

‘Trauma-Informed’ Mental Healthcare in the Age of AI

Benjamin Israel, MD
November 12, 2025

Disclosure statements

Benjamin Israel, M.D. has indicated a relevant financial relationship with an ACCME-defined commercial interest Featherglass Health, Inc. (CEO)

His presentation will be evidence-based and unbiased. All relevant financial relationships listed have been mitigated.

He reports no other financial interest, arrangement or affiliation with *any entity producing, marketing, re-selling, or distributing health care goods or services consumed by, or used on, patients*, during the past 24 months. He has not accepted any payments from any other entity for delivering this lecture.

Objectives

- Identify three core principles of trauma-informed practices
- Describe two conventional interventions that can empower both patients and service personnel in trauma-informed mental health treatment
- Describe one risk and one opportunity that AI-based technologies present to care, from a trauma-informed practice lens

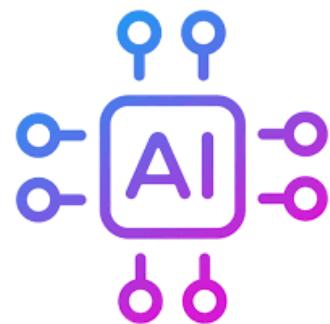
Realize trauma

Recognize
trauma

Respond to trauma

Resist
retraumatization

Repair



What's the relationship?



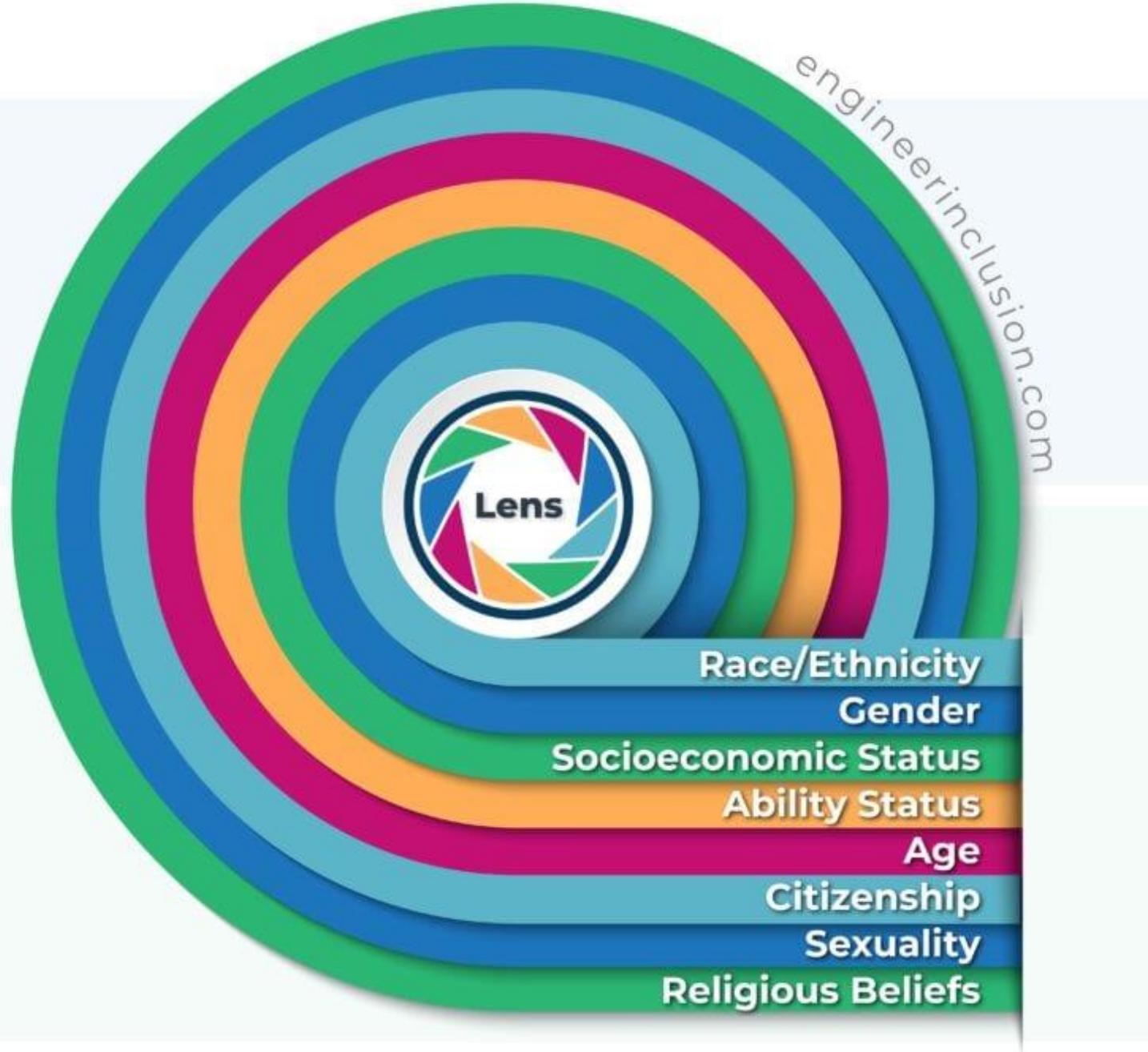
Oct 27, 2025

WIRED

We won't discuss: chatbots for psychotherapy

Positionality

- 1) the social and political context that creates your identity and
- 2) how your identity influences and biases your perception of and outlook on the world.



Donna F

46F, AA

PPHX

CC: Depressed, vague suicidal thoughts, abusive partner

MEDICAL HISTORY

Schizoaffective disorder, bipolar disorder, cocaine use disorder, opioid use disorder, sedative/hypnotic use disorder

Recent hospitalization. Many psychotropic medication trials (first: 11 years old)

SUICIDE ATTEMPTS

Skin infections, asthma, hypothyroidism

cutting, overdoses

SOCIAL HISTORY

GED, unemployed, housing insecurity

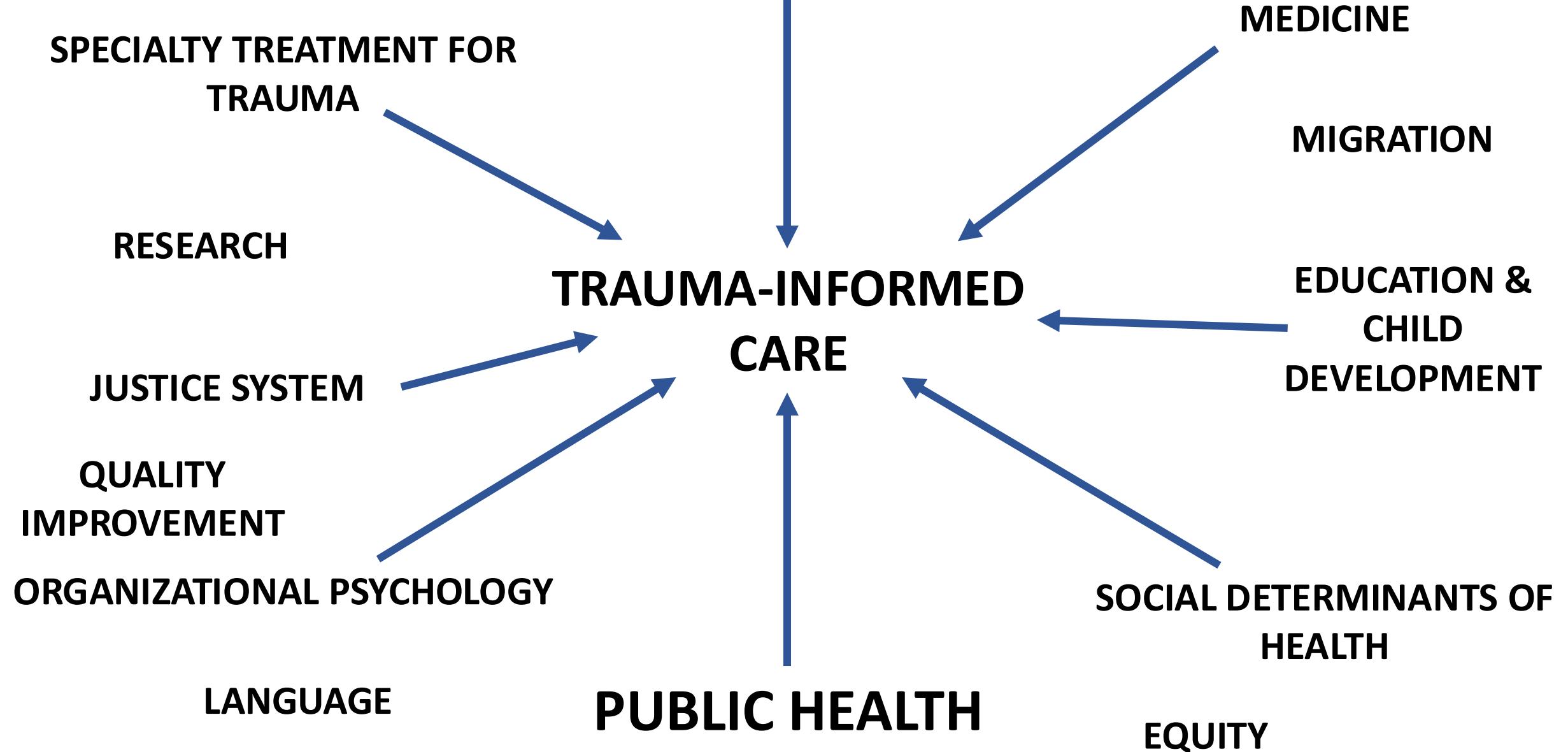
PSYCHIATRIC ROS

Depressed and hearing voices since middle school. “Manic” episodes lasting 1-2 days while sober. Somatoform and olfactory flashbacks

