Recruitment of Adolescents with Mild Depression from Primary Care Settings: Lessons Learned from a Multi-Site Comparative Effectiveness Trial

Cheryl A. Lefaiver, PhD, RN, CCRP, Director Research, Advocate Aurora Research Institute, Advocate Health
cheryl.lefaiver@aah.org

Tracy R.G. Gladstone, PhD, Associate Professor of Behavioral and Social Sciences, Hassenfeld Child Health Innovation Institute, Brown University
tracy_gladstone@brown.edu

HCSRN Webinar April 11, 2023

Research reported in this presentation was funded through a Patient-Centered Outcomes Research Institute (PCORI) Award (IHS-2017C3-9333). The views in this work are solely the responsibility of the authors and do not necessarily represent the views of the Patient-Centered Outcomes Research Institute (PCORI), its Board of Governors or Methodology Committee. Clinicaltrials #NCT04290754

Advocate Children's Hospital
Now part of ADVOCATEHEALTH

Acknowledgements

Dept Pediatrics, University of Illinois

- Amanda Knepper, PhD, Jennifer Sanchez-Flack, PhD, Rebecca Feinstein, PhD, Marian Fitzgibbon, PhD, Benjamin Van Voorhees, MD

Advocate Children's Hospital

- Cathy Joyce, MD

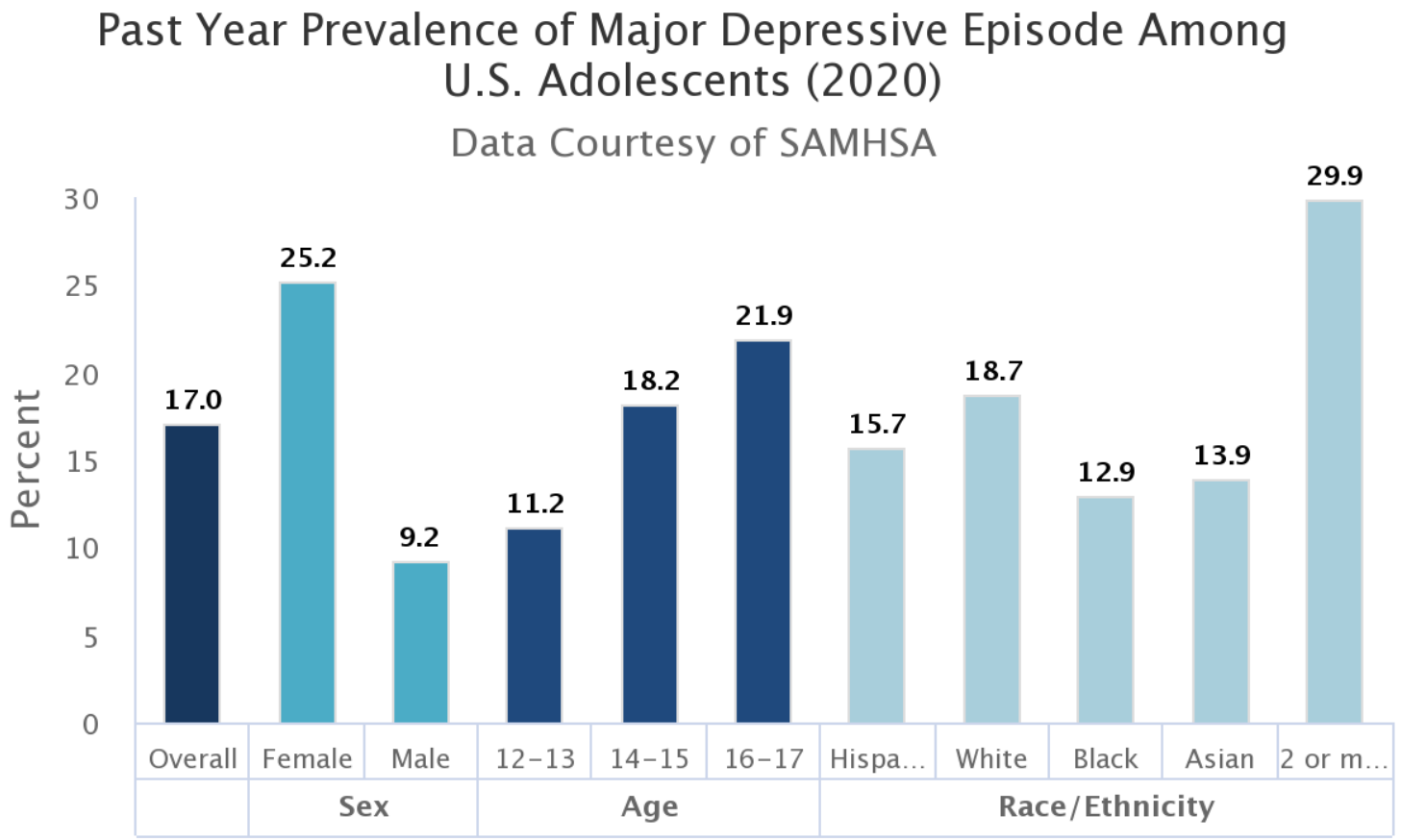
Advocate Aurora Research Institute

- Ashley McHugh, LCSW

Advocate Children's Hospital

Now part of ADVOCATEHEALTH

Significance of Adolescent Depression



50% of all lifetime mental illness begins by age 14, and **75%** by age 24

Relapse rate of 40% within 2 years; 75% within 5 years

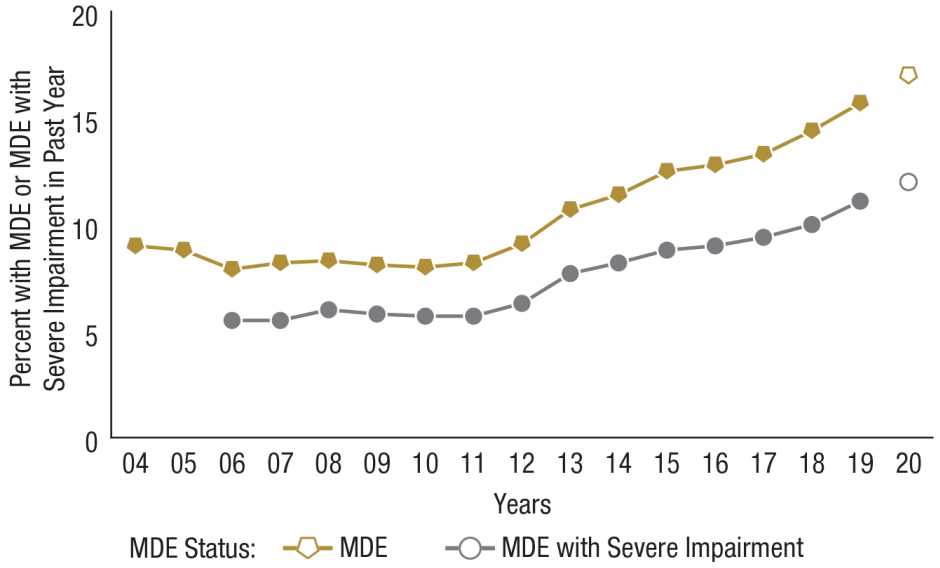
Prevalence of major depressive episode was **highest among adolescents reporting two or more races** (29.9%)

https://www.nimh.nih.gov/health/statistics/major-depression

Rates of Adolescent Depression are Increasing Annually

FFR1.30

Major Depressive Episode (MDE) and MDE with Severe Impairment in the Past Year: Among Youths Aged 12 to 17; 2004-2020



MDE Status	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MDE	9.0	8.8	7.9	8.2	8.3	8.1	8.0	8.2	9.1	10.7	11.4	12.5	12.8	13.3	14.4	15.7	*17.0*
MDE with Severe Impairment	N/A	N/A	5.5	5.5	6.0	5.8	5.7	5.7	6.3	7.7	8.2	8.8	9.0	9.4	10.0	11.1	*12.0*

N/A = not available.

Note: There is no connecting line between 2019 and 2020 to indicate caution should be used when comparing estimates between 2020 and prior years because of methodological changes for 2020. Due to these changes, significance testing between 2020 and prior years was not performed.

