

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

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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

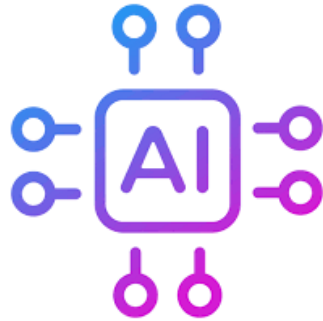
Realize trauma

Recognize  
trauma

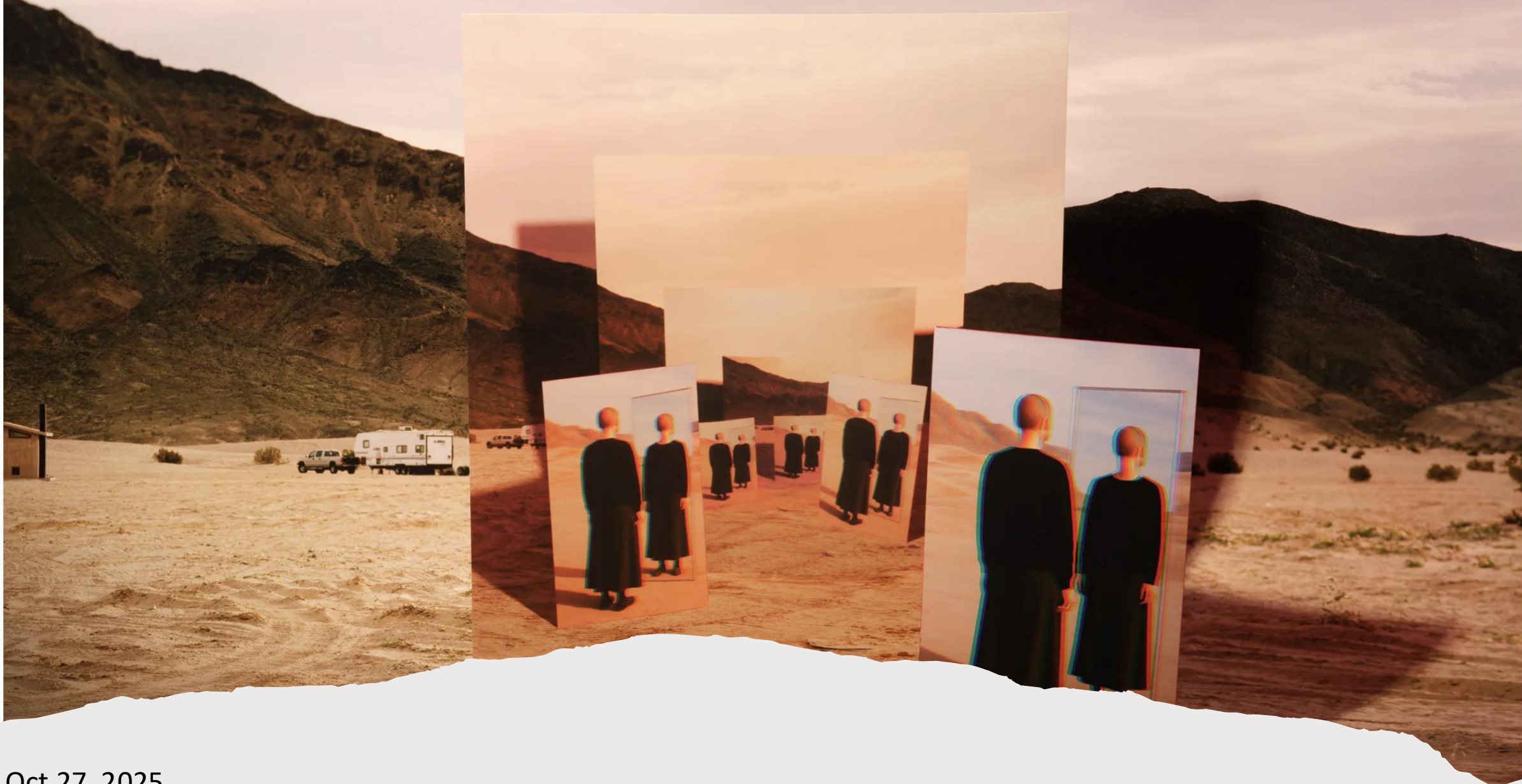
Respond to trauma

Resist  
retraumatization

Repair



What's the relationship?