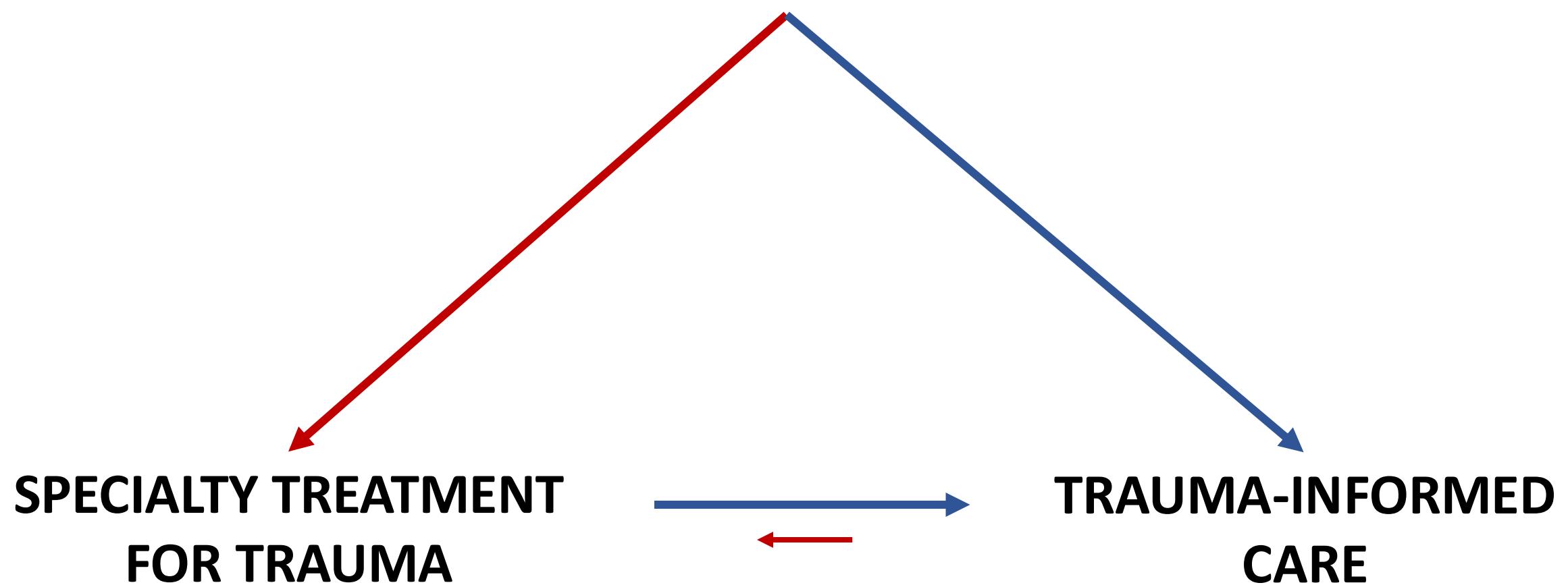
ON EXAM

Constricted affect, goal-directed, experiencing AH and PTSD intrusions but not outwardly reacting

TRAUMA



TRAUMA



What does **Artificial Intelligence** Mean?

Everyday meaning

Anything a computer does that seems “smart.”

Technical meaning

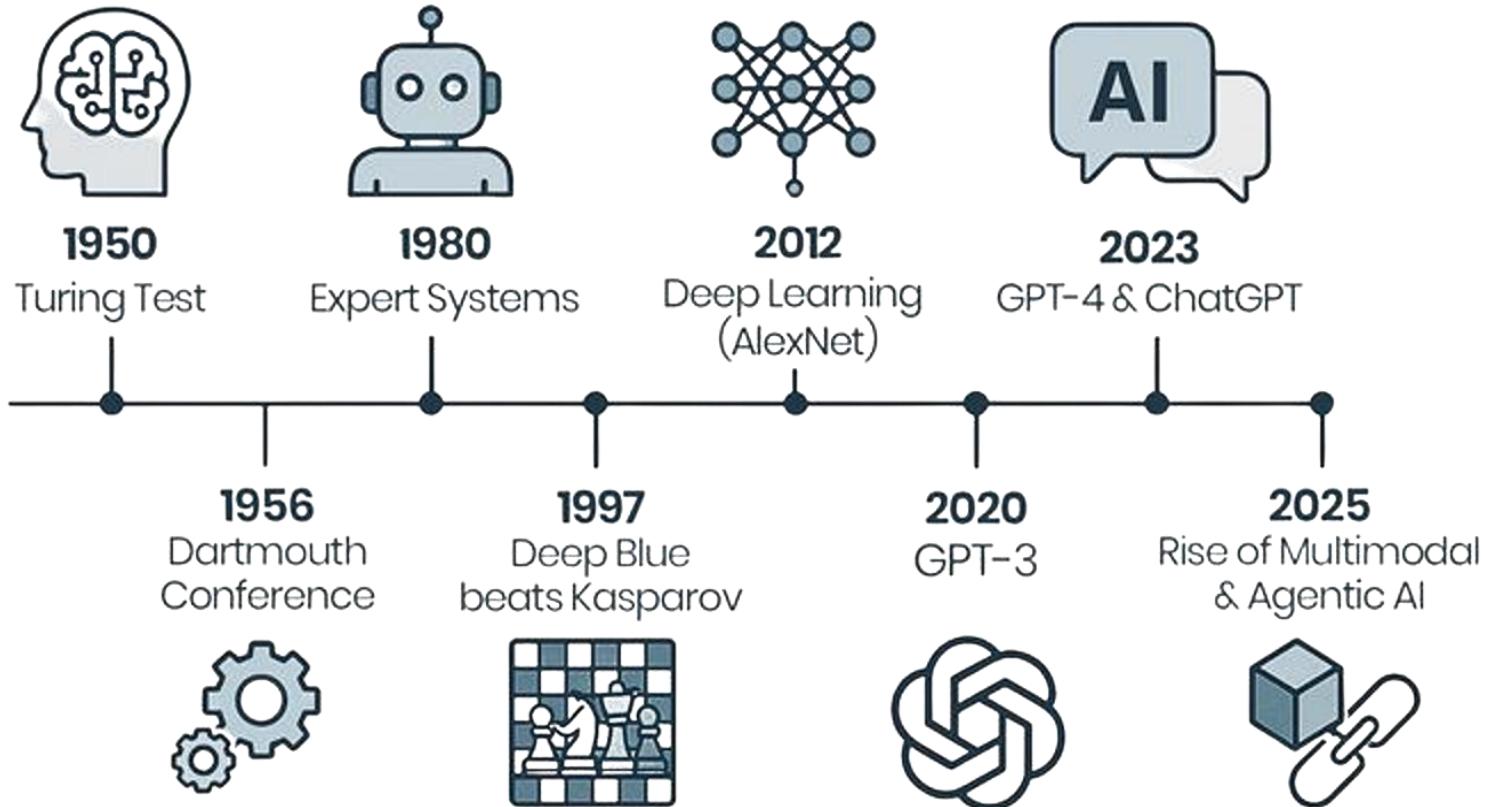
A **superset** of many different approaches.

LLMs are just *one branch*—and a recent one.

