DEPRESSION IN THE PRIMARY CARE PEDIATRICS SETTING

WITH COMMENTS ABOUT INTEGRATED CARE

Jason Schweitzer, MD

Katie Miller, LCSW

Hilary Bowers, MD

Introduction

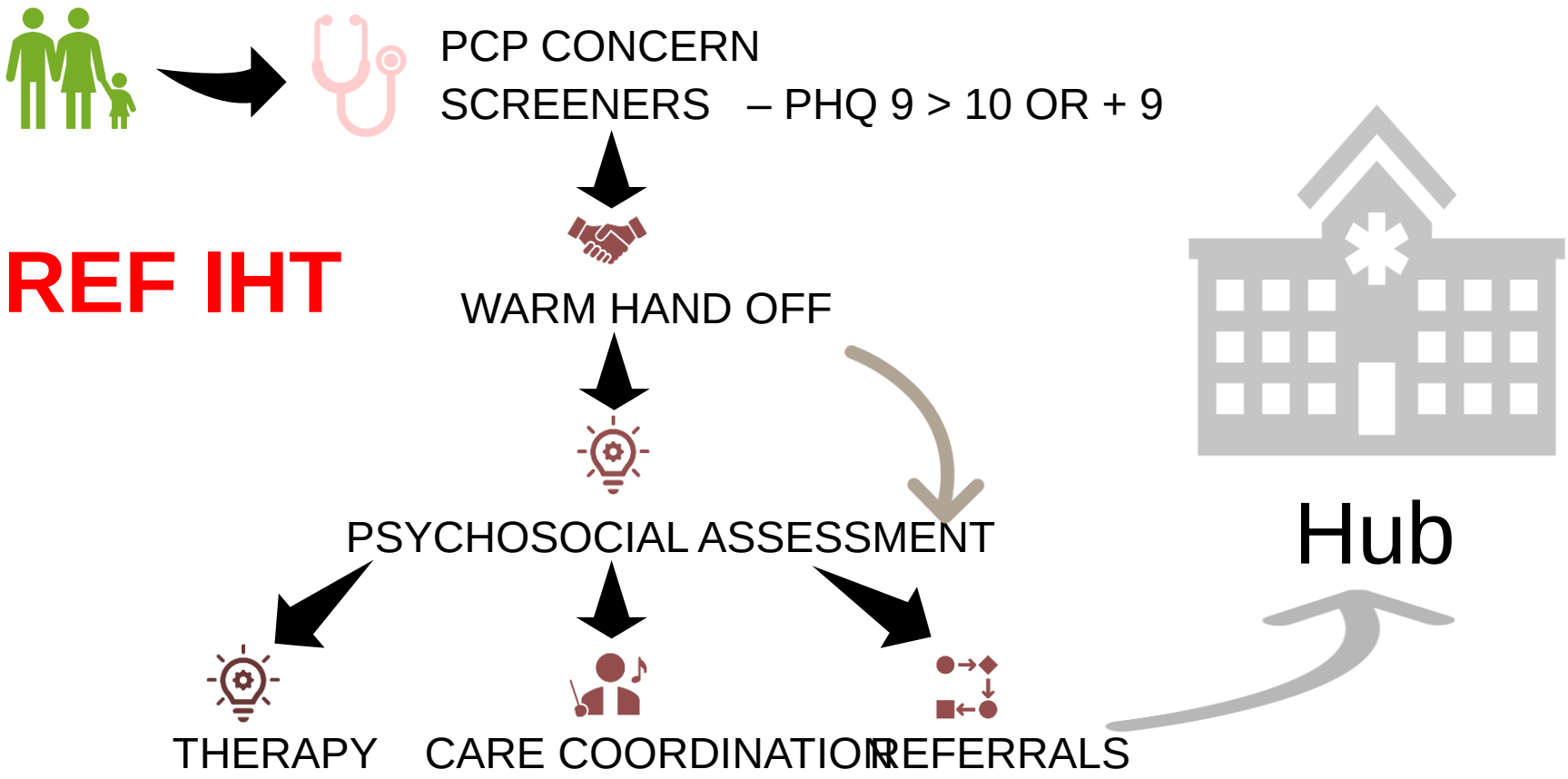
- No disclosures

Rady Children's Hospital San Diego

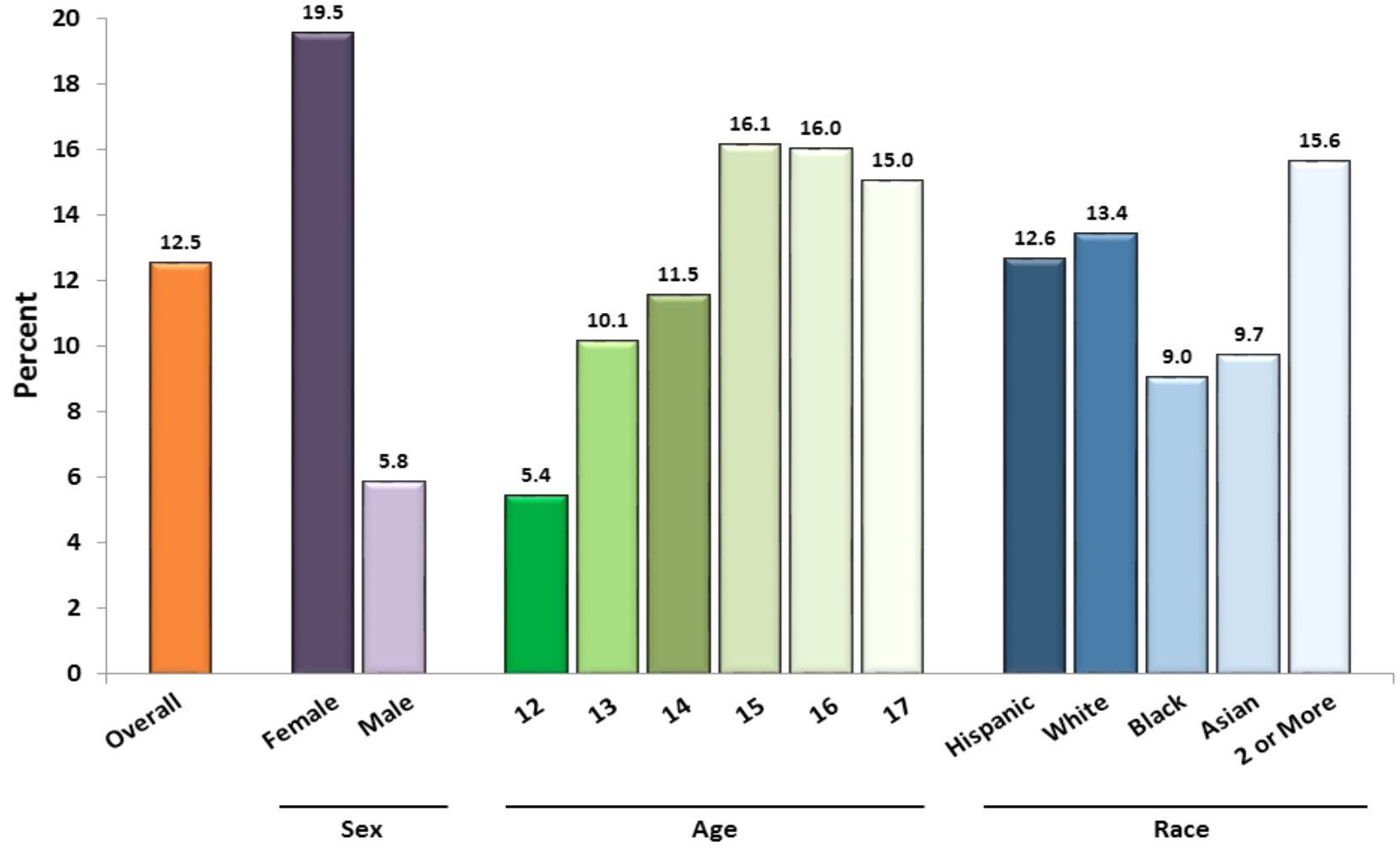
Children's Primary Care Medical Group ...In Your Neighborhood

UC San Diego School of Medicine