Oct 27, 2025

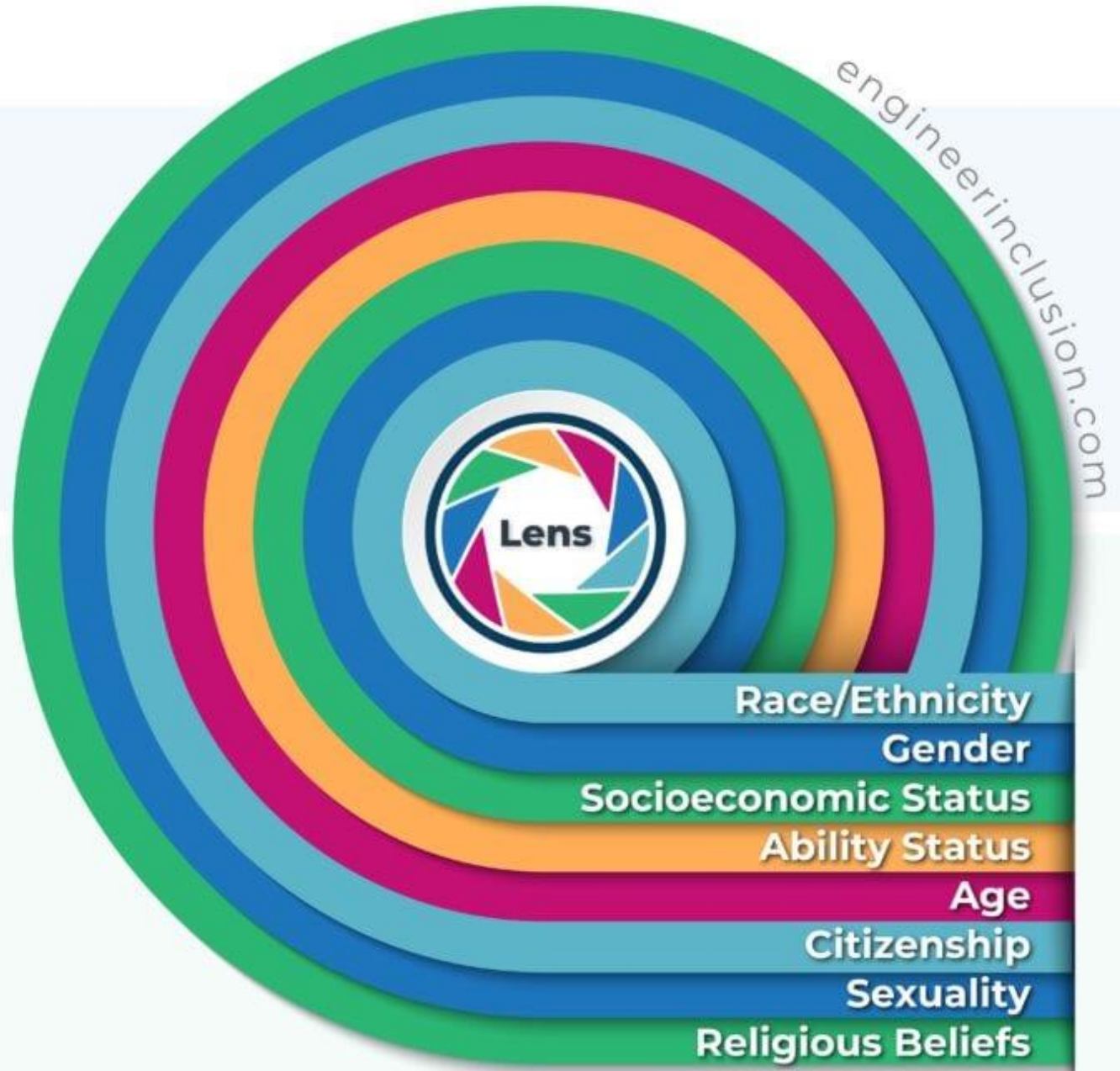


We won't discuss: chatbots for psychotherapy

# 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

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

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

MEDICAL HISTORY

Skin infections, asthma, hypothyroidism

SUICIDE ATTEMPTS

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**

**MEDICINE**

**MIGRATION**

**EDUCATION &  
CHILD  
DEVELOPMENT**

**SOCIAL DETERMINANTS OF  
HEALTH**

**EQUITY**

**PUBLIC HEALTH**

**LANGUAGE**

**ORGANIZATIONAL PSYCHOLOGY**

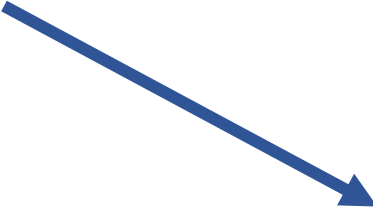
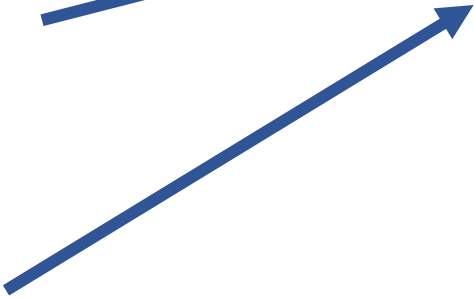
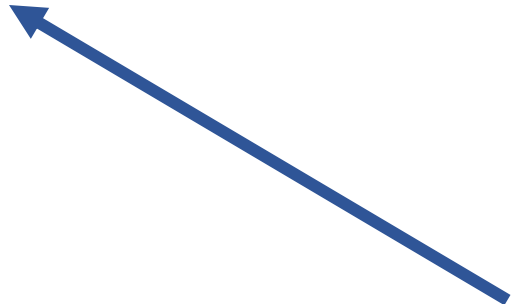
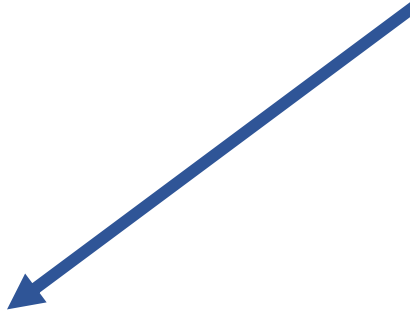
**QUALITY  
IMPROVEMENT**

**JUSTICE SYSTEM**

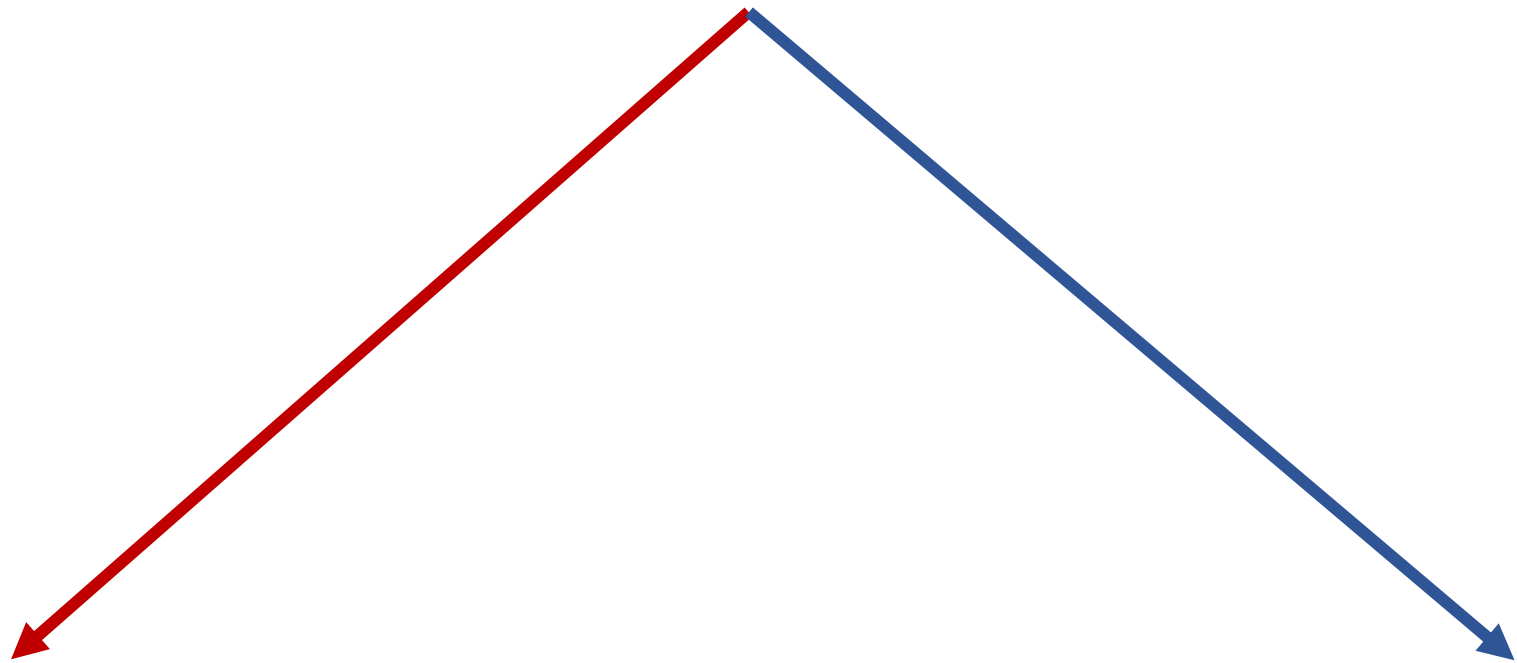
**RESEARCH**

**SPECIALTY TREATMENT FOR  
TRAUMA**

**TRAUMA-INFORMED  
CARE**



**TRAUMA**



**SPECIALTY TREATMENT  
FOR TRAUMA**

**TRAUMA-INFORMED  
CARE**

# What does **Artificial Intelligence** Mean?

## Everyday meaning

Anything a computer does that seems “smart.”

## Technical meaning

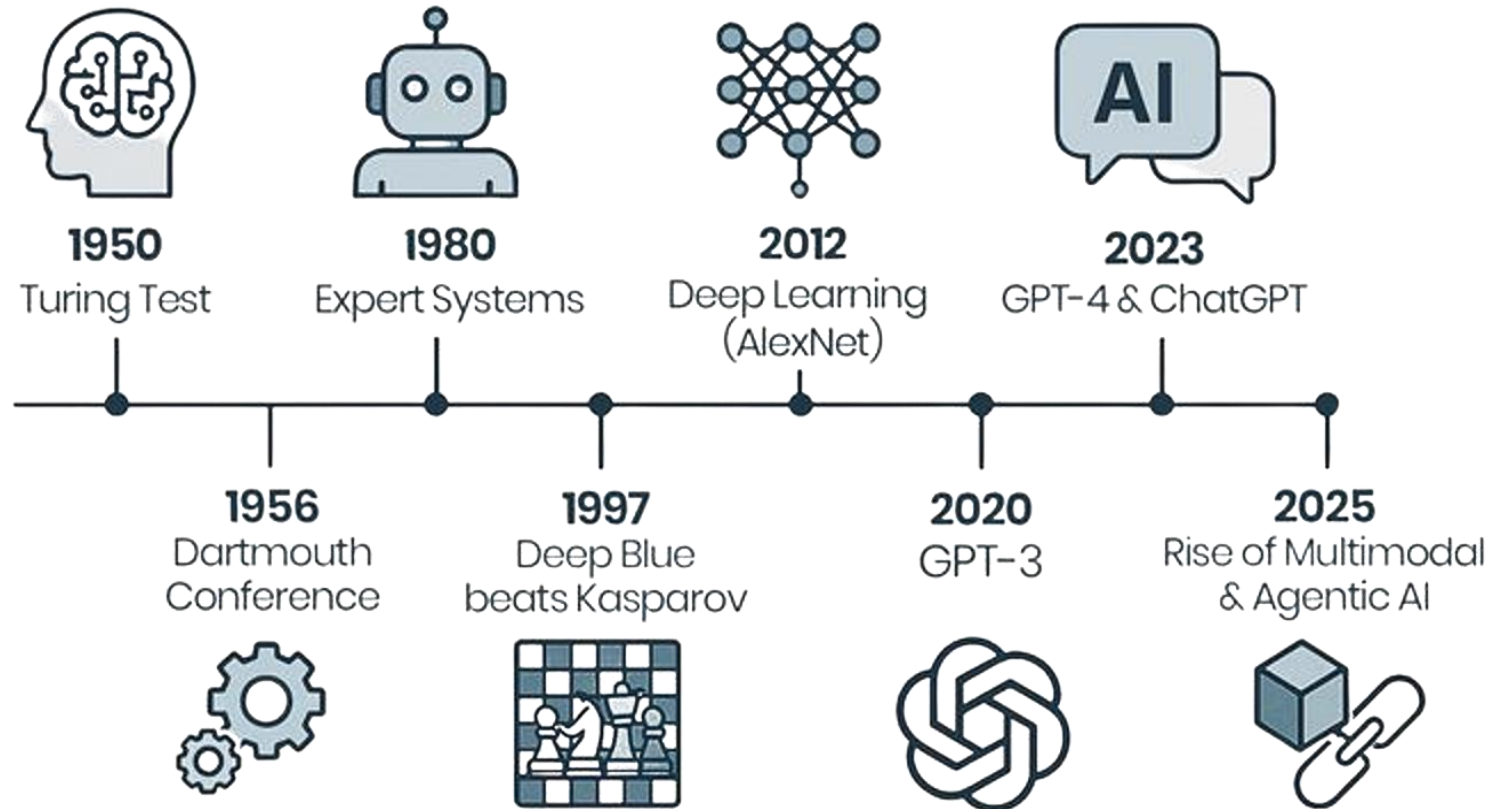
A **superset** of many different approaches.