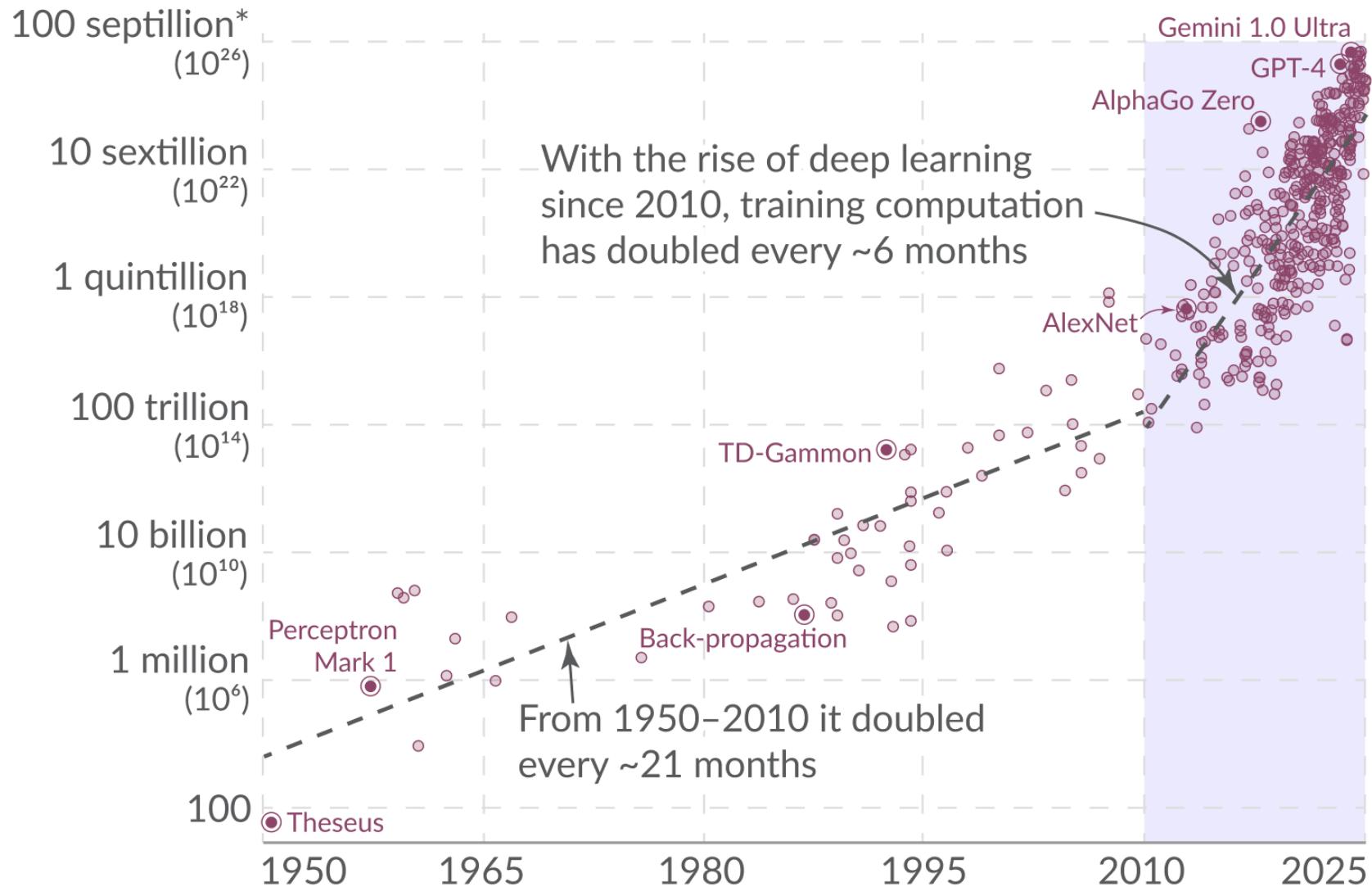
1. Classical (Symbolic) AI
2. Machine Learning*
3. Probabilistic & Bayesian Models
4. Robotics & Perception
5. Hybrid Systems

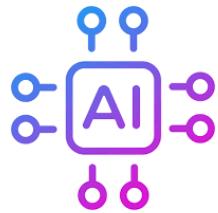
AI Development

80 years to become an overnight sensation!



What's the **Age** of AI?

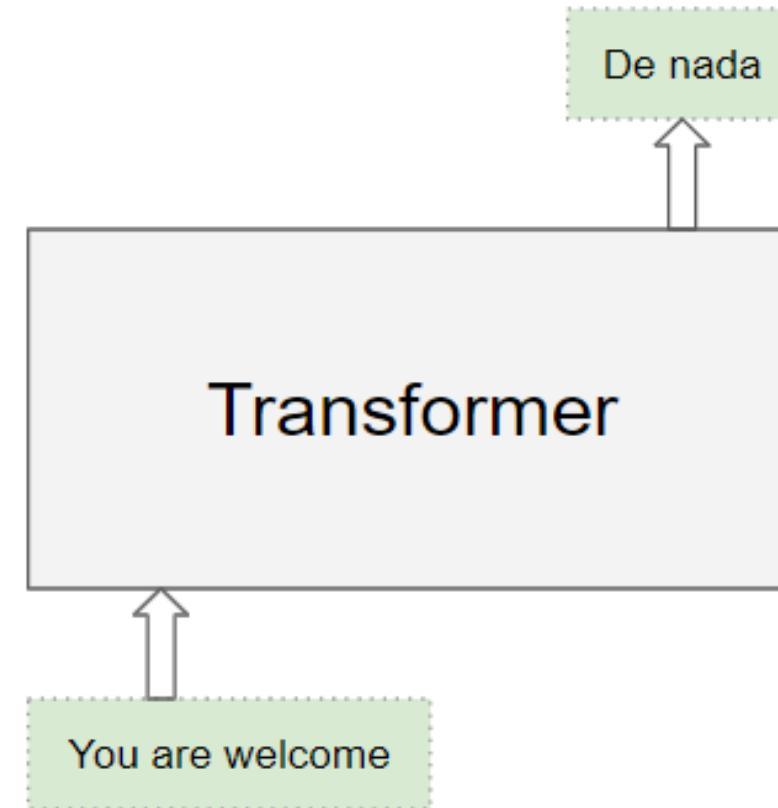
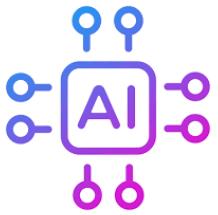


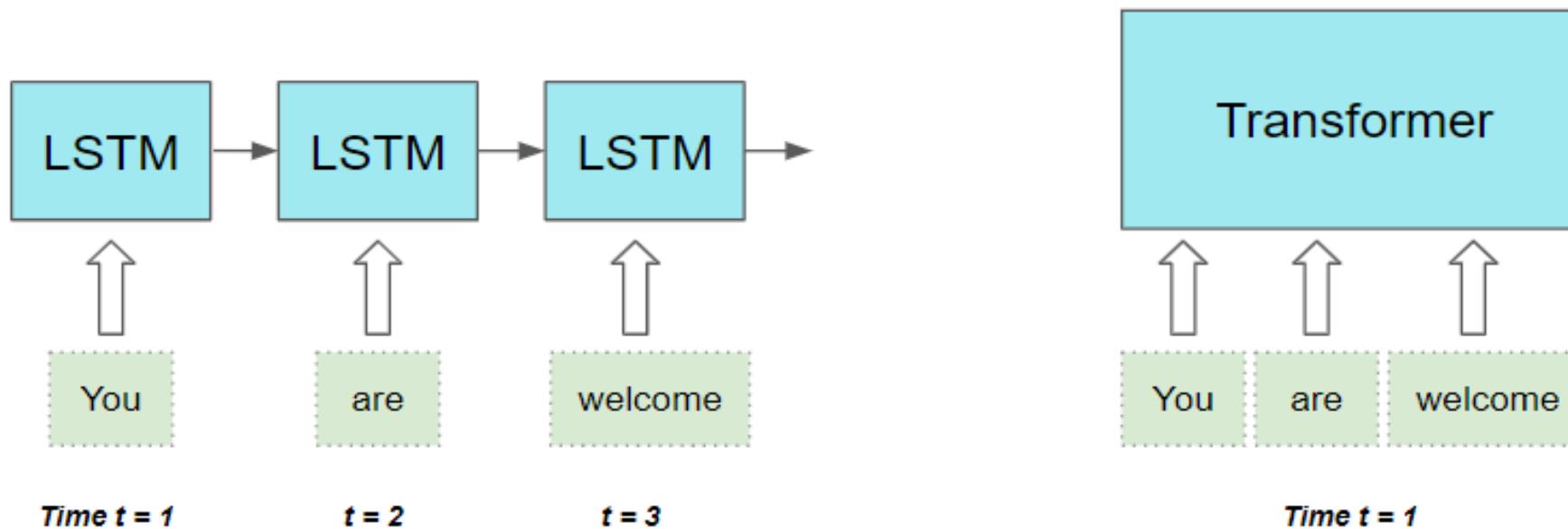
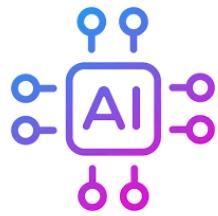


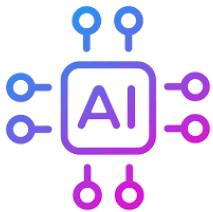
Attention Is All You Need

Abstract

The dominant sequence transduction models are based on complex recurrent or convolutional neural networks that include an encoder and a decoder. The best performing models also connect the encoder and decoder through an attention mechanism. We propose a new simple network architecture, the Transformer, based solely on attention mechanisms, dispensing with recurrence and convolutions entirely. Experiments on two machine translation tasks show these models to be superior in quality while being more parallelizable and requiring significantly less time to train. Our model achieves 28.4 BLEU on the WMT 2014 English-to-German translation task, improving over the existing best results, including ensembles, by over 2 BLEU. On the WMT 2014 English-to-French translation task, our model establishes a new single-model state-of-the-art BLEU score of 41.0 after training for 3.5 days on eight GPUs, a small fraction of the training costs of the best models from the literature.





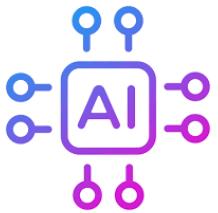


“The cat drank the milk because it was _____.”



