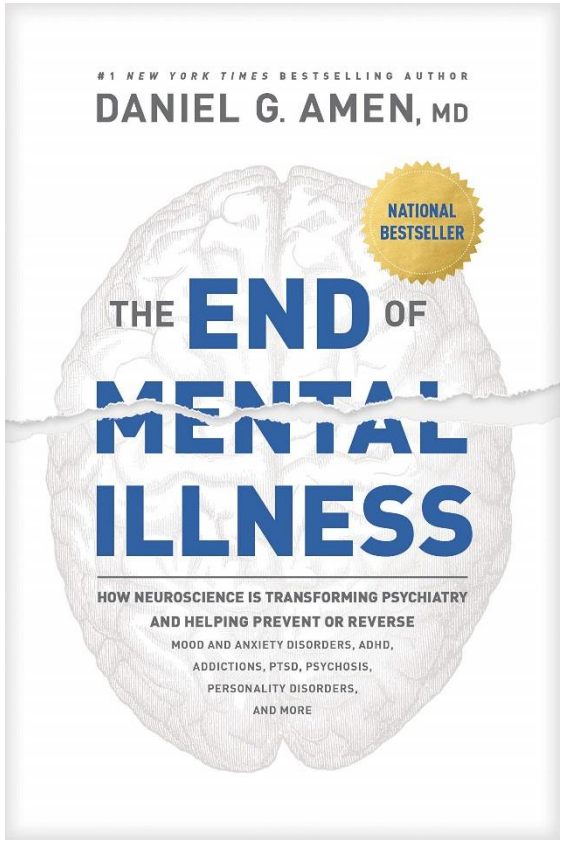
TRANSFORM

The End of Mental Illness

HOW NEUROSCIENCE IS TRANSFORMING PSYCHIATRY AND HELPING PREVENT OR REVERSE MOOD AND ANXIETY DISORDERS, ADDICTIONS, PTSD, PSYCHOSIS, PERSONALITY DISORDERS, AND MORE.

The End of Mental Illness

TRANSFORM



Dr. Daniel G. Amen, MD

- Neuroscientist
- Double board-certified psychiatrist

The End of Mental Illness

TRANSFORM

- This book strives to eliminate the term *mental illness* and replace it with the term *brain health/mental health issues*, disregard an outdated diagnostic paradigm based solely on symptom clusters and replace it with a brain-centered paradigm based on symptoms plus neuroimaging & a personalized medical approach to brain/body health, and prevent or treat the 11 major **BRIGHT MINDS** risk factors that damage the brain and steal the mind.

The End of Mental Illness

TRANSFORM

- Reimagining mental health as brain health changes everything.
- In reframing this discussion:
    - People see their problems as medical, not moral.
    - It decreases stigma, shame, and guilt.
    - It increases compassion and forgiveness from families.
    - It is a more accurate description of the biology involved.
    - It elevates hope.
    - It increase compliance with treatments.

A Brief History of Mental Illness Diagnoses and Treatments

TRANSFORM

- Jarrett
  - Jarrett was diagnosed with ADHD when he was in preschool. He had trouble focusing, sleeping, and his teachers told his parents he would never do well in school. After seeing multiple doctors, he was prescribed 5 stimulant medications for his ADHD, none of which helped him. In fact, they made him worse and triggered mood swings and rages.

- How would Jarrett have been treated throughout history?

A Brief History of Mental Illness Diagnoses and Treatments

TRANSFORM

- Ancient Civilization
  - Religious leaders may have attempted an exorcism or drilled a hole in his skull to release the evil spirits.
  - Philosophers Hippocrates and Galen would have told him to exercise, listen to music, create art, and focus on something that fit his restless nature. They might have also added talk therapy or had him take natural supplements.
- Middle Ages
  - Religious leaders may have tried an exorcism or physicians could have placed him in an asylum. To be blistered, bled, or given laxatives.
- 18th and 19th centuries
  - Jarrett might have been institutionalized and sterilized, or even euthanized and his family would have been placed under suspicion. Physicians might have prescribed him poisonous drugs like arsenic. He also might have undergone hypnosis to relieve energy blockage.
  - Freud may have attempted to work out his internal conflicts.

