

Implementation and evaluation of technology- based mental health interventions

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CENTER FOR
m² HEALTH



Baruch Ivcher School
of Psychology



TECHNISCHE
UNIVERSITÄT
DRESDEN



STANFORD
SCHOOL OF MEDICINE

Stanford University Medical Center

I will discuss today the research and insights of a multinational team that includes leaders in the field of technology-enabled interventions:

C. Barr Taylor, Corinna Jacobi, Ina Beintner, Ellen E. Fitzsimmons-Craft, Katherine N. Balantekin, Andrea K. Graham, Mickey Trockel, Grace E. Monterubio, Neha J. Goel, Rachael E. Flatt, Marie-Laure Firebaugh, Burkhardt Funk, Denise E. Wilfley and many many others



We will never be able to provide F2F treatment to anyone with mental difficulties



Close to 50% of world population will meet criteria for a lifetime subclinical or clinical mental disorder.



If we add to this the number of individuals with health problems that are not in treatment, the numbers are overwhelming!

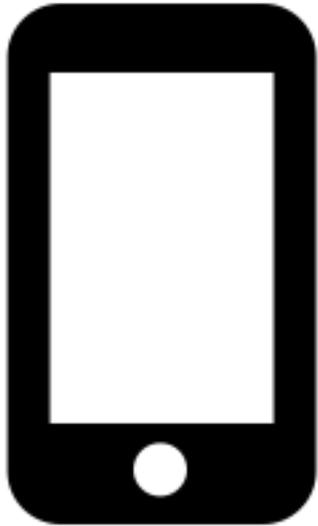


If we want to lower the incidence of global mental health problems, we need additional methods for delivering interventions that are affordable, accessible, empirically-supported, and attractive.

Our clients live in a digital world

- Mobile devices have been the fastest adopted technology in history, fundamentally transforming the way people communicate and go about their daily lives.
- Mobile smartphones erode ethnic and socioeconomic disparities: 2017 smartphone penetration in Taiwan was **75.8%**.
- Individuals are typically in close proximity to their phone, using it for work, interpersonal connection, and searching for or recording information that they consider important.

On the surface, this might be the perfect solution



- Over 325,000 health apps are available, and about one third of them is related to mental health issues.
- Freely available resources exist to support individuals with all mental health concerns for initial assessment and ongoing support.
- These programs can be integrated within existing treatment or replace it when it's not feasible due to barriers such as stigma, cost, reach, lack of trained practitioners, etc.
- Data suggests that technology benefits clients and makes treatment more interactive, relevant to their lives, and fun!

Online and app-based self-help programs



Non-facilitated self-help:

A self-administered intervention, which makes use of written or electronic materials and includes instructions for the person to work systematically through the materials over a period of at least 6 weeks.



Guided self-help:

A self-administered intervention, which makes use of written or electronic materials. A trained practitioner typically facilitates the use of this material by introducing it, and reviewing progress and outcomes.



Effective for a range of behavioral health outcomes, including anxiety, depression, smoking cessation, physical activity, harmful drinking, insomnia, and eating disorders.

mHealth Interventions for Psychosocial Problems

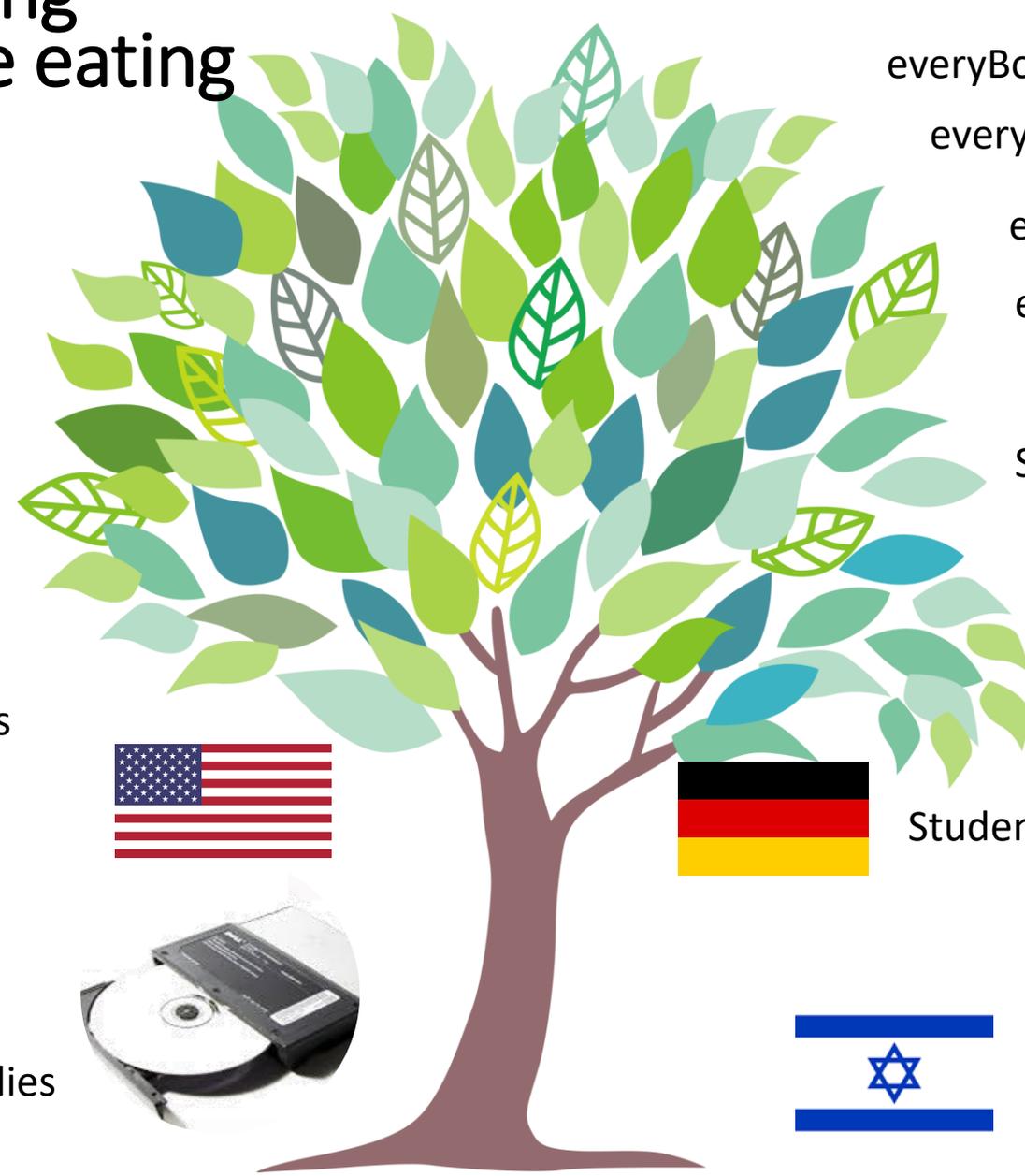
- Similar in structure to face-to-face therapy or to GSH
 - Skills and content are taught in multiple online sessions
- Often based on evidence-based psychological treatments / GSH converted for Web/app delivery
- Can include a variety of features:
 - Written didactic information
 - Audio, video, and/or animation content
 - Interactive tools to support learning, such as activity monitoring, thought records, or distress ratings
 - Graphic representations of client progress
 - Information “pushed” to the user (e.g., automated e-mail reminders to access the site)