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

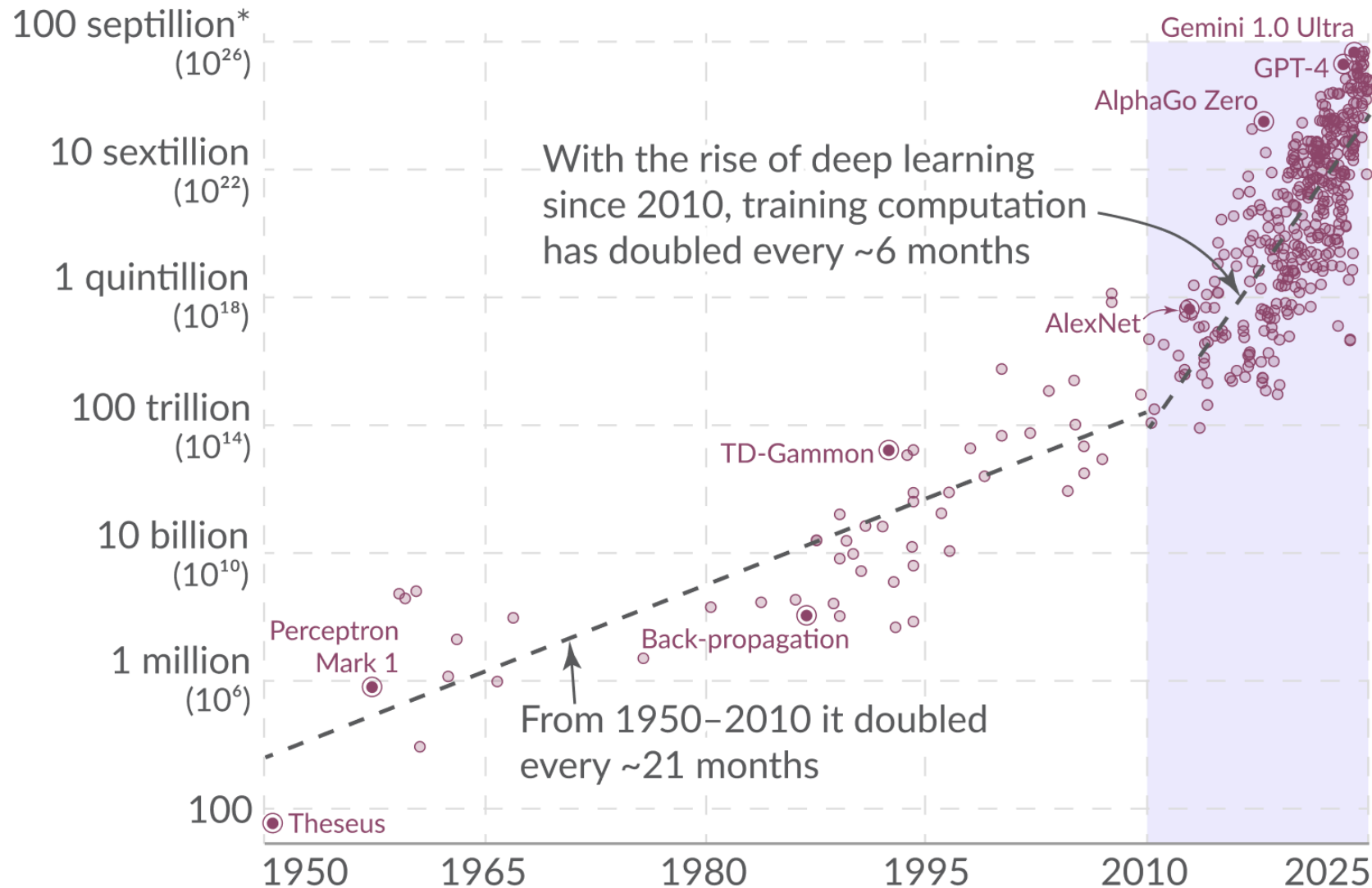
1. Classical (Symbolic) AI
2. Machine Learning\*
3. Probabilistic & Bayesian Models
4. Robotics & Perception
5. Hybrid Systems

## AI Development

80 years to become an overnight sensation!



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





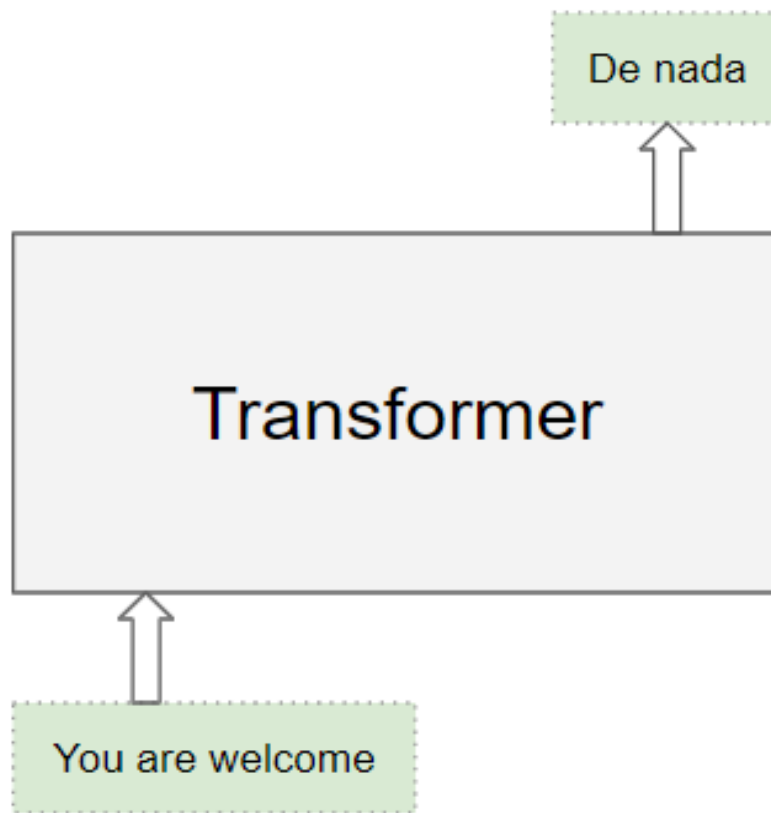
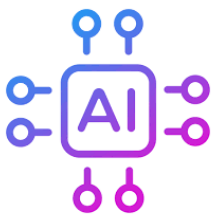
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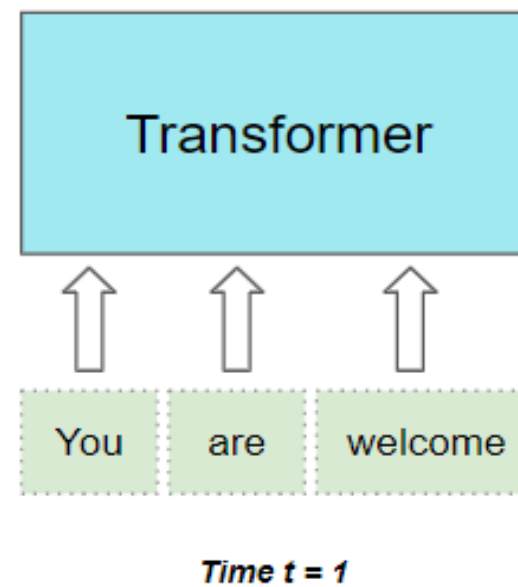
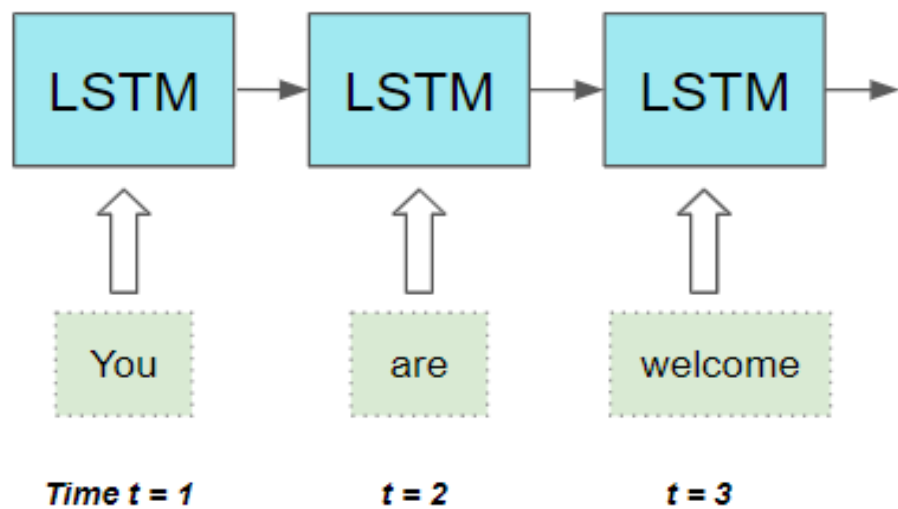
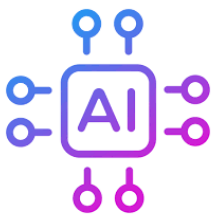
# Attention Is All You Need