Note: The estimate in 2020 is italicized to indicate caution should be used when comparing estimates between 2020 and prior years because of methodological changes for 2020. Due to these changes, significance testing between 2020 and prior years was not performed.

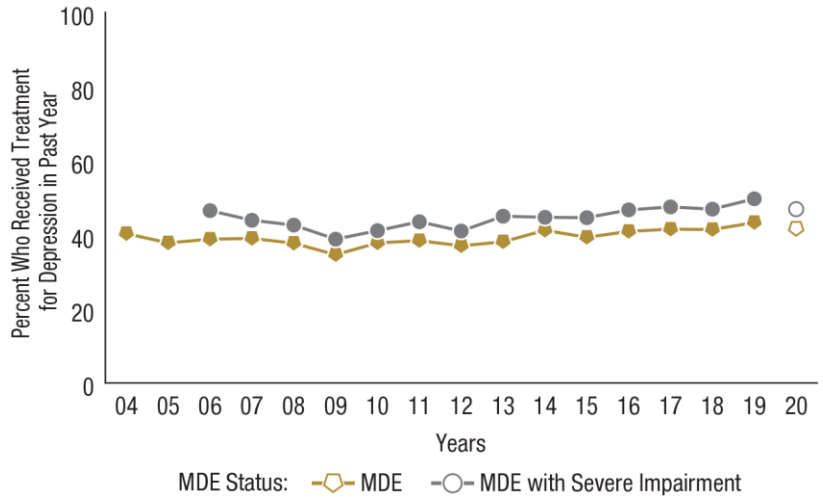
SAMHSA
Substance Abuse and Mental Health Services Administration

Advocate Children's Hospital | Now part of ADVOCATEHEALTH

Treatment Rates for Adolescent Depression Have Remained Stable

FFR1.46

Received Treatment in the Past Year for Depression: Among Youths Aged 12 to 17 with a Past Year Major Depressive Episode (MDE) or MDE with Severe Impairment; 2004-2020



MDE Status	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
MDE	40.3	37.8	38.8	39.0	37.7	34.6	37.8	38.4	37.0	38.1	41.2	39.3	40.9	41.5	41.4	43.3	*41.6*
MDE with Severe Impairment	N/A	N/A	46.5	43.9	42.6	38.8	41.1	43.5	41.0	45.0	44.7	44.6	46.7	47.5	46.9	49.7	*46.9*

N/A = not available.

Note: There is no connecting line between 2019 and 2020 to indicate caution should be used when comparing estimates between 2020 and prior years because of methodological changes for 2020. Due to these changes, significance testing between 2020 and prior years was not performed.

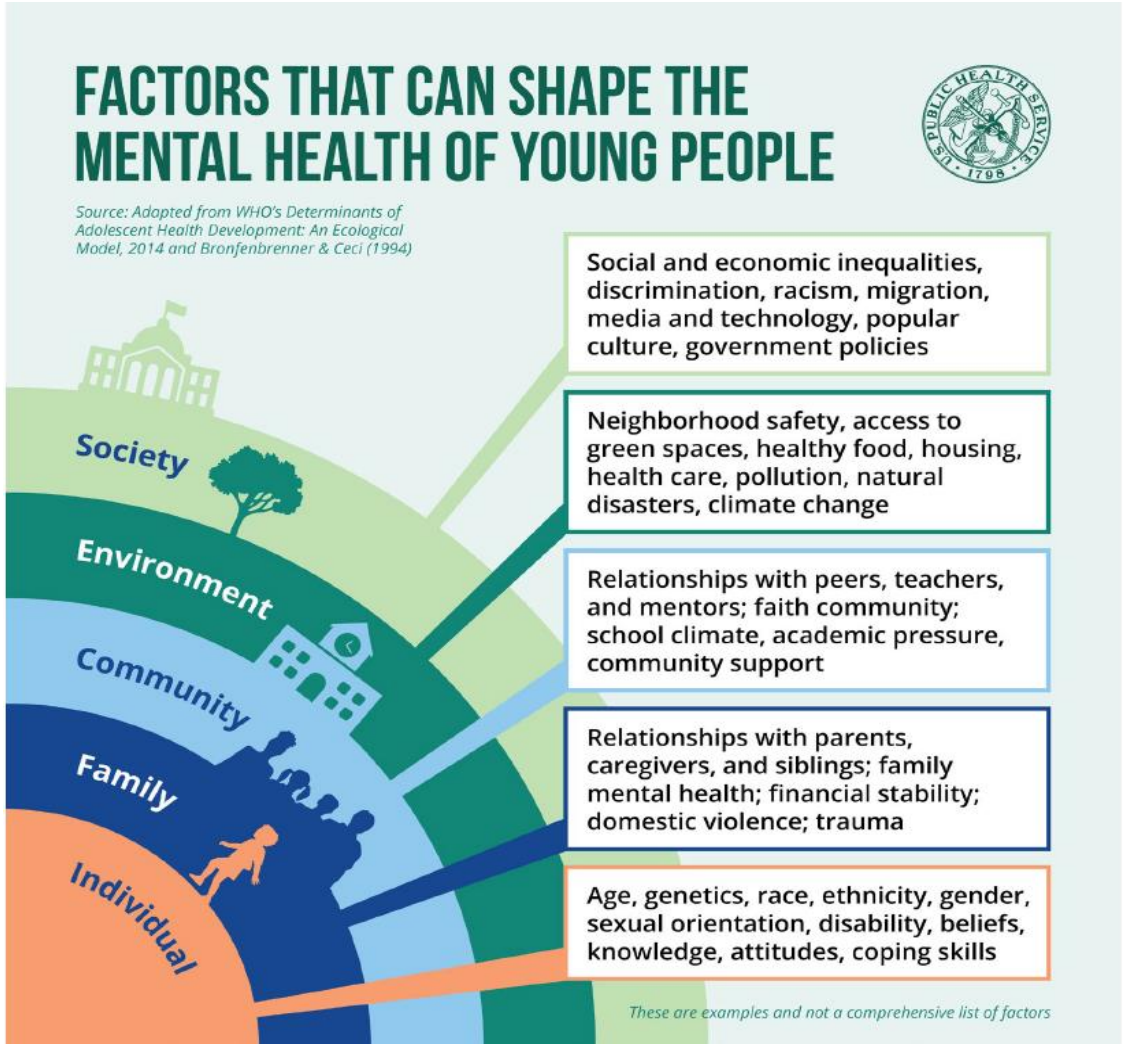
Note: The estimate in 2020 is italicized to indicate caution should be used when comparing estimates between 2020 and prior years because of methodological changes for 2020. Due to these changes, significance testing between 2020 and prior years was not performed.

SAMHSA
Substance Abuse and Mental Health Services Administration

47

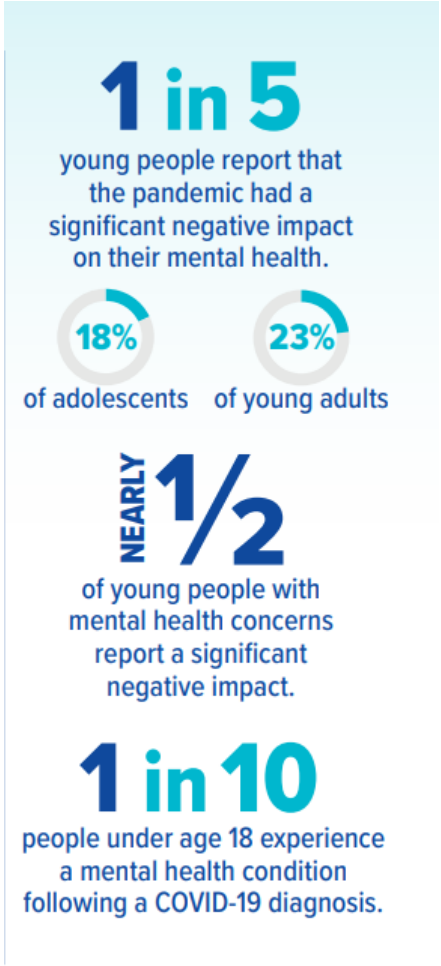
* Only about 40% of adolescents with depression receive treatment.

