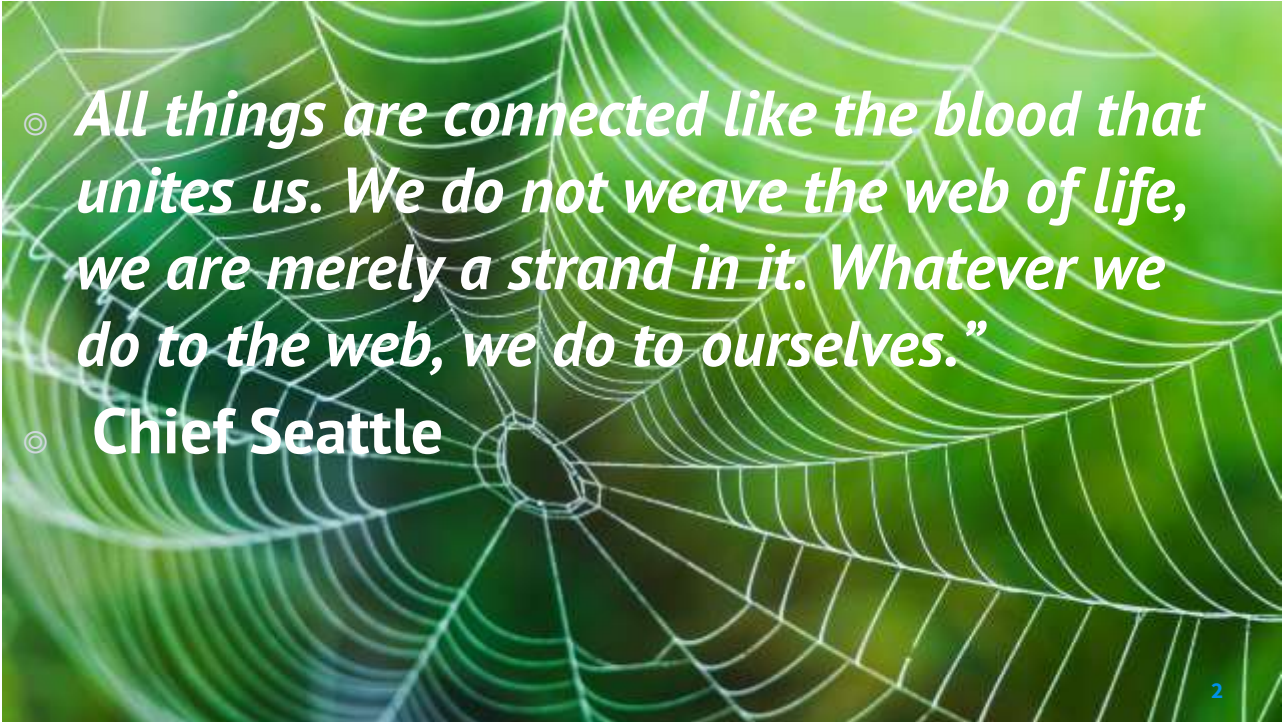




The Healing Power of Community and Hope

Scott Stoll, MD FABPMR
Co-Founder, The Plantrician Project

1

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- ◎ *All things are connected like the blood that unites us. We do not weave the web of life, we are merely a strand in it. Whatever we do to the web, we do to ourselves.”*
 - ◎ Chief Seattle

