



little
orange
fish

“A Whole-Person Systems Framework for Behavioral and Mental Health”

Optimizing Resources to Expand Access, Elevate Care, and Coordinate Systems of Support for Mental Health and Well-Being

Daniel Adamek, PhD, Executive Director - LittleOrangeFish.org





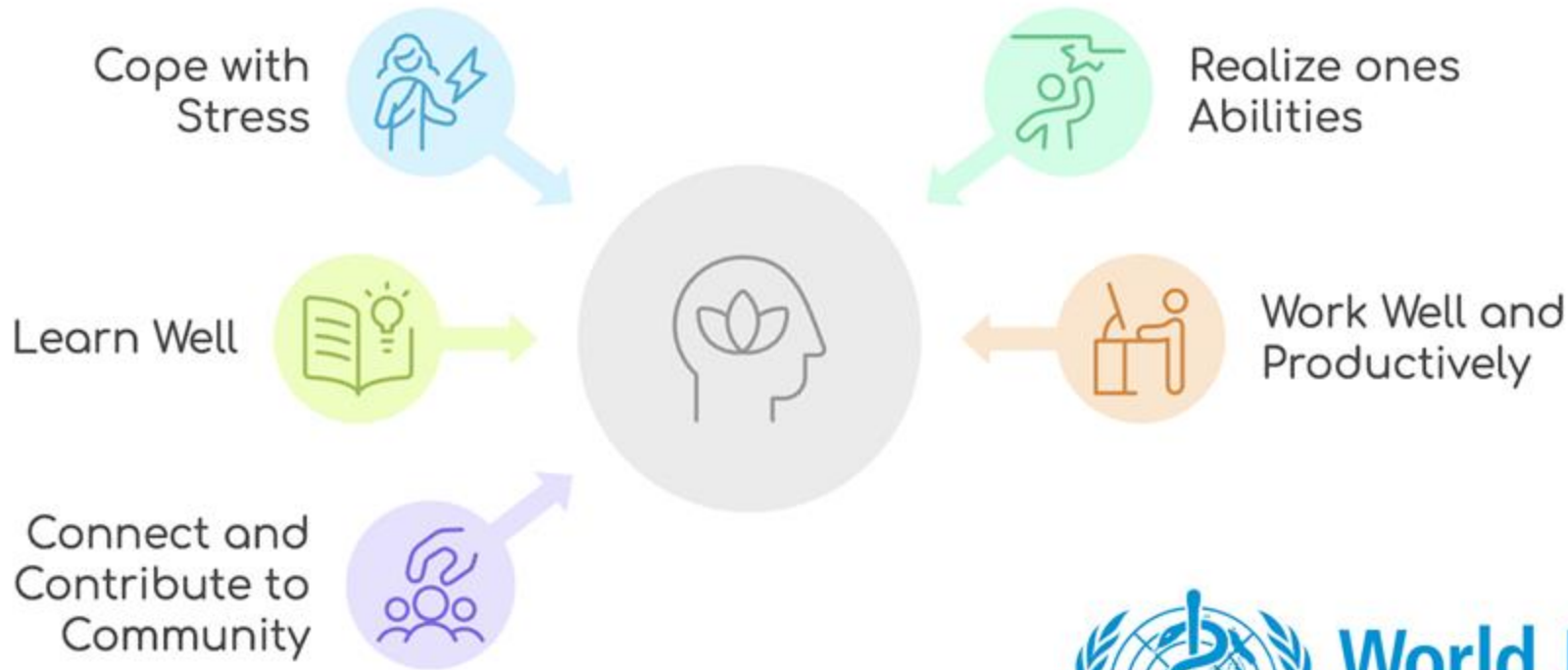
Little Orange Fish: Mission

- ✓ Educate the public on the value of mental health, emphasizing its critical role in overall well-being.
- ✓ Raise awareness and understanding of existing systems of care and help to make these services more accessible.
- ✓ Advocate for greater availability and higher quality of mental health resources.

Ensure that every individual has access to the quality mental healthcare we all deserve.



Mental Health Is An
Individual's Capacity To :



What is Mental Health?

“Mental health is a state of mental well-being that enables people to cope with the stresses of life, realize their abilities, learn well and work well, and contribute to their community.”



**World Health
Organization**

<https://www.who.int/health-topics/mental-health>





Little Orange Fish: Programs

- **'Feelings are Real'** - Educational resources to help communities better understand mental health and its impact on personal and community wellness.
- **'Here for You'** – Resources to help people to navigate the systems of care to ensure they and their loved ones get the help they need.
- **'Expressions'** Supporting healing, resilience and community connection through the arts—music, dance, and other creative outlets”
- **'Inner Defense Initiative'** Biomolecular research focused on understanding the connection between PTSD and the immune system."



1.Family: Love, basic needs, education.
Providers: Parents, siblings.
Beneficiaries: Children.

2.Medical: Clinics, hospitals, crisis centers.
Providers: MDs, counselors.
Beneficiaries: Patients & families.

3.Education: Schools, universities. Roles:
Teachers, clinicians. Focus: Learning & research.

4.Social Support: Non-profits, faith-based
groups. Functions: Recovery, advocacy,
community aid.

5.Government: Law enforcement, courts.
Actions: Protection, intervention, legal decisions.

6.Community: Foundations, sports,
homeschooling.
Goals: Engagement, mentorship, education.

7.Media/Tech: Social media, hotlines. Tools:
Awareness, crisis support.

Mental Health - Stakeholder Analysis

	Organization Type	Primary Function	Primary Provider	Secondary Provider(s)	Primary Beneficiary	Resource/other Reqts	IDEAS
	Family	Love, basic needs, education	Parent or sibling		Child		
1. Medical & Research							
	GP,FP, Dental Outpatient Clinic	Assessment/Basic care	MD	nurses	Patient & Family		
	Inpatient Mental Health Clinic	Assess/Diagnose/Treat	Psychiatrist/Psychologist	counselors, case mgr	Patient & Family		
	Hospital	Assess/Diagnose/Treat	MD/Psychiatrist	nurses	Patient & Family		
	Diagnostic Ctr, lab, imaging	Diagnose	Specialist	Technician	Patient & Family		
	Crisis Center	Prevention/Referral	Trained volunteer	Provider	Caller/Client		
	Health Insurance Provider	Risk/cost reduction, educate	Records clerk, Claims adjuster	Physician	Insured Customer/Employer		insurance accepted by Pinnacle
	Medical Research Institute	Applied Research	Principal Investigator	Technicians	Medical Practitioners		
	Specific Non-Profits				Member		
	Substance & treatment centers	Educate, Treatment & Recovery	MD/Psychiatrist/Psychologist	counselors, case mgr	Patient, Family, Community		
	Rehab centers	Educate, Training, Treatment & Recovery	MD/Psychiatrist/Psychologist	counselors, case mgr	Patient, Family, Community		
	NAMI & Support Groups	support/advocacy for family members	Volunteers Family Members		families		ask Bill Keweza, NAMI Chair, to join
	Specific Support Groups				Member		
2. Education & Research							
	School	Educate, Report, Compete	Teacher, Coach, Principal, VPs	Office staff	Student		
	Colleges/Universities	Educate, Report, Compete	Faculty, RA, Health Ctr, Counseling Ctr		Student		free, insurance coverage?
	Colleges/Universities	Educate mental health specialists, Research	Faculty, Clinicians	Orgn for internships	Student		continuing education
	School Clinic	First Aid, Referral, Report	Nurse, counselors		Student		no reqt to report mental illness; early screening
	Firm HR Dept	Employee healthy/wellness	HR Specialist	Manager/supervisor	Employee, Firm, Family, Community		