The	The
cat	cat
drank	drank
the	the
milk	milk
because	because
it	it
was	was
hungry	hungry

The	The
cat	cat
drank	drank
the	the
milk	milk
because	because
it	it
was	was
sweet	sweet



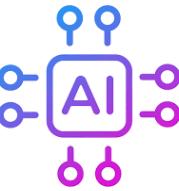
The	The	The
cat	cat	cat
drank	drank	drank
the	the	the
milk	milk	milk
because	because	because
it	it	it
was	was	was
hungry	hungry	hungry

Input

Score 1

Score 2

LLM: Core Architecture



Input layer

Embedding layers

Transformer blocks

Output layer

Safety
features

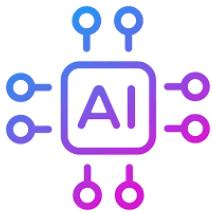
Key Processes

Training data
(huge!)

Pre-training

Fine tuning

Reinforcement learning



AI “Thinking” and “Reasoning”

Inductive Reasoning

My dog is friendly

My neighbor's dog is friendly

Thus, all dogs are friendly

Deductive Reasoning

All people are mortal

Socrates is a man

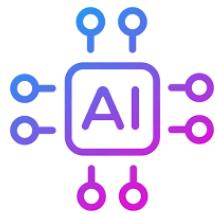
Therefore, Socrates is mortal



“If you are a student interested in building [human-level] AI systems, don't work on LLMs”

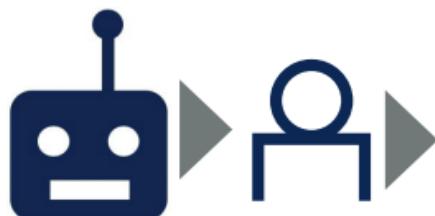
- LeCun. 2024

Degrees of Agentic Engagement



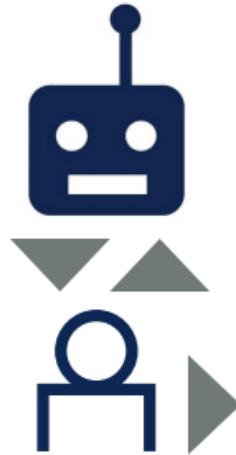
None

Access to “intelligence” but no execution



Advisory

Agent(s) provides insight, humans decide and act



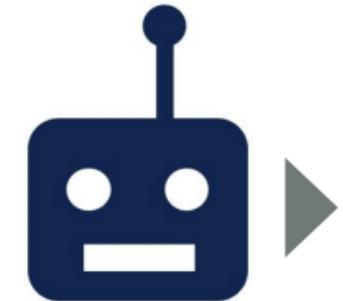
Assistive

Agent(s) and humans work and act together



Assumptive

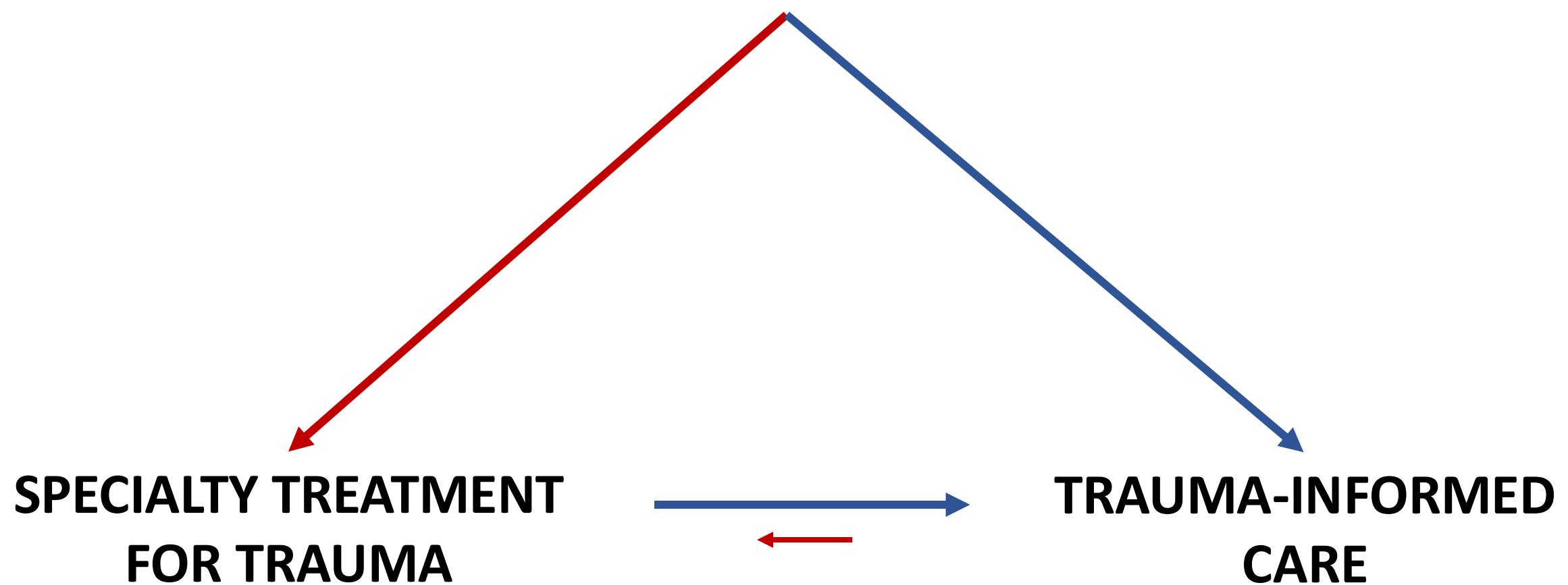
Agent(s) executes the task(s) and navigates complex workflows within limiting conditions



Autonomous

Agent(s) can execute tasks under all conditions

TRAUMA



Trauma

- 1.
- 2.
- 3.

Role of AI?

Trauma-Informed Healthcare

- 1.
- 2.
- 3.
- 4.
- 5.



Reducing Restraint Use in a Trauma Center Emergency Room

Rebecca Cole, RN, BS

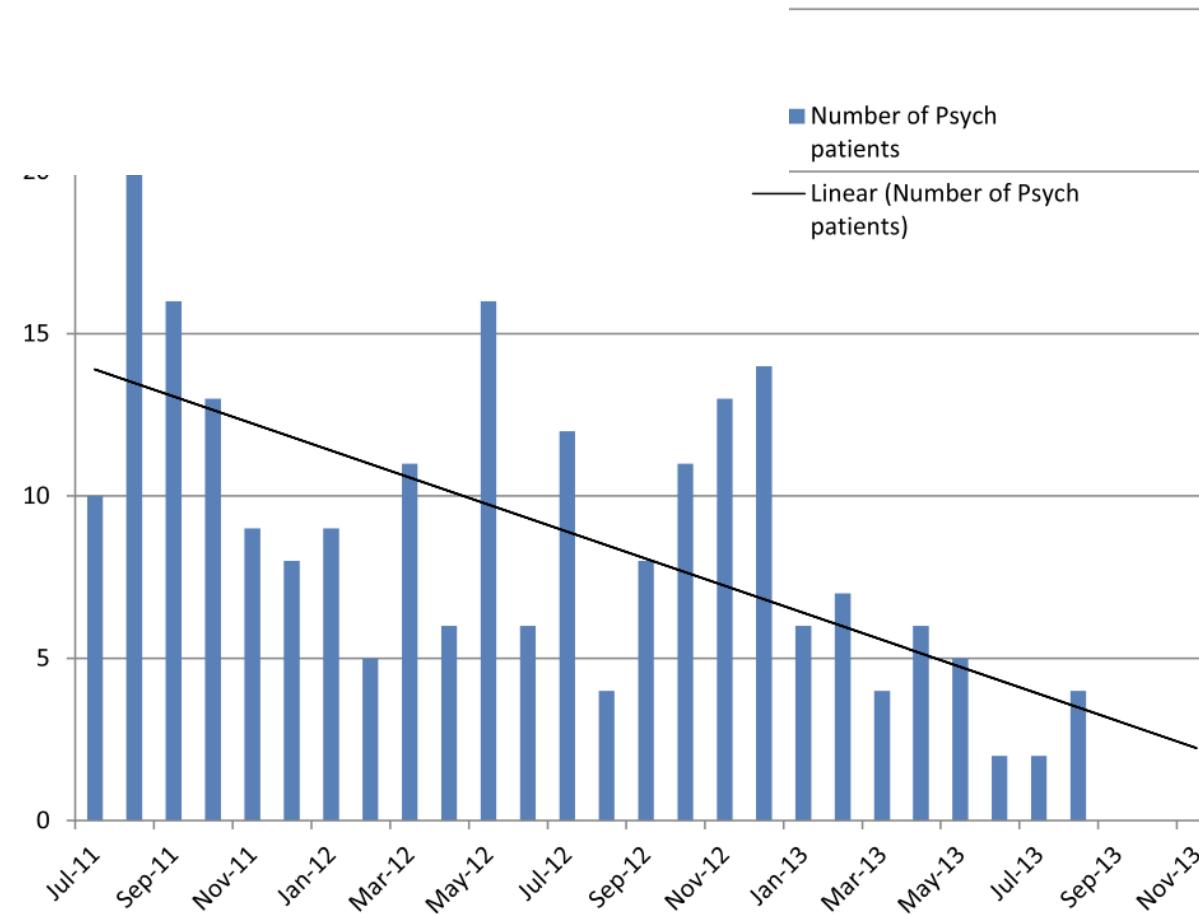


Fig. 1. Number of ED behavioral health patients restrained or secluded.