A Brief History of Mental Illness Diagnoses and Treatments

TRANSFORM

- Early 20th century
  - Jarrett may have been purposefully given malaria, undergone insulin-shock therapy or electric shock therapy to reset his brain, or had a frontal lobotomy performed (which would have calmed his aggression but permanently damaged his personality.)
- Late 20th century
  - Jarrett had tried five prescription drugs, all of which had failed, but doctors would have continued trial and error to get his symptoms under control.
  - The 15-minute med check – psychiatrists spend only 15 minutes with their patients, to maximize earning potential but thus results in a disconnection between them and their patient.
- 21st century
  - Jarrett may have tried Transcranial Magnetic Stimulation to stimulate activity in areas known to affect mood, anxiety and pain. He also my have been treated with marijuana or ketamine.

Making Invisible Illnesses Visible

TRANSFORM

If you have crushing chest pain, your doctor will scan your heart…	But if you have crushing depression, no one will ever look at your brain
If you are sick to your stomach, your doctor will image your abdomen…	But if you are sick with anxiety, no one will ever look at your brain
If you have stabbing back pain, your doctor will order an MRI…	But if you have urges to stab others, no one will ever look at your brain

Making Invisible Illnesses Visible

TRANSFORM

- Jason was 18 when he started hallucinating and hearing voices. His university psychiatrist diagnosed him with schizophrenia and told his parents he would have to be on antipsychotic medications for the rest of his life.
- Amen worked with Jason and scanned his brain, which showed evidence of a past brain injury in the left temporal lobe, which when damaged can result in dark thoughts and hallucinations. The scan also showed low activity in his frontal lobes, which is the area known for focus and planning.
- After looking at Jason's scans, Amen concluded that he had psychotic depression, not schizophrenia. His condition was made worse by the injury he sustained in the past and chronic stress. He was taken off his antipsychotics and given healing nutrients, cognitive-behavior therapy, and hyperbaric oxygen therapy to heal his previous brain injury. Four months later, he significantly improved.

Making Invisible Illnesses Visible

TRANSFORM

- Experienced clinicians can tell if someone is **likely** to have a mood/anxiety disorder, ADHD, personality disorder, etc.
- But what clinicians cannot do, and will never be able to do, without function brain imaging is to know the underlying brain biology of the patients they treat.
- Without imaging your brain, your doctor can't tell if your inattention, depression, or aggression is from:
  - Low blood flow from vascular disease, a genetic abnormality, an inflammatory process related to gut health problems, physical trauma from sports, untreated toxic exposure to carbon monoxide or mold, a brain infection, undiagnosed sleep apnea, nutrient or neurohormone abnormalities, etc….

Making Invisible Illnesses Visible

TRANSFORM

- Why don’t all psychiatrists use brain imaging then?
  - This new way of thinking changes everything that has been taught in medical schools and psychiatric residency training for decades.
  - It would drastically change the way patients are both diagnosed and treated.
  - It would take it from a generalized symptom-cluster diagnostic and treatment protocol **without biological evidence** to a more **objective** technique that uses brain mapping tools to help **optimize the patient’s brain function,** and treatments that are **more natural and lifestyle-based** and more accessible to patients.

12 Guiding Principles to Change Your Life

TRANSFORM

1. Your brain is involved in everything you do.
    - How you think, how you feel, how you act – and every decision you make.
2. When your brain works right, you work right.
    - When your brain is troubled, you have trouble in your life. When your brain is healthy, you tend to be effective, thoughtful, creative, and energetic.
3. Your brain is the most complicated organ in the universe.
    - Your brain, although only accounting for 2% of your body weight, yet it uses 20-30% of the calories you consume and 20% of your body's oxygen and blood flow.
4. Your brain has needs that must be met in order to work at optimal efficiency.
    - Healthy blood flow, proper hydration, physical and mental exercise, stimulation, fuel, adequate sleep, and a strong immune system, among other things.
5. Your brain is soft, and it is housed in a very hard skull.
6. Many things can hurt the brain.
7. Many things can help the brain.