Initial Resource Mapping

Human Centered Systems

System	Subsystems	Key Interactions	Systemic Issues
Biological Systems	Nervous, immune, cardiovascular, endocrine, musculoskeletal, digestive, respiratory, reproductive, genetic/epigenetic	Supports homeostasis; interfaces with mental and environmental health factors	Susceptible to chronic conditions, infectious disease.
Social Systems	Family, peer groups, community networks, cultural institutions, religious/faith-based systems, social norms	Builds social networks and provides emotional, practical, and cultural support	Discrimination, exclusion, and weakening community ties
Systems of Care	Healthcare (primary, secondary, tertiary), mental health services, rehabilitation, crisis response systems	Coordinates physical, mental, and public health services for comprehensive care	Fragmented systems, inequitable resource distribution, limited access
Economic	Employment systems, financial institutions, insurance, resource allocation, socioeconomic factors	Links economic stability to access and affordability of resources	Economic disparities and unemployment affecting health outcomes
Technology	Information technology, AI systems, assistive technologies, telehealth platforms, data integration tools	Enables data sharing, telehealth, and equitable service distribution	Digital divides and data misuse limit equitable access
Environmental	Climate, pollution, natural disasters, built environments (housing, transportation, urban design)	Impacts health directly through living conditions and environmental risks	Environmental hazards disproportionately affect marginalized communities
Policy and Governance	Laws, public health systems, regulatory agencies, education systems, justice systems	Sets systemic rules and regulations for equity and resource access	Bureaucratic inefficiencies, lack of inclusive policies, systemic inequities
Educational	Early childhood education, K-12, higher education, vocational training, lifelong learning	Promotes personal development and social mobility through knowledge and skills	Unequal access to quality education and digital learning tools
Cultural	Media, arts, collective identities, heritage	Connects identity, creativity, and resilience within community frameworks	Cultural erasure, lack of representation, and social fragmentation



TOGETHER WE
CAN**ENSURING EVERYONE IN OUR COMMUNITY HAS ACCESS TO THE
QUALITY MENTAL HEALTH CARE WE ALL DESERVE**

NAMHC is made up of community mental health stakeholders who share knowledge, abilities, and resources to identify and address the gaps the mentally ill and their families face in gaining access to care.

[FIND OUT MORE](#)

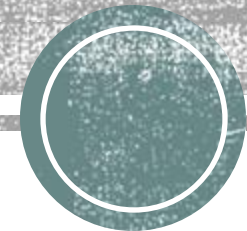
North Alabama Mental Health Coalition

GOALS

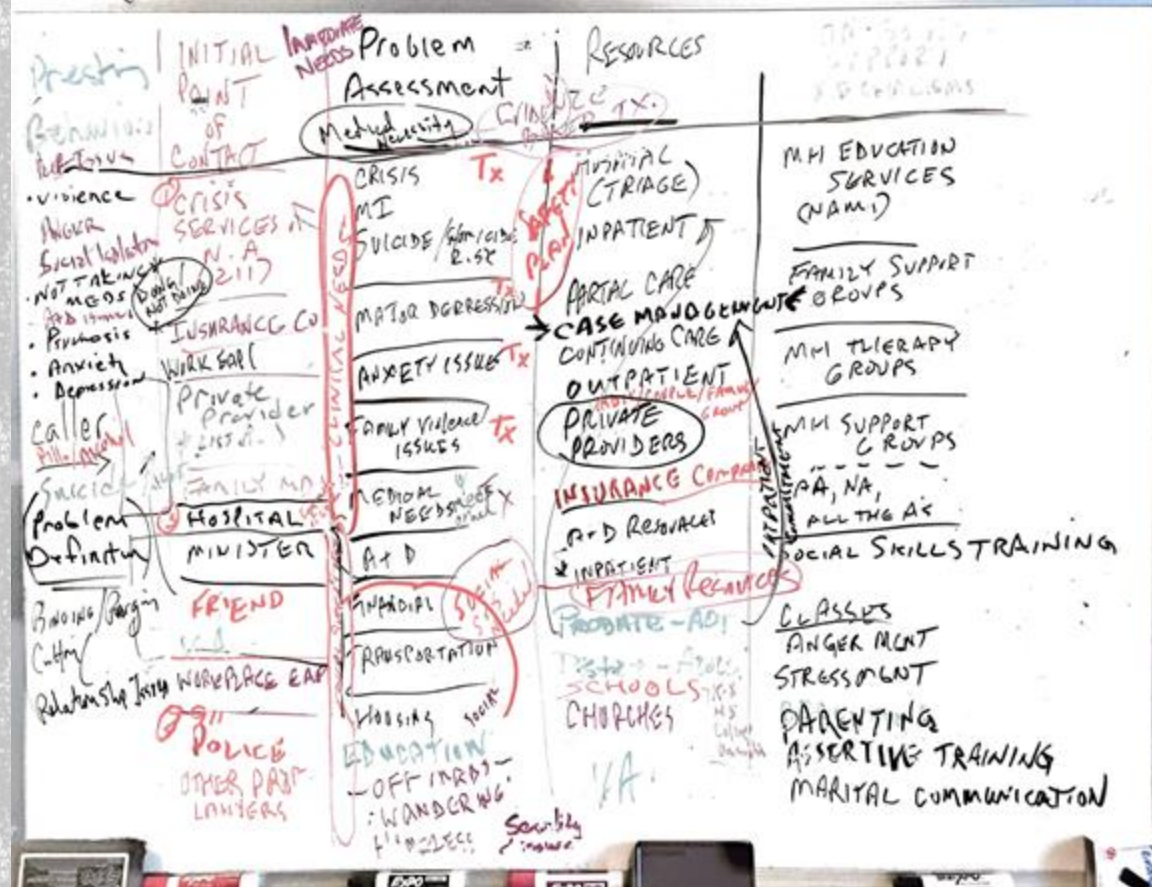
1. Move every consumer toward his/her best outcome.
2. Improve access to care.
3. Ensure appropriate treatment in appropriate time.
4. Improve attitudes regarding mental health issues and eliminate stigma.
5. Decrease recidivism and probate case load.
6. Decrease occurrence of relapse.

STRATEGIES

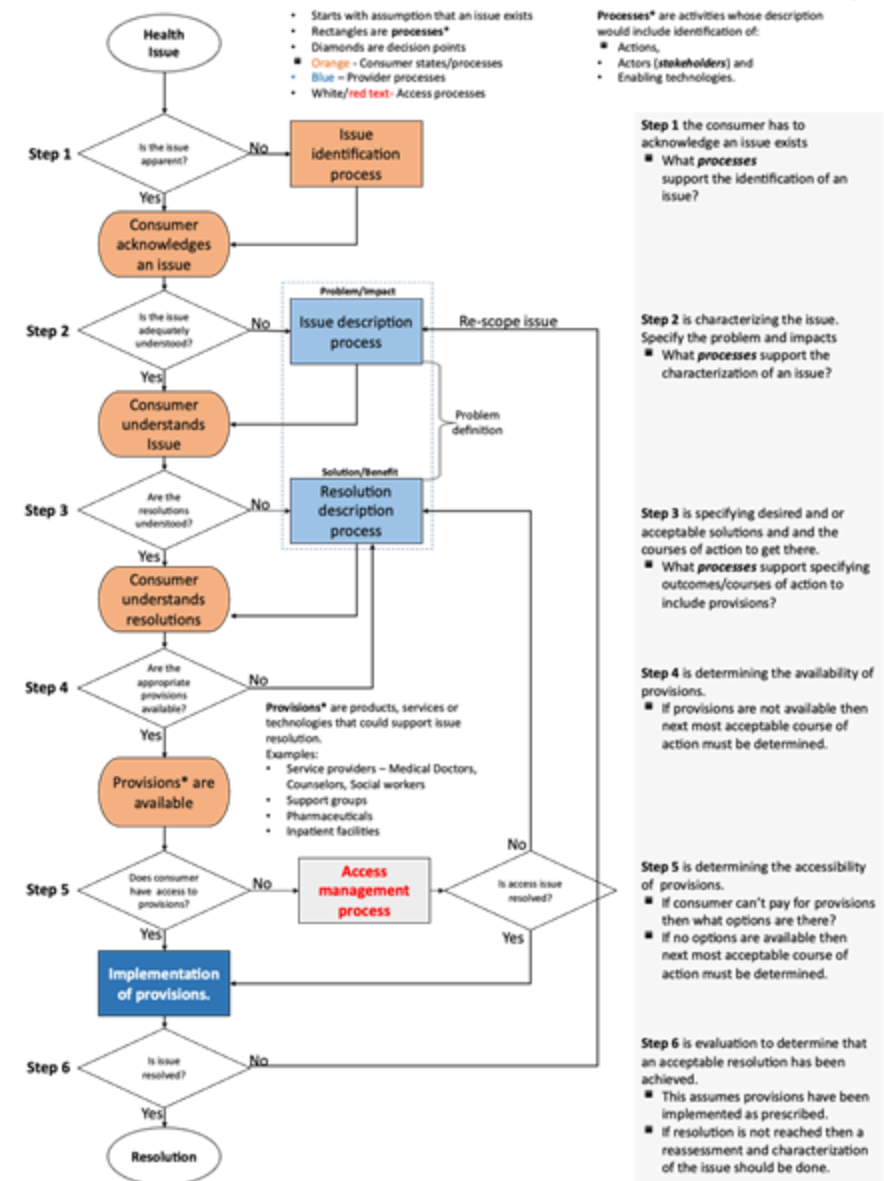
1. Develop trust and collaboration among all mental health stakeholders.
2. As a coalition, identify the greatest mental health needs in our community and work together to meet those needs.