Rationale for mHealth Interventions

- Use many elements of **behavior change simultaneously**
 - e.g., self-monitoring, skills training, video modeling, etc.
- Clinician and client can **address a wider range of problems** while maintaining current treatment
- **Might increase effectiveness in few sessions** (primary care interventions, EAP services)
 - Might increase between-session engagement in tasks
 - Phones: Just-in-time help (urges, acute distress, etc.)
 - Individuals more likely to tackle sensitive or stigmatized problems (e.g., sexuality, eating disorders, substance use) by using new technologies
- Clinicians can provide interventions **with high fidelity, standardization, and replicability**
- Most smartphones and tablets are now as powerful as, and have more portability and flexibility than, traditional computers; **they are rapidly becoming the devices of choice**

Our team has pioneered in developing and studying digital programs in the eating disorder field

The Whole Image
everyBody ED
I Am
Staying Fit
Student Bodies



Healthy Teens at School
everyBody fit
everyBody AN

everyBody Plus
everyBody original
everyBody Basic
Student Bodies AN

Student Bodies Plus
Student Bodies
(junior version)

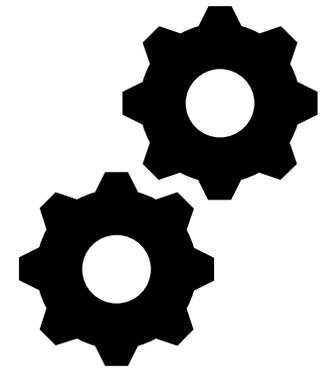


Student Bodies

Student Bodies

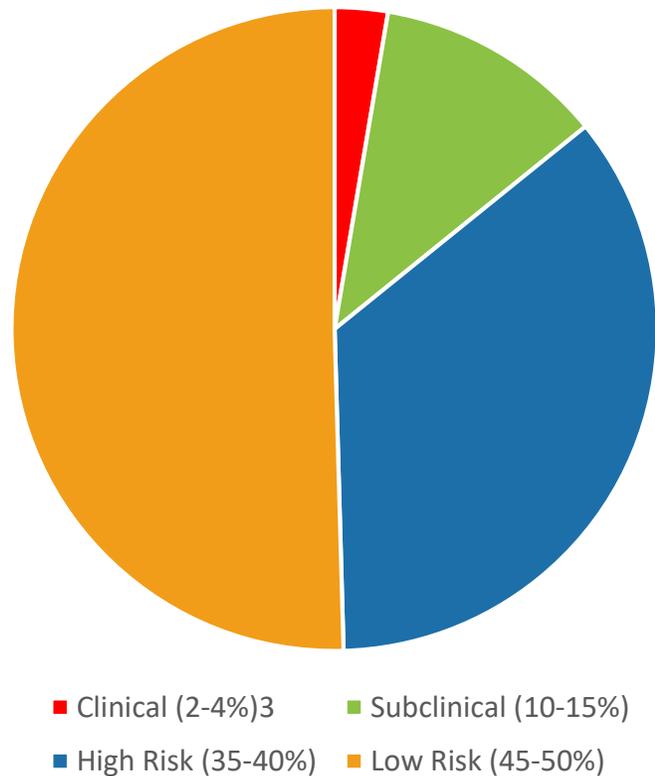
everyBody Israel

But how do we
succeed in
dissemination?