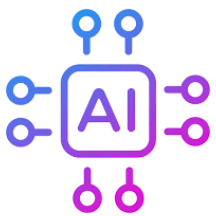
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## Abstract

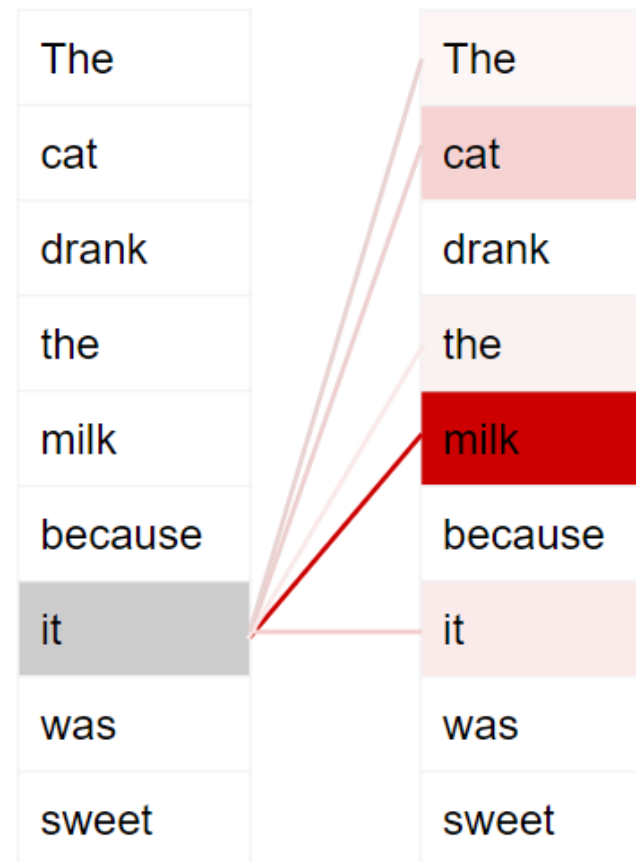
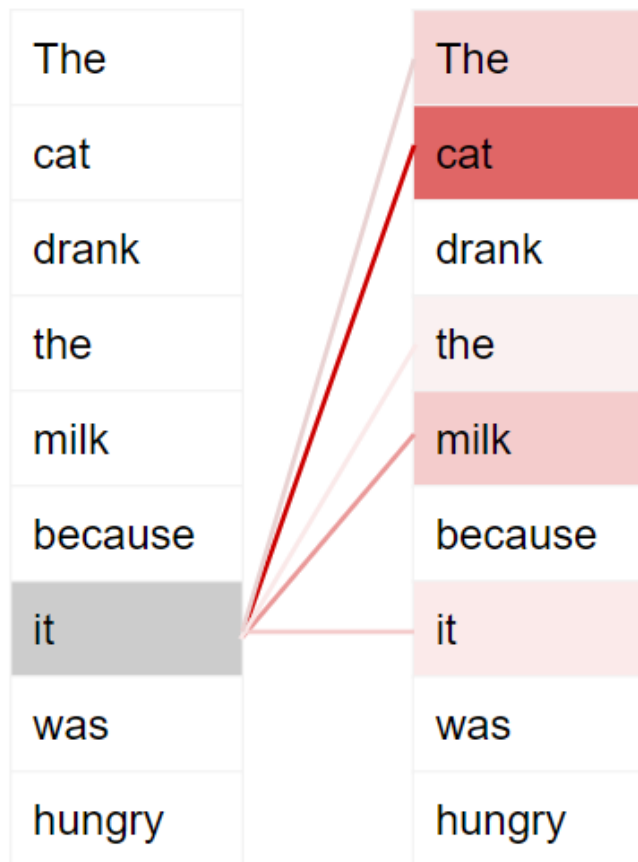
The dominant sequence transduction models are based on complex recurrent or convolutional neural networks that include an encoder and a decoder. The best performing models also connect the encoder and decoder through an attention mechanism. We propose a new simple network architecture, the Transformer, 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	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
<u>Input</u>	<u>Score 1</u>	<u>Score 2</u>



## 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



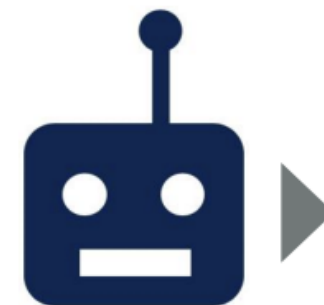
## Assistive

Agent(s) and  
humans work  
and act together



## Assumptive

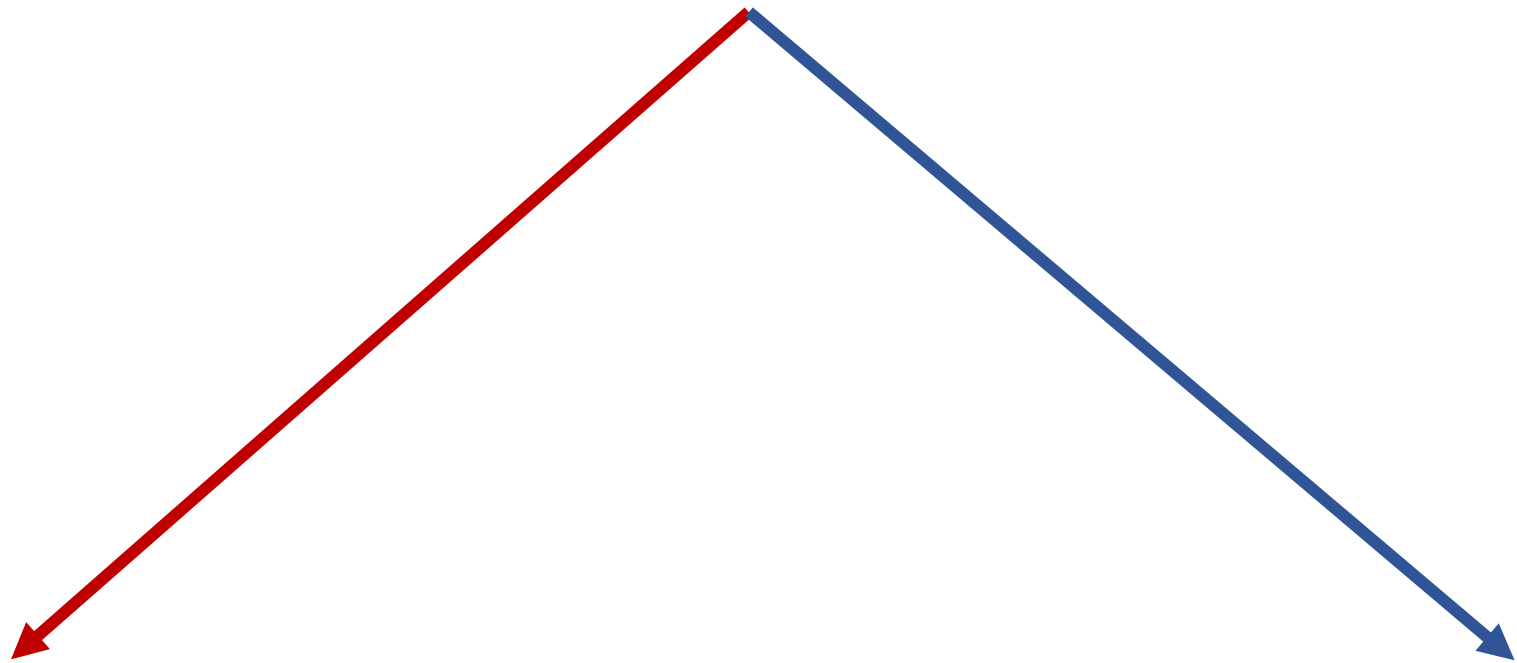
Agent(s) executes  
the task(s) and  
navigates complex  
workflows within  
limiting conditions