2

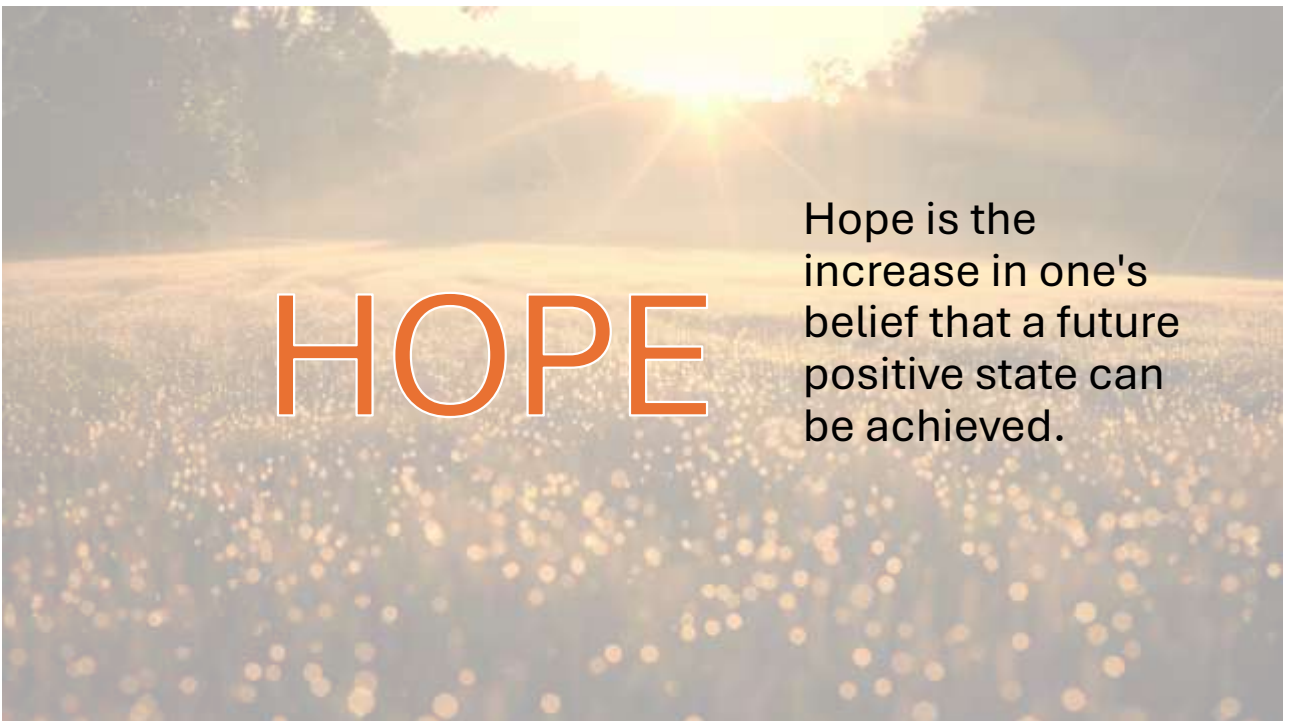
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Reality Today

- **Lifespan Gap:** Difference between zip codes can be as high as 20 to 30 years.
- **Fast Food Density:** 2.4 fast-food restaurants per square mile vs. 1.5 restaurants per square mile
- **Higher Convenience Store Concentration**
- **Food Quality Disparity**
- **Distance to Supermarkets:** Studies- more than twice as likely to have poor dietary quality > 4 miles from full-service supermarket
- **Affordability Ratio (Cost Barrier):** Healthier foods 2x vs Unhealthy
- **Magnification of Risk:** High polygenic risk score- greatest increase in disease incidence in **low socioeconomic status (low SES)**.
- **Lack of Place-Based Intervention:** Insufficient policies to attract new supermarkets or funding community health education

3



Hope is the increase in one's belief that a future positive state can be achieved.

