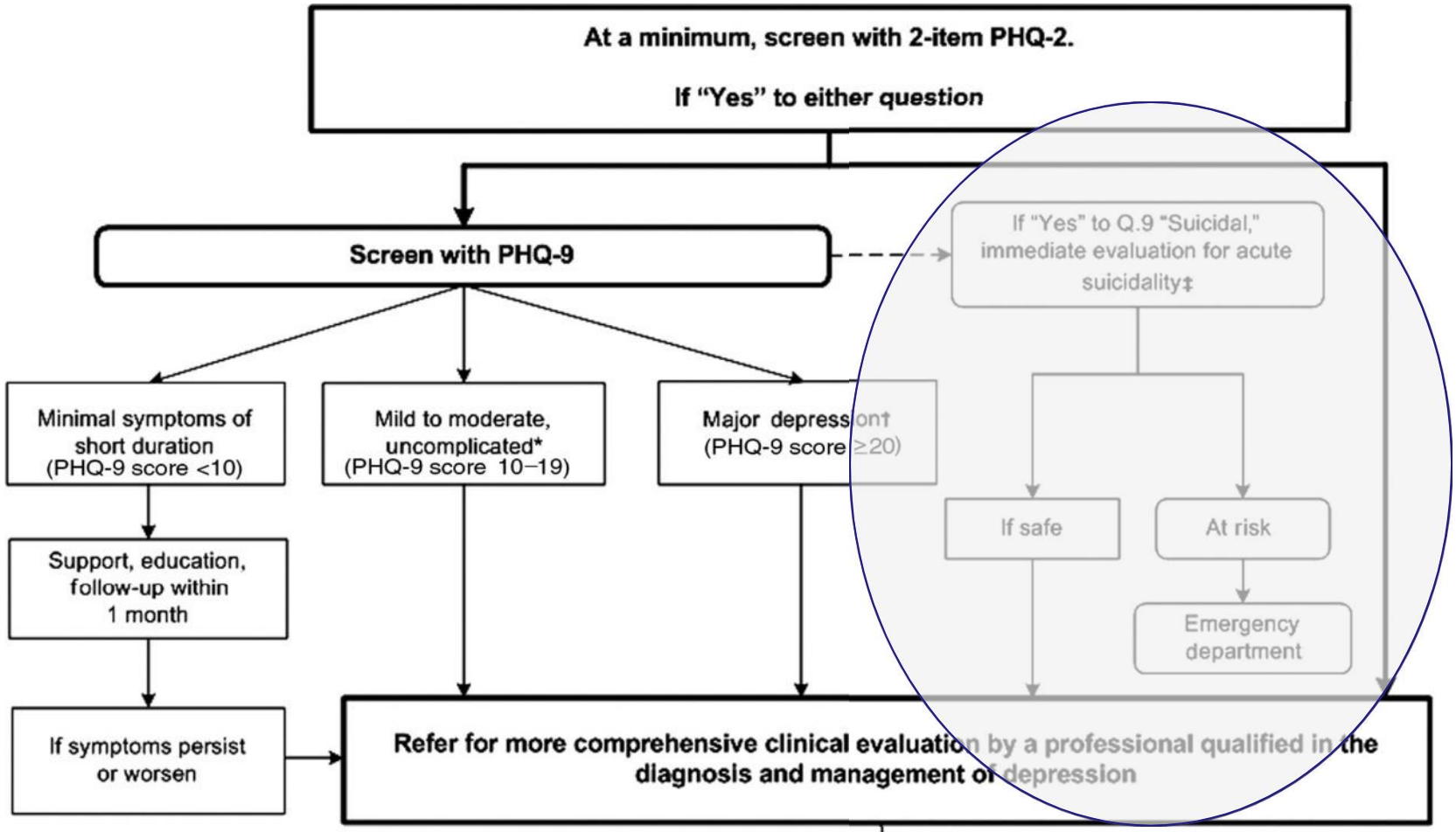
Most US adults who screen positive for depression did not receive treatment for depression, whereas most who were treated did not screen positive. In light of these findings, it is important to strengthen efforts to align depression care with each patient's clinical needs.