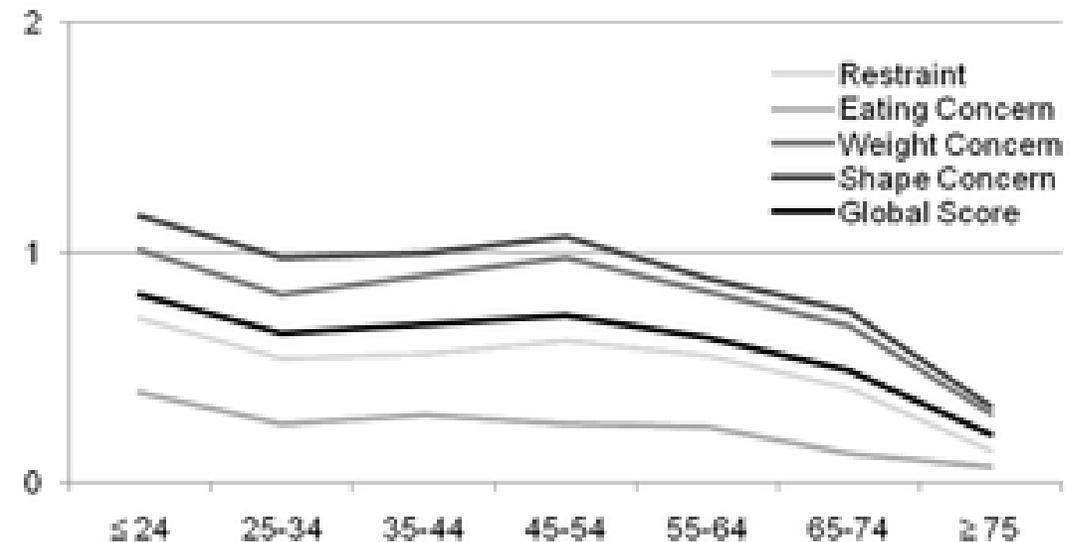
Our programs cannot disappear in a drawer

Prevalence in U.S. university population

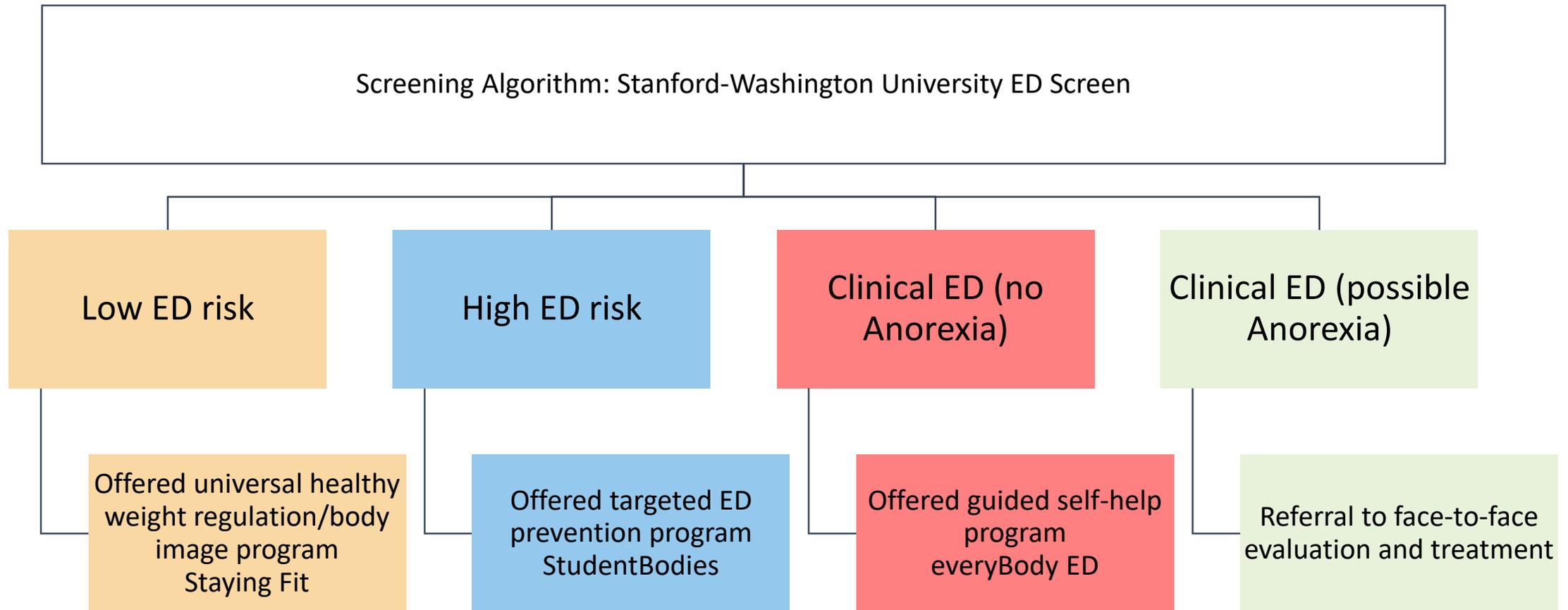


Hilbert A, de Zwaan M, Braehler E (2012) How Frequent Are Eating Disturbances in the Population? Norms of the Eating Disorder Examination-Questionnaire. PLoS ONE 7(1): e29125. doi:10.1371/journal.pone.0029125

(a) Women ($N = 1354$)



Healthy Body Image /NIMH Screen





HOME / HELP & SUPPORT

Screening Tool

Contact the Helpline

Find Treatment

Where Do I Start?