12 Guiding Principles to Change Your Life

TRANSFORM

8. Like an orchestra, all parts of your brain need to be working well together to make you the best that you can be. Certain brain systems tend to do specific things.

9. Understanding your brain helps you identify specific problems and which part of your brain may need help. Problems in certain brain systems tend to be associated with specific issues.

10. Psychiatric illnesses are not single or simple disorders; they all have multiple types that require their own specific treatments.

- Taking a one-size-fits-all approach to treatment invites failure and frustration.

11. The amount of “brain reserve” you can have can help you handle life’s stresses or make you more vulnerable to them.

- “Brain reserve” is like the extra cushion of brain function you have to help you deal with the stressors life throws at you.
- To boost your brain reserve, you have to love your brain, avoid the things that hurt your brain, and do the things that help your brain

12. The most important lesson from imaging is that you are not stuck with the brain you have. You can make it better, and we can prove it.

- This is exciting because with a better brain, a better life and better mental health will come.

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MIND Program
  - 3 components:
    - 1. Optimize the four circles of a whole life – biological, psychological, social, and spiritual.
    - 2. Prevent or treat the 11 major risk factors that damage the brain and steal your mind.
    - 3. Target treatment to your specific needs, such as ADD/ADHD, anxiety, depression, psychosis, or insomnia.

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MINDS Program
  - The Four Circles
    - Biological: how your physical body and brain function (body)
      - Is my behavior good for my brain or is it bad for it?
    - Psychological: developmental issues and how you think (mind)
      - Mindset: Doing the right things is always about love
    - Social: social support and interactions, and your current life situation (connections)
      - Do I model health or illness?
    - Spiritual: your connection to God, the planet, and past and future generations; and your deepest sense of meaning and purpose (spirit)
      - Why do I care?

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MINDS Program:
  - Biological Circle:
    - Love your brain.
    - Avoid anything that hurts your brain.
    - Engage in regular brain-healthy habits.

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MINDS Program:
  - Psychological Circle:
    - Care deeply about your psychological health.
    - Engage in regular healthy psychological habits, including:
      - Telling yourself you are enough
      - Challenging and eliminating the ANTS
      - Noticing what's right about yourself more than what is wrong
      - Saying "Today is going to be a great day."
      - At the end of the day, journaling what went well that day / practicing gratitude
      - Seeking brain-informed psychotherapy, when needed
    - Avoid excessive social media use and bad psychological habits, such as believing every thought you have or not dealing with past emotional trauma.

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MINDS Program:
  - Social Circle:
    - Care about your social connections and how you manage stress.
    - Avoid anything that hurts your relationships or increases stress, such as:
      - Unhealthy people
      - Us-versus-them mentality
      - Negative news cycles
      - Unnecessary stress
      - Excessive screen time and social media
    - Engage in habits that strengthen your relationships and lower unnecessary stress, such as:
      - Positive relationship habits (responsibility, empathy, time, listening, assertiveness, noticing what you like more than what you don't, forgiveness)
      - Volunteering to help others in need
      - Looking for ways to bring your social connections together
      - Cultivating stress management and decision-making skills
      - Surrounding yourself with positive, healthy people
      - Keeping your distance from fast restaurants, marijuana dispensaries, happy hour, decadent holiday parties

Get Your Brain Right and Your Mind Will Follow

TRANSFORM

- BRIGHT MINDS Program:
  - Spiritual Circle:
    - Care about your deepest sense of meaning and purpose. You are more than just your cells, thoughts, and connections.
    - Stop engaging in habits that hurt your spiritual circle.
    - Live by a moral code.
    - Engage in regular positive spiritual habits, including:
      - Living with intentionality, being goal-oriented toward a higher purpose.
      - Building or rediscovering connections with God, the church, the past, the future, and/or the planet.
      - Engaging in meaningful work, such as volunteering at your church or place of worship.
      - Engaging in meaningful relationships with people who share your values and faith.
      - Having courage and faith in the face of challenges.
      - Living with the end in mind – what does God want you to accomplish while you are alive?