4



Inspired Individuals

5



6

Cervical MRI



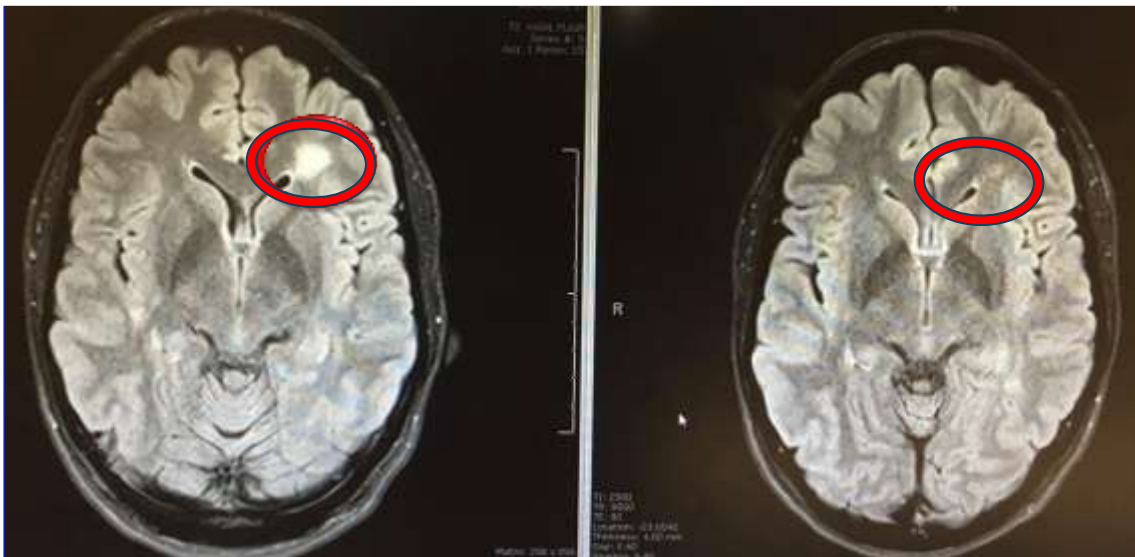
November 2014



June 2015

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Brain MRI



8



9

Hope Multiplied



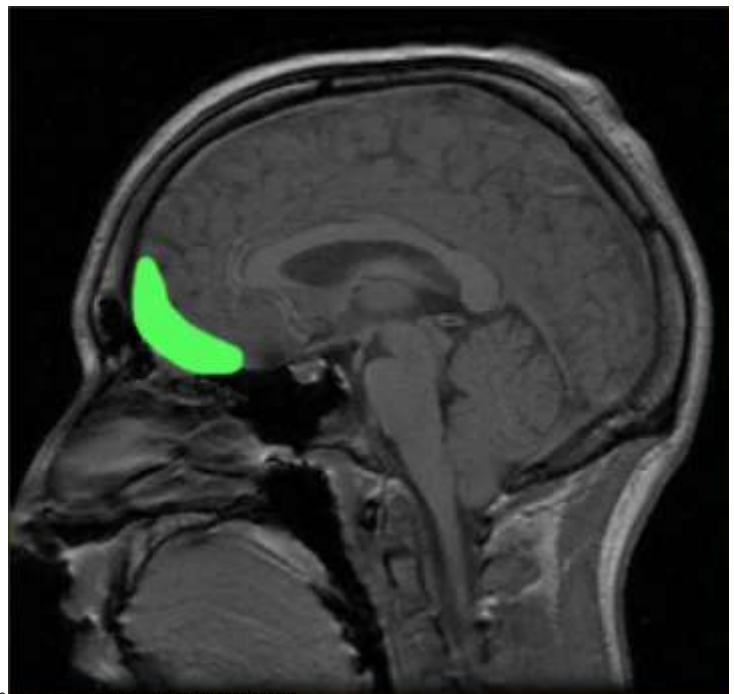
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11

Finding Hope

- **orbitofrontal cortex (mOFC)** - involved in reward-related processing, initiation of motivation, problem solving and goal-oriented behavior



Wang, Song, et al. "Hope and the brain: trait hope mediates the protective role of medial orbitofrontal cortex spontaneous activity against anxiety." *NeuroImage* 157 (2017): 439-447.

12



High Hope individuals

- **Increased Prefrontal Cortex Activation:** responsible for planning and decision-making. Increased goal setting, overcoming challenges, future planning
- **Lower Amygdala Activity:** less reactive to negative stimuli and more focused on positive outcomes.
- **Agency thinking:** belief in one's ability to initiate and sustain actions toward achieving goals.
- **Pathways thinking:** capacity to generate multiple strategies to achieve those goals, particularly in the face of obstacles.
- **Resilience:** Overcome challenges
- **Optimism**
- **Protection against anxiety**

13

Science of Hope



High-hope individuals showed diminished stress reactivity and more effective emotional recovery



Biological Signature of Hope

Lower IL-6 and lower cortisol levels
Elevated endorphins, dopamine, immune function



Establishing hope as a target outcome creates opportunities for both patients and clinicians to find meaning in their journeys.



Hopelessness during acute hospitalization is a strong predictor of mortality

Reichardt LA, Nederveen FE, van Seben R, *et al.* Hopelessness and other depressive symptoms in adults 70 years and older as predictors of all-cause mortality within 3 months after acute hospitalisation: the Hospital-ADL Study. *Psychosom Med* 2019;81:477–85.