Navigating the Systems of Care



Process flow for resolving health issues



Social Systems Network



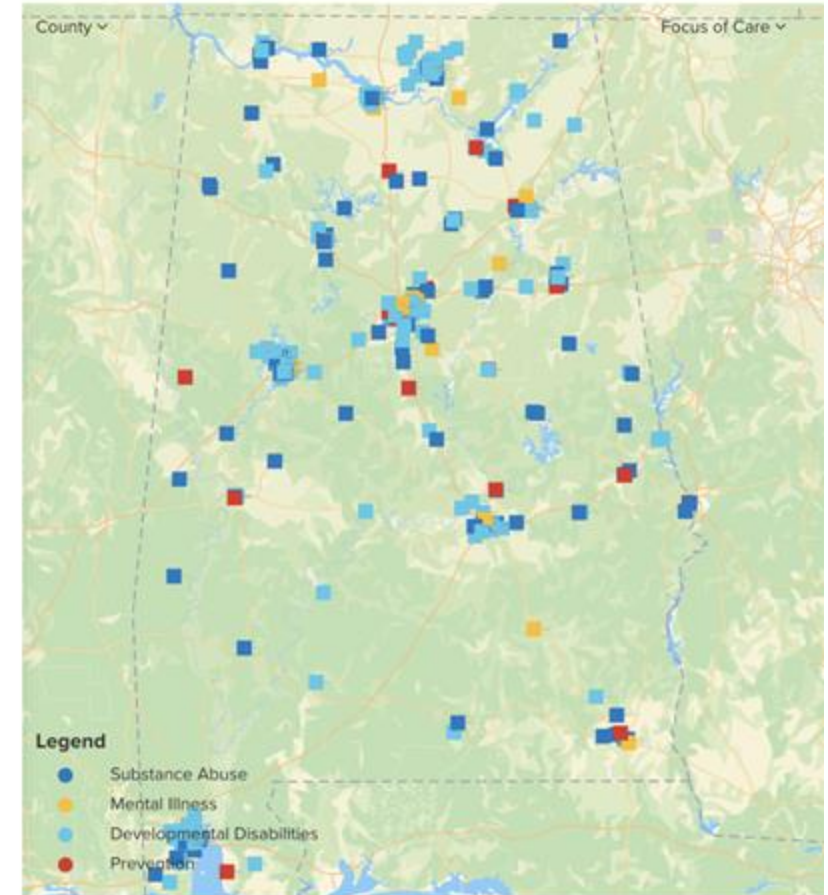
Goals: Bring greater visibility to the efforts of the NAMHC and engage the community to help understand and address the issues associated with access, availability, and quality of care and treatment for mental illness in our community.

Visualizing Community Connections

This is where you can find and learn more about the connections between providers in your area.

Use the menu in the upper right corner to navigate and represent the data in alternate ways to glean more information.

Click on the three vertical dots on the right to open and close this information panel. Or alternatively you can use the [tab] key.



Harnessing AI for Resource Management in Autism Care

Challenges:

- Complex, multidisciplinary care requirements.
- Disparities in service availability, particularly in underserved regions.

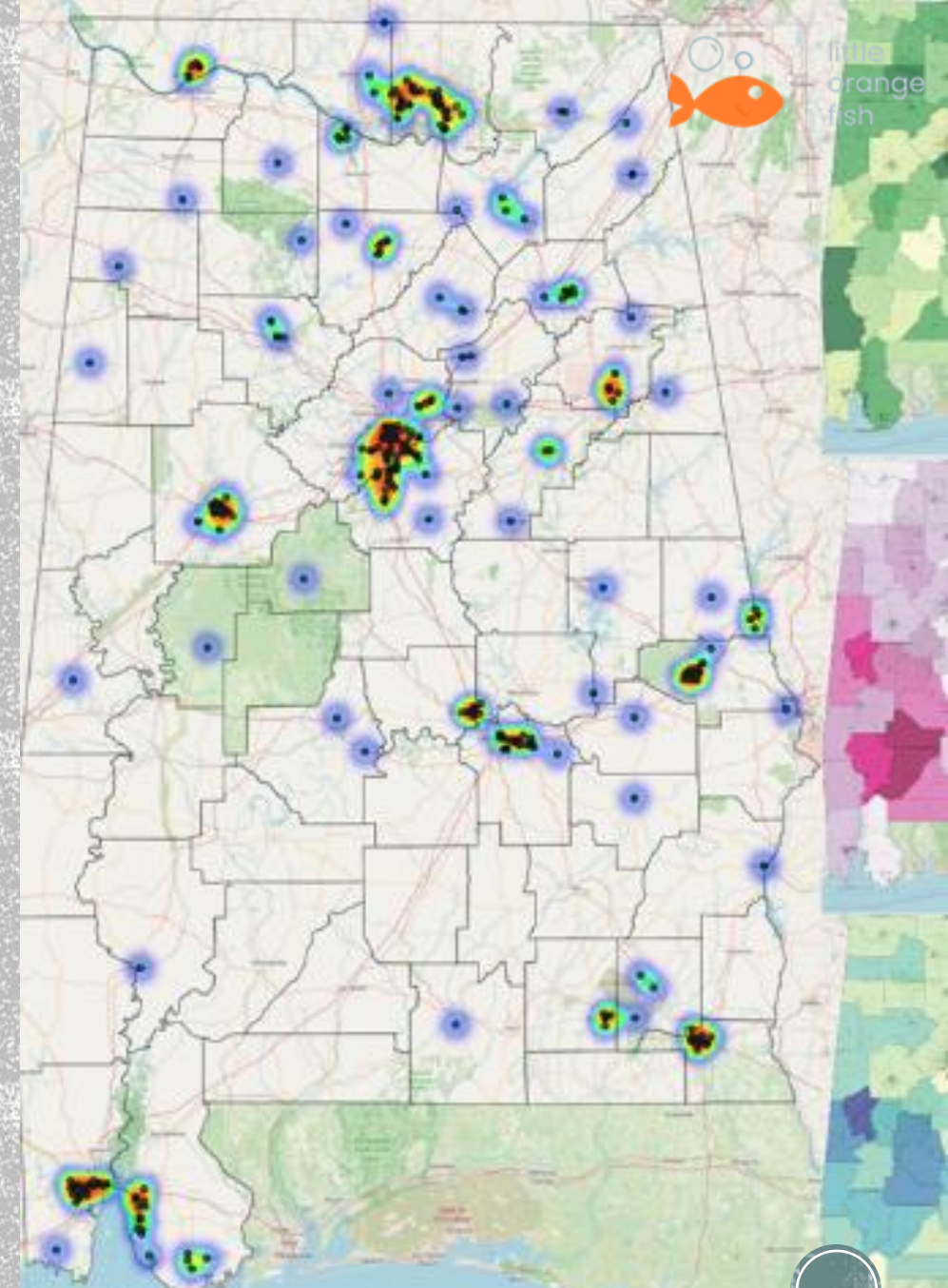
Objective:

- Evaluating the use of Artificial Intelligence (AI) based tools to improve service coordination and access.