Factors that Influence Youth Mental Health and Barriers to Treatment



- **Geographic** barriers (living in a rural area) with fewer resources
- **Financial** barriers (lack of insurance, payer, and hospital factors)
- Racial disparities, **systemic bias**, discrimination
- **Stigma** surrounding mental illness
- **Resource** barriers (fewer clinicians trained in adolescent behavioral health)
- **Regulatory** barriers (lack of confidentiality and self-referral/consent for minors seeking behavioral health treatment)

COVID-19 Impact



- ✓ Depressive symptom scores and anxiety symptom scores increased for youth from before the start of the pandemic to the months directly following the onset of stay-at-home orders.[1,2]
- ✓ During the early months of the pandemic, adolescents with more stress due to COVID experienced more symptoms of depression and anxiety.[1]
- ✓ COVID-19 is associated with increased symptoms of depression especially for girls.[1,2,3]
- ✓ A survey of Emergency Departments in the US reveals a significant increase in adolescent mental health visits post-pandemic, relative to 2019, and an increase in visits for suicide attempts specifically among adolescent girls.[4,5]

[1]Magson, N. R., Freeman, J. Y. A., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and Protective Factors for Prospective Changes in Adolescent Mental Health during the COVID-19 Pandemic. *Journal of Youth and Adolescence, 50(1), 44-57. doi:10.1007/s10964-020-01332-9*

[2]Gladstone, T. R. G., Schwartz, J. A. J., Pössel, P., Richer, A. M., Buchholz, K. R., & Rintell, L. S. (2021). Depressive Symptoms Among Adolescents: Testing Vulnerability-Stress and Protective Models in the Context of COVID-19. *Child Psychiatry & Human Development. doi:10.1007/s10578-021-01216-4*

[3]Hawes, M. T., Szenczy, A. K., Klein, D. N., Hajcak, G., & Nelson, B. D. (2021). Increases in depression and anxiety symptoms in adolescents and young adults during the COVID-19 pandemic. *Psychological Medicine, 1-9. doi:10.1017/S0033291720005358*

[4]Yard, E., Radhakrishnan, L., Ballesteros, M. F., Sheppard, M., Gates, A., Stein, Z., . . . Stone, D. M. (2021). Emergency Department Visits for Suspected Suicide Attempts Among Persons Aged 12-25 Years Before and During the COVID-19 Pandemic - United States, January 2019-May 2021. *MMWR. Morbidity and mortality weekly report, 70(24), 888-894. doi:10.15585/mmwr.mm7024e1*

[5]Hill, R. M., Rufino, K., Kurian, S., Saxena, J., Saxena, K., & Williams, L. (2021). Suicide Ideation and Attempts in a Pediatric Emergency Department Before and During COVID-19. *Pediatrics, 147(3), e2020029280. doi:10.1542/peds.2020-029280*

COVID-19 Impact: Risk and Resilience

Figure 1. COVID-19 Related Distress by Negative Cognitive Style

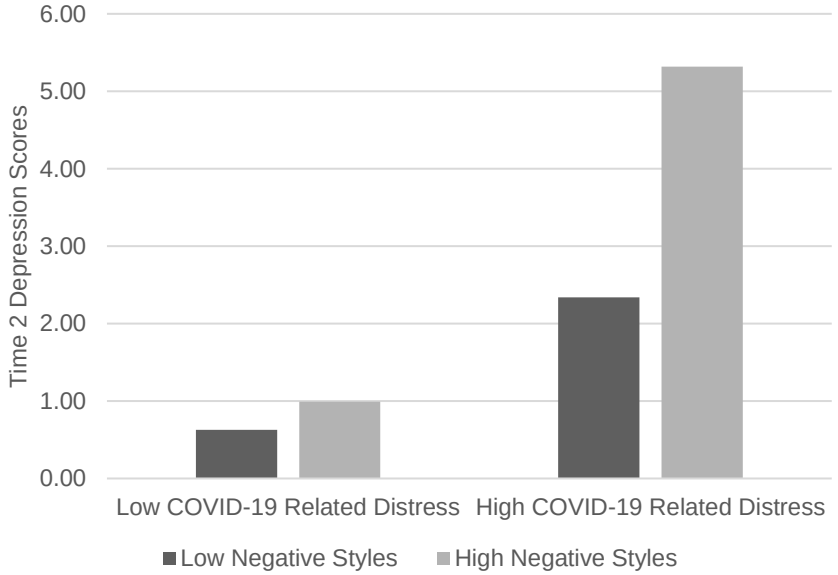
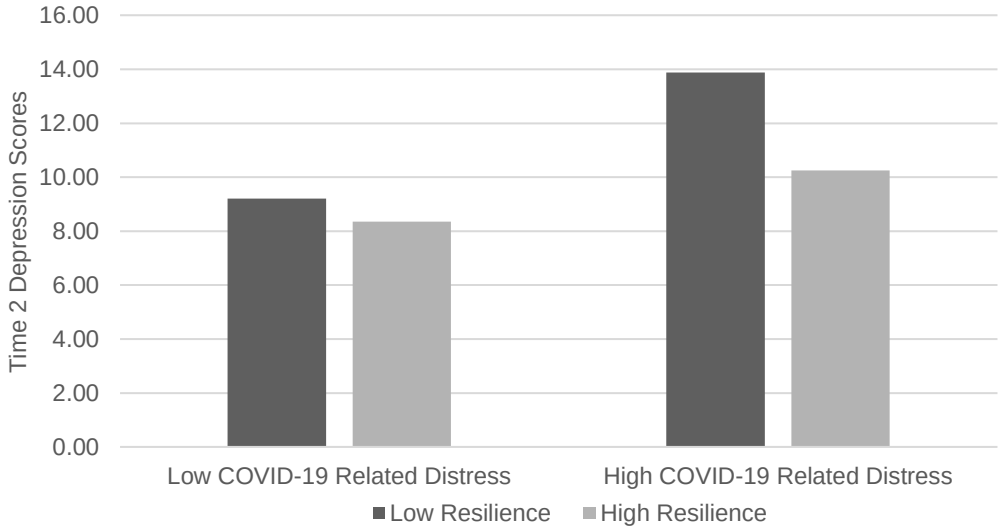


Figure 2. COVID-19 Relate Distress by Resilience



Child Psychiatry & Human Development
https://doi.org/10.1007/s10578-021-01216-4

ORIGINAL ARTICLE

Check for updates

Depressive Symptoms Among Adolescents: Testing Vulnerability-Stress and Protective Models in the Context of COVID-19

Tracy R. G. Gladstone[1] · Jennifer A. J. Schwartz[2] · Patrick Pössel[3] · Amanda M. Richer[1] · Katherine R. Buchholz[1] · L. Sophia Rintell[1]

Accepted: 27 June 2021
© The Author(s), under exclusive licence to Springer Science+Business Media, LLC, part of Springer Nature 2021

Abstract
Adolescents who experience negative life events may be at risk for depression, particularly those with psychosocial vulnerabilities. We investigate longitudinally the impact of vulnerability/protective factors on the relation between a large-scale negative life event, the COVID-19 pandemic, and depressive symptoms. Adolescents (N = 228, M_{age} = 14.5 years, 53% female, 73% white) self-reported depressive symptoms 2–4 months before the pandemic (Time 1), and again 2 months following stay-at-home orders (Time 2). At T2, adolescents also completed measures of vulnerability, protective factors, and COVID-19-related distress. Depressive symptoms increased at T2, and COVID-19 distress interacted with resilience and negative

Role of Primary Care

- **Primary Care Clinics** have been an important **entry point** for adolescent mental health concern
- Routine Depression Screening recommended by primary care
- Primary care physicians often **lack feasible, low cost, acceptable means to intervene to prevent onset** of depressive episodes in adolescents

