What's Determinative within the Social Determinants of Health?

A TRAUMA-INFORMED APPROACH FOR ATTAINING EQUITY IN HEALTH OUTCOMES

What is Health Equity?

"HEALTH EQUITY IS THE STATE IN WHICH EVERYONE HAS A FAIR AND JUST OPPORTUNITY TO ATTAIN THEIR HIGHEST LEVEL OF HEALTH"

– CENTERS FOR DISEASE CONTROL

Health Disparities are…

"A PARTICULAR TYPE OF HEALTH DIFFERENCE THAT IS CLOSELY LINKED WITH SOCIAL, ECONOMIC, AND/OR ENVIRONMENTAL DISADVANTAGE."

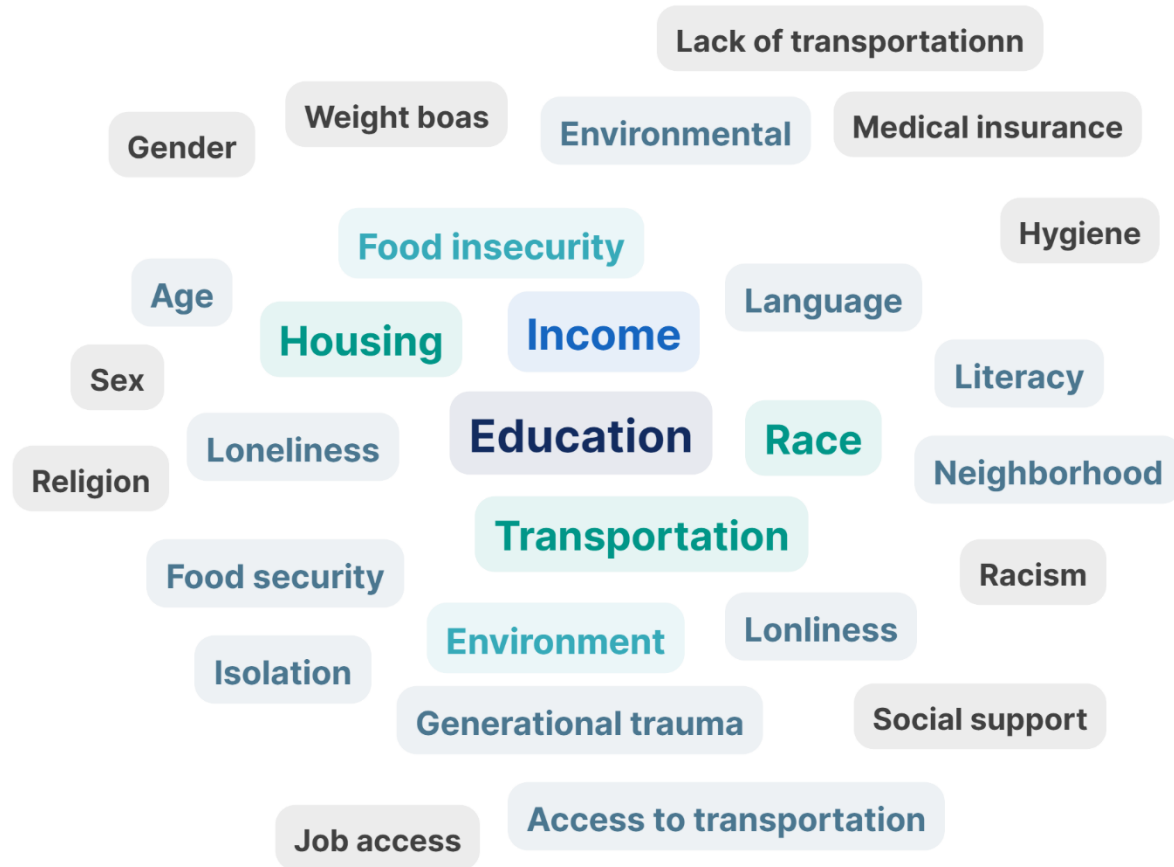-- U.S. DEPT OF HEALTH AND HUMAN SERVICES

Social Determinants of Health are…

…the conditions in the places where people live, learn, work, play, and worship that affect a wide range of health risks and outcomes…

…the nonmedical factors that influence health outcomes.