How Do I Help?

Free & Low Cost Support

Recovery & Relapse

[GET SCREENED](#)

[COMPLETE THE CHALLENGE](#)

Eating Disorders Screening Tool

This short screening — appropriate for ages 13 and up — can help determine if it's time to seek professional help.

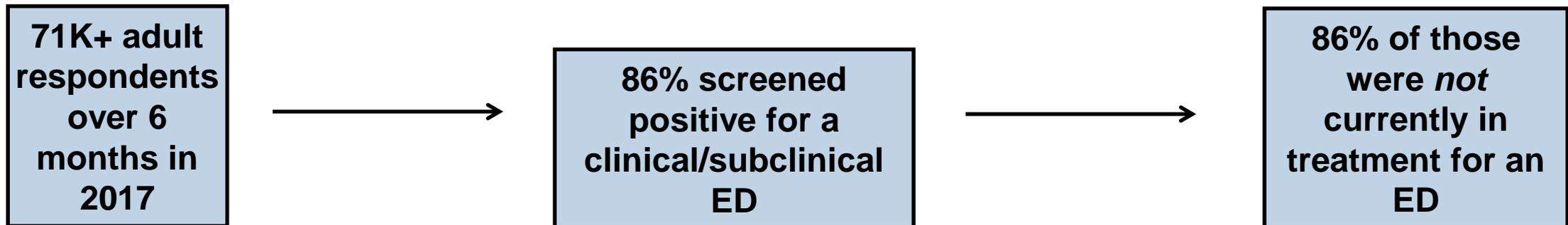
[Get Started](#)