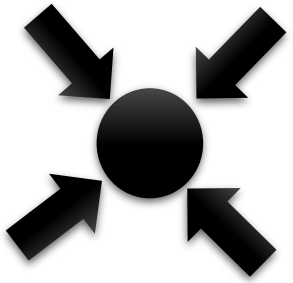
Zuckerbrot, R. A., Cheung, A. H., Jensen, P. S., Stein, R. E., Laraque, D., & GLAD-PC Steering Group (2007). Guidelines for Adolescent Depression in Primary Care (GLAD-PC): I. Identification, assessment, and initial management. *Pediatrics*, *120*(5), e1299–e1312. https://doi.org/10.1542/peds.2007-1144

Study Aim

- To explore the process of implementing an evidence-based depression prevention study into **pediatric primary care** settings as described by key stakeholders
  - Specifically, **identify the facilitators and barriers** to implementing recruitment measures in the clinical workflow

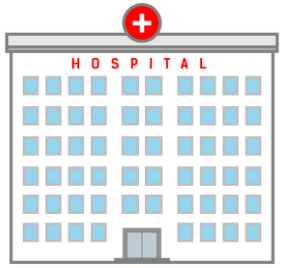
Consolidated Framework for Implementation Research (CFIR)

Domains & Brief Descriptions



Outer Setting

Economic, political, and social context



Inner Setting

Structural, political, and cultural context of the implementation setting

Characteristics of Individuals

Mindsets, norms, interests, and affiliations of stakeholders

Intervention Characteristics

Elements of the intervention being implemented

Process

The active process of implementing the intervention

[The Consolidated Framework for Implementation Research – Technical Assistance for users of the CFIR framework (cfirguide.org)]

Damschroder, L.J, Aron D.C., Keith, R.E., Kirsh, S.R., Alexander, J.A., & Lowery, J.C. (2009). Fostering implementation of health services research findings into practice: A consolidated framework for advancing implementation science. *Implementation Science,* 4(50). Doi: 10.1186/1748-5908-4-50

Methods

- **Qualitative Interviews w/Stakeholders** at the Study Sites
    - 4 pediatric health care settings IL & KY
- **Data Source:** Comparative Effectiveness Implementation Trial (Path 2 Purpose)
- **Analysis:** Modified Grounded Theory
    - ATLAS.ti for organizing/coding

Corbin, J., & Strauss, A. (2007). *Basics of qualitative research: Techniques and procedures for developing grounded theory* (3rd ed.). Thousand Oaks, CA: Sage.

Data Source

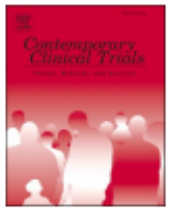
Path 2 Purpose: Primary Care and Community-Based Prevention of Mental Disorders in Adolescents

Contemporary Clinical Trials 117 (2022) 106763

Contents lists available at ScienceDirect

Contemporary Clinical Trials

journal homepage: www.elsevier.com/locate/conclintrial



PATH 2 Purpose: Design of a comparative effectiveness study of prevention programs for adolescents at-risk for depression in the primary care setting

Tracy R.G. Gladstone [a], Rebecca T. Feinstein [b,*], Marian L. Fitzgibbon [b,c,d], Linda Schiffer [c], Michael L. Berbaum [c,d], Cheryl Lefaiver [e], Patrick Pössel [f], Kathleen Diviak [c], Tianxiu Wang [c], Amanda K. Knepper [b], Jennifer Sanchez-Flack [b,c], Calvin Rusiewski [b], Diane Potts [g], Katherine R. Buchholz [a], Taylor L. Myers [a], Benjamin W. Van Voorhees [b]

[a] Wellesley Centers for Women, Wellesley College, Wellesley, MA 02481, USA
[b] Department of Pediatrics, College of Medicine, University of Illinois, Chicago, IL 60612, USA
[c] Institute of Health Research and Policy, University of Illinois, Chicago, IL 60608, USA
[d] University of Illinois Cancer Center, University of Illinois, Chicago, IL 60612, USA
[e] Advocate Aurora Research Institute, Advocate Aurora Health, Downers Grove, IL 60515, USA
[f] Department of Counseling and Human Development, University of Louisville, Louisville, KY 40292, USA
[g] National Center for Rural Health Professions, College of Medicine, University of Illinois, Rockford, IL 61107, USA

Comparing 2 Interventions for the PREVENTION of TEEN DEPRESSION

Inclusion Criteria

- Teens age 13 – 19
- PHQ-9 score 5 – 18 (within 30 days)

Exclusion Criteria

- NOT currently receiving therapy or counseling for mood-related concerns
- NO history of psychiatric hospitalization
- NO current active suicidal ideation

Enrollment Goal = 664

Enrolling Organizations:

UIC

Advocate Children's Hospital

University of Louisville

KSB Hospital
Katherine Shaw Bethea Hospital

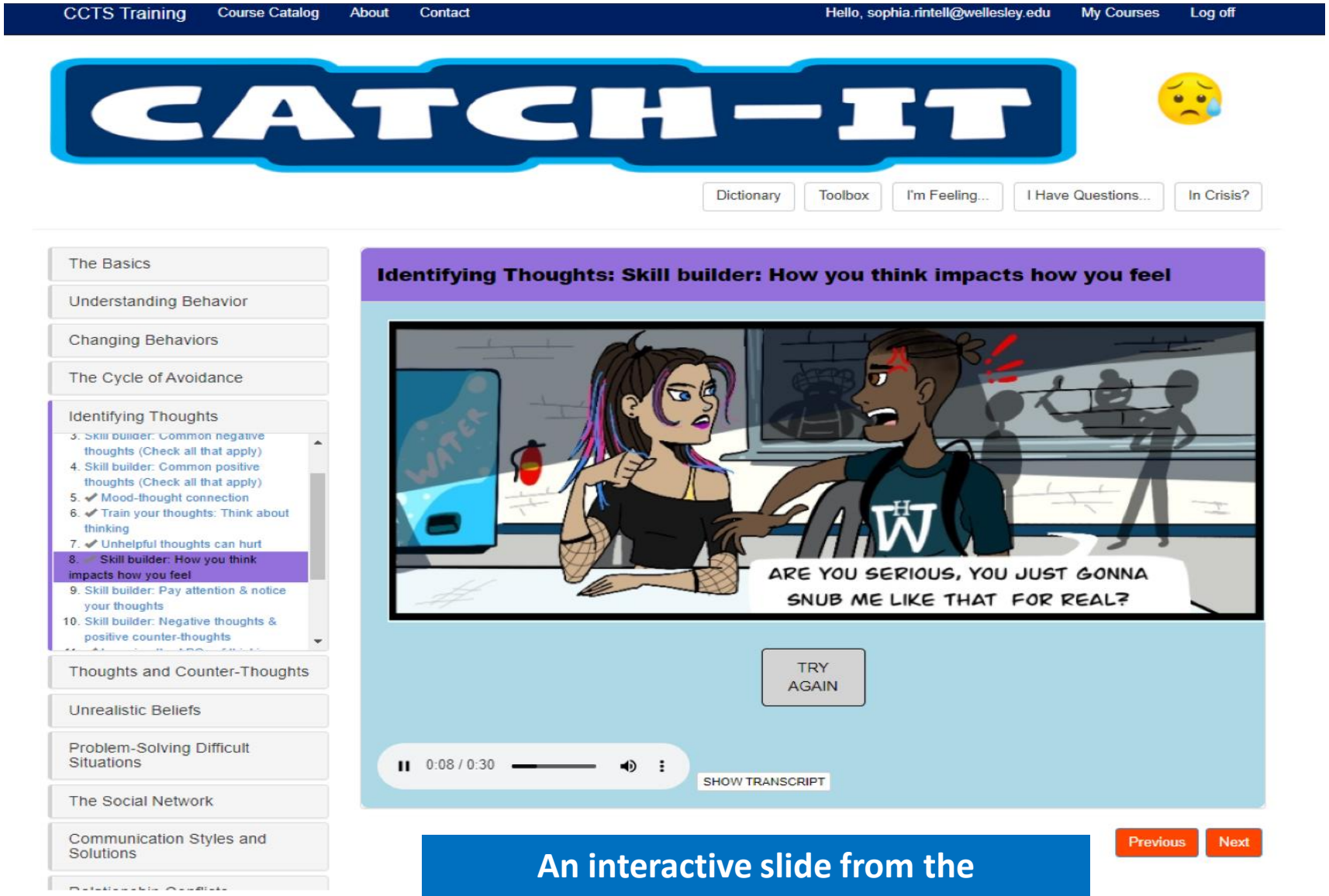
Intervention assigned via cluster randomization at clinic level