Key Technologies:

- Natural Language Processing (NLP) for structured and unstructured data.
- Large Language Models (LLMs) for nuanced understanding and context-specific recommendations.
- Retrieval-Augmented Generation (RAG) frameworks for dynamic, precise information retrieval.

Armin Ahmadi (UA Huntsville*) **Jerome Baudry***, **Nathan Tenhundfeld***,
Kelly Goff (ALDMH), **Daniel Adamek** (Little Orange Fish)



Disparities in ASD related service providers in Alabama.

Communications and Responsive Action



Goals: Bring greater visibility to the efforts of the NAMHC and engage the community to help understand and address the issues associated with access, availability, and quality of care and treatment for mental illness in our community.

Media (PSA)

- What the coalition does
- Who its stakeholders are
- Awareness of needs in care and treatment of mental illness in OUR community.
- Call to action: "Engage and help build better lives and make our community stronger."

Website

- Clear description of the coalition's mission
- Clear description of the stakeholders involved.
- Call to action, with a means to engage.
 - Email or Provide a form (Could repurpose the one that's already there)
- Monthly summaries published and curated.

Monitor and Measure

- Review all feedback to identify appropriate and addressable issues.
- Review website analytics to quantify engagement to inform optimization of communications approach and messaging

Respond

- Bring issues to general meeting for discussion
- Identify actions and actors to address issues
- Track issues to close
- Generate monthly summary of all activities and meeting minutes to be maintained on the website.



Improving Stakeholder Coordination

The North Alabama Mental Health Coalition is 'Here for You'



▪Purpose

- Navigate NAMHC's mission, goals, and services.
- Streamline access to coalition meeting minutes and research.

▪**Comprehensive Search:** Covers meeting minutes from 2022–present.

▪Structured Responses:

- Meeting Date
- Speakers
- Discussion Summary
- Actions/Decisions

▪**Document Review:** Cross-references uploaded files with meeting topics.

▪**Real-Time Research:** Delivers policies, studies, and best practices.

▪**Impact:** Improves transparency and collaboration and simplifies access to key discussions and resources.





The [NAMHC GPT](#) was created by [Little Orange Fish](#) as part of the ["Here for You"](#) program, designed to support community engagement, improve access to mental health information, and foster collaboration for better mental health outcomes in North Alabama. It assists users with accessing coalition information, understanding meeting outcomes, tracking progress on mental health initiatives, and finding updated resources and research.

2024 MEETING MINUTES

North Alabama Mental Health Coalition (NAMHC) GPT (pdf)	Download
11-12-2024 NAMHC Minutes (pdf)	Download
10-8-2024 NAMHC minutes (pdf)	Download
9-10-2024 NAMHC Minutes (pdf)	Download

Example Chat With the NAMHC GPT



NAMHC is Here for You

By Daniel H Adamek &

Look into what the North Alabama Mental Health Coalition is working on and what it means to you.

Summarize the most recent meeting.

Can you summarize discussions about...

Create a topic index with references to...

Research Medicaid expansion for mental health...

Summarize all CIT discussions in 2024 and any search for any related local or state policies or legislation.



ChatGPT can make mistakes. Check important info.



CIT Discussions in NAMHC Meetings (2024)

1. August 2024 Meeting:

- **Speaker:** Chad Brooks, Madison County Sheriff's Office, and Johnny Hollingsworth (State CIT Office).
- **Summary:**
 - Emphasis on integrating mental health care into law enforcement and correctional systems.
 - Development of **Crisis Response Intervention Training (CRIT)**, combining traditional CIT with considerations for Intellectual and Developmental Disabilities (IDD).

Related Local and State Policies or Legislation

1. State CIT Development:

- Alabama is actively expanding CIT programs to include hubs across the state for crisis intervention outside jails and ERs. These initiatives are tied to state mental health funding and involve multi-agency partnerships.

2. 988 Suicide and Crisis Lifeline:



Automated Reports



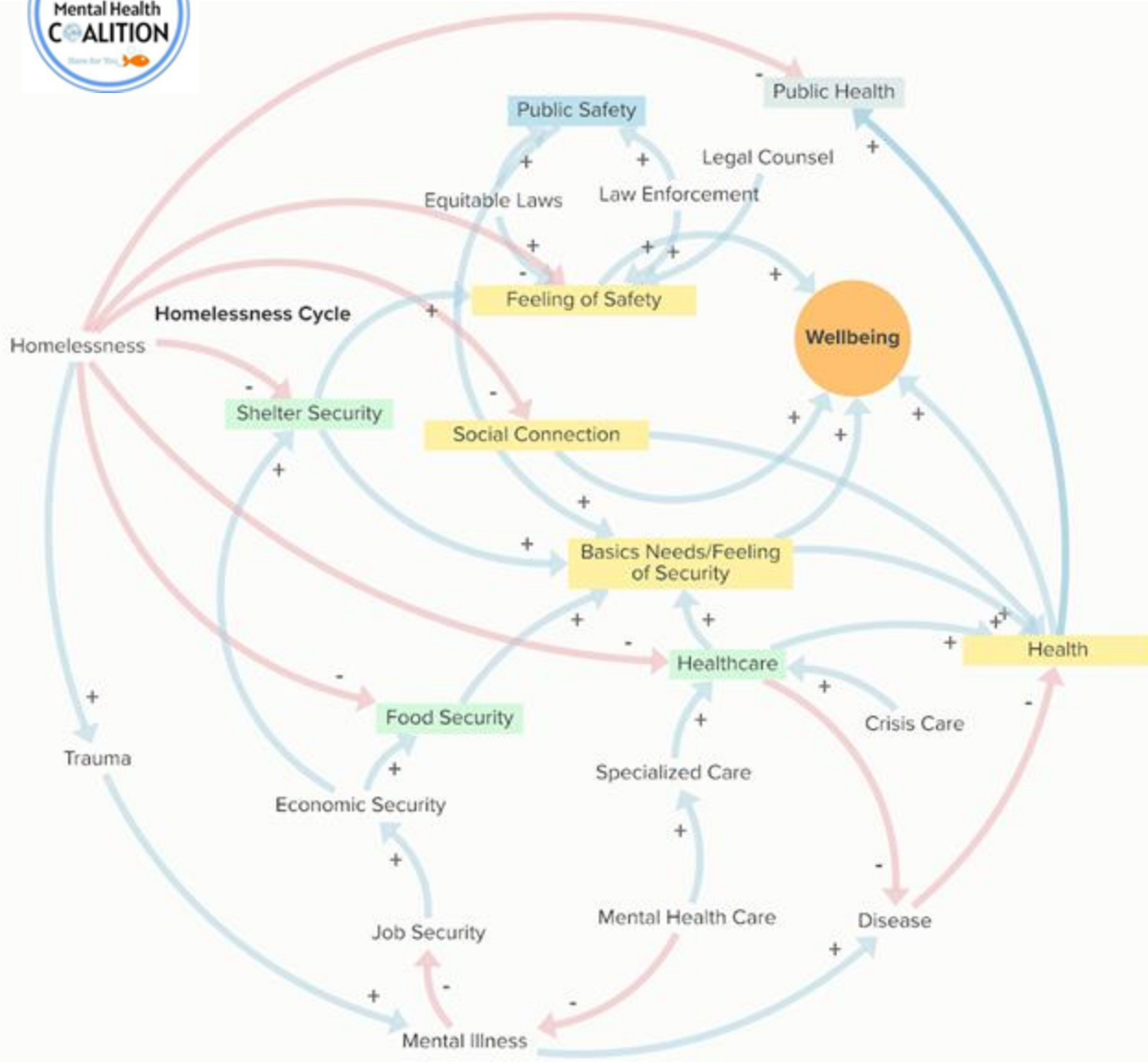
Meeting Date	Topics Discussed	Speakers/Stakeholders	Actions/Decisions
November 12, 2024	Child sexual abuse prevention (NCAC Stewards of Children), trauma therapy access, NAMI Madison County plans to launch in 2025	Catherine De Canal & Kelli Mukaddam (NCAC), Suzanne Katschke (NAMI)	NCAC training offered at no cost; NAMI board recruitment for Madison chapter; plans for 2025 launch.
October 8, 2024	Pediatric Emergency Facility launch, adolescent crisis care, substance abuse residential programs at Wellstone	Jeremy Blair (Wellstone), Adam McNutt (community advocate)	Addressed concerns about care pathways for children and discharge processes; advocacy for long-term facilities.
September 10, 2024	Suicide prevention and awareness, SAM Foundation education programs, veteran crisis intervention and suicide prevention	Nicole Goggans & Julie Smith (SAM Foundation), Heather McCaulley (VA)	QPR and SAFE Talk trainings offered; emphasis on veteran crisis services and improved communication regarding support resources.
August 13, 2024	Diversity, Equity, and Inclusion (DEI) programs, Drug and Mental Health Court updates, jail overcrowding, and mental health treatment options	Kenny Anderson (City of Huntsville), Judge Claude Hundley, Chad Brooks (Madison County Sheriff's Office)	Advocacy for more courts (DUI, domestic violence); mental health care integration into court and jail systems.
June 11, 2024	NAMHC communications and resource roadmap, DHR services overview, challenges with foster care mental health resources	Daniel Adamek (Little Orange Fish), Rachel Heard & Anthony Booth (Madison County DHR)	Introduced a communications platform for resource navigation; highlighted barriers to foster care and mental health access.