Stanford-Washington University Eating Disorders Screen

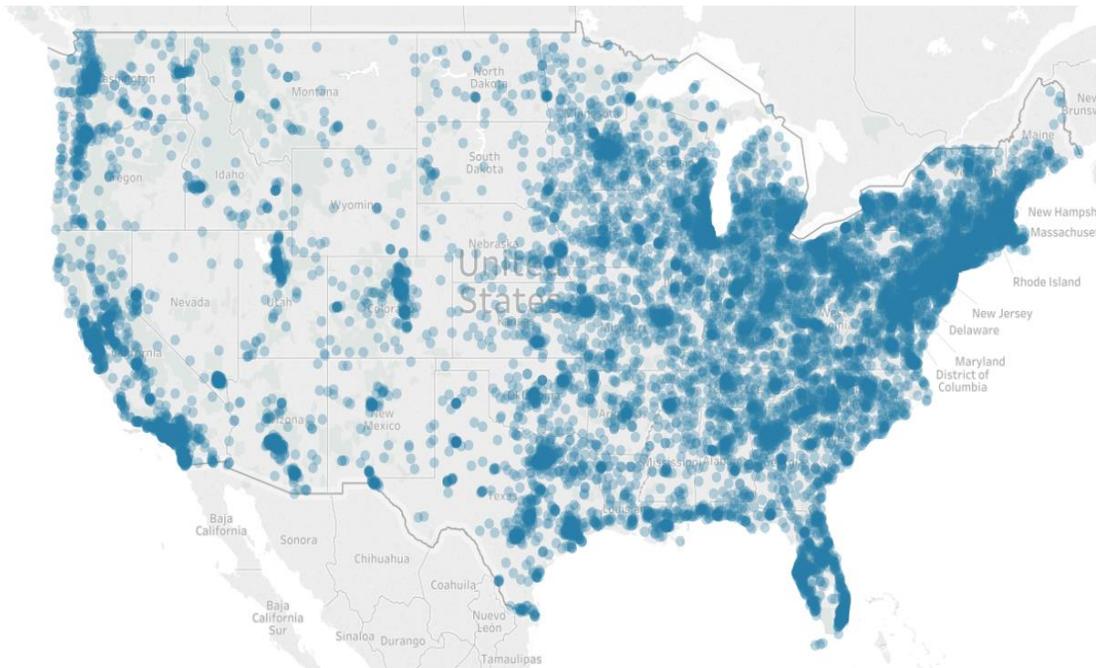
EATING DISORDERS SCREENING TOOL

by the NATIONAL EATING DISORDERS ASSOCIATION

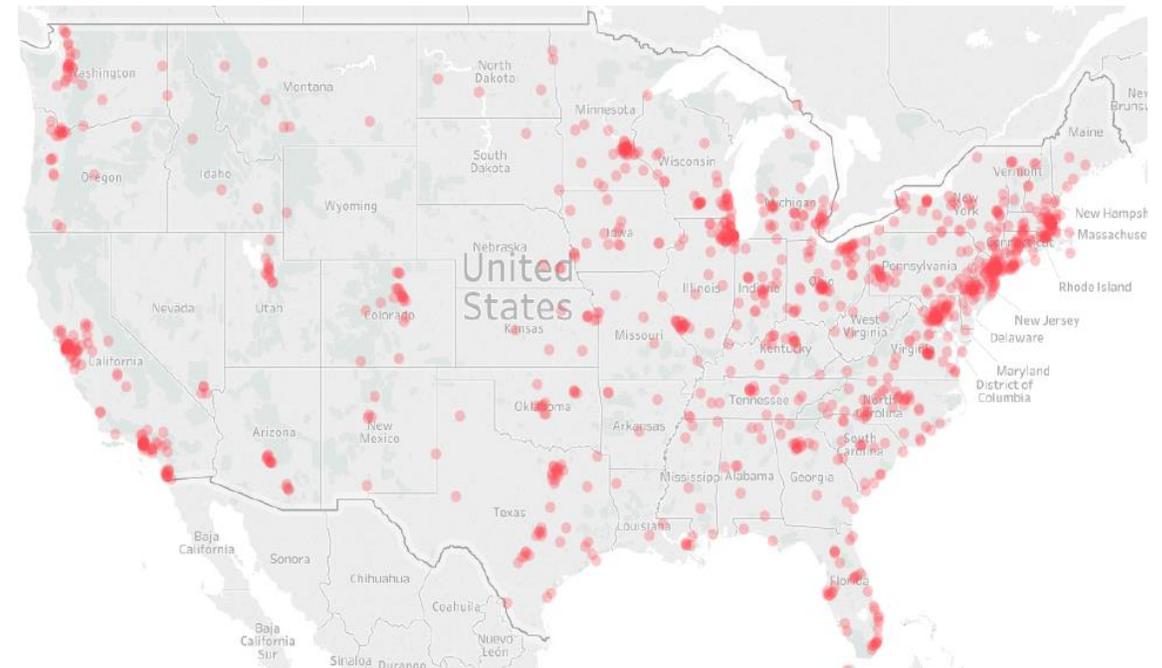


The Need and Interest are huge

Screen Reach



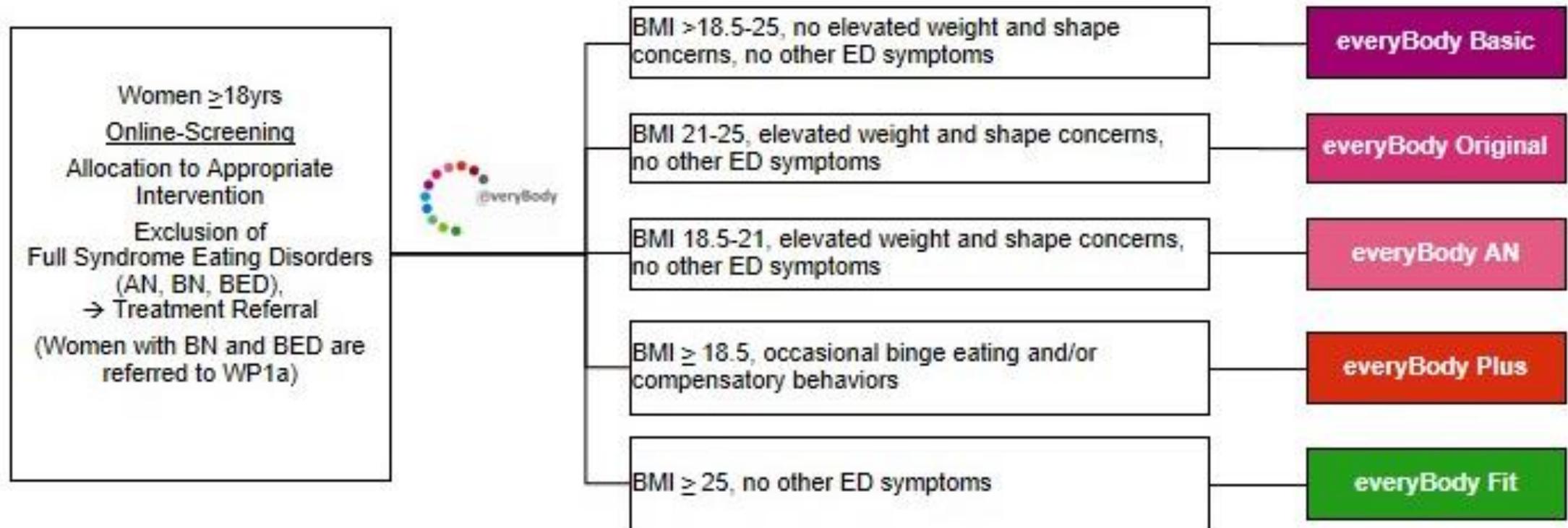
Those with EDs Currently in Treatment



Geo-plot of a sample of 71K screens completed over 6 months in the US through the National Eating Disorders Screening program

Fitzsimmons-Craft, E. E., Balantekin, K. N., et al. (2019). Results of disseminating an online screen for eating disorders across the US: Reach, respondent characteristics, and unmet treatment need. *International Journal of Eating Disorders*.

everyBody population-wide dissemination



Overarching obstacles

- Provision of care is tied to
 - Research funding
→ when funding periods end, provision ends
 - Reliable tech provider
- No reimbursement models for online prevention or treatment
- Very difficult for for-profit companies to be sustainable
- Data privacy & data protection laws
- Governmental device regulation
- Policy makers don't care much about effect sizes

U.S.

- ~~IT students~~
- ~~Summit~~
- ~~Thrive~~
- ~~Healthmunk~~
- ~~Lantern~~
- Mindistrict (?)
- Silvercloud

Germany

- ~~Medienzentrum Uni Trier~~
- ~~Deutscher Telemarkt~~
- ~~Robotron (Moodle)~~
- ~~PiSolution (Moodle)~~
- ~~Medienzentrum TU Dresden (Plone)~~
- Minddistrict (?)