## Autonomous

Agent(s) can  
execute tasks  
under all  
conditions

**TRAUMA**



**SPECIALTY TREATMENT  
FOR TRAUMA**

**TRAUMA-INFORMED  
CARE**

## 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

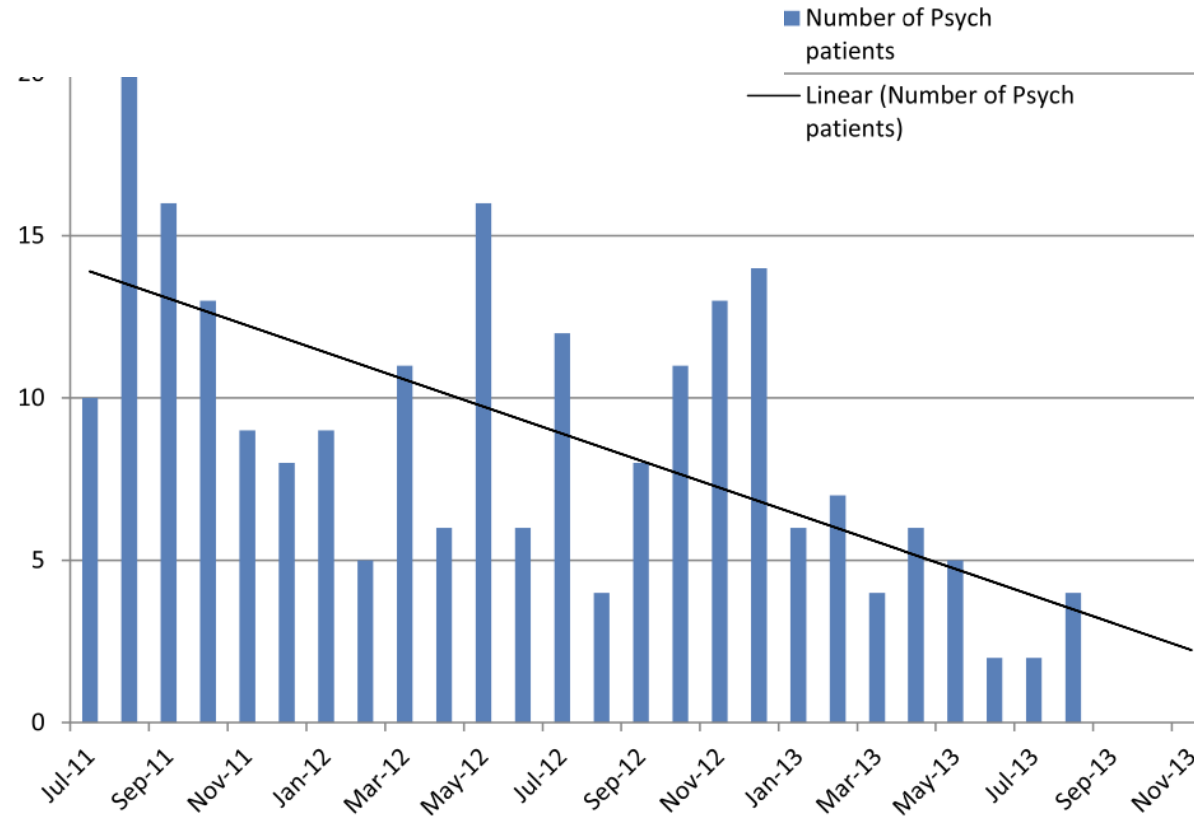


Fig. 1. Number of ED behavioral health patients restrained or secluded.

# 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,

2023

McClendon et al,  
2021

Kabat et al, 2018

Hall, 2022

Anvari et al, 2022



The “ultimate” little t

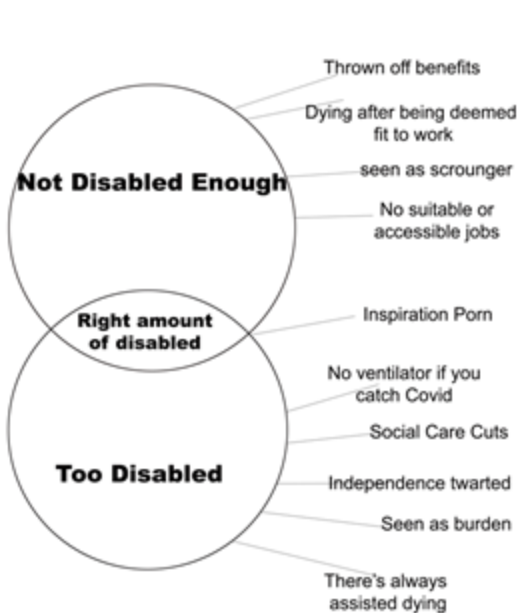
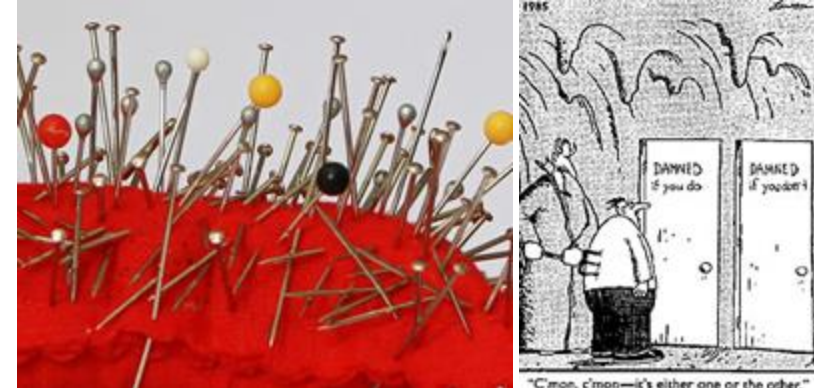
**Every** option leads to  
punishment

**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



withdraw



SELF-HARM

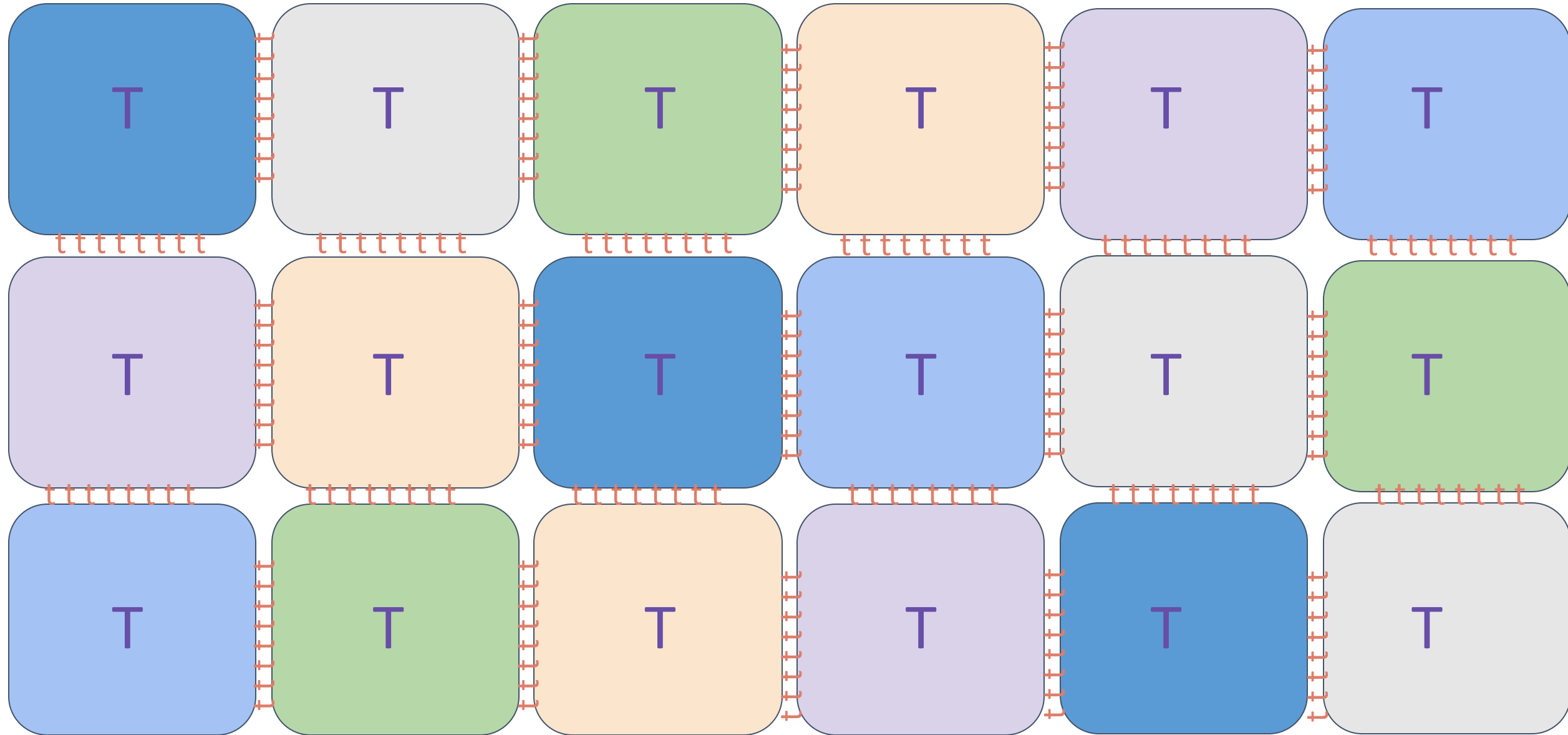
attack self



attack other

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

# “Quilt” of retraumatization



# Trauma disorders

(what the textbooks say)