– Centers for Disease Control

What are Some Examples of Social Determinants of Health?

Wordcloud Poll   124 responses   53 participants

Lack of transportationn

Gender   Weight boas   Environmental   Medical insurance

Food insecurity   Hygiene

Age   Language

Housing   Income   Literacy

Sex   Education   Race   Neighborhood

Religion   Loneliness   Transportation   Racism

Food security   Lonliness

Environment

Isolation   Generational trauma   Social support

Job access   Access to transportation

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CDC's Categories of Social Determinants

Neighborhood and Built Environment

Health Care and Quality

Social and Community Context

Education Access and Quality

Economic Stability

# New York State's Social Determinants

Economic Stability
- Poverty
- Housing Security and Stability
- Employment
- Food Security/Hunger
- Transportation
- Medical Bills

Neighborhood and Built Environment
- Affordable/Quality Housing
- Access to Healthy Foods
- Crime and Violence
- Safe Green Spaces, and Air Quality
- Walkability/Sidewalks
- Food Deserts, and Medical Deserts
- Access to Transportation

Health and Health Care
- Access to Health Care
- Access to Primary Care/Trusted Provider
- Health Literacy
- Availability of Health Care
- Cultural and Linguistic Competency
- Trauma Informed Care
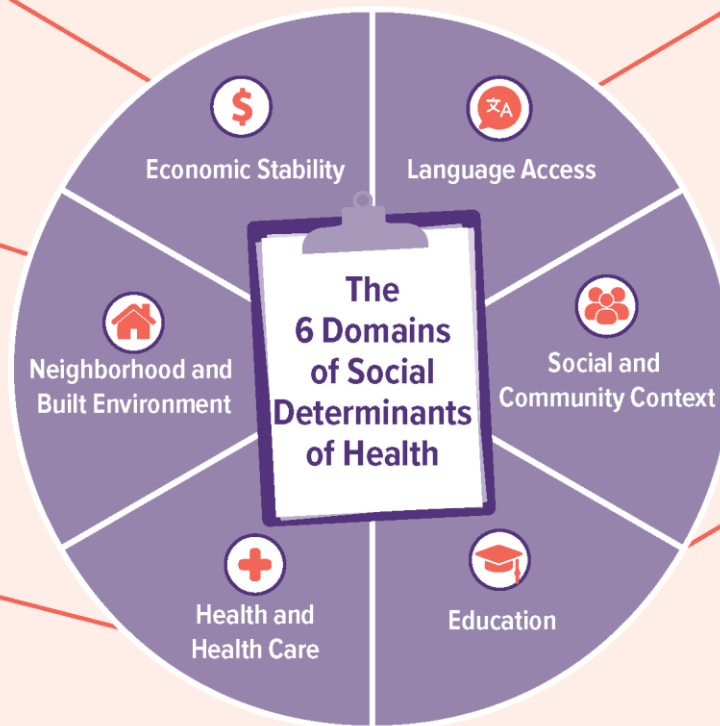
Language Access
- Translation
- Interpretation
- Health Literacy
- Technology/Language Lines
- Financial Literacy

Social and Community Context
- Social Support
- Isolation
- Community Empowerment
- Discrimination and Inequities
- Incarceration/Institutionalization
- Racism

Education
- Early Childhood Education and Development
- High School Education
- Enrollment in Higher Education
- Language and Literacy
- Workforce Development
- Lived Experience
- Formal Education
- Trade/Skills
- Vocational/Educational

The 6 Domains of Social Determinants of Health

Economic Stability · Language Access · Neighborhood and Built Environment · Social and Community Context · Health and Health Care · Education

NEW YORK STATE | Department of Health

Example of County Ranking Data: 2+ ACEs

Percentage of adults who have experienced two or more adverse childhood experiences (ACEs), 2021

Quartile (Q) Distribution

Example of County Ranking Data: MH Distress

Frequent mental distress during the past month among adults, age-adjusted percentage, 2021

Examples of Specific County Indicators

Select priority area(s) then indicator(s).