How to Create or Eliminate Mental Illness: A **BRIGHT MINDS** Approach

B is for **Blood Flow**
R is for **Retirement and Aging**
I is for **Inflammation**
G is for **Genetics**
H is for **Head Trauma**
T is for **Toxins**

M is for **Mind Storms**
I is for **Immunity and Infections**
N is for **Neurohormone Issues**
D is for **Diabesity**
S is for **Sleep**

B is for Blood Flow

- Blood flow is critical for life
  - It transports nutrients, including oxygen, to every cell in your body.
  - It flushes away toxins.
  - Your brain weighs about 3 pounds but uses 20% of the oxygen and blood flow in your body.
- Taking care of your heart and blood vessels to ensure healthy blood flow to your brain is not only important for your physical health, but also for your mental well-being.
- Low blood flow shown on a SPECT scan has been seen with depression, suicide, bipolar disorder, schizophrenia, seizure activity, head trauma, Alzheimer's, and more.

B is for Blood Flow

TRANSFORM

- Blood Flow Risk Factors
  - History of a stroke
  - More than two cups of **caffeinated drinks** a day
  - History of cardiovascular disease, including coronary artery disease, heart attack, heart failure, or heart arrhythmia
  - **High low-density lipoprotein** (LDL) cholesterol in the blood
  - Prehypertension or **hypertension** in midlife
  - Erectile dysfunction
  - **Sedentary lifestyle and limited exercise**, less than twice a week
  - Prediabetes or diabetes
  - **Smoking** or ingesting nicotine
  - **Excessive alcohol use**
  - Sleep apnea

B is for Blood Flow

TRANSFORM

- Strategies that can help support your blood flow and blood pressure
  - Care about your blood vessels. They are important.
  - Avoid anything that decreases brain blood flow.
  - Get medical help for anything that damages your blood flow.
  - Practice natural strategies to support healthy blood pressure – **hydrate, eat mostly plants, limit salt intake, eat foods high in magnesium, sleep 7-8 hours a night.**
  - Take medication if you need it.
  - Engage regularly in behaviors that enhance blood flow – **spend 10 - 20 minutes a day in prayer or meditation, build regular exercise into your lifestyle.**
  - Undergo hyperbaric oxygen therapy (HBOT) – simple, noninvasive, painless treatment with minimal side effects that uses the power of oxygen to enhance the healing process and reduce inflammation.
  - Take supplements with research-based evidence to help maintain healthy blood pressure and increase blood flow.

R is for Retirement and Aging

TRANSFORM

- Children have very active brains that tend to settle down in activity around their mid-20s. From the mid 20s, brain activity then tends to stay relatively stable until the 60s, when it begins to decline, often due to poor vascular health and other BRIGHT MINDS factors. But this doesn’t have to happen!
- The older you get, the more likely you are to be diagnosed with dementia, struggle with serious memory problems, social isolation, hearing problems, and overall cognitive function.

R is for Retirement and Aging

TRANSFORM

- Retirement/Aging Risk Factors
  - Increasing age, especially over 65
  - Having a job that does not require new learning
  - **Loneliness** or social isolation
  - Retired **without new learning endeavors** or passion or purpose
  - Too much or too little iron
  - Decline of neurotransmitters, such as serotonin, dopamine, gamma-aminobutyric acid, and acetylcholine

R is for Retirement and Aging

TRANSFORM

- Strategies for reducing your retirement/aging risk factors:
  - Care! The older you get, the more serious you need to be.
  - Avoid anything that accelerates aging.
  - Know your *why* for being healthy.
  - **Exercise your brain with new learning**.
  - **Balance your iron levels.**
  - **Get connected.**
  - Take nutraceuticals that are most useful to slow aging – such as N-acetylcysteine, Huperzine A, Saffron, and Sage.