TEAMS

- Group therapy intervention
- Conducted online
- Group of 6-8 teens
- Uses Cognitive Behavioral techniques
- 8 weekly sessions (90 minutes); 6 monthly sessions (90 minutes)
- Parent groups on week 1 & week 8
- Led by Masters level therapists

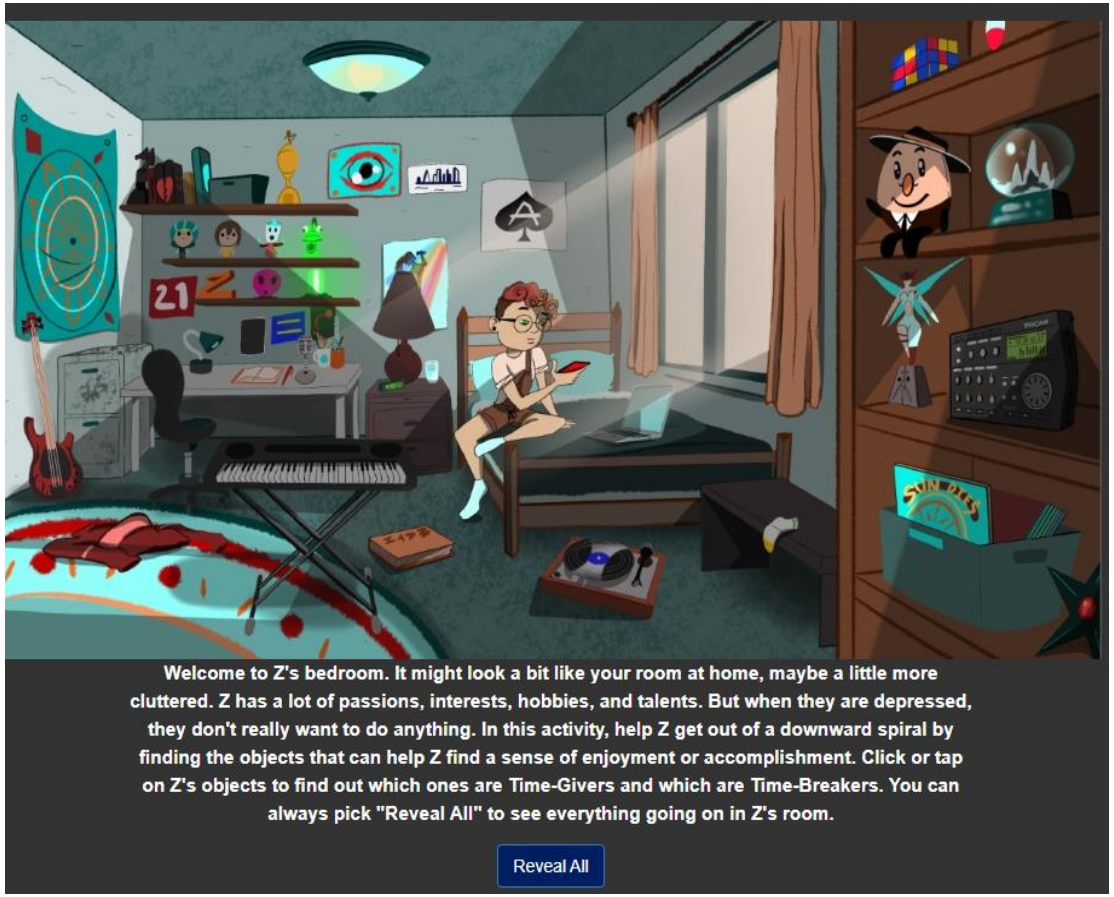
CATCH-IT

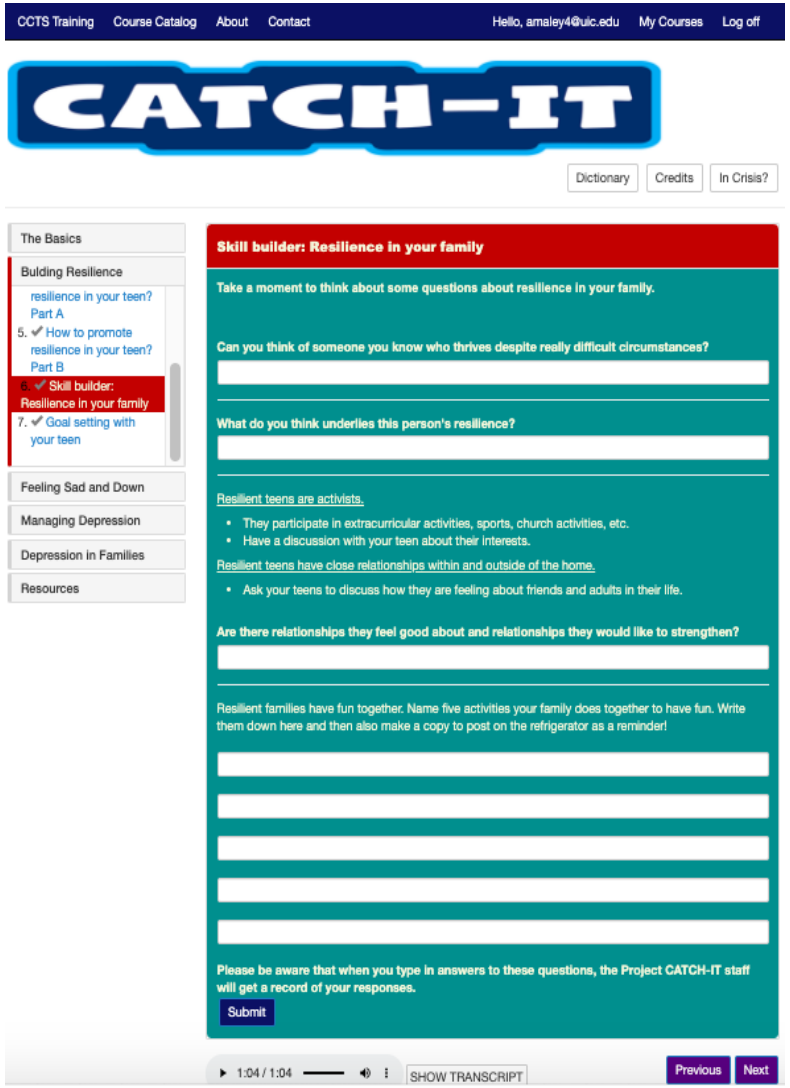
- Online computer-based intervention
- Self-directed
- Accessible 24/7 from phone, computer, or tablet
- Uses real life scenarios to teach teens coping skills
- 14 learning modules, 15-20 minutes per module
- Parent = 4 learning modules



An interactive slide from the Cognitive-Behavioral section of the teen intervention

An interactive slide from the Behavioral Activation section of the teen intervention





A skill-builder slide from the parent program

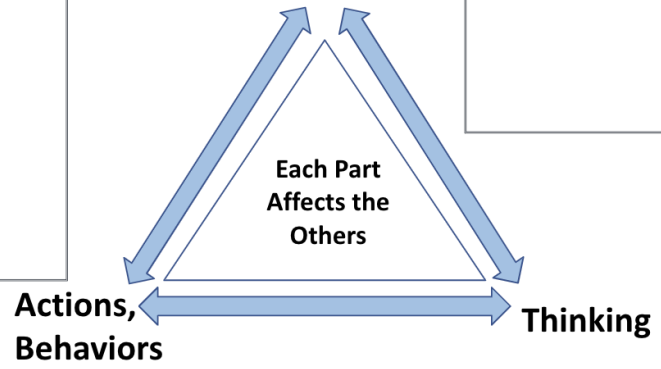
Leader slides from the TEAMS online intervention groups

THOUGHTS, EMOTIONS, ACTIONS

Actions, Behaviors

Feelings, Emotions

Thinking



Group activities from the TEAMS intervention

Session 2: Coping With Stress

AGENDA

1. Review
2. Guidelines for this Group
3. Identifying Negative Thoughts
4. Feelings About the Group
5. Mood Questionnaire
6. Practice Assignment
7. Sharing Activity