Is there a downside to screening?

AHA Science Advisory

Depression and Coronary Heart Disease Recommendations for Screening, Referral, and Treatment: A Science Advisory From the American Heart Association Prevention Committee of the Council on Cardiovascular Nursing, Council on Clinical Cardiology, Council on Epidemiology and Prevention, and Interdisciplinary Council on Quality of Care and Outcomes Research: ***Endorsed by the American Psychiatric Association***

Judith H. Lichtman, J. Thomas Bigger, James A. Blumenthal, Nancy Frasure-Smith, Peter G. Kaufmann, François Lespérance, Daniel B. Mark, David S. Sheps, C. Barr Taylor and Erika Sivarajan Froelicher



‡If "Yes" to Q.9 "suicidal," immediately evaluate for acute suicidality. If safe, refer for more comprehensive clinical evaluation; if at risk for suicide, escort the patient to the emergency department.

109 patients needed to be immediately evaluated for suicidality

4 were hospitalized for possible intent

All were discharged within days

Shemesh E, Annunziato RA, Rubinstein D, Sultan S, Malhotra J, Santra M, Weatherley BD, Feaganes JR, Cotter G, Yehuda R. **Screening for depression and suicidality in patients with cardiovascular illnesses**. Am J Cardiol. 2009 Nov 1;104(9):1194-7.

In conclusion, suicidal ideation can and will be identified using the AHA depression screening recommendations, but **only a very small fraction (0.45%) of screened patients will turn out to have suicidal intent**.

Discovery and stabilization of suicidal patients may be an important benefit of the screening, but **the fact that >12% of all screened patients will need to be immediately evaluated for suicidal intent has important implications for resource allocation to screening programs**.

Ziegelstein RC, Thombs BD, Coyne JC, de Jonge P. Routine screening for depression in patients with coronary heart disease: never mind. J Am Coll Cardiol. 2009 Sep 1;54(10):886-90.

We suggest that the AHA consider a **modified statement**, one which… raises the awareness of cardiovascular care providers to the symptoms of emotional illness, and suggests the development of closer clinical relationships with mental health providers

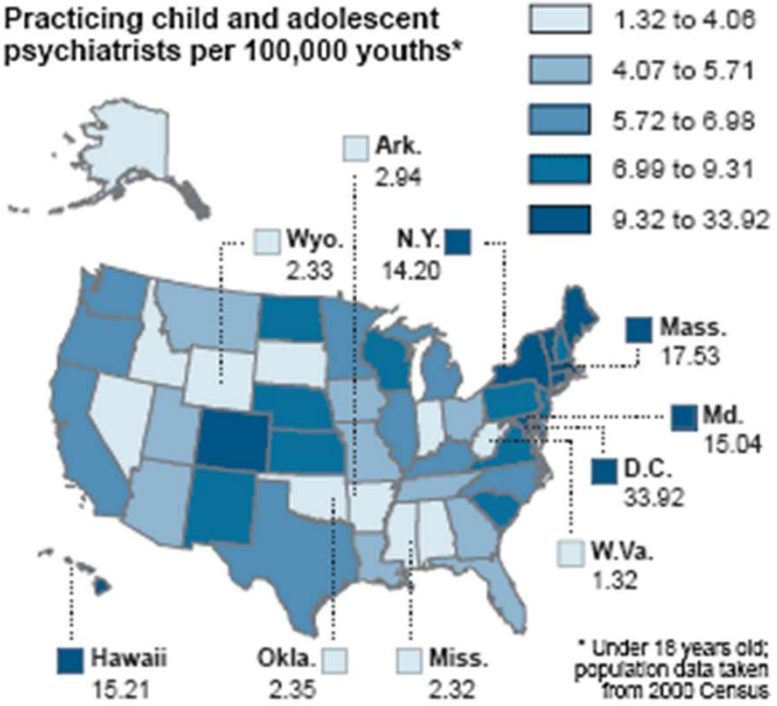
…. we believe that our results strongly suggest that unless large controlled trials are able to clearly show a process and an outcome benefit from screening for MH disorders or psychosocial constructs, investments in screening may be misguided. **Resources may be better spent on enhancing access to MH care for those already identified by self or clinician referral.**

Shemesh et al. J Pediatr. 2016 Jan;168:193-7.