I is for Inflammation

TRANSFORM

- Inflammation can damage our brain and mind. It has been associated with a wide range of neurological and psychiatric illness, including depression, bipolar disorder, obsessive-compulsive disorder (OCD), schizophrenia, personality disorders, Alzheimer's disease, and Parkinson's disease.
- Many risk factors can trigger inflammation – injury and infection are not the only ones!

I is for Inflammation

TRANSFORM

- Inflammation risk factors:
  - Low levels of vitamin D
  - Environmental toxins
  - **Smoking**
  - **Excessive alcohol**
  - **Chronic stress**
  - Childhood trauma
  - Gum disease
  - **Obesity**
  - **Prediabetes or diabetes**
  - Insomnia
  - Excessive exercise
  - Proinflammatory foods
  - Low Omega-3 Index
  - Leaky gut

I is for Inflammation

TRANSFORM

- Strategies for reducing your inflammation risk:
  - Care about your level of inflammation and ask your doctors to test for it on a regular basis.
  - Avoid anything that increases inflammation.
  - Engage regularly in habits that lower inflammation - consume prebiotics or take prebiotic supplements, be cautious about taking antibiotics, reduce homocysteine, take care of your gums
  - Take nutraceuticals that lower inflammation – probiotics, folate, vitamin B6, vitamin B12, folate, Omega-3, betaine.

G is for Genetics

- If you have family members with brain health/mental health challenges, you have a higher risk of having them too.
- However, having a genetic risk is **not** a death sentence!
- Genes load the gun; your behavior and environment pull the trigger

G is for Genetics

TRANSFORM

- How psychiatric issues in your family make you more susceptible to trouble:
  - You have the genetic vulnerability
  - You are more likely to have experienced lasting stress because of the psychiatric challenges in your family.
  - The stress of the illnesses in prior generations changed your genes to become more vulnerable to trouble.
  - If your family self-medicate with bad habits, you are more likely to pick up those same behaviors, which increases your risk of brain health/mental health issues
  - If your family doesn't care enough about their own health or about your well-being to change their behavior, it can be harder for you to learn to love yourself enough to adopt a healthier lifestyle.

G is for Genetics

TRANSFORM

- Genetic risks for brain health issues
  - Family history of neurological illnesses
  - Family history of psychiatric illnesses, including addictions
  - Not being serious about health, despite family history
  - Epigenetic factors, such as poor diet, environmental toxins, unresolved emotional trauma, etc.

G is for Genetics

TRANSFORM

- Strategies for reducing your genetic risk factors:
  - Care about your genes and know your vulnerability.
  - **Avoid any risk factors** that accelerate disease for your genetics
  - Engage in **regular healthy habits** to decrease the expression of problem-promoting genes.
  - Take nutraceuticals related to any genetic variances you may have.

H is for Head Trauma

TRANSFORM

- Your brain is soft. It floats in cerebrospinal fluid inside of a very hard skull that has many sharp, bony ridges, so it is easily damaged.
- After physical trauma, many things can occur to the brain:
  - Bruising
  - Broken blood vessels and bleeding
  - Increased pressure
  - Lack of oxygen
  - Damage to nerve cell connections
  - Ripping open of brain cells that spill out proteins that cause inflammatory reactions
- Research shows that head injuries increase the risk of many brain health/mental health issues

H is for Head Trauma

TRANSFORM

- Head Trauma Risk Factors
  - One or more **head injuries**
  - Contact sports with concussions
  - Contact sports with sub concussive blows
  - Irlen syndrome
    - Irlen syndrome is a visual processing problem where certain colors of the light spectrum irritate the brain. It runs in families and is common after traumatic brain injuries.