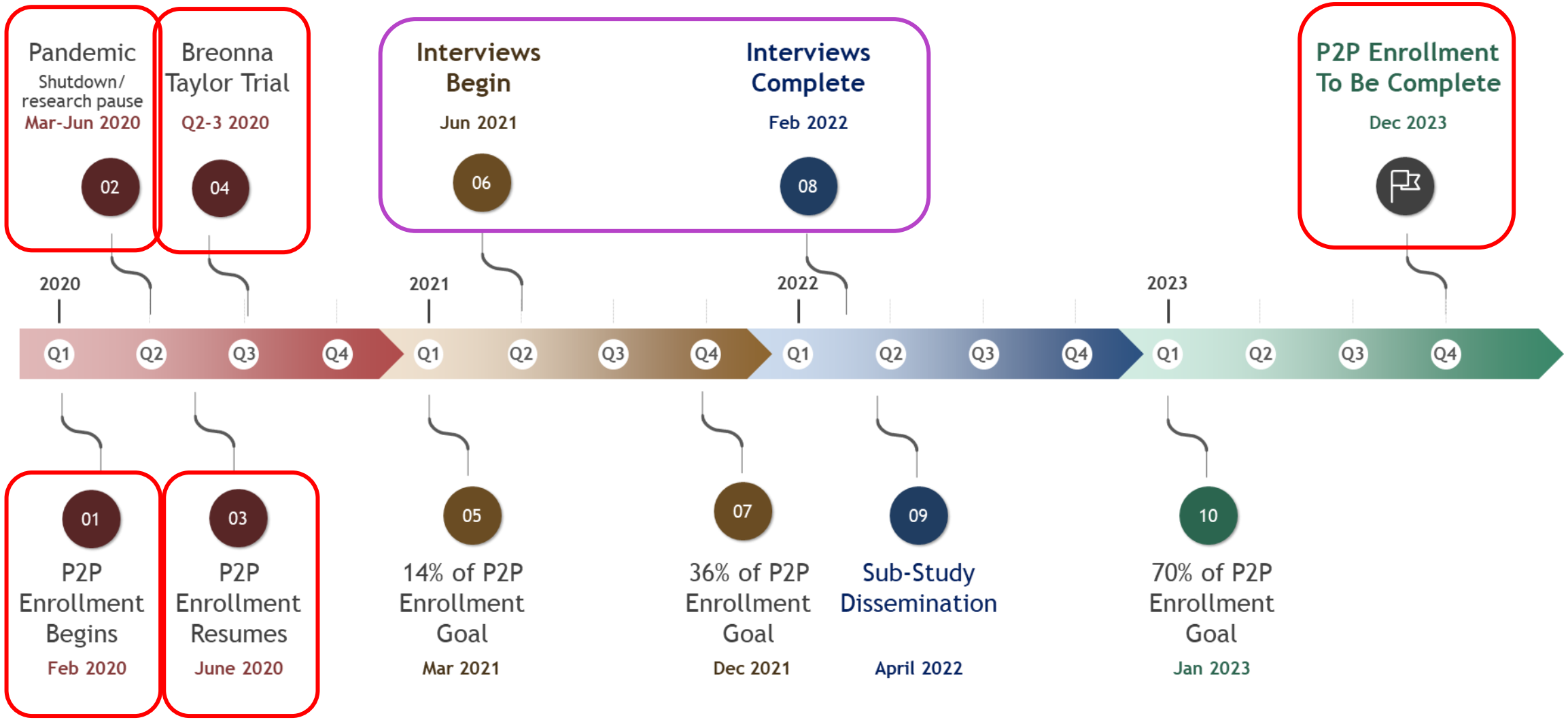
IDENTIFYING FREQUENT NEGATIVE THOUGHTS

EXAMPLES OF COMMON NEGATIVE THOUGHTS

Check the ones that you've had in the past month

____ I'm confused.
____ There is no love in the world.
____ I am wasting my life.
____ I'm scared.
____ Nobody loves me.
____ I'll end up living all alone.
____ People don't consider friendship important anymore.
____ I don't have any patience.
____ What's the use?
____ That was a dumb thing for me to do (or say).
____ I'll probably have to be placed in a mental institution someday.
____ Anybody who thinks I'm nice doesn't know the real me.
____ There is something wrong with me.
____ I am selfish.
____ My memory is lousy.
____ I am not as good as_____ (another person).
____ I get my feelings hurt easily.
____ I can't do anything right.
____ I will never have a boyfriend/girlfriend.
____ Things will never work out for me.
____ My life is a mess.
____ _____
____ _____
____ _____
____ _____
____ _____
____ _____

P2P and Sub-Study Timeline



Health System Characteristics and Stakeholder Representation in Qualitative Interviews

Health System	Organization Type	Region	Sites	#Interviewed
HS 1	Public University Teaching Hospital and Health Care	Urban, IL	8	20
HS 2	Not-for-Profit Hospital and Health Care	Suburban, IL	4	6
HS 3	University-affiliated, Not-for-profit Hospital and Health Care	Urban, Rural, Suburban, KY	6	5
HS 4	Not-for-Profit, independently owned Hospital and Health Care	Rural, IL	5	8

Implementation Strategies at Clinics – Health System

- **Select and Develop Clinical Site-Champions:** Leverage clinical ladder programs or other internal career incentive programs
- In person **training sessions for Site Champions and Providers** in the clinic, **adapt workflow** to meet their needs
- Q2week **"check-in" calls** w/clinic site champions
- Monthly team meeting w/clinic leaders, clinic site champions, health system PI and study team members
- Create intentional space to receive and **respond to feedback for improvement**
- **Recognition:** Kudos, Food drop-ins

Interview Findings

Key Themes by CFIR Domains & Constructs

Outer Setting

Covid-19 and the Adolescent Mental Health Crisis
- *Patient needs & resources*

Racism and Community Response
- *External policies & resources*

Inner Setting

Provider/Staff Buy-in
- *Implementation climate*

Provider/staff Time Constraints
- *Culture, compatibility, relative priority*

Intervention Characteristics

Perceptions of Online Interventions
- *Relative advantage*

Eligibility Criteria Issues
- *Adaptability, Complexity*

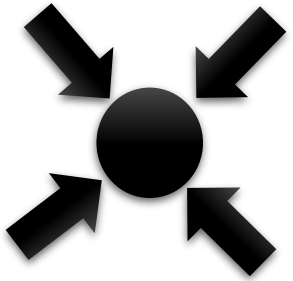
Characteristics of Individuals

The Role of Mental health stigma
- *Knowledge & beliefs of the intervention*

Process

The Role and Experience of Site Champions
- *Engaging*
- *Reflecting & evaluating*

Outer Setting



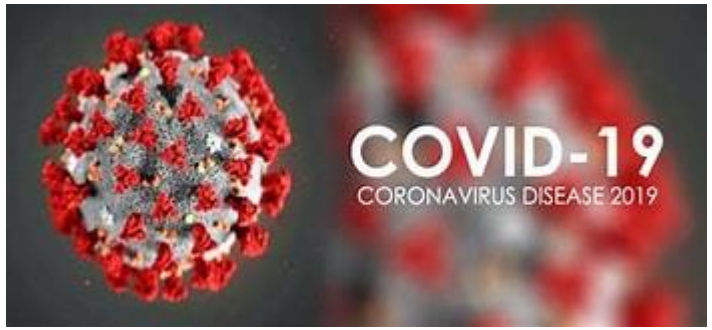
Outer Setting

Study Theme

- **COVID-19 and the Adolescent Mental Health Crisis**

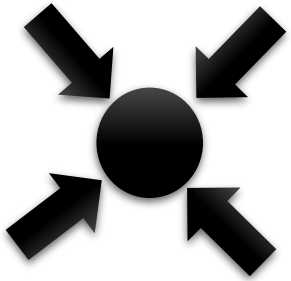
Related CFIR Construct

Patient needs and resources



Especially post-COVID, our patients are scoring too high [on the PHQ-9]. We're just seeing such a crisis in mental health, that getting them in that at-risk time, it feels like that window is gone a little bit. What patients want is treatment at this point. I think they're getting the [P2P] handouts and they're excited but then they actually score too high to participate.
(Physician, urban clinic setting, IL)