## PTSD

Nightmares,  
flashbacks

Avoiding  
trauma  
reminders

↑ Sense of  
threat

American Psychiatric Association, 2023  
World Health Organization, 2019

+/-

## 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



# 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	<b>2.1</b>
Inpatient psychiatry	13 - 50	<b>0 – 5.4</b>
Outpatient psychiatry	20.5 – 46	<b>0 – 7.7</b>
Community psychiatry (CMHC)*	24 - 53	<b>0 – 3.7</b>
Forensic psychiatry	48	<b>2.0</b>
Primary care doctor	9 - 25	0 – 9.5

Briere et al, 2016

>50%  
=  
“complex”  
disorders

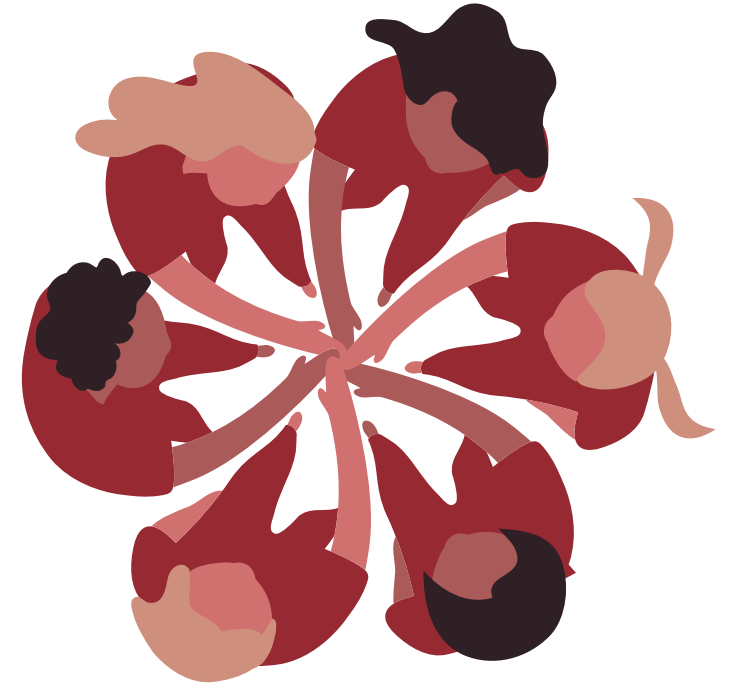
## SPECIALTY TREATMENT FOR TRAUMA



## TRAUMA



## TRAUMA-INFORMED HEALTHCARE



# TRAUMA

```
graph TD; TRAUMA --> psychiatric; TRAUMA --> behavioral; TRAUMA --> medical;
```

## psychiatric

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

Etc.

## behavioral

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

Etc.

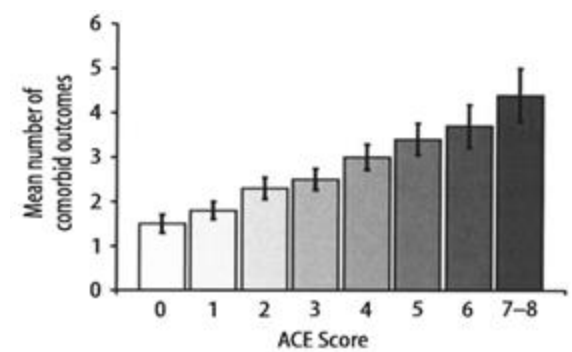
## medical

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

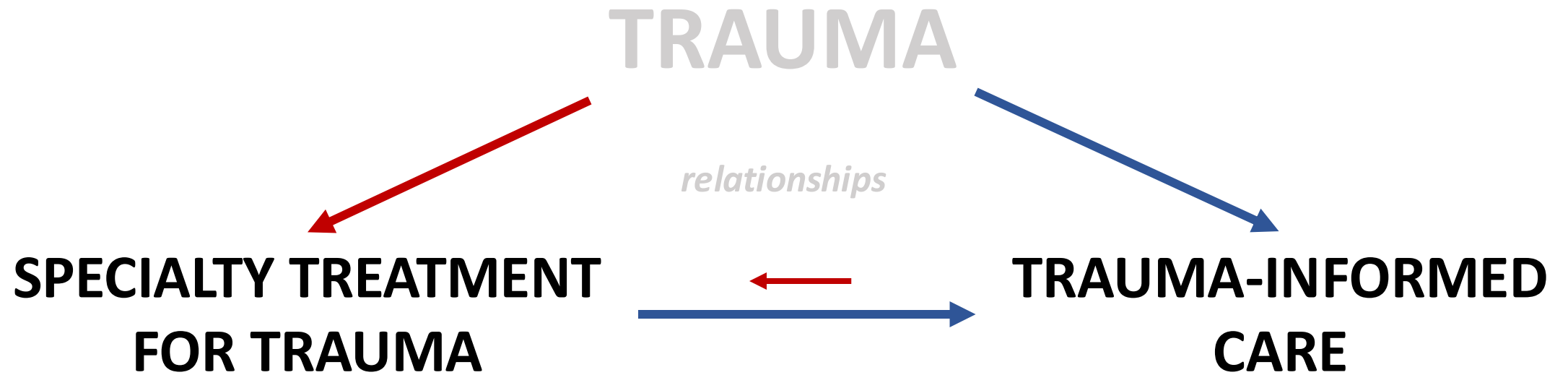
Etc.

# 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**

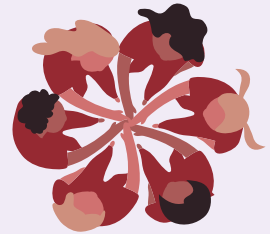
**EBA<sub>s</sub>**

# EVENT(S) EXPERIENCE EFFECTS

( - )

( + )