MHI FLOW


PCP CONCERN
SCREENERS – PHQ 9 > 10 OR + 9
REF IHT
WARM HAND OFF
PSYCHOSOCIAL ASSESSMENT
THERAPY
CARE COORDINATION
REFERRALS
Hub

12-month Prevalence of Major Depressive Episode Among U.S. Adolescents (2015)



Data courtesy of SAMHSA

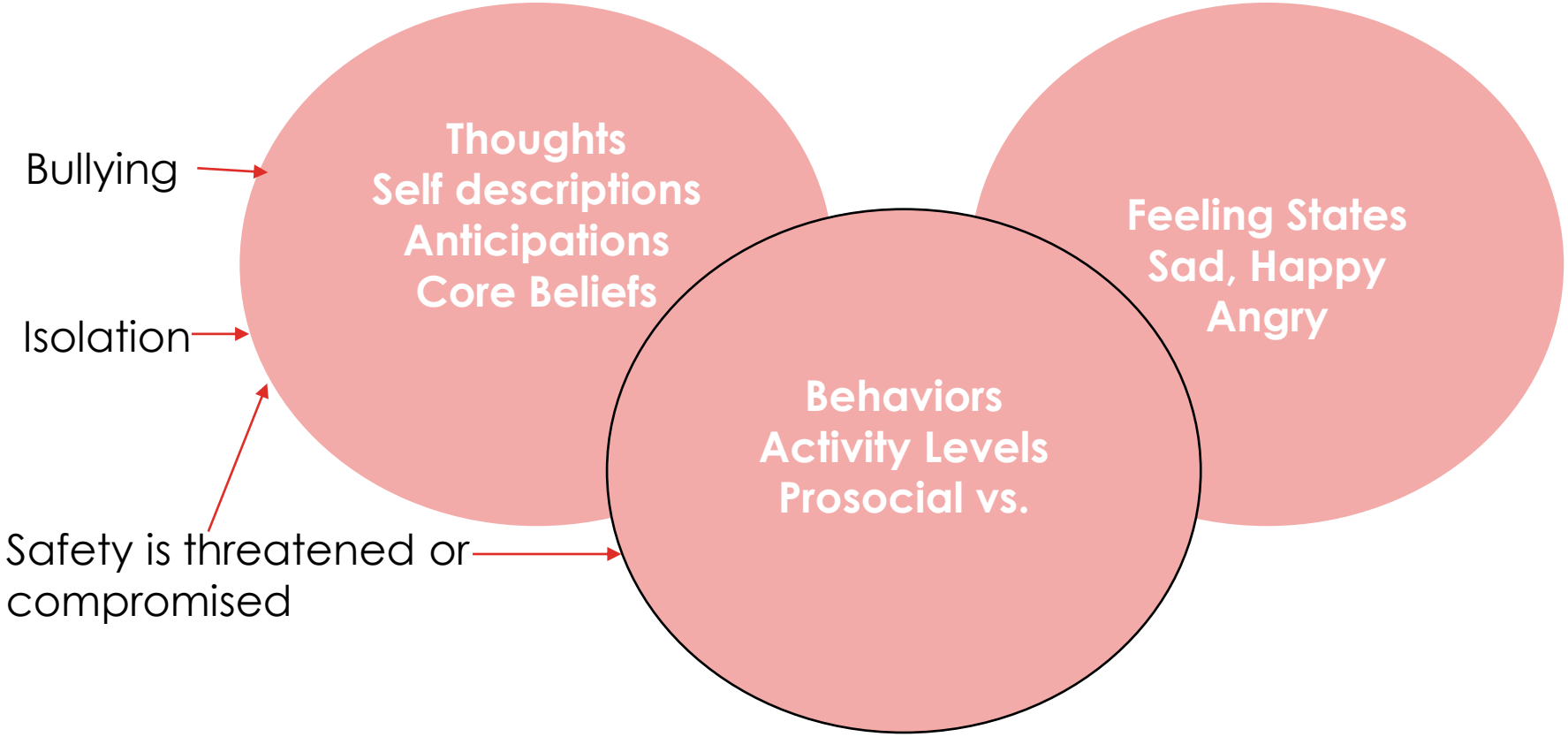
*NH/OPI = Native Hawaiian/Other Pacific Islander
**AI/AN = American Indian/Alaska Native