H is for Head Trauma

TRANSFORM

- Strategies for reducing your head trauma risk factors:
  - Love your brain, and find out if you have had a concussion or head injury.
  - Avoid any future head injuries by **protecting your head** (wear a helmet, avoid contact sports, wear your seatbelt, avoid climbing trees or ladders, etc.)
  - Actively engage in repairing any past head injuries.
  - Get your hormones tested, including thyroid, DHEA, and testosterone. (Your pituitary gland often gets injured during head trauma.)
  - Consider getting a functional imaging study.
  - Neurofeedback – using your mind to control your physiology for better brain health/mental health
  - Take nutraceuticals.
    - Multivitamin/mineral complex, omega-3 fatty acids, a combination of ginkgo

T is for Toxins

TRANSFORM

- Your brain is the most metabolically active organ in your body. Therefore, it is vulnerable to damage from toxins.
- Toxins are one of the major causes of brain/mental health. They:
  - Reduce cerebral blood flow
  - Disrupt the endocrine system
  - Impair the immune system
  - Disrupt the gut microbiome
  - Increase the likelihood of developing diabetes and obesity
  - Damage DNA
  - Impair enzyme systems
  - Harm organs
  - Alter gene expression
  - Damage cell membranes

T is for Toxins

TRANSFORM

- Common toxins at the root of mental illness:
  - Alcohol
  - Marijuana
  - Smoking/vaping
  - Mold
  - Lead
  - General anesthesia
  - Chemotherapy and heavy metals
  - Personal care products
  - Household items

T is for Toxins

TRANSFORM

- Common toxins that can be inhaled:
  - Air pollution
  - Asbestos
  - Automobile exhaust
  - Aviation fumes
  - Carbon monoxide
  - Cigarette smoke
  - Cleaning chemicals
  - Fireplace fumes
  - Gasoline fumes
  - Mold
  - Paint and solvent fumes
  - Pesticide or herbicide residues
  - Welding, soldering fumes

- Common toxins that can be ingested or absorbed through the skin:
  - Apples sprayed with diphenylamine
  - Artificial food dyes, preservatives, and sweeteners
  - BPA (bisphenol A) found in plastics, food and drink containers, dental sealants
  - Chemotherapy
  - General anesthesia in some patients
  - Heavy metals such as mercury, lead, and cadmium
  - Excessive alcohol
  - Foods manufactured with plastic equipment
  - Herbicides
  - Many medications
  - Marijuana
  - MSG (monosodium glutamate)
  - Pesticides
  - Polluted or tainted water

T is for Toxins

TRANSFORM

- Strategies for reducing your toxins risk factors:
  - Care about your detoxification organs
  - **Avoid toxins** as much as possible
  - Reduce toxin-contaminated foods in your diet
  - Purify your air
  - Reduce your use of unsafe health and beauty aids
  - Really clean the house
  - Engage in habits to **strengthen your detoxification system**
  - Support your skin

M is for Mind Storms

TRANSFORM

- Your brain is the world's most popular hybrid electrochemical engine. It has neurotransmitters to help you think, feel, and act.
- Diseases can impair the brain and cause:
  - Fewer synapses in a network, which is common in depression or a lack of mental or physical exercise
  - Fewer neurons in a network, which happens in Alzheimer's disease
  - Impaired generation of action potentials, which can happen if you have three or more alcohol drinks at a time
  - Damage to neurons that slow the speed of action potentials, common in head trauma or strokes
  - Excessive electrical activity, seen in seizure disorders

M is for Mind Storms

TRANSFORM

- Mind storms risk factors:
  - Seizures or history of seizures
  - Periods of spaciness or confusion
  - Frequent complaints that things look, sound, taste, smell, or feel funny
  - Sudden, repeated fear or anger
  - Irritability that tends to build, explode, then recede
  - Periods of panic and/or fear for no specific reason
  - Visual or auditory changes, such as seeing shadows or hearing muffled sounds
  - Mild paranoia
  - Headaches or abdominal pain of uncertain origin.