Solution 1: Support through a State Mandate

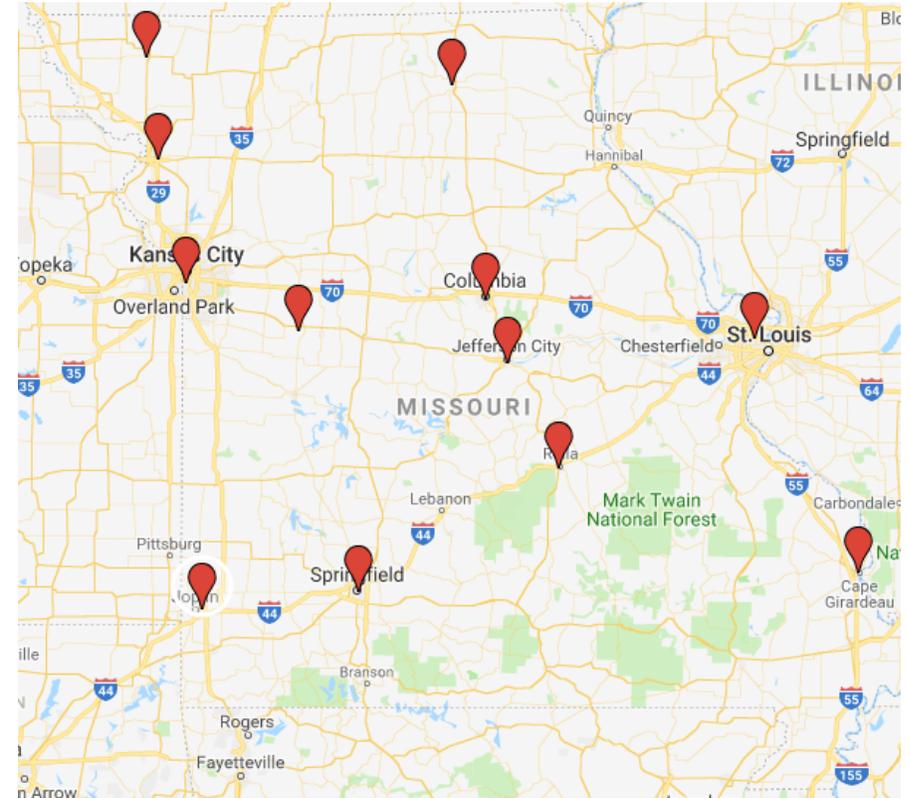
- Provide the online intervention through Minddistrict
- Recruit, train and supervise coaches through a grant
- Making sure that any student in the Missouri State System can receive free treatment



Fitzsimmons-Craft, Firebaugh et al
Psychological services, in press

Missouri Eating Disorders Council Body U initiative

- Partnering with public universities in Missouri to offer online/mobile programs for the prevention and treatment of EDs
- In the 6 years since the program launched, they have partnered with 12 public universities in the state, with the potential to reach over 150,000 students
- Resulted in significantly decreased restrictive eating and binge eating in Missouri students



BODY U

Fitzsimmons-Craft, Firebaugh et al
Psychological services, in press

Solution 2: Partner with an industry



- In Israel, we partnered with Super-Pharm, the largest and leading drugstore, to provide online screening for EDs, access to everyBody (locally programmed) and coaching for a 1,460 users.
- Advertising efforts for this initiative were supported by Saatchi & Saatchi, a global communications and advertising agency network, and Keshet Media Group, Israel's leading TV channel and digital content platform. The campaign included national television spots and key social media opinion leaders.





Self-paced,
guided self-help
program with 21
sessions



Focuses on
cognitions and
behaviors
regarding eating,
shape, and weight



The program is
enhanced by the
support of a
facilitator
(mentor/coach),
usually a graduate
student in clinical
psychology



International
academic
collaboration
important for
credibility, given
the lack of
programs in
Hebrew



1,000,000 NIS media campaign ($\approx 83,300$ TWD)





הסקר שיגלה לכן משהו חדש על דימוי הגוף שלכן



זה הזמן שלכן לשאול את עצמכן
את השאלות החשובות באמת



everyBody Israel

- ❖ In the first five weeks of the trial **>34,000** women accessed the survey.
- ❖ **>14,000** consented to the study and provided their full information.
- ❖ Respondents' age ranged between 18-80 years old.
- ❖ The sample is ethnically diverse, including Jews, Arabs, Druze, and Bedouin.
- ❖ 38% met criteria for an eating disorder, among whom **84% were not in treatment** during survey completion **> 4,500** women who could benefit from help and have used a digitally-delivered resource.
- ❖ 600 participants enrolled in an RCT testing a coached vs. fully-automated version of everyBody vs. treatment as usual.
- ❖ Super-Pharm funded additional 1060 users, and is now interested in making it freely available to all women in Israel, regardless of ED risk status.