What is trauma?





SAMHSA (3 E's)

- Trauma results from an **event**, series of events, or set of circumstances
- that is **experienced** by an individual as physically or emotionally harmful or life threatening and
- that has lasting adverse **effects** on the individual's functioning and mental, physical, social, emotional, or spiritual well-being.



Events that don't meet PTSD Criterion A (DSM-5)

- Micro-aggressions
- Double binds
- Gaslighting, DARVO
- Identity theft
- Other betrayals
- Discrimination, Stigma
- Traumatic invalidations
- Some neglect



Valentine et al, 2023

Elbashir et al, 2024

Seng et al, 2012

Sibrava et al, 2019

Otiniano Verissimo et al, Anvari et al, 2022
2023

McClendon et al,
2021

Kabat et al, 2018

Hall, 2022



The “ultimate” little t

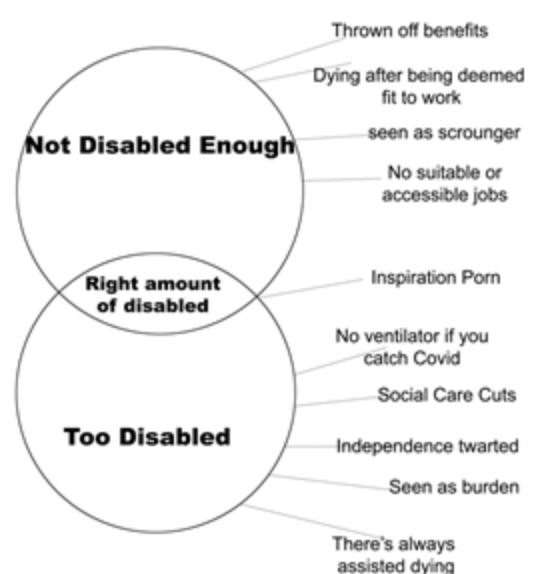
Every option leads to punishment

No way out

Double binds

Double binds

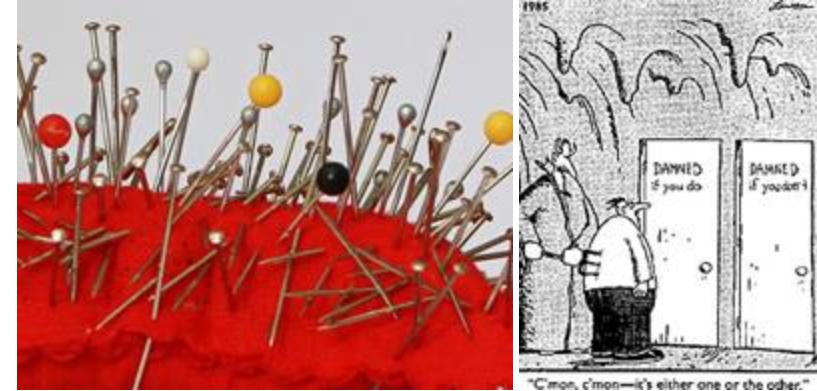
The “ultimate” little t



“I’m either a bitch or a bimbo...”
Carly Fiorina



“...you start to second guess yourself and the innate judgement which has guided you your entire life.”
Aji Oliyide





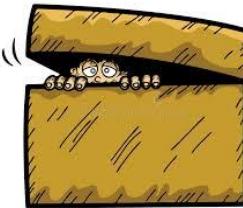
avoid



SELF-HARM

Herman 2011
Freyd 1996
Elison et al 2006
Contractor et al 2022

attack self

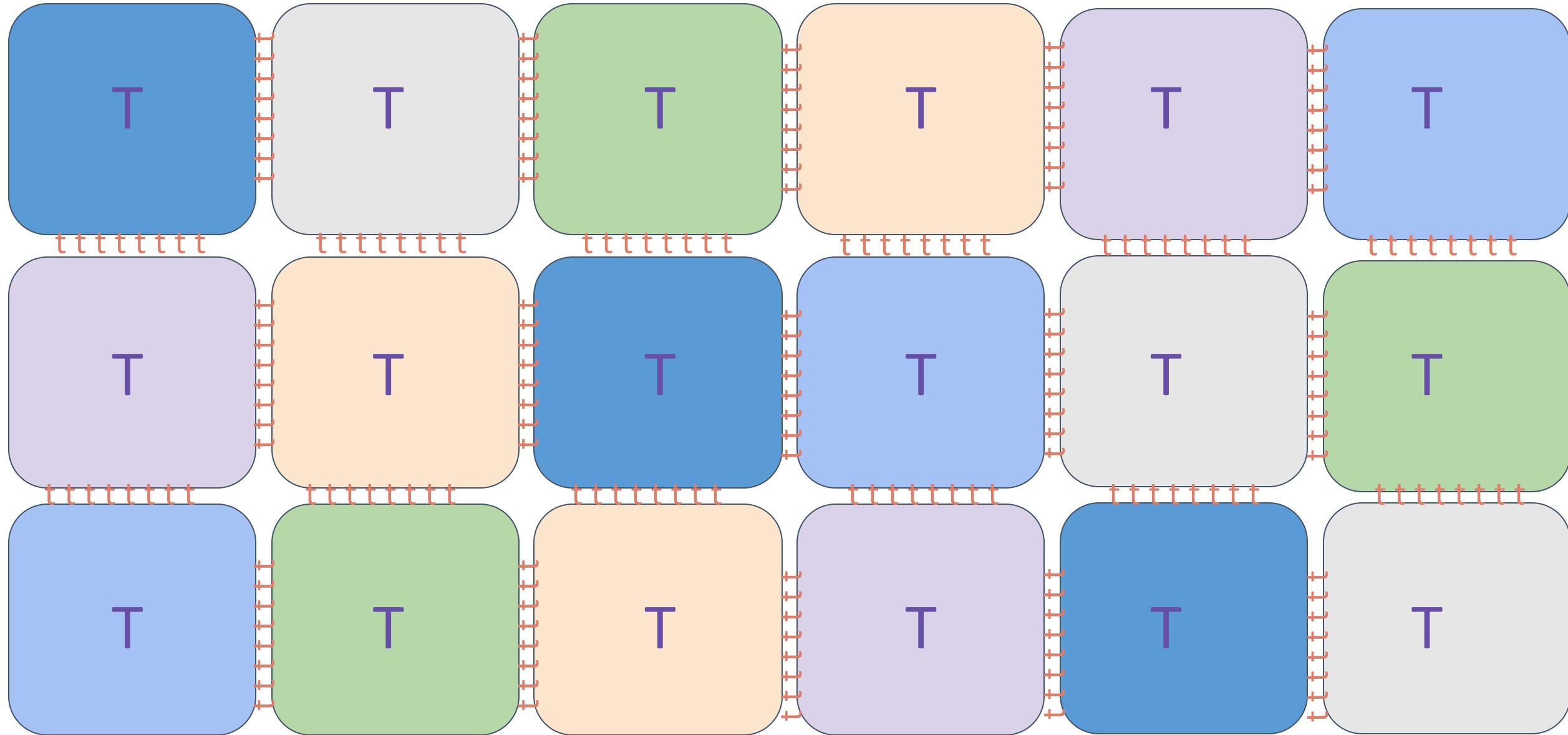


withdraw



attack other

“Quilt” of retraumatization



Trauma disorders (what the textbooks say)

PTSD

Nightmares,
flashbacks

Avoiding
trauma
reminders

↑ Sense of
threat

+/-

Complex PTSD

“Disturbances of
self-organization”



Emotion
dysregulation
Interpersonal
difficulties
Negative self-
concept (shame)

+/-

Trauma-related dissociation

Depersonalization

Derealization

Time loss

Amnesia

Distractibility

Numbing

Identity
disturbances



N



LIVED EXPERIENCE

“I was waiting for it”

“Finally, what was inside me and what was outside of me matched.”



PTSD in **treatment-seeking** patients

Site	PTSD Prevalence (%)	PTSD Diagnosis (%)
Addictions clinic	36	2.1
Inpatient psychiatry	13 - 50	0 - 5.4
Outpatient psychiatry	20.5 – 46	0 - 7.7
Community psychiatry (CMHC)*	24 - 53	0 - 3.7
Forensic psychiatry	48	2.0
Primary care doctor	9 - 25	0 – 9.5