M is for Mind Storms

TRANSFORM

- Strategies for reducing your mind storms risk factors:
  - Care about how your brain cells fire and talk to each other
  - Avoid anything that increases mind storms
  - Be aware of the triggering effect of certain foods, food colors, and food preservatives
  - Be cautious with video game and flashing lights
  - **Engage in behaviors that decrease mind storms**
  - **Get seven to eight hours of sleep each night**
  - Take nutraceuticals that helps calm or control the excitability of the brain

I is for Immunity and Infections

TRANSFORM

- Immunity is your body's natural protection system.
- It performs its functions in 4 ways:
  - Identifies external invaders, internal cells, or tissues that are misbehaving
  - Recruits your white blood cells to attack the bad guys
  - Tags and decimates external and internal problems
  - Remembers invaders and troublemakers in case they return

I is for Immunity and Infections

TRANSFORM

- Having an autoimmune disease is associated with an increased risk for mood disorders, schizophrenia, bipolar disorder, ADD/ADHD, and dementia.
- immune disorders fall into 5 categories, all of which impact your brain health/mental health:
  - Immunodeficiency disorders
  - Allergies
  - Cancers of the immune system
  - Autoimmune disorders
  - Persistent infections

I is for Immunity and Infections

TRANSFORM

- Infectious diseases are a major cause of mental health issues that few medical professionals recognize.
- Infectious diseases are things like:
  - Lyme’s disease
  - Streptococcus (strep throat)
  - Syphilis
  - Toxoplasmosis
  - HIV/AIDS
  - Herpes

I is for Immunity and Infections

TRANSFORM

- Immunity and infections risk factors:
  - Autoimmune disorders
  - Unidentified infections
  - Low vitamin D level
  - Asthma and hay fever
  - Allergies to gluten, dairy, peanuts, corn, soy and other foods

I is for Immunity and Infections

TRANSFORM

- Strategies for reducing your immunity and infections risk factors:
  - Love and care about your immune system
  - Know your personal history, and check the health of your immune system
  - Avoid allergens and infections as much as possible
  - **Engage in immune-enhancing habits**
  - Take nutraceuticals that boost your immunity and prevent infections

N is for Neurohormone Issues

TRANSFORM

- Hormones are chemical messengers produced in the body that control and regulate the activity of certain cells and organs.
- Neurohormones have an important impact on the brain, and when they are out of balance, you may experience symptoms similar to those associated with mental health issues and become more vulnerable to brain health/mental health conditions like anxiety, depression, and even psychosis.

N is for Neurohormone Issues

TRANSFORM

- Neurohormones deficiency risk factors:
  - Abnormal levels of thyroid, cortisol, DHEA (dehydroepiandrosterone), estrogen, progesterone, testosterone, human growth hormone, and insulin.
  - Factors that inhibit thyroid production:
    - Excess stress and cortisol production
    - Deficiencies in vitamins B12 and B9, iron, ferritin, iodine, or selenium
    - Chronic illness
    - Compromised liver or kidney function
  - Factors that contribute to estrogen dominance
    - Chronic stress/elevated cortisol levels
    - Exposure to environmental toxins
    - Weakened immune system
    - Obesity
- Neurohormones deficiency risk factors (cont.)
  - Factors that contribute to low estrogen:
    - Menopause
    - Thyroid disfunction
    - Excessive exercise
    - Eating disorders
  - Factors that contribute to low progesterone:
    - Underactive thyroid
    - Taking antidepressants
    - Chronic stress
    - Deficiencies in vitamins A, B6, C or zinc
  - Factors that contribute to low testosterone:
    - Belly fat
    - High stress
    - Too much sugar, processed foods, and insulin
    - Alcohol consumption