Disseminating guided self-help

Obstacles

- Health care providers are not nearly as enthusiastic about GSH interventions as we are
- Reimbursement issues are unsolved
- Legal constraints, e.g. restrictions in practicing across state lines

Solutions

- Focus on policy
- Train therapists on how to incorporate mHealth interventions in their practice
- Develop options for blended care
- Create model clinics

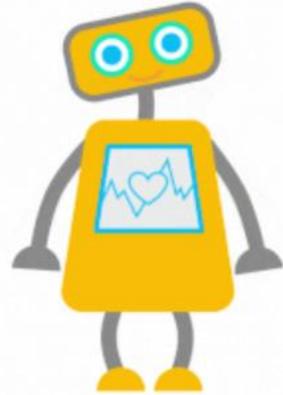
Disseminating indicated prevention

Obstacles

- Guidance increases effects, but is costly
- Competition from other (non evidence-based) programs with large marketing budgets
- Problem that other apps may work under the guise of self-help, but might be very harmful

Solutions

- Partner with nonprofit (Singapore, Malaysia)
- Package with other activities (Missouri)
- Connect with a company through the community outreach (Israel)
- Focus on policy (require health care system to provide indicated prevention)
- (partly) automate guidance using chatbots/AI



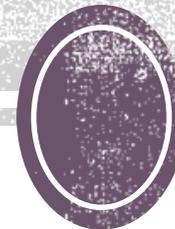
Hi, I'm Woebot|

I'm ready to listen, 24/7. No couches, no meds, no childhood stuff. Just strategies to improve your mood. And the occasional dorky joke.



SAY HELLO

<https://woebot.io/>





Talk to Tessa

@TessaTalk

Startseite

Beiträge

Fotos

Info

Community

Seiteninfos & Werbung

Seite erstellen

Psychology Today
The Washington Post
BUSINESS INSIDER
THE NEW YORKER

Send a message now



Gefällt mir Abonnieren Teilen ...

Beiträge



Talk to Tessa 😊 erfrischt.

14. September 2018 · 🌐

Today is a special day as I have been undergoing training to pr with even better support! While my content has not changed, m has...

You can call me Tessa!

4

Gefällt mir Kommentieren Teilen



Kommentieren ...



Talk to Tessa



48 Personen gefällt das
Gesundheit/Schönheit

Antwortet i.d.R. sofort

48 Personen gefällt das

Wenn du auf Los geht's tippst, kann Talk to Tessa deine öffentlichen Infos sehen.

Los geht's



...zeit bei Nachrichten

Alle anzeigen

...iese Seite mit

...onniert

Alle anzeigen

Chat (6)



Universal prevention: STAYINGFIT

- Online self-help wellness intervention for students at low risk for an ED
- Encourages healthy weight regulation via self-monitoring, stimulus control, and appetite awareness
- Resulted in increased fruit and vegetable consumption, lower weight/shape concerns, weight stabilization in normal weight students and weight loss in overweight students in randomized controlled trials

¹ Jones, M., Luce, K. H., Osborne, M. I., Taylor, K., Cunning, D., Doyle, A. C., ... & Taylor, C. B. (2008). Randomized, controlled trial of an internet-facilitated intervention for reducing binge eating and overweight in adolescents. *Pediatrics*, 121(3), 453-462.

² Taylor, C. B., Taylor, K., Jones, M., Shorter, A., Yee, M., Genkin, B., ... & Romer, P. (2012). Obesity prevention in defined (high school) populations. *International journal of obesity supplements*, 2(S1), S30.

STAYINGFIT

- “This course is designed for anyone over the age of 18 who is interested in learning, developing, and maintaining healthy eating, exercise, and sleep habits. The primary objective of this program is to **educate students on healthy eating, fitness, and body image and encourage them to apply the information learned to their own lives.** Our aim is to provide students with evidence-based, accessible and affordable tools that can guide them on how to maintain a healthy, happy and mindful life in the long-term.”
- Available at goo.gl/AmuBB2 via a Stanford Massive Open Online Course (MOOC)

A promotional graphic for the StayingFit course. It features a dark blue background with a white text box on the left and two images on the right. The top image shows a group of people eating a meal together at a table. The bottom image shows a person in a blue hoodie with their arms raised in a celebratory gesture against a sunset sky. The text box contains the following information:

STAYINGFIT

Stanford MEDICINE | Washington University in St. Louis School of Medicine

Looking to learn more about healthy eating, exercise, and sleep? Check out StayingFit, a free program to help you develop and maintain better eating, fitness, and sleep habits, improve your body image, and lead a happier and more mindful life! Click here to check out the course: goo.gl/AmuBB2

Brought to you by Stanford Online

STAYINGFIT

- Since September 2017, over 7,500 individuals have enrolled in the program
 - Mean age is 34 years
 - 44% are college graduates and 36% have a masters degree or above
 - 100+ engaged users/week
- MOOCs may have great potential for increasing access to self-help programs!

How Does StayingFit Work?