**adversity**



***TIHC***

**TRAUMA**

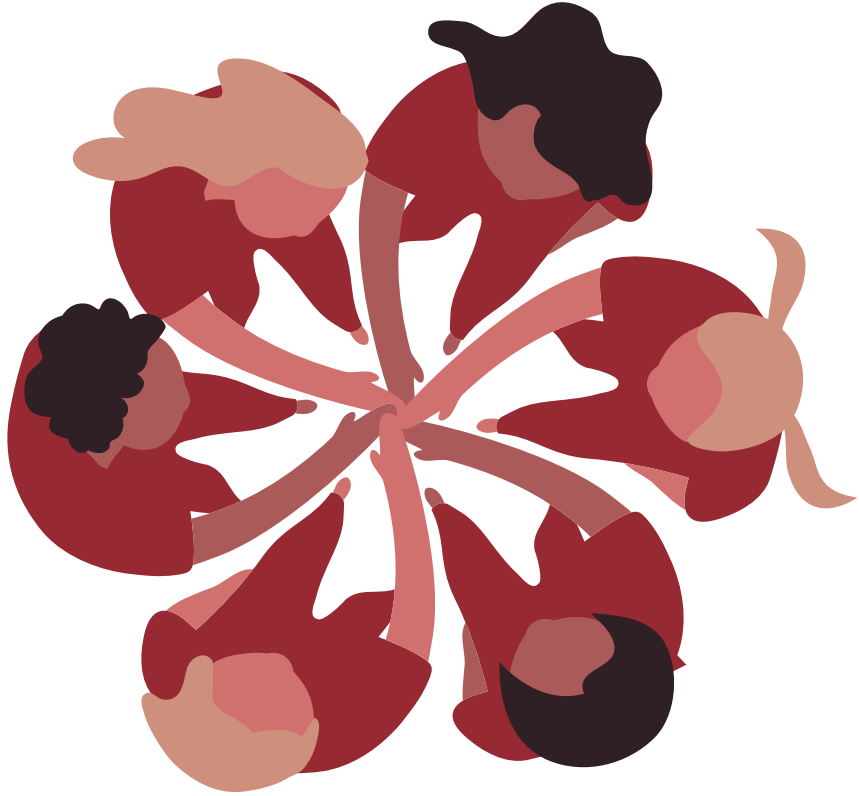
**psychiatric**

**medical**

dep, anx, SUD  
mult dx's, suicide

PTSD, CPTSD,  
DD

**behavioral /  
psychosocial**



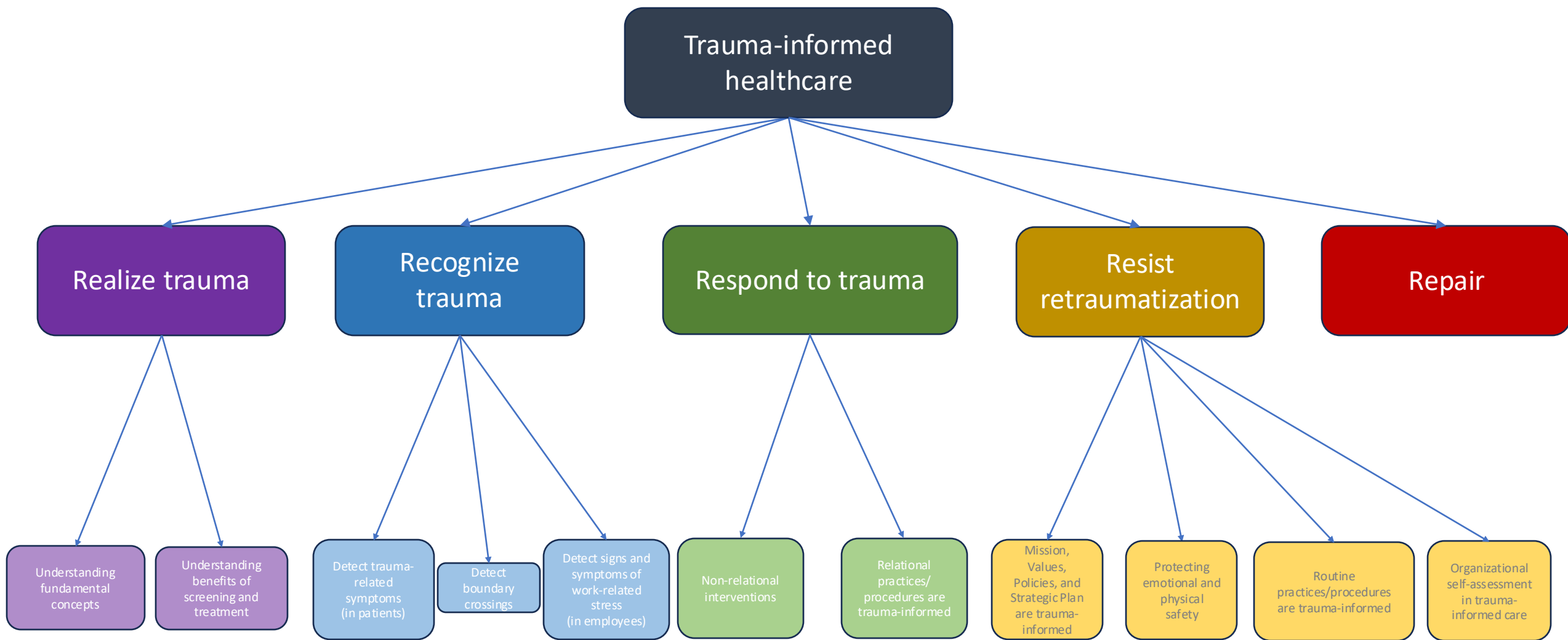
## TIHC Values

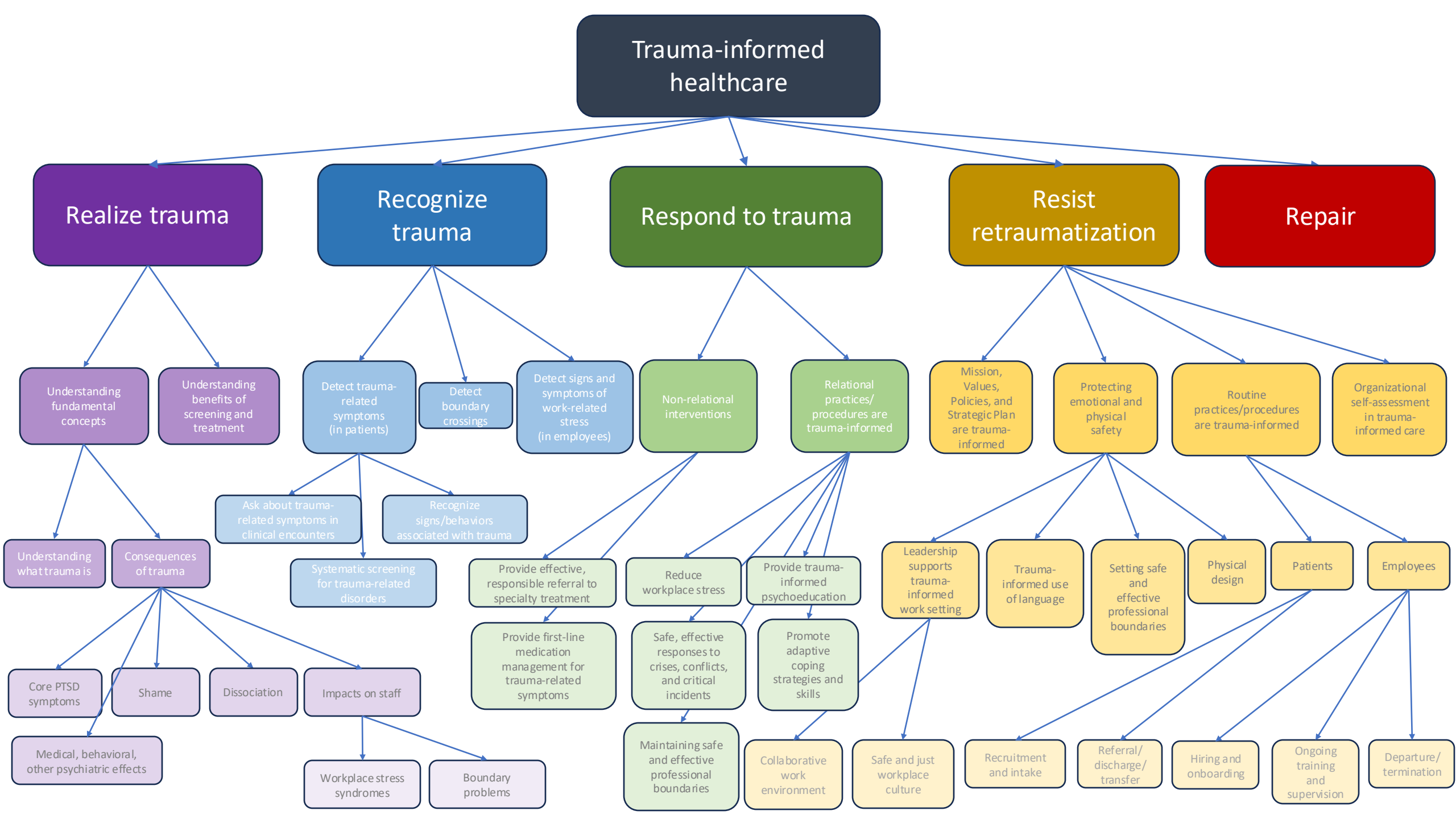
- Safety
- Empowerment
- Collaboration
- Trust
- Peer support
- History, culture, gender