N is for Neurohormone Issues

TRANSFORM

- Strategies for reducing your neurohormone risk factors:
  - Care about your hormones and test them on a regular basis
  - Limit anything that hurts your hormones
  - Steer clear of “endocrine disrupters”
  - Boost your health hormones
  - Use hormone supplements and medication wisely
  - Take nutraceuticals that will help support your endocrine system

D is for Diabesity

TRANSFORM

- Diabesity is having high blood sugar and/or being overweight or obese. It is an epidemic affecting nearly half the US population
  - About 36% of the population affected by prediabetes
  - About 14% affected by diabetes
- Both high blood sugar and being overweight take a toll on the brain and mind and negatively impact the BRIGHT MINDS risk factors.
- As your weight goes up, the function of the brain goes down.

D is for Diabesity

TRANSFORM

- Diabesity risk factors:
  - **High fasting blood sugar levels, prediabetes, or type 1 or type 2 diabetes**
  - Being **overweight or obese**
  - Aging (retirement/aging)
  - Family history of the disease (genetics)
  - **Alcohol abuse** (toxins)
  - Exposure to environmental toxins (toxins)
  - **Being sedentary** (blood flow)

D is for Diabesity

TRANSFORM

- Strategies for reducing your diabesity risk factors:
  - Care about your weight and blood sugar levels.
  - Avoid anything that increases the risk of diabesity.
  - Engage in regular **healthy habits** that decrease the risk of diabesity
  - Take nutraceuticals that help balance blood sugar

S is for Sleep

- When you are sleeping, your brain is hard at work performing some very critical functions necessary to keep it operating at optimal levels.
  - Elimination of cellular debris and toxins that build up during the day
  - Consolidation of learning and memory
  - Preparation for the following day
- Sleep health and brain health/mental health are tightly linked. Research shows that:
  - About 75% of people with depression also have insomnia.
  - An estimated 69-99% of people with bipolar disorder experience insomnia or feel a reduced need for sleep during manic episodes.
  - More than 50% of people with anxiety have trouble sleeping.
  - More than 50% of ADD/ADHD are more likely to experience sleep disorders than kids without the condition.

S is for Sleep

TRANSFORM

- Strategies for reducing your sleep risk factors:
  - Love and care about your sleep
  - Avoid anything that hurts your sleep
  - Beware of **bad sleep habits**
  - **Engage in regular brain-healthy sleep habits**
  - Take nutraceuticals that help with sleep

Keep Your Mind Bright

B is for **Blood Flow**: Optimize the foundation of life

R is for **Retirement and Aging**: When you stop learning, your brain starts dying

I is for **Inflammation**: Quenching the fire within

G is for **Genetics**: Know your vulnerabilities, but your history is not your destiny

H is for **Head Trauma**: The silent epidemic that underlies many mental illnesses

T is for **Toxins**: Detox your mind and body

M is for **Mind Storms**: Soothing the abnormal electrical activity that drives mood swings, anxiety, and aggression

I is for **Immunity and Infections**: Attacked from inside and out

N is for **Neurohormone Issues**: Miracle grow for your mind

D is for **Diabesity**: Reverse the epidemic that's destroying brains, minds, and bodies

S is for **Sleep**: Wash your brain every night to have brighter days

How to Make a Massive Difference

TRANSFORM

- Brain health issues don't just affect the person who suffers, but also many around them. Helping families help each other is an important part of the healing process.
- If we truly want to end mental illness, we must work to support everyone in the family by:
  - Encouraging communication
  - Teaching everyone about brain health. Just focusing on the person who suffers invites frustration and failure.
  - Showing people that asking for help is a sign of strength, not weakness.
  - Being cautious with tough love – it works for people whose brains work right, but for others it can cause lasting damage.
  - Teaching family members to be curious, not furious and judgmental, when one family member has a setback.