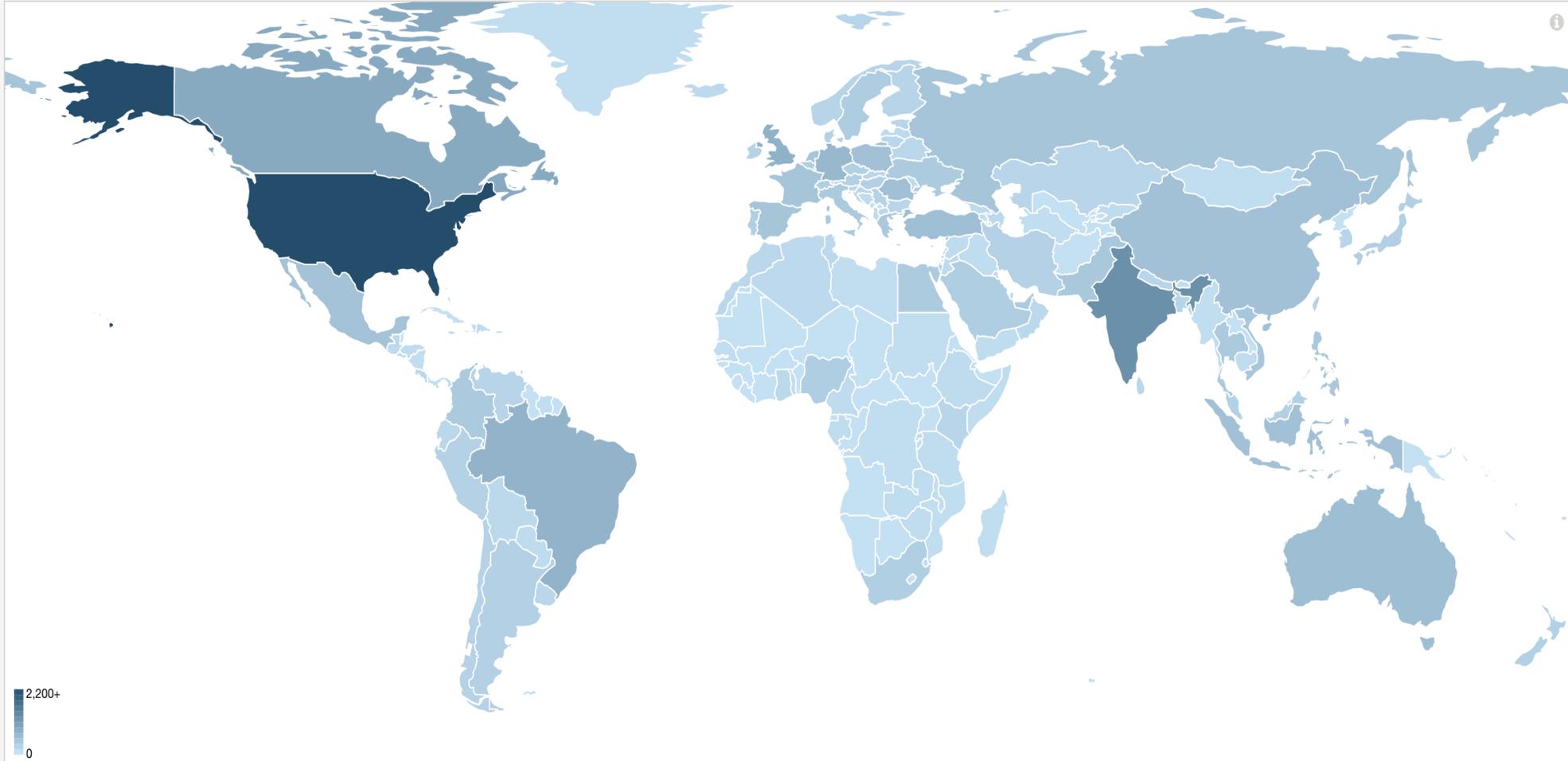
This is a 10-week program. You will complete 1 session per week. To get the most out of the program, we suggest you reserve 30-45 minutes for StayingFit each week.

In this program, we will ask you to make some changes--small ones, at first--in your current eating, physical activity habits, and ideas about body image. Don't worry- we're not going to ask you to start running every morning or count calories- in fact we're aiming for the opposite. We want you to feel good about your diet and your body while having fun. We have some suggestions about how to keep your body and mind feeling good— it's up to you to decide which tips you want to try.

We will try to incorporate the foods that you like and the kinds of physical activity that you enjoy into the program. Life is all about balance. New changes are easier to maintain when they're not really changes - they're more like modifications. As you know, the only way to keep up a healthy lifestyle is to make changes that you can live with.

Geographic Distribution

Where are my learners?



Geography Metrics

145
Total Countries or Regions Represented

United Sta...
Top Country or Region by Enrollment
34% of learners

India
Second Country or Region by Enrollment
10% of learners

Canada
Third Country or Region by Enrollment
5% of learners

Disseminating universal prevention

Obstacles

- Very difficult to implement and sustain in schools
 - Parental consent
 - Time constraints
 - School boards and government authorities
- Competition from other (non evidence-based) programs with large marketing budgets

Solutions

- Focus on policy
- Package with other activities
- Offer as a free unguided MOOC
 - Over 18s only



Next steps...

- Developers willing to share their interventions
- An (international) non-profit tech platform
 - How will it be funded?
 - NIH, EU, WHO, NGO, universities, ...
- Sustainable funding models that are not tied to research grants
- Training for treatment providers
- More attractive programs/engagement methods
- Gains will be made by enthusiastic, thoughtful, dedicated and innovative leaders
- Having great efficacy data is not enough – we need to educate our colleagues, the stakeholders, and the public about these opportunities

Where should you BEGIN?

- Make a plan to experiment with some tools yourself.
- Remain updated with theory- or evidence-based tools.
- Consider using first with clients who have access and sufficient Internet skills.
- Learn from your clients which programs they have found useful.
- Consult with colleagues, professional organizations:
 - ✓ American Psychiatric Association Mental Health Apps: <https://www.psychiatry.org/psychiatrists/practice/mental-health-apps>
 - ✓ Beacon: <https://beacon.anu.edu.au>
 - ✓ PsyberGuide: <https://psyberguide.org/>
 - ✓ Mind Tools: <https://mindtools.io/>



Thank you!!

It's time for Q&A

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