>50%

=

“complex”
disorders

Briere et al, 2016

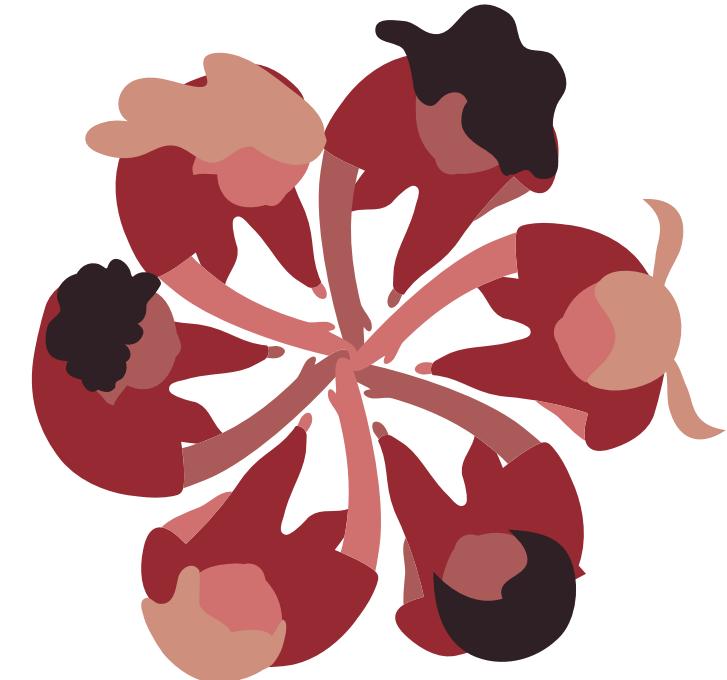
SPECIALTY TREATMENT FOR TRAUMA



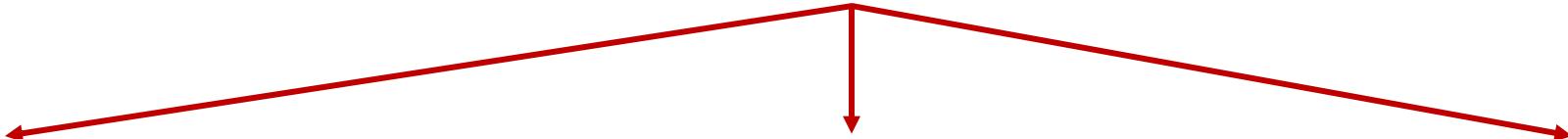
TRAUMA



TRAUMA-INFORMED HEALTHCARE



TRAUMA



psychiatric

depression
anxiety
substance use
PTSD, CPTSD, DD
impulse control disorder
personality disorder
multiple DSM diagnoses
death by suicide

behavioral

multi-generation
victimization/abuse
IPV
violent behavior
impaired school/work
performance
high risk sexual
behaviors
>30 sexual partners

medical

accidents
violence victim
morbid obesity
diabetes
autoimmune disease
infections
chronic pain, arthritis
TBI, CTE
heart, lung, liver dz
pregnancy complications

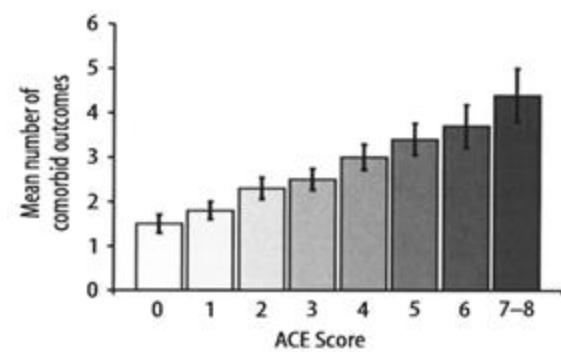
Etc.

Etc.

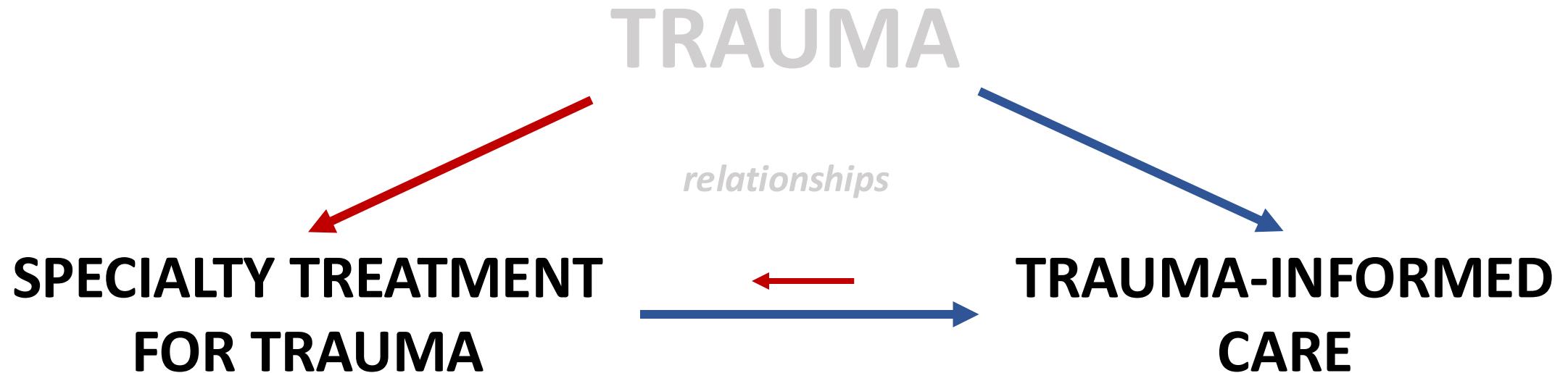
Etc.

ACEs and Outcomes

(meta-analysis)



Demographic	1 ACE	2 ACEs	3 ACEs	4 ACEs	Max ACEs
Low SES	1.26	1.56	1.71	2.05	2.24
Tobacco use	1.24	1.43	1.62	1.90	2.25
Alcohol problem	1.46	1.89	2.99	4.31	3.90
Depressed mood	1.42	2.28	2.44	3.16	4.37
Risky sexual behavior	1.36	1.71	2.18	2.79	3.57
Illicit drug use	1.61	2.44	2.95	3.66	5.41
Suicide attempt	1.57	2.19	3.43	7.30	6.30
Violence victim	1.59	3.60	2.69	5.04	8.32
Ischemic heart disease	0.88	1.60	2.48	2.30	6.62