Impact

- Quality of life
- Suicide – 6% of high school youth in San Diego reported a suicide attempt in 2009
- Self-injury – 24 % of high school youth reported self-injury
- Rates of suicide are rising
- Take overdose, suffocation and strangulation extremely seriously

Pathophysiology

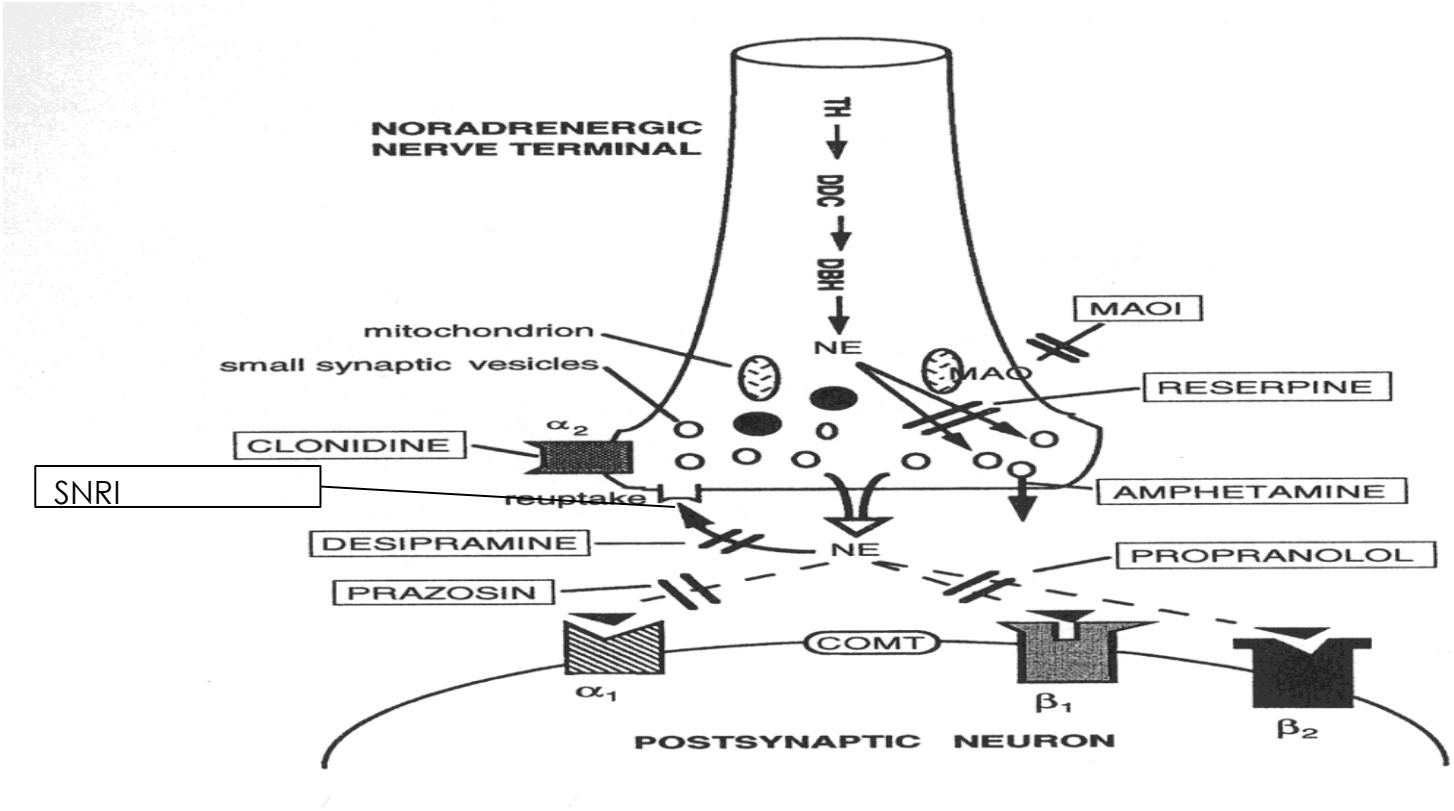
- Social and Psychological factors shape context for depression