14

HOPE GREATER THAN FEAR TO MOTIVATE

- Fear narrows and hope broadens action plans
- When healthy eating is viewed as a choice, research has shown positive messages to be more successful
- In two studies, hope and self-efficacy — the belief that a person can help themselves — significantly predicted intentions to take actions against skin cancer, such as wearing sunscreen or protective clothing.
- Three “undoing strategies” undo fear with hope
 - personal action plans
 - social action plans of good deeds
 - reframing in a positive light



15

Hope vs Fear

*“May your
choices reflect
your hopes, not
your fears” –
Nelson Mandela*

- Fear activates the Sympathetic Nervous System (SNS)
- Triggers “fight, flight, or freeze”
- Floods body with cortisol & adrenaline
- Sharpens short-term survival focus—but dulls long-term thinking
- Brain Under Fear: Reduced Cognitive Flexibility
- Prefrontal cortex (decision-making) function decreases
- Amygdala (threat detection) takes over
- We revert to old habits instead of choosing growth
- Creativity, problem-solving, and learning are impaired
- Fear-Based Motivation = Unsustainable
- Leads to burnout, shame, and all-or-nothing thinking
- Promotes behavior change from avoidance, not empowerment
- Lasting change needs safety, curiosity, and compassion

16

Healthy vs. Unhealthy Hope in Lifestyle Change

	Unhealthy Hope	Healthy Hope
Basis	Wishful thinking	Grounded optimism
Focus	Outcome only	Process + progress
Pace	All-or-nothing	Small steps over time
Emotions	Avoids discomfort	Makes space for all feelings
Support	"I'll do it alone"	"I need support & structure"
Resilience	Motivation crashes when obstacles arise	Adjusts + keeps going with self-kindness

17



Finding Hope and Inspiring Change

18

Relationships are healing opportunities hiding in plain sight



Dunbar, Robin IM. "Breaking bread: the functions of social eating." *Adaptive Human Behavior and Physiology* 3 (2017): 198-211.

19

Social Networks Shape Success



- Behavior spreads through social networks — habits like smoking, exercise, eating, and sleep are contagious (Christakis & Fowler, 2007).
- Close relationships influence perceived norms, risk perception, and health choices.
- Shared identity- fosters adoption of group-consistent health behaviors.
- Cultural micro-environments shape beliefs about food, fitness, and wellness.

20

Breaking Bread: Foundations of Social Eating

- Eating together creates the social bond and develops community life
- Increases feelings of wellbeing, enhances contentedness and embeds people in the community.
- More often people eat with others, the more likely they are to feel happy and satisfied with their lives.

Dunbar, Robin IM. "Breaking bread: the functions of social eating." *Adaptive Human Behavior and Physiology* 3 (2017): 198-211.

21

21

Challenge: Start a Potluck

Planttrician Potluck Guide



Embracing a whole food, plant-based lifestyle is not just an individual journey of health and wellness, but an epic community-driven voyage towards a healthier, more compassionate world. Sharing a meal is a powerful and profound seed of transformation, and there's no better way to build a sense of unity and connection than gathering around a table filled with delicious, nourishing, plant-rich foods.

-Scott Stoll, MD, Co-Founder of The Planttrician Project

Starting a Planttrician Potluck is one of the greatest opportunities for improving your health and transforming your community. It's about forging meaningful, positive connections with like-minded people and cultivating a supportive community centered around shared values and goals. Beyond the delicious, nutrient-dense meals and community connections, it's also an opportunity to learn and embrace the multitude of benefits associated with whole food, plant-based eating.

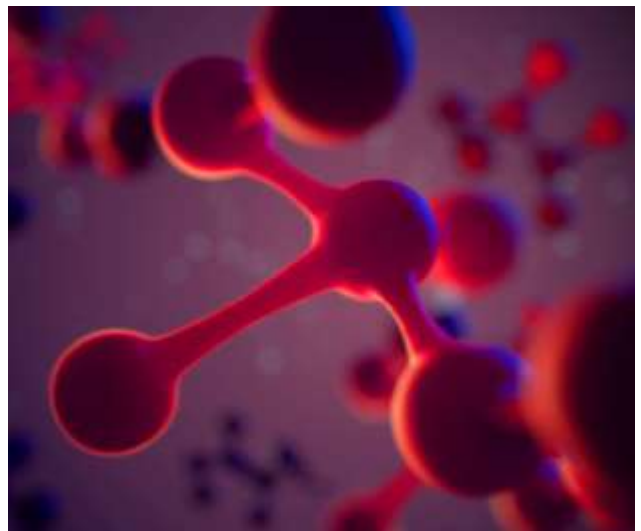
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23