Disorders

Individualized goals

High-threshold programs

EBTs

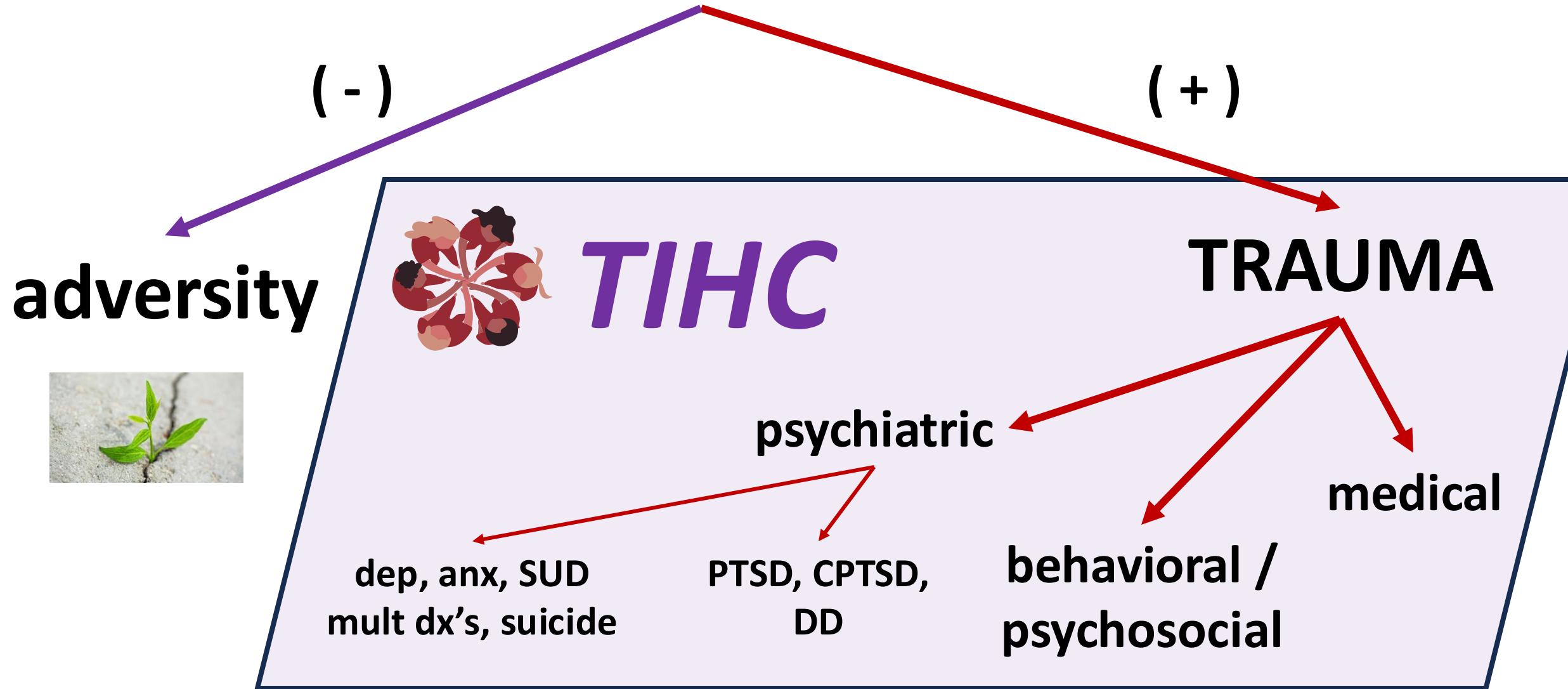
Systemic processes

Systemic aims

Low-threshold settings

EBAs

EVENT(S)
EXPERIENCE
EFFECTS





TIHC Values

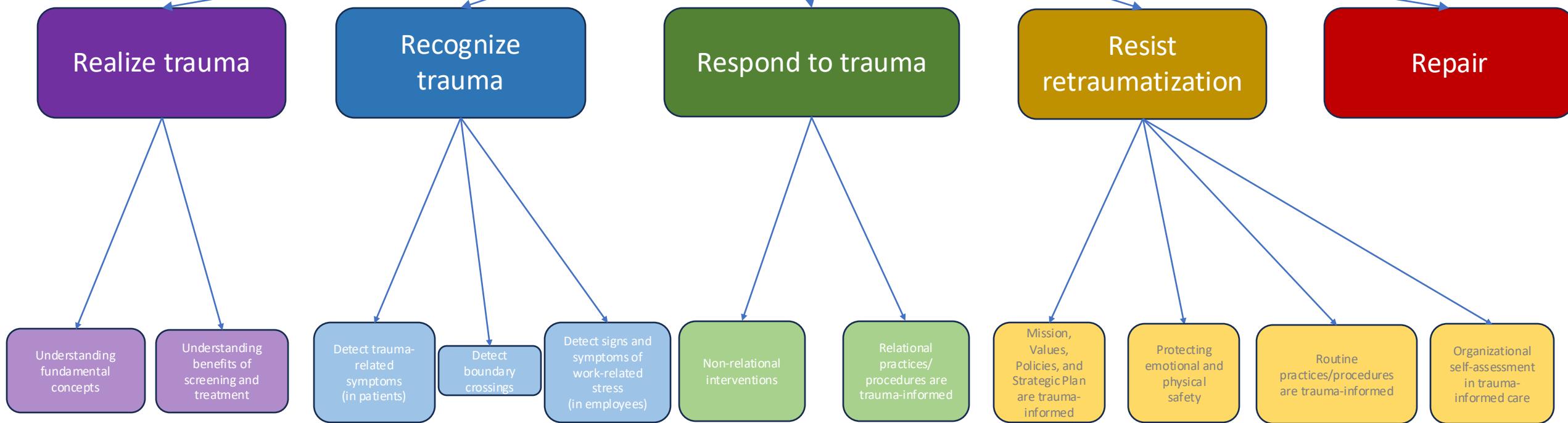
- Safety
- Empowerment
- Collaboration
- Trust
- Peer support
- History, culture, gender



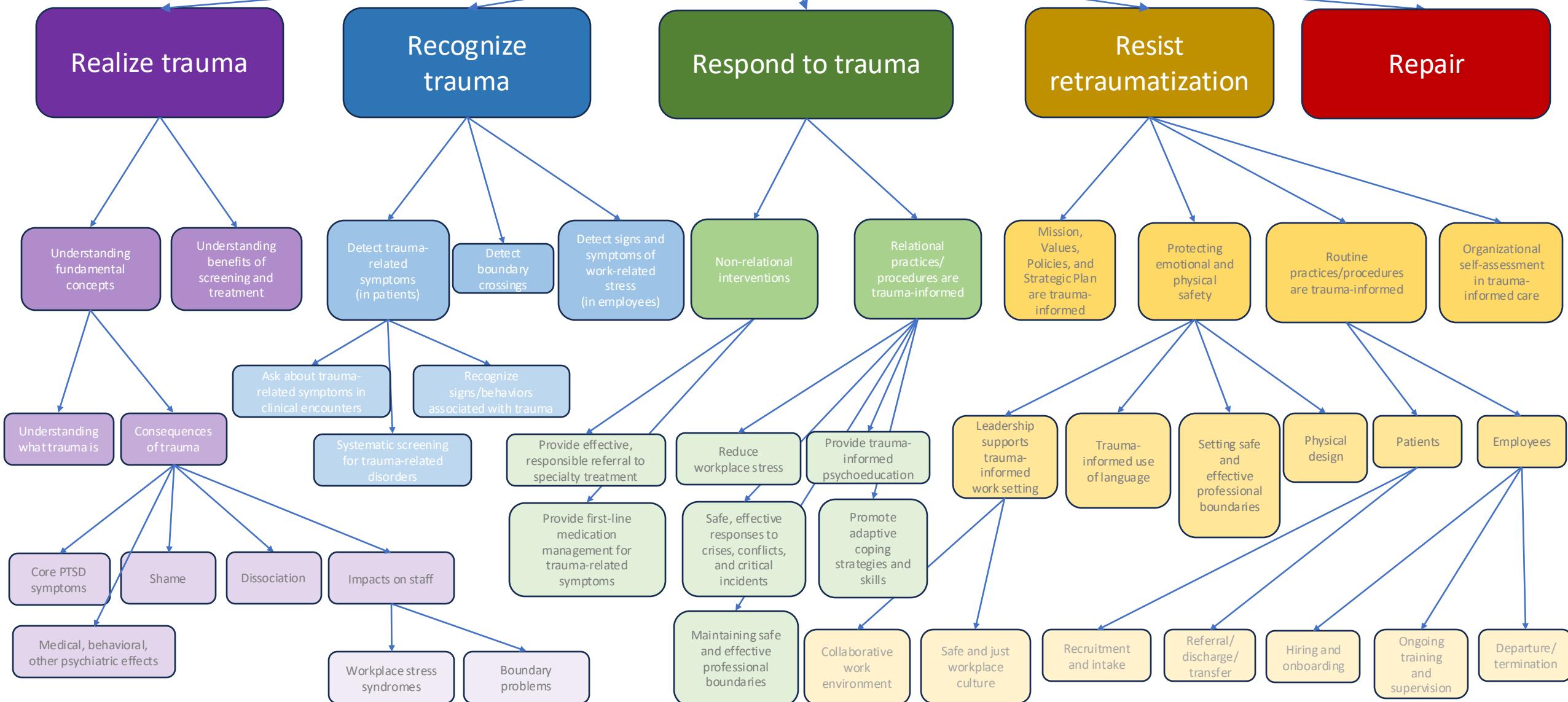
TIHC Tasks

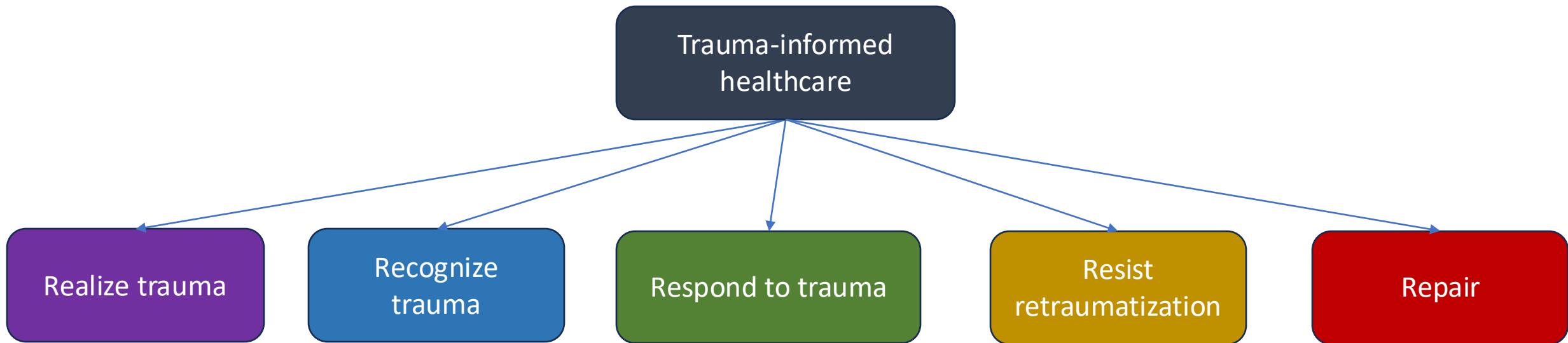
- **Realize** trauma
- **Recognize** trauma
- **Respond** to trauma
- **Resist** retraumatization
- **Repair*** from trauma

Trauma-informed healthcare



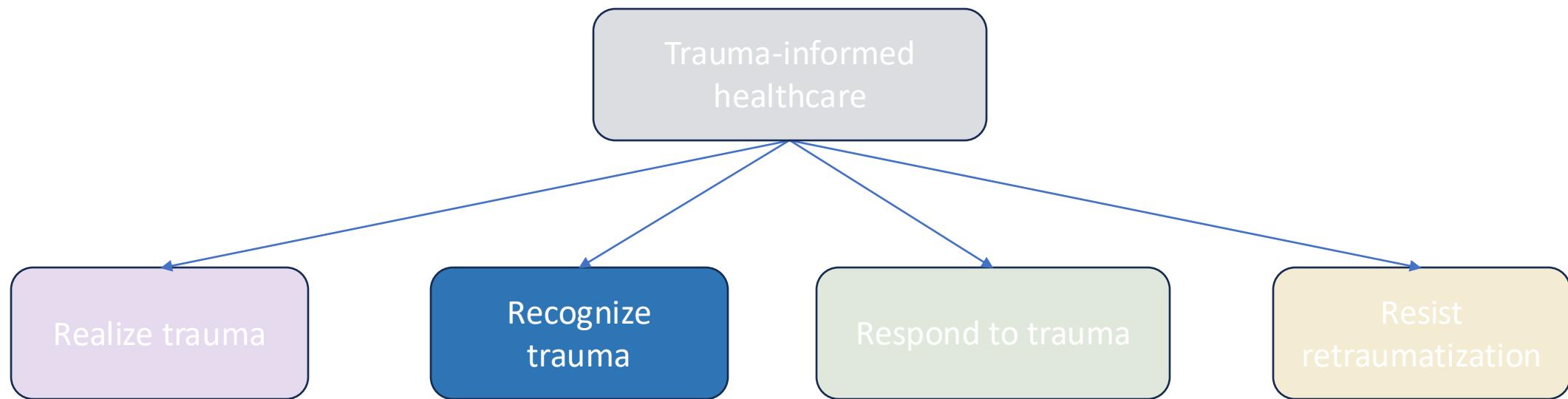
Trauma-informed healthcare





Step 1: **Educate**

Step 2: **Screen**



Tool

Trauma history

Brief symptom screen

Moderate length symptom screen

Clinical interview

Structured clinical interview

Example

LEC-5, THQ, ACE-q*

PC-PTSD-5, SPRINT, DSS-b

PCL, PDS, THQ, DES-II, DSS, MDI

CAPS-5, SCID-D

Brief screening for trauma-related symptoms

PTSD: PC-PTSD-5

- yes/no questions (5)
- High accuracy 85-95% sensitive
 70-80% specific
- <1 minute