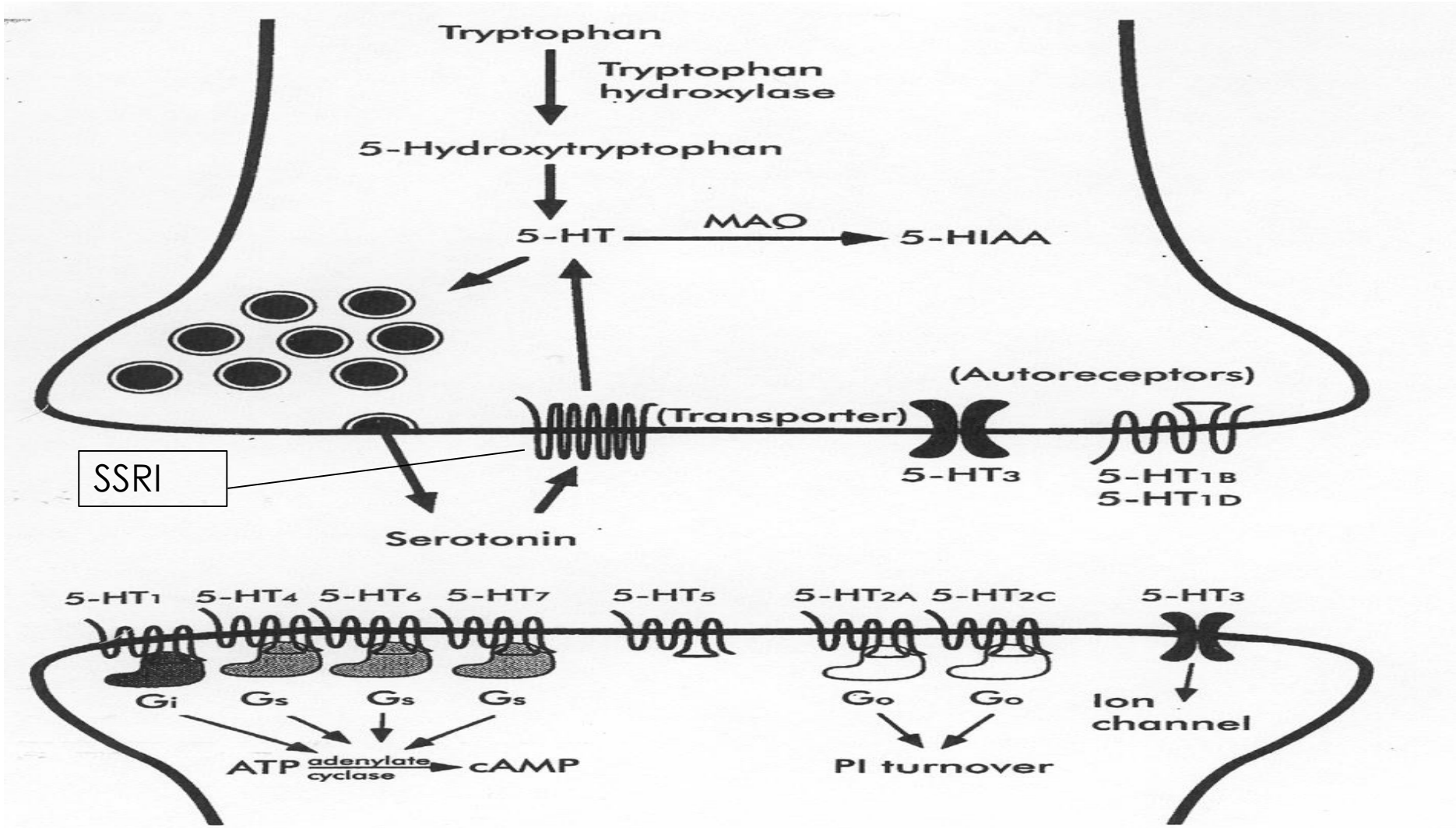
Pathophysiology

- Biological Pathways
  - Neurotransmitters
    - Catecholamines
    - BDNF
    - Glutamate/NMDA
  - Other CNF factors
    - Pro-inflammatory cytokines
    - Altered HPA axis
    - Thyroid

Norepinephrine



Serotonin


Tryptophan
Tryptophan hydroxylase
5-Hydroxytryptophan
5-HT
MAO
5-HIAA
(Autoreceptors)
(Transporter)
SSRI
5-HT3
5-HT1B
5-HT1D
Serotonin
5-HT1
5-HT4
5-HT6
5-HT7
5-HT5
5-HT2A
5-HT2C
5-HT3
Gi
Gs
Gs
Gs
Go
Go
Ion channel
ATP
adenylate cyclase
cAMP
PI turnover

Approach to Diagnosis

- Safety First
  - SI, self harm, HI
    - (Further training on how to ask and where to start?)
  - PHQ question 9
    - 10 – 14 Moderate, 15 – 19 Moderate to severe, 20 – 27 Severe

Safety First

- Normalize first
  - Sadness, thoughts of self harm are common
- Social History (HEAD component of HEADS)
- Involve supports – family and SW if possible
- There is no safety plan without family awareness
- Use Number scale for assessing SI

Pediatric Considerations

- Irritability
- Increased sensitivity to failure, rejection
- Physical complaints, headache, stomach ache
- Absenteeism, poor school performance
- Thoughts of / running away
- Substance use
- Less anhedonia
- Less psychomotor slowing

Diagnosis

- Two weeks of LOW MOOD, IRRITABILITY Or ANHEDONIA
- With >=4
  - Weight loss/ poor appetite
  - Sleep problems
  - Anergia
  - Worthlessness or guilt
  - Poor concentration
  - SI

Differential

- Adjustment, Anxiety, ADHD and Trauma

- Bipolar disorder
- Substance Abuse
- Prodrome
- PMDD – Premenstrual
- Persistent Depressive Disorder

Risk Factors

- **Learning disorder**
- **Hormone changes**
- **Substance abuse**
- **Bullying**
- **Trauma**
- Genetics
- Physical Health
- Life events
- Family conflict
- Community or domestic violence