Psychiatric demand not met for youths

A 2003 study detailed a nationwide shortage of child psychiatrists, with an average of one for every 15,000 youths under 18. Numbers have changed since 2003, but the overall shortage persists.

Practicing child and adolescent psychiatrists per 100,000 youths*



Most doctors per state

STATE	PSYCHIATRISTS
New York	666
California	589
Texas	340
Pennsylvania	272
Massachusetts	263

Fewest doctors per state

STATE	PSYCHIATRISTS
Delaware	12
Montana	12
South Dakota	8
Alaska	6
Wyoming	3

SOURCE: American Academy of Child and Adolescent Psychiatrists Task Force on Workforce Needs

AP

AACAP February 2016

The serious undersupply of practitioners has resulted in children receiving **inadequate care** from mental health professionals and primary care physicians who lack the necessary training.

So…

- There is no proof that screening a general population for mental health disorders improves outcomes
- There is at least one controlled trial in adults and one in children, both show that screening does not improve care or outcomes
- There are reasons to believe that screening leads to a focus on patients who are not likely to benefit as much as those who are being identified clinically and referred
- There is a severe shortage of child psychiatrists: we are unable to provide treatment even for self-identified and referred patients

Those who are identified by screening may not benefit from treatment

Those who want our care are more likely to benefit from it

We can't even treat all of those who want our care

Hardly any Western country uses screening to actively look for depression because the data situation is insufficient.

There is also no evidence yet for the much-publicized screening apps.

Stefan Sauerland,
Head of the IQWiG Department of Non-Drug Interventions

CTFPHC Guidelines

UPCOMING GUIDELINES

Screening for Depression (2013)

View original publication

SUMMARY OF RECOMMENDATIONS FOR CLINICIANS AND POLICY-MAKERS

Recommendations on screening for depression are provided for adults 18 years of age or older who present at a primary care setting with no apparent symptoms of depression. These recommendations do not apply to people with known depression, with a history of depression or who are receiving treatment for depression.

RECOMMENDATIONS FOR ADULTS

- For adults at average risk of depression,[i] we recommend not routinely screening for depression.

  (*Weak recommendation; very-low-quality evidence*)

- For adults in subgroups of the population who may be at increased risk of depression,[ii]) we recommend not routinely screening for depression[iii].