Outer Setting



Outer Setting

Study Theme

- **Racism and Community Response**

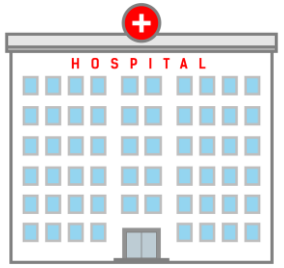
Related CFIR Construct

External Policies and Incentives

Racism is everywhere, but it's on fire here. It's so raw and real… in a way that is different than other parts of the country. I think that makes people less trustful of an online program. Like, 'Who is it? Who is my kid going to talk to?' They are terrified of someone being racist toward their child. (Physician, urban setting, KY)

Inner Setting

Advocate as one Health System



Inner Setting

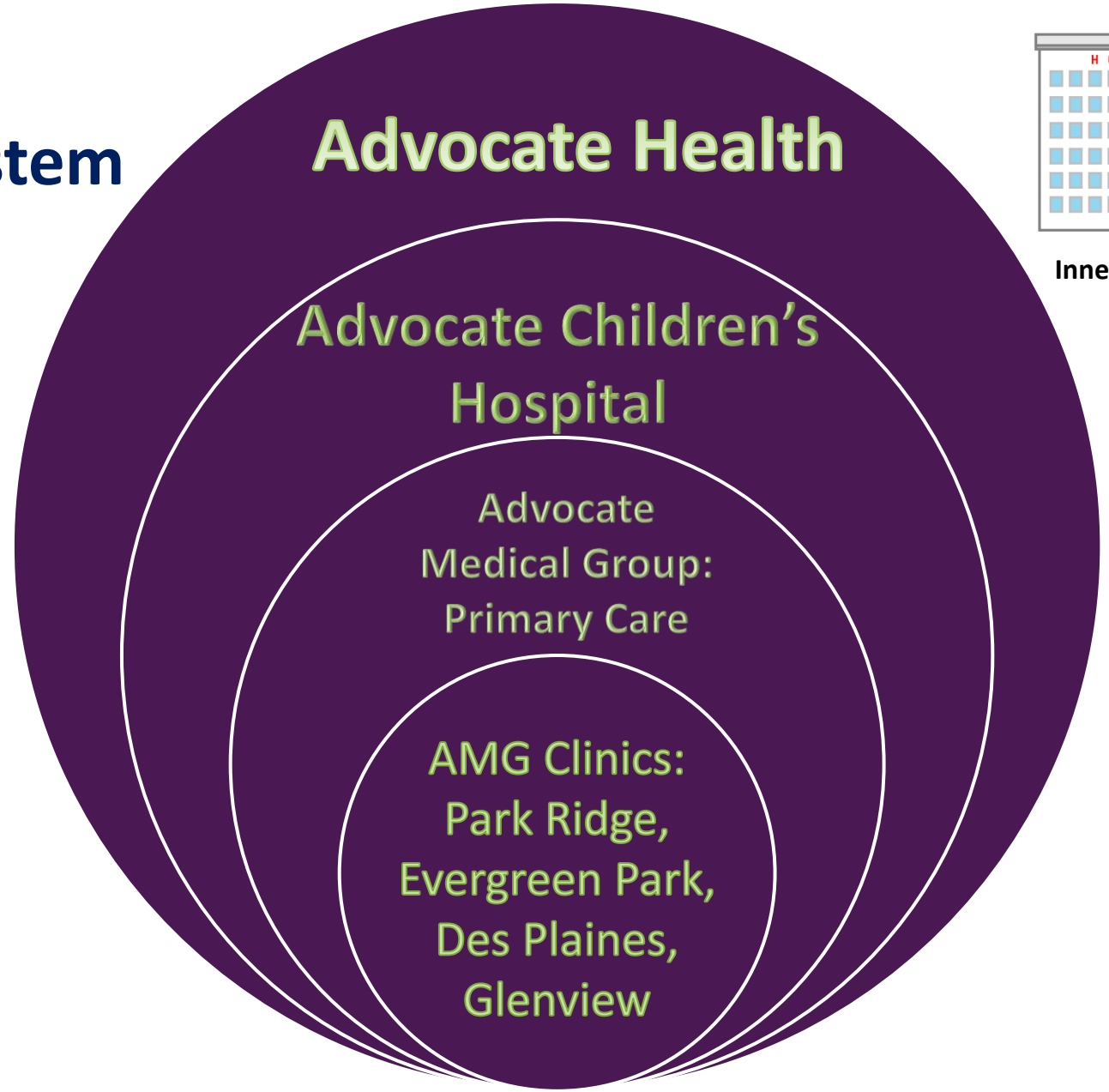
Related CFIR Constructs:

Implementation Climate

Culture

Compatibility

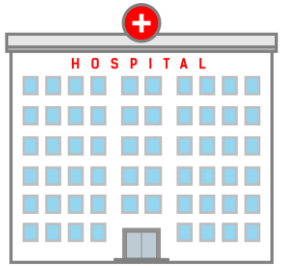
Relative Priority



Study Themes

Provider/Staff Buy-in

I've been happy to present (P2P) to… families. I think it's a worthwhile project, and I really try and sell families on that. There are so few resources for the[se] teens…. the fact that they've not been in a deep, dark depression, they're just in that little place that needs a little help, so we're really trying to sell them on, "Let's catch this before things get worse."
(Nurse Recruiter, suburban setting, IL)



Inner Setting

Provider/staff Time Constraints

It's difficult because [we] aren't always available to speak with the family…who are interested in the study, because we do have our own providers to work with, and… other responsibilities in the clinic to take care of
(Staff Recruiter, suburban setting, IL)

Characteristics of Individuals

Characteristics of Individuals

Study Theme	Related CFIR Construct
• **The Role of Mental Illness Stigma**	*Knowledge and beliefs about the intervention*

The culture around mental health is different here. Mental health is, "Suck it up. Deal with it. Stop being a bad kid." That's how parents deal with mental illnesses, so kids have…grown up to think that…
(Physician, rural setting, IL)

I find that it's hard [talking about mental health], depending on the teen's relationship with the parent…the provider can be a nice liaison for the teen…
(Physician, urban setting, IL)

Intervention Characteristics

Intervention Characteristics

Study Theme

- **Perceptions of Online Interventions**
  - Varied by setting

Related CFIR Construct

Relative advantage

I think [the self-guided internet program] is [worthwhile] because… its online and they can do it remotely, so it makes it a lot easier for the teens
(Staff recruiter, suburban setting, IL)

A lot of teens, talking about their life in a group setting online, they're like, "Ooh, [facilitated virtual groups are] not what I want." I think that's really off-putting to people, especially the patient population I care for
(Physician, urban setting, KY)

Intervention Characteristics

Intervention Characteristics

Study Theme	Related CFIR Construct
• **Eligibility Criteria Issues**	*Adaptability, Complexity*

A couple of times, I have had patients who didn't qualify, because when they took the [baseline assessments] … their score is too high. Then they're like, "They didn't even take me." As providers, we don't want to refer people to something that's a possibility, for mental health. That feels dangerous.
(Physician, urban clinic setting, KY)

It just throws us off because we have to go back and look it up. It's like, "What are the ages again? Yes, they raised that. …When you throw that wrench in there, it's not that it makes it harder for us to keep continuing to get those candidates. It's like, "What was that again? What are the new rules?" (Staff recruiter, suburban setting, IL)

Process

Process

Study Theme	Related CFIR Construct
• **The Role and Experience of Site Champions**	*Engaging: Champions; Reflecting & Evaluating*

Today I think I heard in one of the calls, that one of our doctors actually referred a couple of kids and they actually got into the program. I just texted him and I said, "Hey, great job! Two kids got into the program. Thanks for doing that." He goes, "Yes, great. Thank you." That appreciation, then he's like, "Hey, I might have another one"." (Recruiter, rural site, IL)