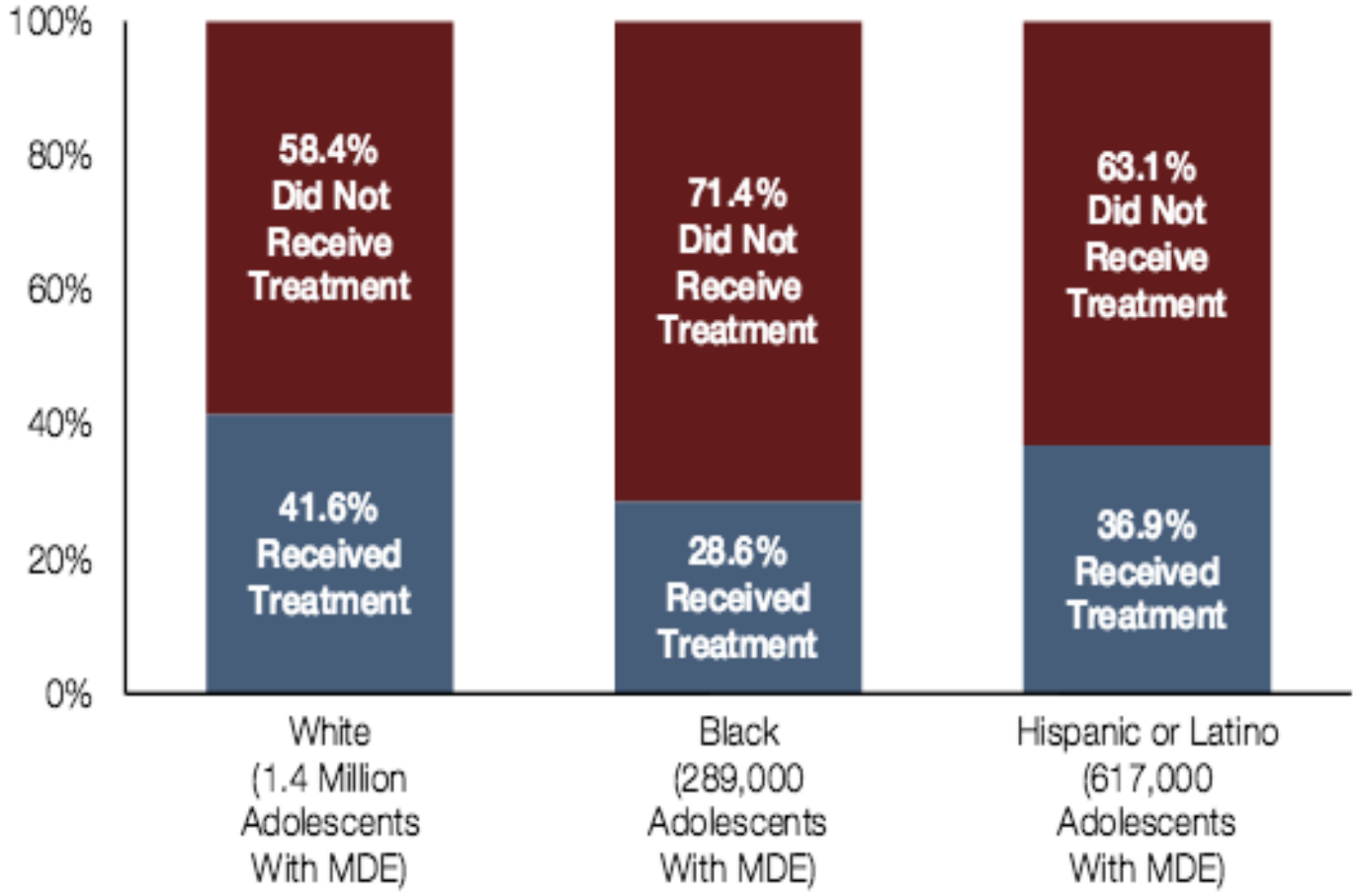
Course of Pediatric Depression

- Episodic (Kovacs et al, 2016)
  - First episode ~ 37 weeks
  - Time between episodes decreases as time progresses
- More data needed

Approach to Treatment

- Get Family Collateral
- *Make therapy referrals for all cases of depression*
- SSRIs – Fluoxetine, escitalopram, sertraline
- Use monitoring tool