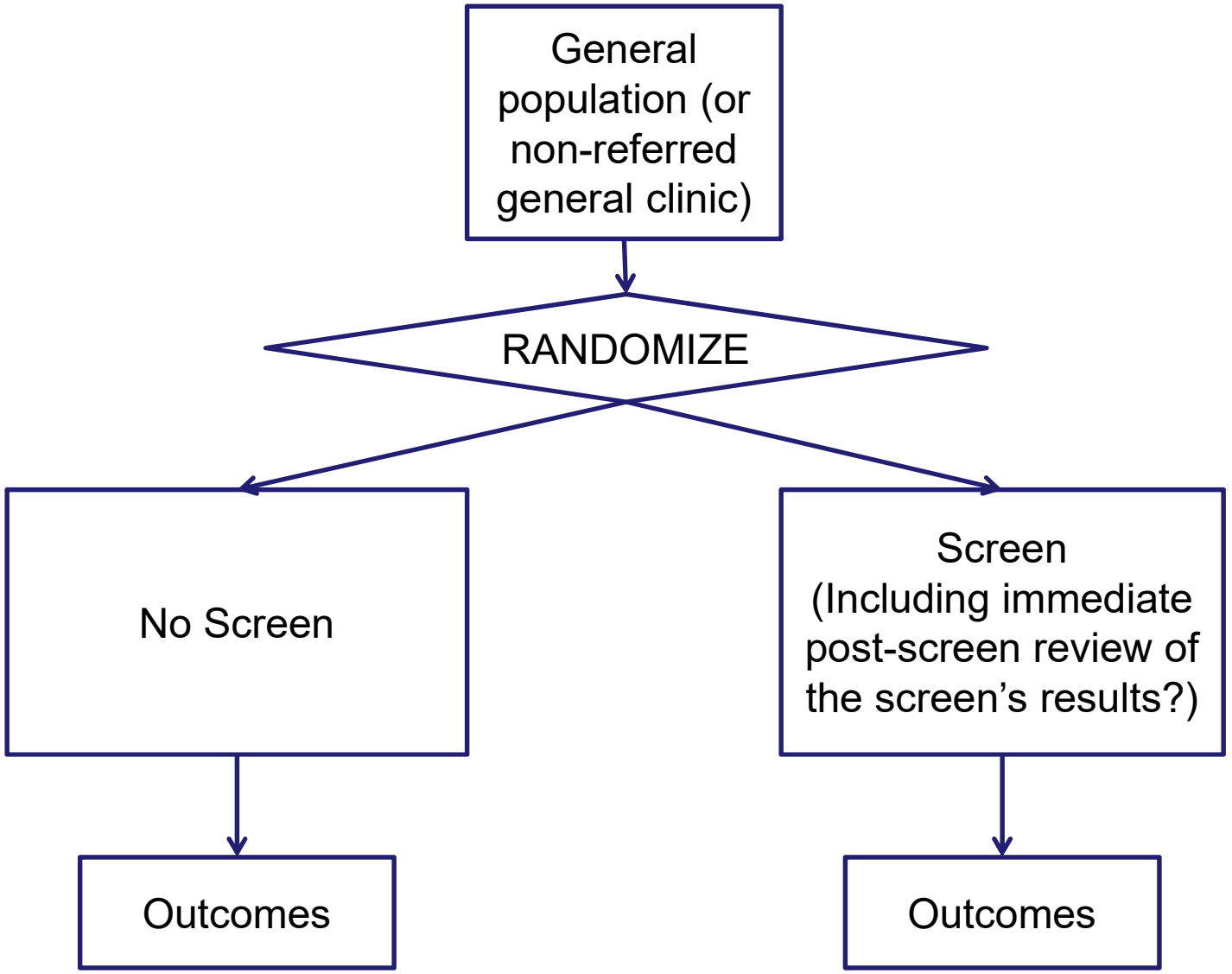
  (*Weak recommendation; very-low-quality evidence*)

It makes no sense to create an army of new pseudo-patients when we are now so badly failing the people who desperately need our help

Allan Frances, MD

What's next?