ITERATIVE DEVELOPMENT OF AI FOR AUTISM SERVICES

- **Approach:**
 - Developed a domain-specific GPT-4 chatbot tailored for autism care in Alabama.
 - Leveraged curated datasets, geospatial mapping, and local expertise.
- **Key Enhancements:**
 - Integrated RAG for dynamic information retrieval.
 - Achieved transparency and traceability in AI outputs.
 - Improved accessibility for social workers and families.
- **Example:**
 - Query: *“Find a speech therapist near Huntsville, AL who accepts Medicaid.”*
 - Output: Specific, actionable provider recommendations within a 50 km radius...





Understanding and Addressing the Needs of Our Homeless

Challenges:

- Understanding the complex determinants of homelessness.
- Addressing the needs of individuals in a data-driven, systematic way.
- Gaps in care and resource allocation, particularly in underserved communities.

Objective:

- To leverage AI tools to better understand the root causes of homelessness and direct more effective interventions.

Goals:

- Identify gaps in care and resource availability.
- Guide future interventions to address homelessness more effectively.
- Influence policy and resource allocation to better support those experiencing homelessness.

A large, dark teal circular graphic with a white border. Inside the circle, the text "THE SOCIAL DETERMINANTS OF HEALTH" is written in white, bold, uppercase letters. A vertical grey bar is located to the right of the circle.

THE SOCIAL DETERMINANTS OF HEALTH

“...the conditions in which people are born, grow, work, live, and age, and the wider set of forces and systems shaping the conditions of daily life.”

AI for Understanding Social Determinants

■ Purpose:

- Analyze conversations, policy documents, and transcripts to identify Social Determinants of Health (SDH).
- Support healthcare professionals, researchers, and policymakers in understanding SDH impacts on health outcomes.

■ Key Features:

- **Detailed Summaries:** Capture overall context and key insights.
- **SDH Identification:** Categorize determinants (e.g., housing, education) using a structured framework.
- **Causal Analysis:** Examine interactions and health outcomes linked to SDH.
- **Clear Formatting:** Provide professional, research-ready outputs.



AI in Action: Identifying and Categorizing SDH

Core Functions:

- **Input Understanding:** Reads and processes text for relevant information.
- **Summarization:** Captures context, focus areas, and main ideas.
- **SDH Identification:** Categorizes determinants like housing instability or education access (e.g., SD01 for Economic Stability).
- **Causal Analysis:** Explains interactions (e.g., "Poverty leads to Food Insecurity, worsening chronic diseases").
- **Structured Output:** Delivers reports with summaries, SDH breakdowns, and causal relationships.

Example Output:

- **Summary:** Key challenges in a community include unemployment, food insecurity, and high crime rates.
- **Identified SDH:**
 - Unemployment (SD01.01): Limits household income.
 - Food Insecurity (SD01.02): Reduces access to nutrition.
 - Crime (SD04.02): Impacts mental and physical health.



Multimodal ICD-11-Based Analysis of Interview

Analysis Configuration

Video

Options

History

Video URL

<https://youtu.be/vnixz--hF7U>



Re-analyze

Analysis Output

Overview

Details

Initial Review

The video features an interview with a woman named Holly who is experiencing homelessness in Lexington, KY during winter (snow visible). She discusses the duration of her homelessness, living in a tent, losing her job due to transportation issues related to homelessness, missing a job interview due to exhaustion/sleep deprivation, the stress and dangers of living on the streets (especially for women), harassment by police following a law criminalizing homelessness, lack of follow-through from outreach services, separation from her daughter, the unaffordability of housing even with a job, how COVID-related job loss led to losing her apartment, and the practice of 'bush hogging' (clearing encampments). Key themes include economic instability, inadequate housing, lack of safety/security, legal system interactions, lack of social support, and the impact on health/well-being.

Primary SDH Categories

- Problems related to housing and economic circumstances (Including Homelessness, Poverty, Inadequate Housing, Low Income) (Z59) - 11 indicators
- Problems related to employment and unemployment (Including Unemployment, Change of Job, Transportation Insecurity) (Z56) - 4 indicators
- Problems related to other psychosocial circumstances (Including Legal Circumstances, Victim of Crime/Harassment) (Z65) - 4 indicators
- Problems related to social environment (Including Lack of Support, Social Exclusion) (Z60) - 3 indicators
- Problems related to physical environment (Including Exposure, Safety) (Z58) - 2 indicators
- Other problems related to primary support group, including family circumstances (Family Separation) (Z63) - 1 indicators
- Personal risk factors, not elsewhere classified (Potential non-compliance due to circumstance - sleep) (Z91) - 1 indicators

Detailed ICD-11-Based Analysis of Interview

Analysis Configuration

Video

Options

History

Video URL

<https://youtu.be/vnixz--hF7U>



Re-analyze

Analysis Output

Overview

Details

Indicator 1: Subject states she has been homeless since June of the previ... auditory (7.0s)

Indicator 2: Woman is interviewed outdoors in a snowy, cold environment. visual (0.0s)

Evidence Type: visual

Description: Woman is interviewed outdoors in a snowy, cold environment.

Timecode: 0.0s - 351.0s

Interpretation: Visual context supports the statement of homelessness and implies exposure to the elements.