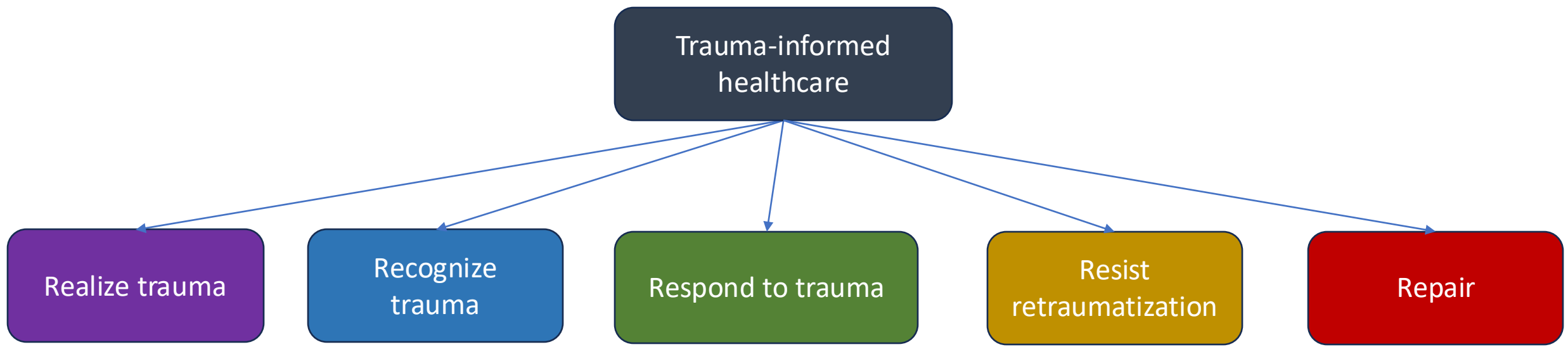


## TIHC Tasks

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

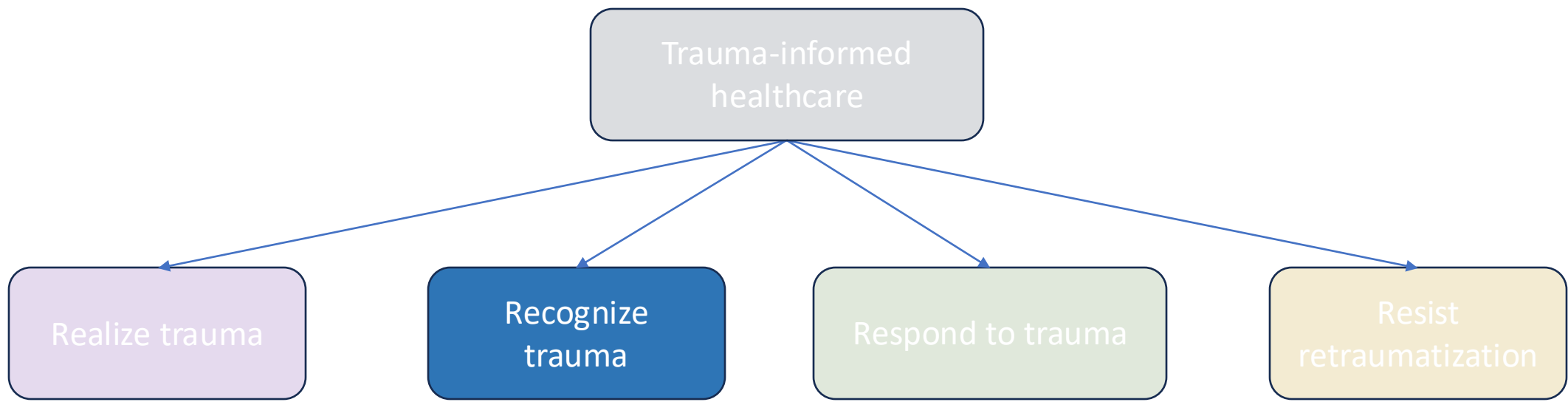






Step 1: **Educate**

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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## TIHC Tasks

Realize trauma

Recognize  
trauma

Respond to trauma

Resist  
retraumatization

Repair



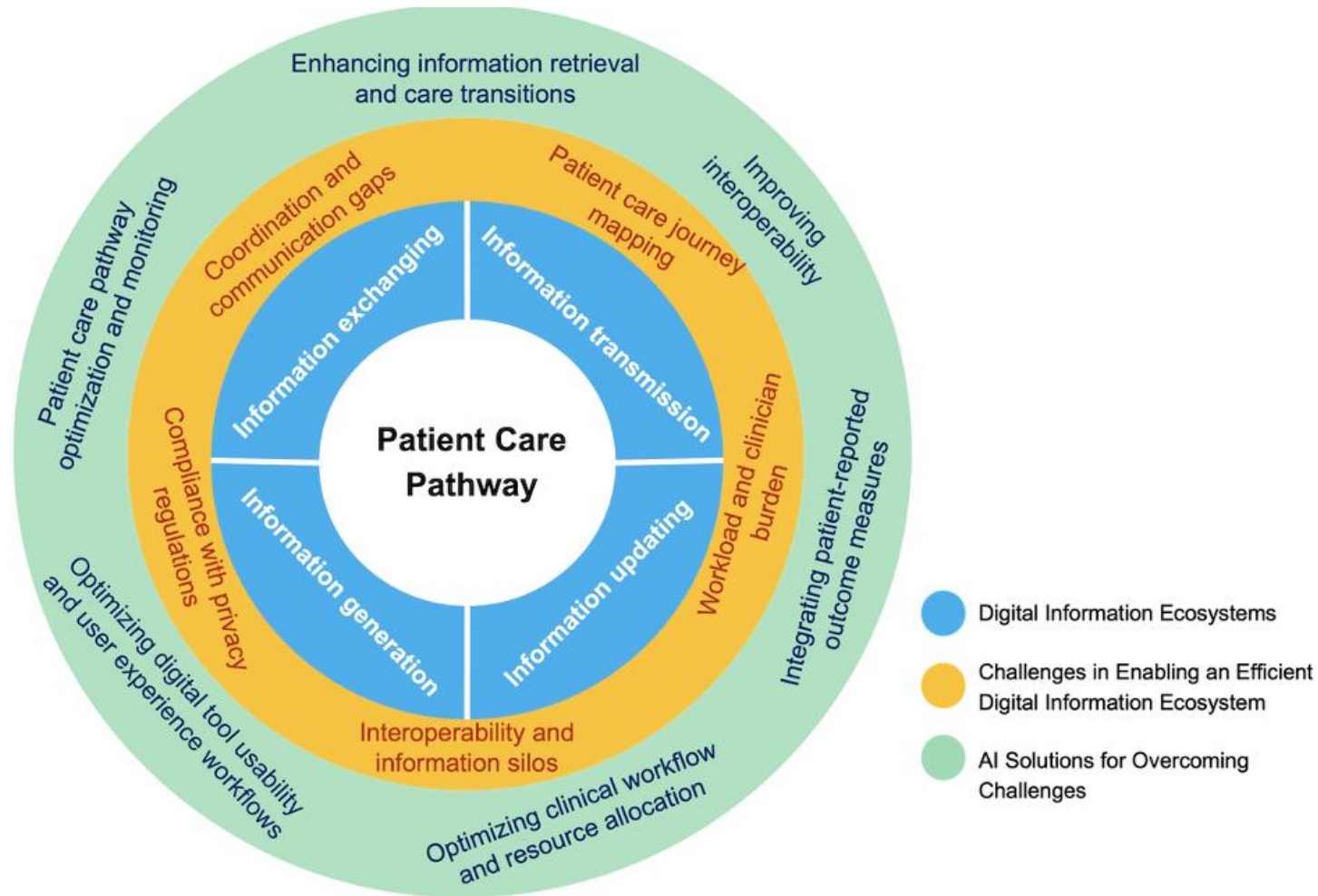
## Trauma-Informed Values

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

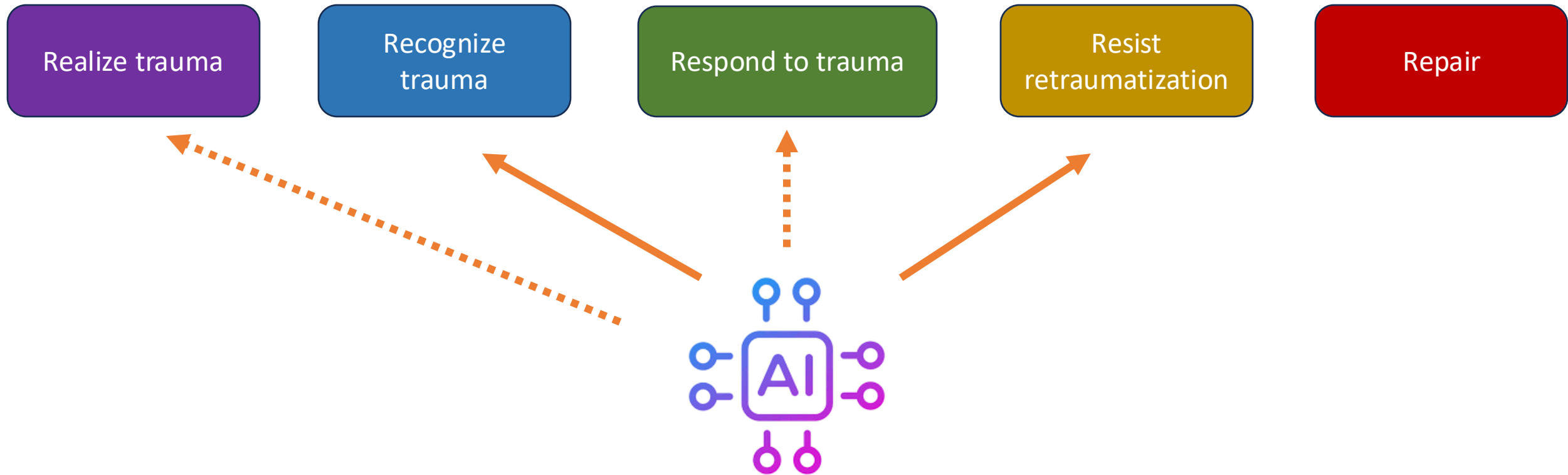
Role for AI?

AI use case	Example	Reference
<b>Access</b>	Evidence-based therapy tool Early response activation	Heinz et al 2025 TBD
<b>Screening and diagnosis</b>	Validated scoring of session transcripts Vocal biomarker detection	Eberhardt et al, 2025  Quatieri et al, 2023
<b>Burnout reduction</b>	Ambient documentation	Misurac et al, 2024
<b>Clinical communication and coordination</b> ( <i>“being heard, being seen”</i> )	Improved interoperability	Chen et al, 2024
<b>Bias reduction?</b>	<i>pending</i>	
<b>AI as therapist?</b>	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