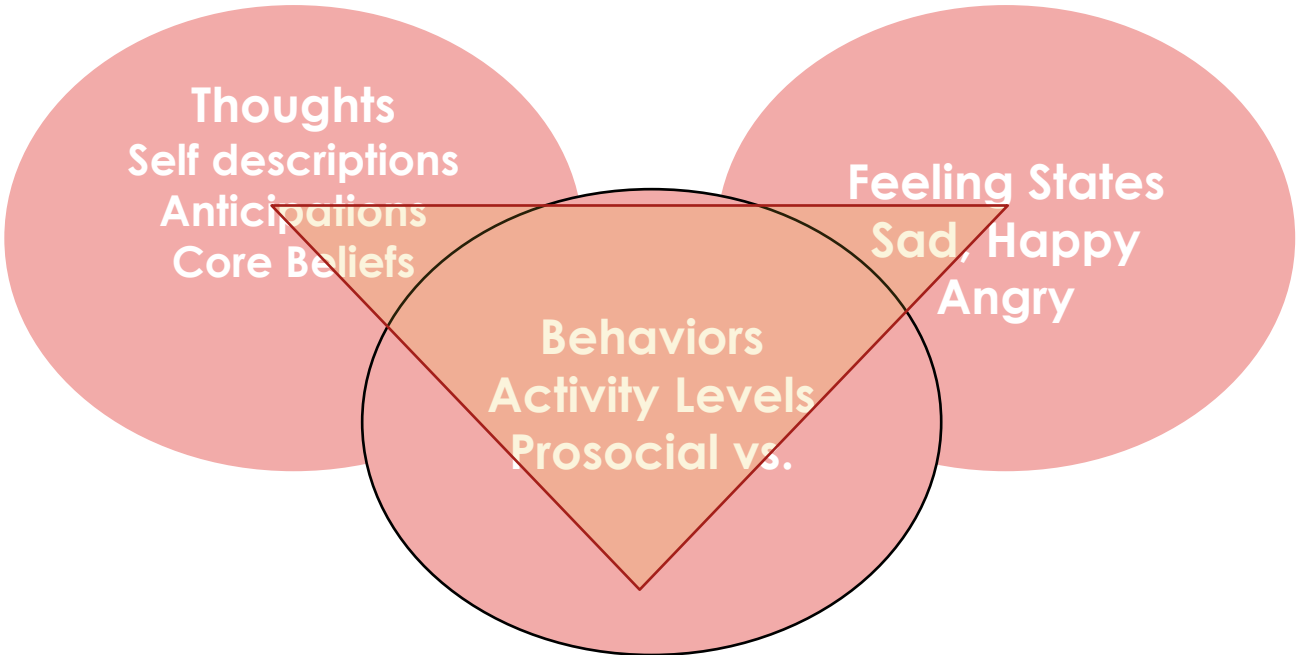
Treatment



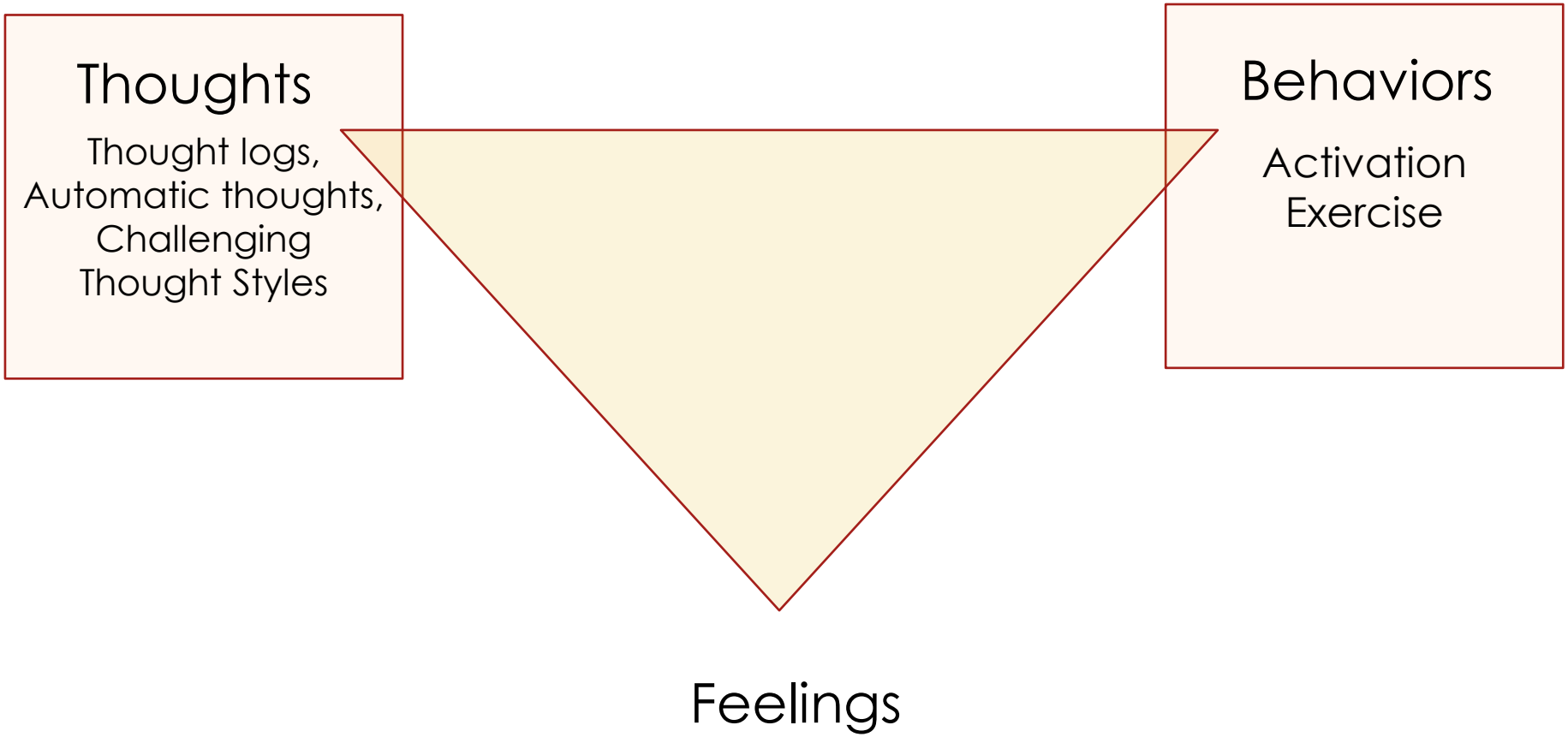
Source: SAMHSA, Center for Behavioral Health Statistics and Quality, National Survey on Drug Use and Health, 2013.

Treatment

- Therapy
- Medication
- Combination therapy has best data
  - CBT for depression



Treatment


Thoughts
Thought logs,
Automatic thoughts,
Challenging
Thought Styles
Behaviors
Activation
Exercise
Feelings

Treatment : Therapy

- Therapy is strongly recommended
- System of care often presents limitation
- Reasonable measures to connect families with therapy
- Encourage family education about therapy and medications