Linked SDH Codes:

- Z59.0: Homelessness
- Z59.1: Inadequate housing
- Z58.8: Other problems related to physical environment

Indicator 3: Subject states she lost her job because she couldn't get bac... auditory (113.0s)

Indicator 4: Subject states she missed a job interview because she was 'w... auditory (125.0s)

Indicator 5: Subject describes sleep deprivation due to stress of homeles... auditory (136.0s)

Indicator 6: Subject states police harassed them daily for two weeks afte... auditory (35.0s)

Transcript ICD-11-Based Analysis of Interview

ICD-11 Code Category		Description	Indicators from Transcript
QE21.1	Social Determinant	Homelessness	"I sleep here." / "This is the only church... that we can sleep on their steps."
QE61.0	Social Determinant	Exposure to socio-political discrimination	"The city wants to arrest you onsite." / "Right not to look at a homeless person."
QE50.0	Social Determinant	Social exclusion	"My family wouldn't look down on me for being homeless."
QE52.0	Social Determinant	Lack of access to safe housing	"There's no such thing as being out here and you are safe."
QE60.0	Social Determinant	Exposure to violence and insecurity	"People are cruel. People are insulting. They want to hurt you."
QE02.0	Social Determinant	Post-service adjustment difficulties	"I'm a war veteran... I use all of my experience of being in the fields to live out here."
6B41	Mental Health Condition	Complex PTSD	Hypervigilance: "You have to be alert at all times." / Moral conflict over homelessness.
6B43	Mental Health Condition	Adjustment disorder	Emotional distress over familial rejection and being judged for homelessness.
6B40	Mental Health Condition	PTSD	References to military experience and survival techniques, suggestive of trauma history.



INNER DEFENSE

**SERVING VICTIMS OF TRAUMA
THROUGH BIOPSYCHOLOGY**

a community research collaborative led by **littleOrange fish**

The Inner Defense Initiative

“In honor of those who did not survive and those who did, but suffer terribly, I want to find a path to resiliency. The immune system might be that path.”

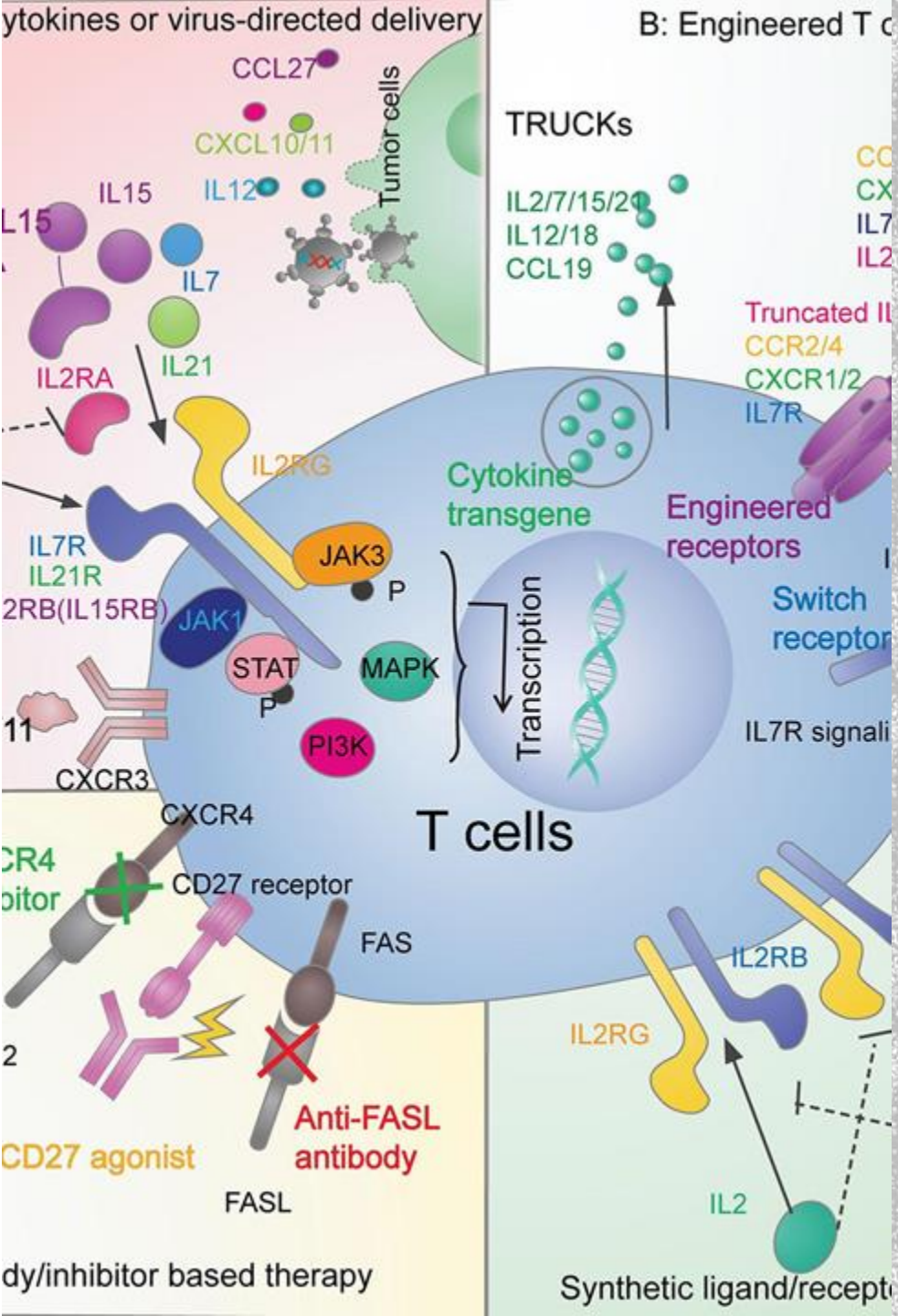
~ Dr. Joe Ng



Understanding Posttraumatic Stress Disorder (PTSD)

- **Prevalence of PTSD:** Approximately 15% of veterans from recent conflicts, such as the Vietnam War, Gulf War, and operations in Iraq and Afghanistan, have experienced PTSD. In the broader U.S. population, an estimated 8% will suffer from PTSD at some point in their lives.
- **Diagnostic Criteria:** PTSD diagnosis includes exposure to life-threatening events, recurring memories or flashbacks, avoidance of trauma reminders, changes in mood or cognition, and heightened arousal symptoms like being easily startled or experiencing violent outbursts.
- **Susceptibility Factors:** Not everyone exposed to traumatic events develops PTSD; approximately 10-20% do. This variance prompts questions about the roles of genetics, environment, and personal experiences in influencing susceptibility.
- **Physiological Mechanisms:** Research indicates chemical and structural differences in the brains of individuals with PTSD, suggesting that psychological trauma can lead to tangible changes in brain anatomy and function.
- **Mind-Body Connection:** The interdependence between the brain and other body systems is evident, as high rates of comorbid conditions—such as cardiovascular, gastrointestinal, and immune disorders—are observed in those with PTSD. For instance, veterans with PTSD show an increased risk for autoimmune disorders.





PTSD and the Immune System

- Unique T-cell receptor (TCR) repertoires have been observed in individuals with PTSD symptoms.
- A specific subset of 564 CDR3 TCR sequences is linked to PTSD, distinct from those in non-PTSD individuals.

Key Question:

- Why do some individuals develop PTSD under similar trauma exposure while others do not?





AI Insights into PTSD: Investigating the Mechanistic Connections Between Mind and Body

Challenges:

- Understanding the complex interaction between PTSD and the body's inflammatory responses.
- Mapping the relationships between psychological trauma and immune system mechanisms.
- Identifying personalized treatment approaches based on these biological insights.