- Screening is not going to have a significant yield if it depends on self-report
  - Screening for a behavioral construct based on a completely **objective** marker
  - Identify instances in which self report is **misleading**
- Screening is not associated with medical outcomes
  - Identify a threshold beyond which medical outcome is compromised
- Interventions are less effective when patients are not self-referred
  - Identify interventions that are yes effective in this case; make use of proxies/parents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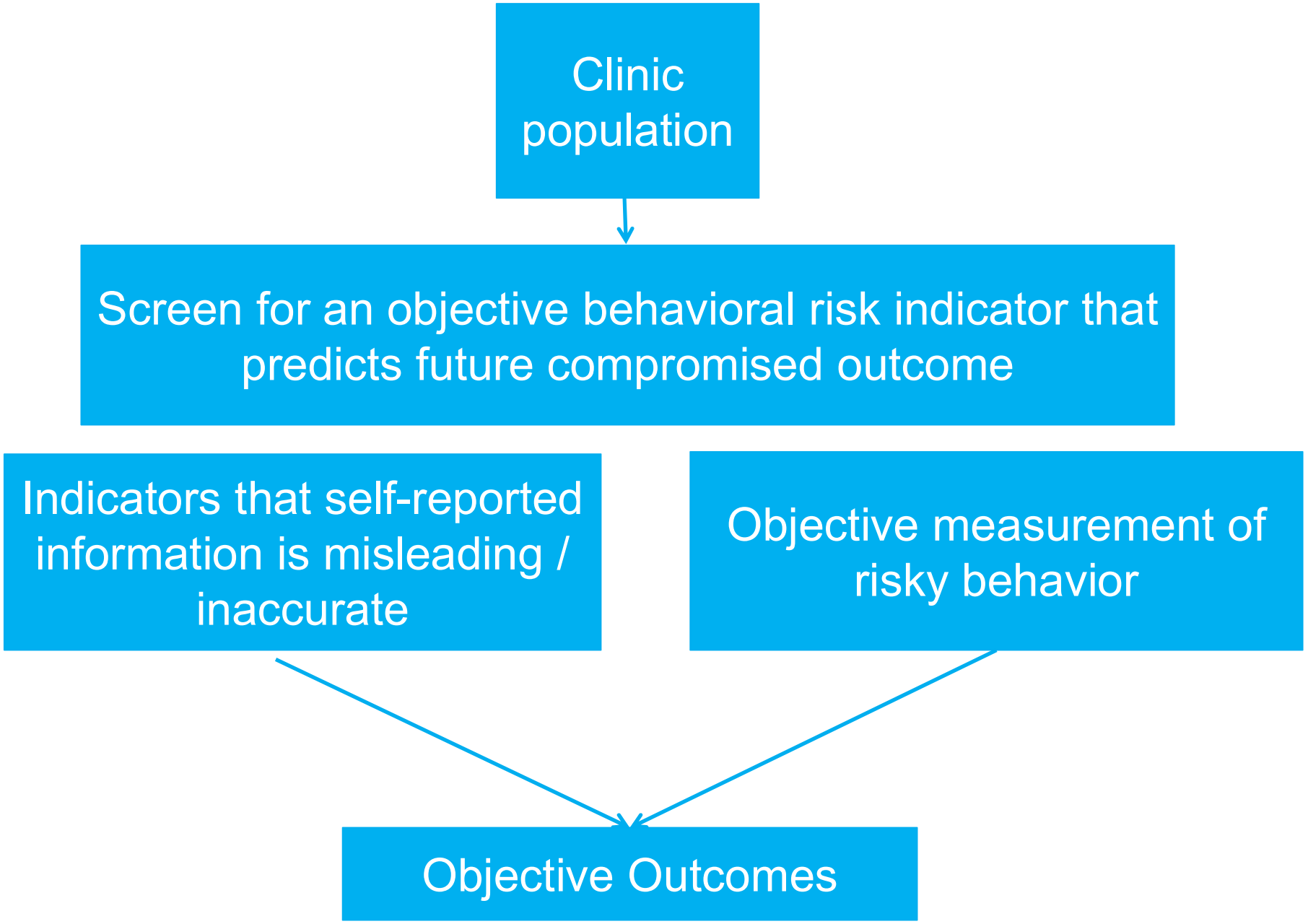
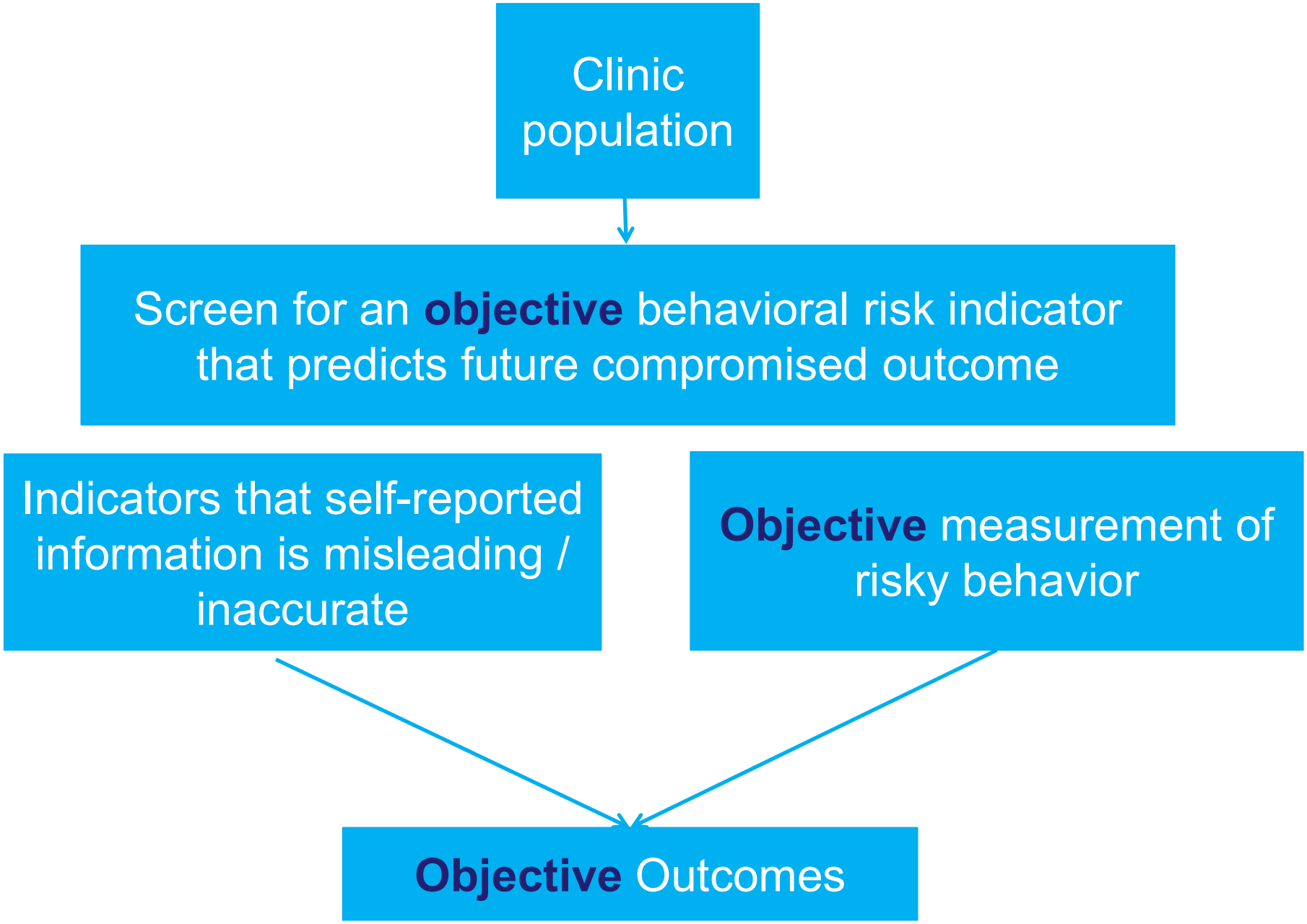

Clinic population
Screen for an objective behavioral risk indicator that predicts future compromised outcome
Indicators that self-reported information is misleading / inaccurate
Objective measurement of risky behavior
Objective Outcomes


Clinic population
Screen for an **objective** behavioral risk indicator that predicts future compromised outcome
Indicators that self-reported information is misleading / inaccurate
Objective measurement of risky behavior
Objective Outcomes

Thank you

- Patients
- Parents
- Dean Rachel Annunziato, Ph.D.
- Dr. Nina Grayson, Melissa Rubes, Drs. Jackie Becker, Beth Davison, Gad Cotter, Brianna Lewis
- Drs. Jeffrey Newcorn, Benjamin Shneider, Sukru Emre, Rachel Yehuda, Bruce Gelb, Scott Sicherer
- The Klingenstein 3rd Generation Foundation, The Jaffe Family Foundation, NIH