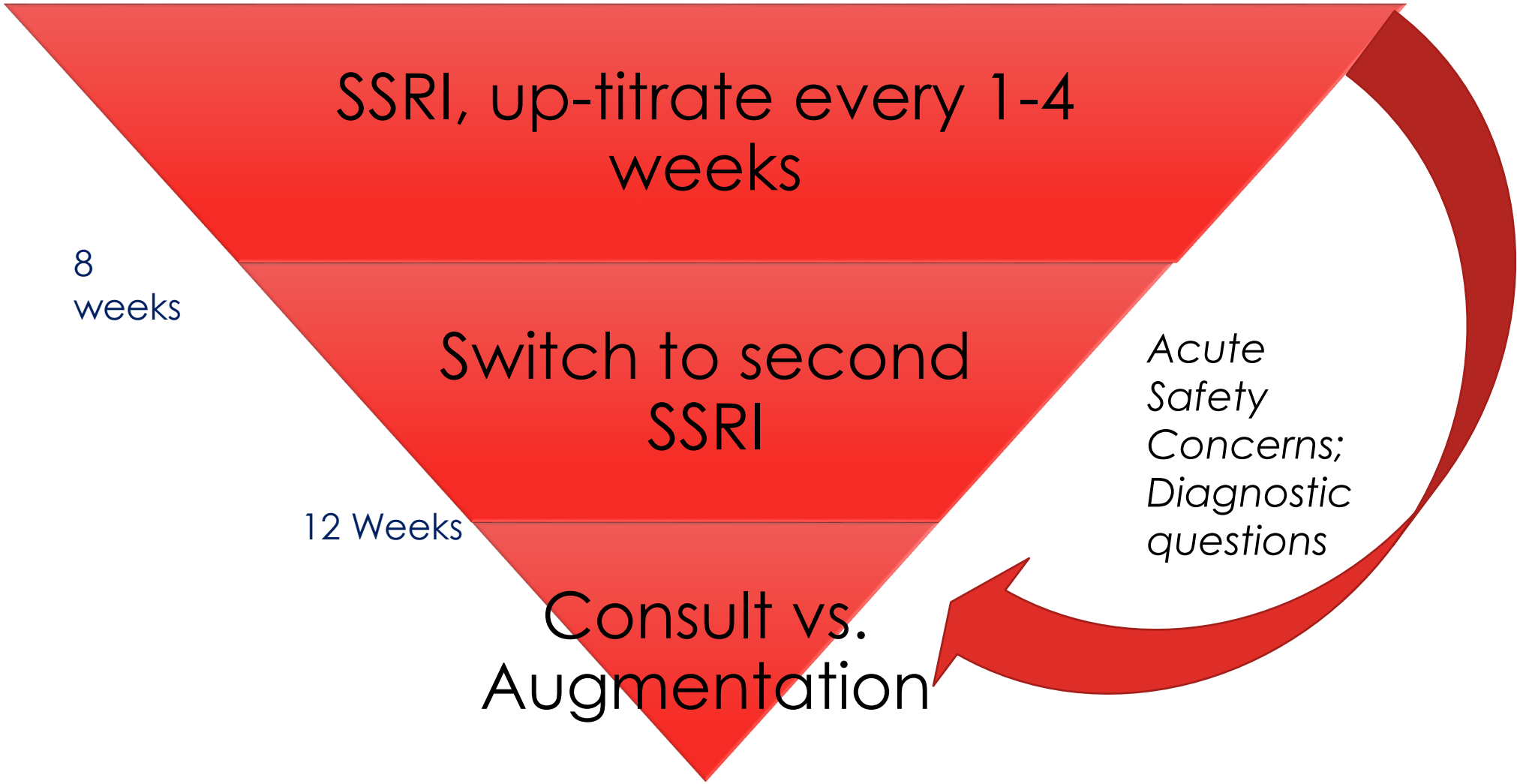
Medications: SSRIS

- Therapy is essential
- Combination of CBT and SSRI can increase rate of response
  - ~ 60% with medication only to ~ 70% meds and CBT(March et al, 2004)

Medications: SSRIS

- Reasons to consider Medications
  - PHQ 9 > 14 (Hand Waving)
  - Safety concerns
  - Patient and Family Preference
  - Sx. Continue after 3 months of therapy

Stepped Treatment



SSRI : Adverse Effects

- Headache, GI upset
- Black Box Warning: Suicide Events
- Antidepressants increased the risk compared to placebo of suicidal thinking and behavior (suicidality) in children, adolescents, and young adults in short-term studies of major depressive disorder (MDD) and other psychiatric disorders
- Following the Black Box warning is a good time to encourage system to talk about safety

Medications: SSRIS

- Rates of suicide events vary .7% - 4%
- FDA and TADS study show no completed suicides
- https://www.uptodate.com/contents/effect-of-antidepressants-on-suicide-risk-in-children-and-adolescents
- For Families:
  - Communication about safety
  - Monitoring

Fluoxetine

- Fluoxetine 10 to 40 mg po daily (TADS Study; Cochrane Review); Highest rates of remission 23% - 57%
- Adolescents: Start at 10 mg, within 1-4 weeks increase to 20 mg, true target is remission
- School Age: Start lower 5; Use Liquid; go Slow
- Long Half-life! (2-3 days parent, 2 week metabolite)
- Can be activating
- CYP inhibition (2D6 → Codeine, B blockers; 3A4 → some benzos, Statins)

Escitalopram

- Escitalopram 10 to 20 mg po daily (TADS Study; Cochrane Review)
- Adolescents: Start at 5 mg, increase to 10 mg, true target is remission, increase accordingly
- School age kids go slower
- Half life is 24 – 32 hrs
- Discontinuation withdrawal symptoms rare, but can happen → taper
- Few interactions
- Can be sedating, cause orthostasis

Sertraline

- Sertraline 25 – 150 mg, 130 mg is the average studied dose
- FDA Approved for OCD – Not Depression
- Adolescents: Start at 25 mg, increase to 50 mg, true target is remission, increase accordingly
- School age kids go slower
- Half-life is 24-36 hours, can be longer
- Taper on discontinuation 50% over 3 days to week
- Some CYP inhibition

SSRI : General Approach

- Lowest effective dose, target remission
- Symptomatic and tolerating? Increase
- Effect can take 3-5 Weeks per dose change
- Monitor weekly or bimonthly
  - Suicidal ideation
  - Mania or hypomania (SLEEP, personality change, etc.)

SSRI : Labs

- At baseline: IF clinical exam is concerning for biological underpinnings or any association with eating disorder
    - CBC, TSH, CMP, B12, Vit D.

- Follow-up Labs if symptoms of electrolyte abnormality

SSRI : Other Cautions

- Use with other serotonergic medications can cause Serotonin Syndrome
- Risk Category C, present in breast milk
- Rare adverse effects can be serious: Suicidal Ideation (Black Box), Bleeding, Electrolyte abnormalities
- Likely safe with OCPS, more studies needed (Berry-Bibee et al, 2016)

SSRI: Other Considerations

- Higher doses tend to be helpful for more anxiety
- Co-treatment with stimulants is usually safe
  - There are studies that show increase hypomania risk with this combination

Conclusion

- Depression is common
- Children and adolescents are undertreated
- Provide Psychoeducation to Family
- Empower Families

Conclusion

- Therapy is first line
  - CBT is data supported
- Combination (Meds/Therapy) can work better for Moderate / Severe cases
- Medications
  - SSRI / Big Three
  - See back in 1-4 weeks, up-titrate
  - Second Line : Big Three

Conclusion

- Ask about safety
- Can use a number system
- Talk with parents about communicating with their kids
- Following the black box warning is a often a good time for brief safety discussion
- Empower families with resources

Safety: Rady Urgent Care

- BHUC
  - https://www.rchsd.org/programs-services/psychiatry/behavioral-health-urgent-care/
- 858-966-5484
- Appointments: 9 a.m.-4 p.m., Monday through Friday
- Walk-in clinic: 4 p.m.-8 p.m., Monday through Friday

Safety: Other Resources

- Access and Crisis Line at 888-724-7240
- Emergency Screening Unit (ESU)
  - 4309 Third Avenue
    San Diego, CA 92103
  - 619-876-4502

Family Education

- https://www.aacap.org/aacap/Families_and_Youth/Resource_Centers/Depression_Resource_Center/Home.aspx
- http://keltymentalhealth.ca/sites/default/files/ssris_medication_information_feb_2012.pdf
- https://www.appi.org/dulcan

Finding Therapy

- Smart Care
  - Physician : 858-880-6405
    email: BHCS.Provider@vistahill.org
  - Families : 858-956-5900
  - www.smartcarebhcs.org
- Call individual insurance
- Psychologytoday.com

Conclusion

Table 1. Six Levels of Collaboration/Integration (Core Descriptions)