Dissociation: DSS-B

- 8 questions (Likert scale)
- Normal distribution

Prins et al 2016
Bovin et al 2021
Williamson et al 2022
Macia, Carlson et al 2022





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ON EXAM

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TIHC Tasks

Realize trauma

Recognize trauma

Respond to trauma

Resist retraumatization

Repair



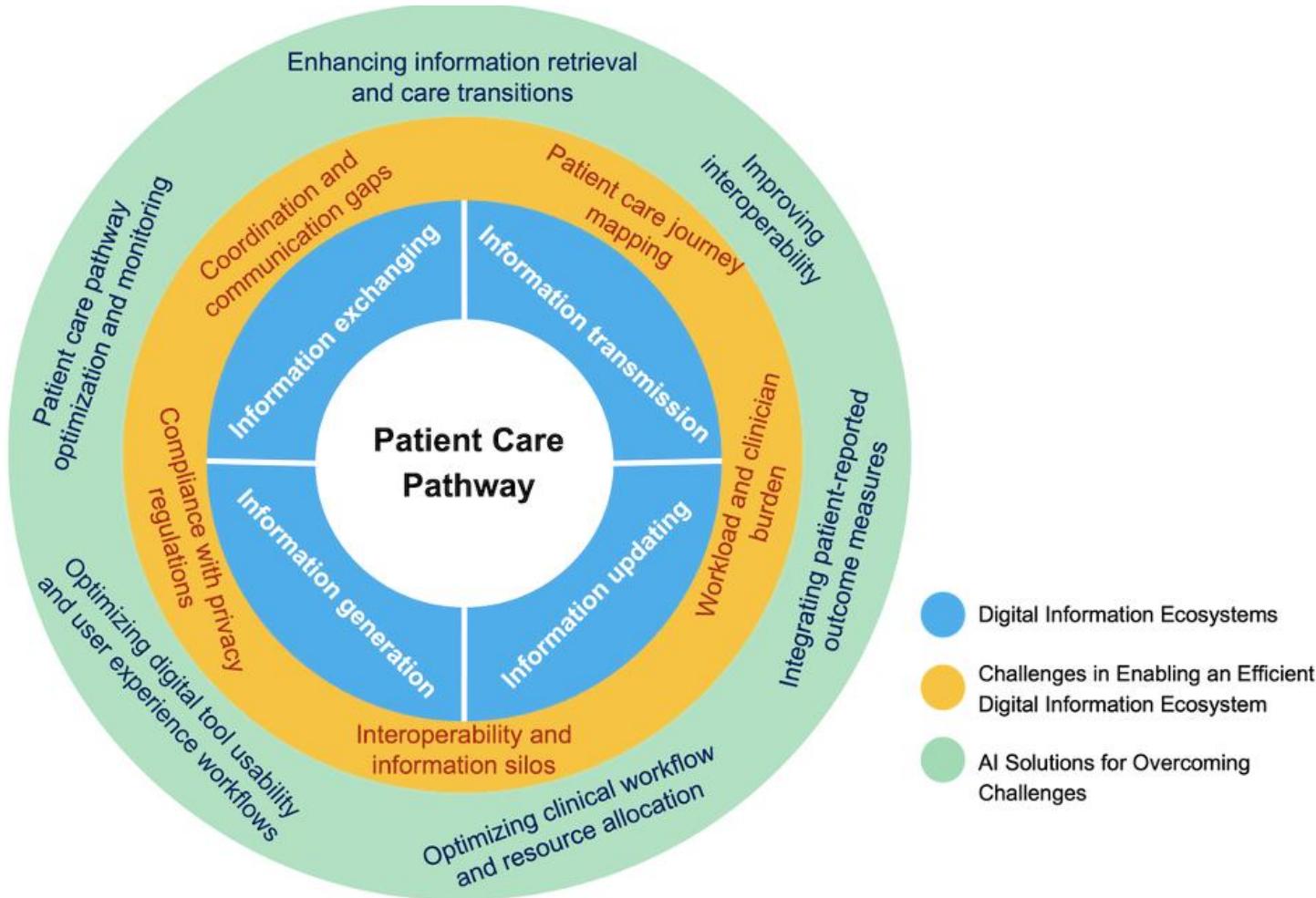
Trauma-Informed Values

1. Safety
2. Trustworthiness and transparency
3. Collaboration and mutuality
4. Empowerment, voice, choice
5. Peer support
6. Addresses cultural, historical, gender issues

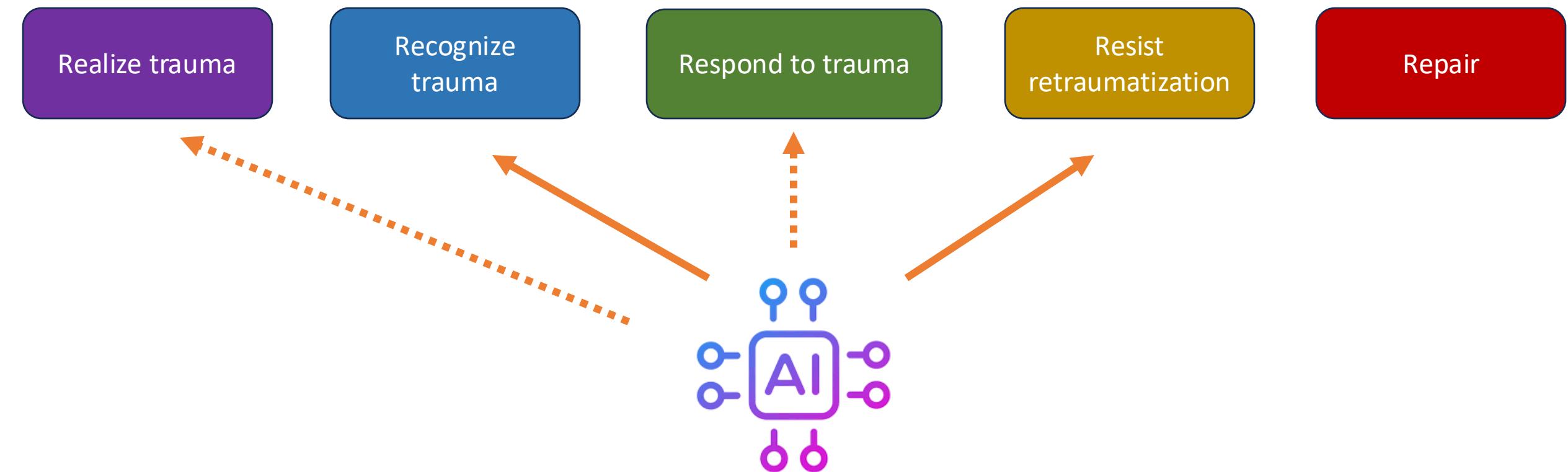
Role for AI?

AI use case	Example	Reference
Access	Evidence-based therapy tool Early response activation	Heinz et al 2025 TBD
Screening and diagnosis	Validated scoring of session transcripts Vocal biomarker detection	Eberhardt et al, 2025 Quatieri et al, 2023
Burnout reduction	Ambient documentation	Misurac et al, 2024
Clinical communication and coordination ("being heard, being seen")	Improved interoperability	Chen et al, 2024
Bias reduction?	<i>pending</i>	
AI as therapist?	First RCT published 2025 (<i>Therabot vs waitlist/control</i>)	Pros: Stade et al, 2024 Cons: Moore et al 2025

Is this what “being heard and being seen” should look like, in and across large care systems?



Conclusions





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CPTSD in treatment-seeking patients

Treatment group	PTSD diagnosis (%)	CPTSD diagnosis (%)
Adult survivors of childhood institutional abuse (n = 229)	17	38.4
Syrian refugees (n = 110)	42	58
Yazidi genocide survivors (women captives of ISIS) (n= 108)	21.3	50.9
British adult mental health outpatients (n=246)	15.5	50.3
Treatment-seeking veterans (n=160)	19.4	80.6
Patients presenting for treatment of other psychiatric disorders (n = 1,305)	2.68	12.72