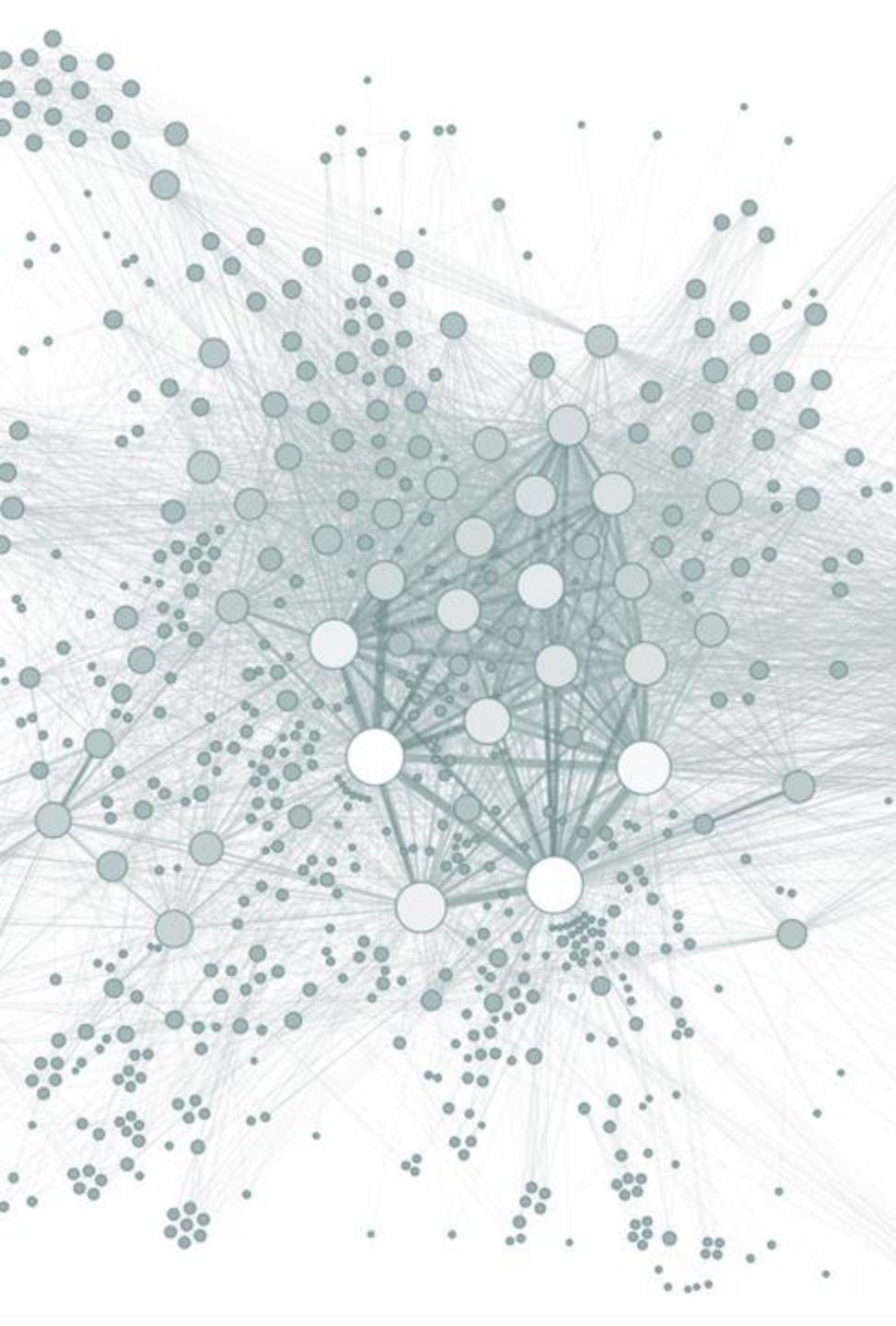
Objective:

- To investigate how psychological trauma affects the body's systems, specifically the immune response, and how this interplay can inform treatment strategies.

Goals:

- Provide a deeper understanding of PTSD's impact on the body.
- Identify new therapeutic targets through better comprehension of mind-body interactions.
- Drive research that leads to personalized, effective treatments for PTSD.





Exploring the Relationship Between PTSD and Inflammation



Objective: Understand the molecular mechanisms linking PTSD and inflammation.

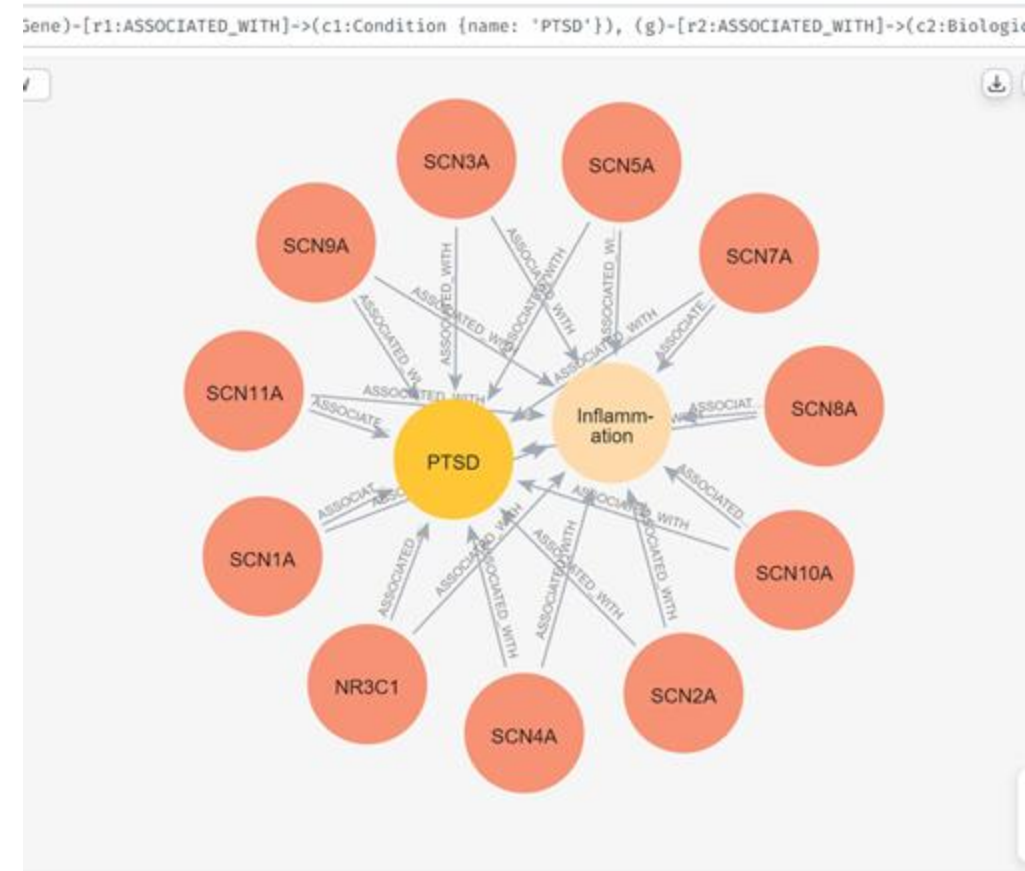
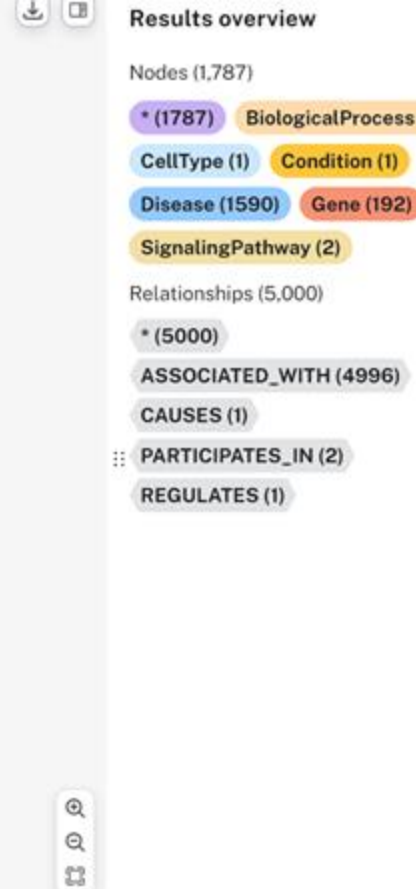
Research Approach:

- Built a Graph Database integrating multi-omics data (genes, transcripts, proteins).
- Dataset included 62,061 nodes and 97,704 edges.