COORDINATED KEY ELEMENT: COMMUNICATION		CO LOCATED KEY ELEMENT: PHYSICAL PROXIMITY		INTEGRATED KEY ELEMENT: PRACTICE CHANGE	
LEVEL 1 Minimal Collaboration	LEVEL 2 Basic Collaboration at a Distance	LEVEL 3 Basic Collaboration Onsite	LEVEL 4 Close Collaboration Onsite with Some System Integration	LEVEL 5 Close Collaboration Approaching an Integrated Practice	LEVEL 6 Full Collaboration in a Transformed/ Merged Integrated Practice
Behavioral health, primary care and other healthcare providers work:					
In separate facilities, where they:	In separate facilities, where they:	In same facility not necessarily same offices, where they:	In same space within the same facility, where they:	In same space within the same facility (some shared space), where they:	In same space within the same facility, sharing all practice space, where they:
▸▸ Have separate systems ▸▸ Communicate about cases only rarely and under compelling circumstances ▸▸ Communicate, driven by provider need ▸▸ May never meet in person ▸▸ Have limited understanding of each other's roles	▸▸ Have separate systems ▸▸ Communicate periodically about shared patients ▸▸ Communicate, driven by specific patient issues ▸▸ May meet as part of larger community ▸▸ Appreciate each other's roles as resources	▸▸ Have separate systems ▸▸ Communicate regularly about shared patients, by phone or e-mail ▸▸ Collaborate, driven by need for each other's services and more reliable referral ▸▸ Meet occasionally to discuss cases due to close proximity ▸▸ Feel part of a larger yet non-formal team	▸▸ Share some systems, like scheduling or medical records ▸▸ Communicate in person as needed ▸▸ Collaborate, driven by need for consultation and coordinated plans for difficult patients ▸▸ Have regular face-to-face interactions about some patients ▸▸ Have a basic understanding of roles and culture	▸▸ Actively seek system solutions together or develop work-a-rounds ▸▸ Communicate frequently in person ▸▸ Collaborate, driven by desire to be a member of the care team ▸▸ Have regular team meetings to discuss overall patient care and specific patient issues ▸▸ Have an in-depth understanding of roles and culture	▸▸ Have resolved most or all system issues, functioning as one integrated system ▸▸ Communicate consistently at the system, team and individual levels ▸▸ Collaborate, driven by shared concept of team care ▸▸ Have formal and informal meetings to support integrated model of care ▸▸ Have roles and cultures that blur or blend

References

*www.samhsa.gov/data/sites/default/files/Health_Equity_National_BHB_1-27-16_508.pdf

Agrawal A, Budney AJ, Lynskey MT. The co-occurring use and misuse of cannabis and tobacco: a review. *Addiction*. 2012 Jul;107(7):1221-33. Epub 2012 Apr 17.

Curtin S.C., et al (2016). "Increase in Suicide in the United States, 1999–2014". NCHS Data Brief No. 241, April 2016

Berry-Bibee, E. N., Kim, M. J., Simmons, K. B., Tepper, N. K., Riley, H. E. M., Pagano, H. P., & Curtis, K. M. (2016). Drug interactions between hormonal contraceptives and psychotropic drugs: a systematic review. Contraception, 94(6), 650–667. https://doi.org/10.1016/j.contraception.2016.07.011

Battistella G, Fornari E, Annoni JM, Chtioui H, Dao K, Fabritius M, Favrat B, Mall JF, Maeder P, Giroud C. Long-term effects of cannabis on brain structure. *Neuropsychopharmacology*. 2014 Aug;39(9):2041-8. doi: 10.1038/npp.2014.67. Epub 2014 Mar 17.

Brent, D, et al. (2008). "Switching to Another SSRI or to Venlafaxine With or Without Cognitive Behavioral Therapy for Adolescents With SSRI-Resistant Depression: The TORDIA Randomized Controlled Trial". *JAMA* Feb 27, 2008 Vol 299, No. 8

Hetrick SE, et al (2012). "Newer generation antidepressants for depressive disorders in children and adolescents." Cochrane Database Syst Rev. 2012;11:CD004851.

Kovacs, M., Obrosky, S., & George, C. (2016). The course of major depressive disorder from childhood to young adulthood: Recovery and recurrence in a longitudinal observational study. *Journal of Affective Disorders*, *203*, 374–381. https://doi.org/10.1016/j.jad.2016.05.042

Le Noury, J, et al. (2015). "Restoring Study 329: efficacy and harms of paroxetine and imipramine in treatment of major depression in adolescence." *British Medical Journal* 2015; 351 doi:

References

March, J. et al. (2004). "Fluoxetine, Cognitive Behavioral Therapy, and Their Combination for Adolescents with Depression: Treatment for Adolescents with Depression Study (TADS) Randomized Clinical Trial". *JAMA* August 18, 2004, Vol 292, No. 7.

Mehmedic Z, Chandra S, Slade D, et al. Potency trends of Δ9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008. *J Forensic Sci*. 2010;55(5):1209-1217. doi:10.1111/j.1556-4029.2010.01441.x.

Popper, CW (2013). "Mood Disorders in Youth: Exercise, Light Therapy, and Pharmacologic Complimentary and Integrative Approaches". Child Adolesc Psychiatric Clin N Am 22 (2013) 403–441

Trebatická, J., Hradečná, Z., Böhmer, F., Vaváková, M., Waczulíková, I., Garaiova, I., … Ďuračková, Z. (2017). Emulsified omega-3 fatty-acids modulate the symptoms of depressive disorder in children and adolescents: A pilot study. Child and Adolescent Psychiatry and Mental Health, 11(1), 1–10. https://doi.org/10.1186/s13034-017-0167-2

Wagner, KD et al. (2003). "Efficacy of sertraline in the treatment of children and adolescents with major depressive disorder: two randomized controlled trials." JAMA. 2003 Aug 27;290(8):1033-41.

Zwart, T,…Geijlswijk, I. M. Van. (2018). Long-Term Melatonin Therapy for Adolescents and Young Adults with Chronic Sleep Onset Insomnia and Late Melatonin Onset : Evaluation of Sleep Quality , Chronotype , and Lifestyle Factors Compared Population Cohorts, 1–16. https://doi.org/10.3390/healthcare6010023