Lessons Learned

Readiness Planning

- Requires time
- Stakeholder engagement is critical
- Ensure the right site staff are involved

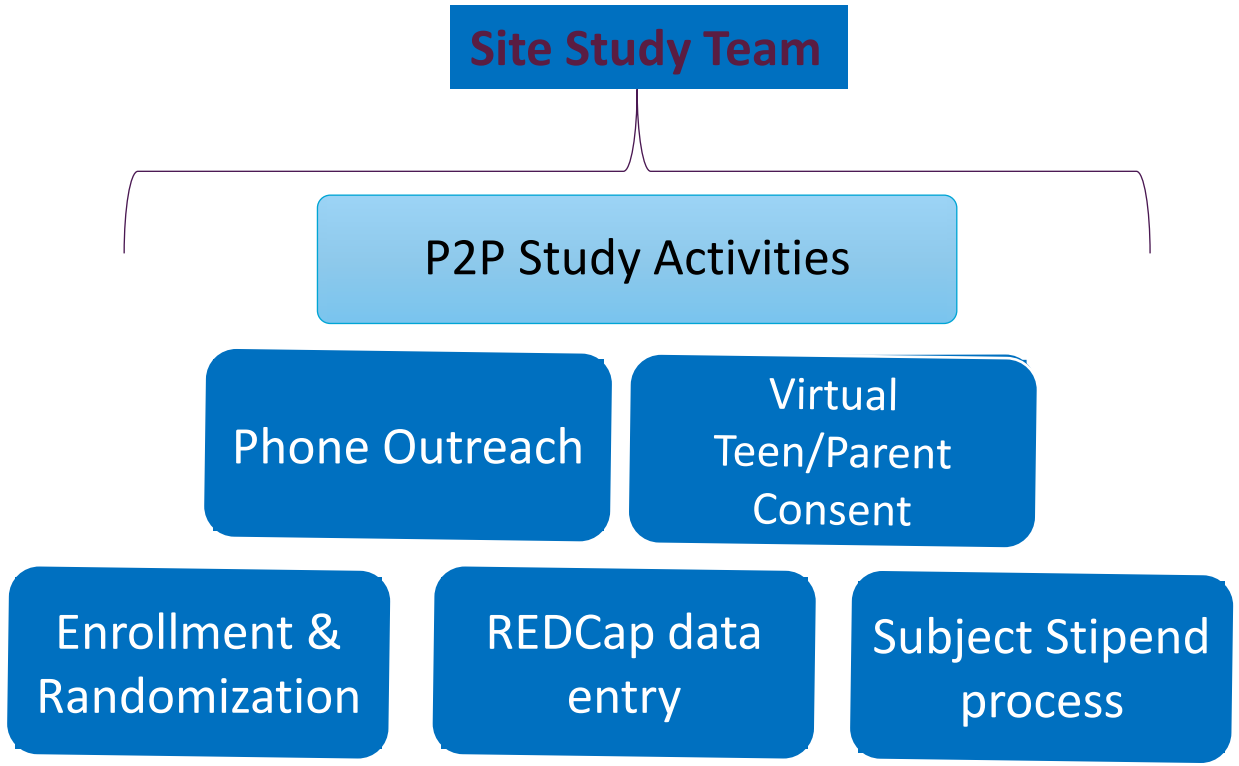
Intervention

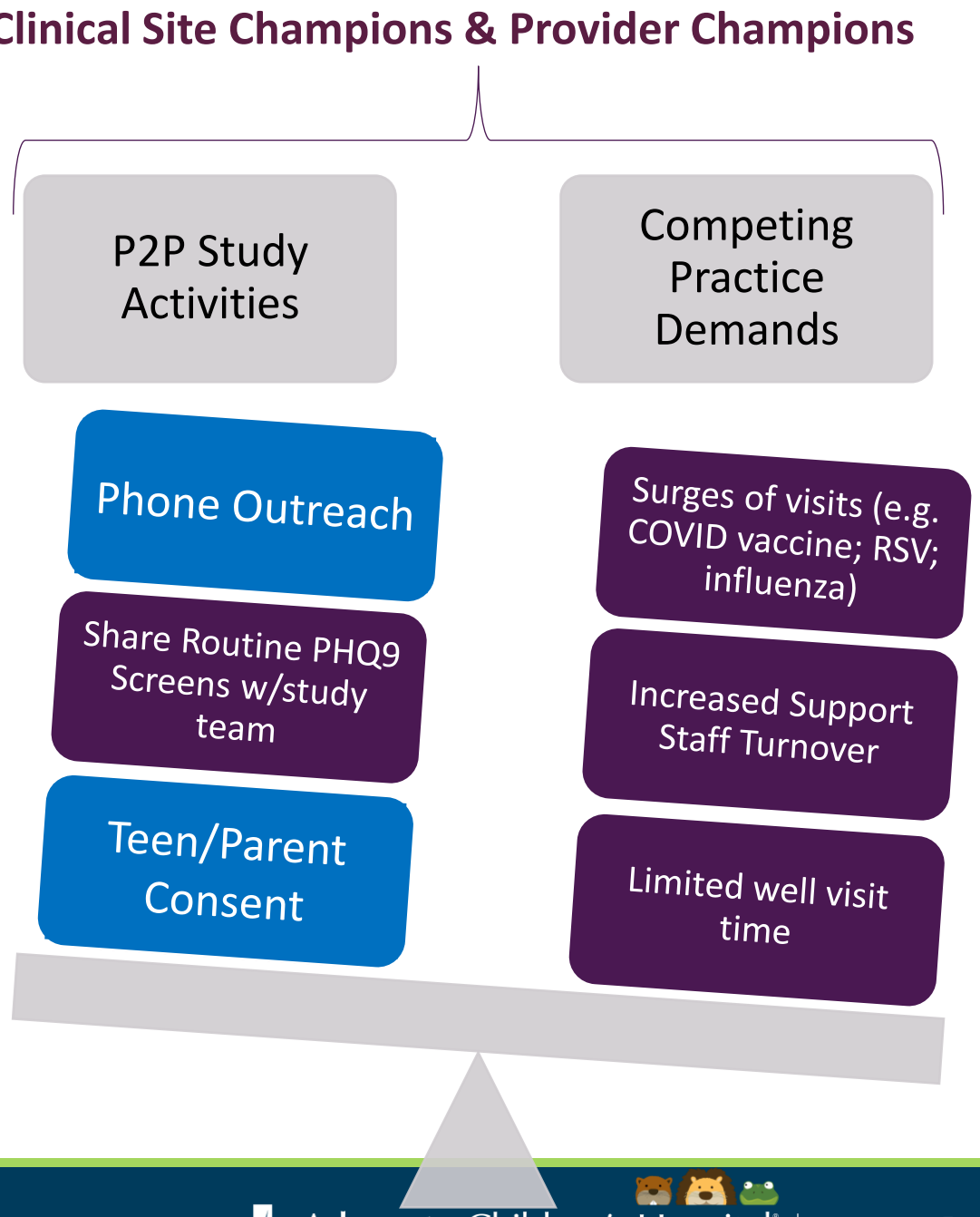
- Alignment with site priorities
- Anticipate outer and inner setting influences
- Prepare to Adapt

Retention

- Intentional engagement activities
- Consistent and Repetitive interactions
- Reassessment of readiness elements

Putting our Findings into Practice – One Health System





Next Steps

Implementation Sub-Study:

- Re-evaluate findings to assess impact Revised 2022 CFIR Framework
- Apply findings to enhance remaining study activities (e.g. 2023 will be last summer for enrollment)

P2P Study:

- Complete P2P Enrollment (anticipated Dec 2023)
- Conduct Post-Implementation Evaluation of Implementation to outline successes & failures

Everyone's life touches someone with a mental health condition. ***Good mental health translates to good physical health*** *... The inextricable links between mental health and public health, human rights and socioeconomic development mean that* ***transforming policy and practice in mental health can deliver real, substantive benefits for individuals, communities and countries everywhere.***

WHO Director-General Dr Tedros Adhanom Ghebreyesus

This Photo by Unknown Author is licensed under CC BY-SA