Key Insights:

- 558 genes linked to both PTSD and inflammation.
- Filtering by Global Score identified 11 key genes driving the molecular connection.





11 Genes strongly linking PTSD and Inflammation.

Breast Cancer – associated with **PSEN1**.

Schizophrenia – associated with **DISC1** and **NRG1**.

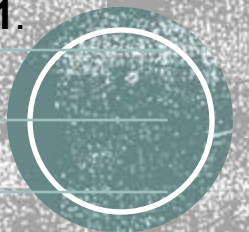
Autism Spectrum Disorder (ASD) – associated with **SHANK1**.

Alzheimer's Disease – associated with **PSEN1**
and **MAPT**.

Epilepsy – associated with **SCN1A**.

Bipolar Disorder – associated with **ANK3**.

Breast Neoplasm – associated with **ESR1**



Graph Queries Reveal Biological Insights into PTSD

Tracing PTSD's Molecular-to-Behavioral Impact

Query:

```
MATCH path = shortestPath( (ptsd:Condition {name: "PTSD"})-[:ASSOCIATED_WITH*1..5]-
>(symptom:Symptom {name: "Sleep Disturbance"}))
RETURN path
```

Result:

PTSD → IL-6 → HPA Axis Dysregulation → Cortisol → Sleep Disturbance

Insight: Shows how trauma triggers a neuroimmune cascade that disrupts circadian and sleep processes

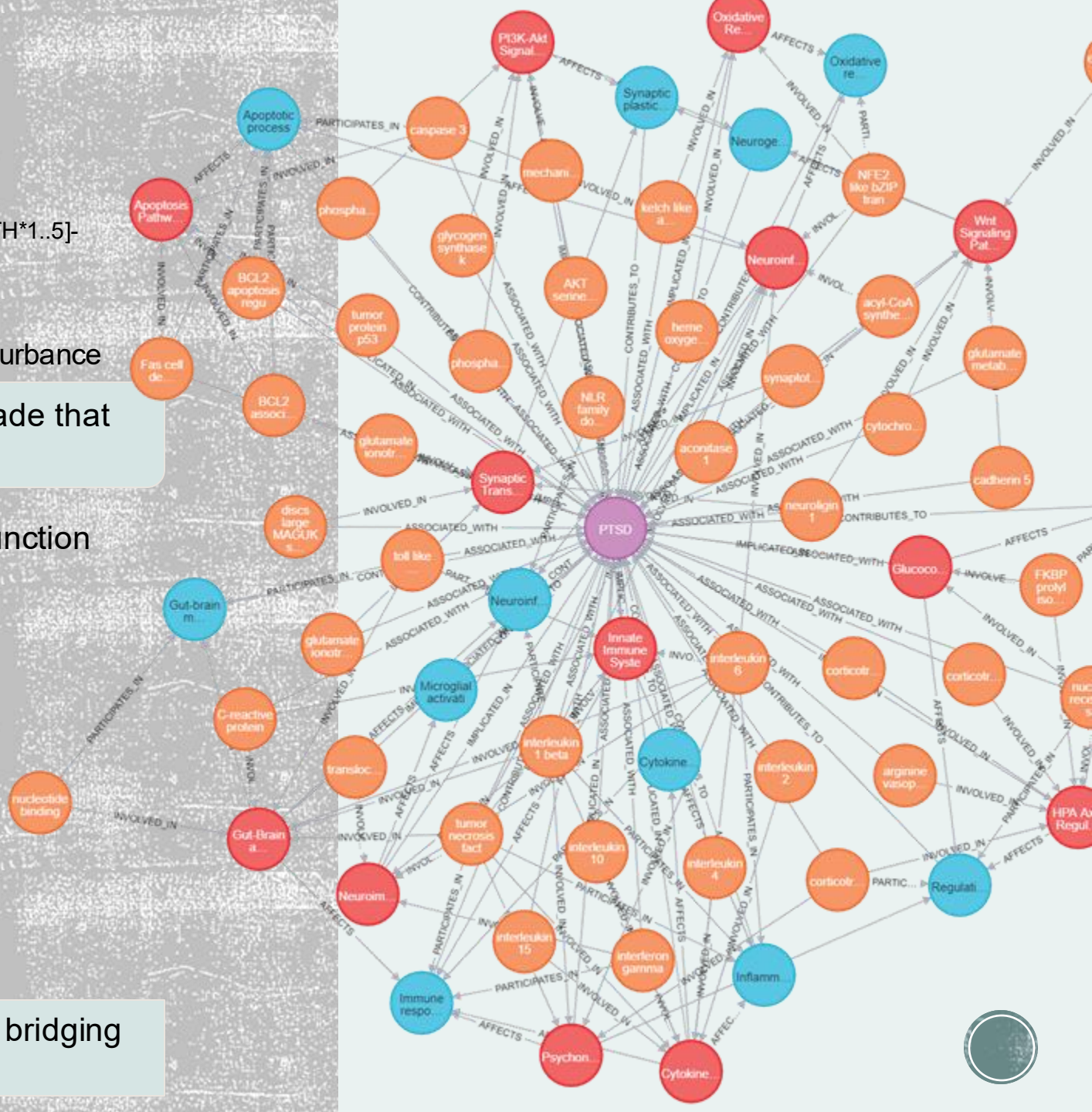
Identifying Key Mediators Between PTSD and Brain Dysfunction

Query:

```
MATCH (n)-[r]-()
WHERE (n)-[:ASSOCIATED_WITH]->(:Condition {name: "PTSD"})
AND (n)-[:MODULATES|IMPACTS]->(:BrainStructure)
RETURN n.name AS Mediator, count(r) AS Degree
ORDER BY Degree DESC LIMIT
```

Mediator	Degree
IL-6	10
Cortisol	9
HPA Axis	8
Microglial Activation	7
NF-kB	6

Insight: Reveals central immune and endocrine mediators bridging stress to brain alterations.



Future Directions for PTSD-Inflammation Research

LLM and GraphRAG Integration in Multilayered Knowledge Graphs



Extending Knowledge Graphs:

Extend graph database of PTSD and inflammation relationships to include other layers.

Extract entities (e.g., cytokines, pathways, genes) and relationships (e.g., "activates," "inhibits") from literature using LLMs.

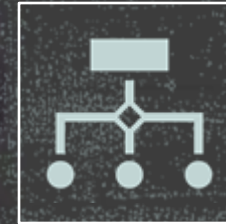
Add context based on problem space to be addressed.



Graph-Based Prompt Augmentation:

Use GraphRAG to provide context during queries.

Example: Query the graph for *"What cytokines are involved in PTSD-related inflammation?"*



Multi-Hop Reasoning:

Traverse the graph for complex insights (e.g., "How does PTSD influence IL-6 levels?").

Identify indirect relationships through connected nodes and paths.





Our Community of Support



Volunteers:

- Danielle Adamek
- Tracy DeBerry
- Krista Moulton
- Paula Phillips
- Leslie Wood



Board of Directors:

- Jeremy Blair
- Jeff Irons
- John Schmitt