Community & Cortisol – Connection Lowers Stress

- **Strong Social Ties = Lower Stress Biomarkers**
 - Social support reduces cortisol, CRP, and IL-6
- **Loneliness increases disease risk:**
 - 29% ↑ in heart disease
 - 32% ↑ in stroke (JAMA, 2023)
- **Emotional connection buffers the nervous system**
 - Close relationships **activate oxytocin**, which calms the HPA axis
 - *“Warm relationships are the #1 predictor of health & longevity”.* Harvard Study of Adult Development (85-year follow-up):



24

Stories Connect

• Brain Activation:

- Story activates 6 regions including the reward centers and hippocampus vs 2 with information
- Release of dopamine and oxytocin improve long term memory and connection

• Neural Connectivity:

- Enhanced connectivity between default mode network (involved in self-reflection) and executive control network-- problem-solving and decision-making.
 - Neural Coupling -newly “wired” connections --reader or listener personalize the story
 - Reliving the story through their own eyes.



25

Mirroring

- Readers or listeners of a story automatically synchronize their brain activity with each other and with the storyteller.
- Emotional resonance- stories stick in the listener's memory creating deeper engagement.
- Activates Theory of Mind networks-understand and empathize with the thoughts, feelings of others- crucial in healthcare settings, where empathy and shared understanding are essential for effective care.
- Secret power of shared medical visits



26

Stories- seeds that shift outcomes

- **Better Outcomes:** Stories produced better and more statistically significant outcomes than informational instructions for all health literacy levels
- **Fostering Empathy:** evokes emotional engagement, connection and trust
- **Personalizes Care:** narratives of others who have gone through similar experiences-- feeling less isolated and more hopeful.
- **Relationships:** fosters collaboration and shared humanity.
- **Identity:** Helps rewrite personal narrative



27

Identity: Being Informs Doing



28

IDENTITY SHIFT — KEY TO TRANSFORMATIVE CHANGE



29

Social Identity Studies In Behavior Change Science

- **Meta-Analysis — 115 Studies | 112,112 Participants**(de Hoog Pat-El, Soc Sci Med, 2024)
- **Social identity significantly predicts health behavior across all domains**
- Effect is strongest when identity is health-specific (e.g., "I am a healthy eater" vs. general identity)
- Works for both diet AND exercise — across cultures and populations

de Hoog Pat-El, Soc Sci Med, 2024

30

The Habit-Identity Bridge

- When behaviors explicitly linked to core personal values, habit-identity associations become significantly stronger
- Stronger habit-identity links → higher self-esteem, greater cognitive self-integration, orientation toward ideal self
- This creates a self-reinforcing loop: Identity drives behavior → behavior reinforces identity

Verplanken Sui, Front Psychol, 2019

(Verplanken Sui, Front Psychol, 2019)

31

Identity Alignment and Change

- **Plant-Based Adherence Study — 96 Adults** (Ruehlman Karoly, J Health Psychol, 2022)

- **Those with values-based identity alignment were 17× more likely to sustain a plant-based diet**
- Health-only motivation → **94% more likely to fail**
- Values-based identity accounted for 49% of the variance between adherent and non-adherent groups

Vizcaino et al., Public Health Nutr, 2021

32

The Science: Why Willpower Fails But Identity Succeeds

- The Maintain IT Model
- Willpower relies on executive function (EF) — a limited, fatigue-prone resource
- Identity-congruent behaviors bypass EF entirely, becoming automatic and self-sustaining
 - Being Informs Doing
- Conclusion: Core identity transformation is the primary pathway to permanent behavior change

Caldwell et al., Health Psychol Rev, 2018

33



Planting Seeds of New Identity

34

Identity Shift

- **From:** Consumers
- **To:** Contributors, Conscious Stewards, Compassionate Leaders, Change agents, Co-Creators of a healthier future
 - The old script says 'consume.' The new identity says 'connect, care, create, and lead'—

35



**Restored Identity, Empowered
Vision, Inspired Meaning and
Purpose**

36



37



38