Select Priority Area	Select Indicator (or enter search text)
(All) ▼	(All) ▼

Hover over values to the right of the indicator name for more information where applicable. Click on a value to view the trend graph of the indicator.

Putnam Prevention Agenda Indicators

| Priority Area		Indicator	Indicator Information	Data Year (i)	Estimate	PA 2024 Objective	Indicator Status (i)	Indicator Performance (i)	Concern Level (i)
	36	Suicide mortality among youth, rate per 100,000, aged 15-19 years	*i*	2019-2021	5.4*	4.7	✖ Unmet	▪ Worsened	▪ Moderate
	37	Percentage of families participating in the Early Intervention Program who meet the state's standard on the NY Impact on Family Scale	*i*	7/2021-6/2022~	95.3	73.9	● Met	▪ Worsened	▪ Low
	38	Percentage of residents served by community water systems that have optimally fluoridated water	*i*	2022	0.2	77.5	✖ Unmet	▪ Worsened	▪ High ?
Promote Well-Being and Prevent Mental and Substance Use Disorders	39	Opportunity Index Score	*i*	2019	62.0	59.2	● Met	▪ Worsened	▪ Low
	40	Frequent mental distress during the past month among adults, age-adjusted percentage	*i*	2021	17.4	10.7	✖ Unmet	▫ No Change	▪ High
	41	Economy Score	*i*	2019	67.2	52.3	● Met	▪ Improved	▪ Low

Some Overarching Ideas

- Trauma and Toxic Stress are Active Ingredients Within SDH that drive Health Outcome Disparities

- Resilience-Promoting Conditions are Active Ingredients within SDH that drive Positive Health Outcomes

- Polyvagal Theory offers a useful way to
  - Identify WHAT is damaging and restorative within SDH
  - Improve how we deliver services
  - Begin to heal and transform our systems at a grassroots level

Outline for Today

1. Polyvagal Theory in a Nutshell

2. ACEs Study based on PVT

3. Social Determinants of Health

4. Our System of Care as a Social Determinant of Health

5. Taking Meaningful Action

"Connectedness is a Biological Imperative for Social Mammals" - Dr. Stephen Porges
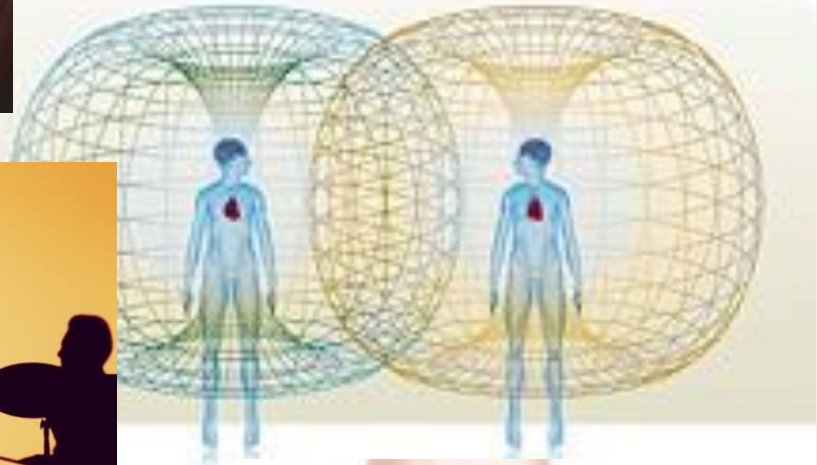
The 3 Pillars of Wellness, Trauma and Resilience

Wellness happens
When we **experience**...

Adversity happens
When there's a **disruption** in....

Trauma happens
When we're **unable to restore**...

Resilience happens
When we're able to **shift back** into...

Safety

Connectedness

&

Self-Regulation

© Andrew Bell, Ph.D.

A Working Definition of Resilience

- Resilience is the capacity to shift into a state where we feel
  - **Safe**
  - **Connected and**
  - **Regulated**

- We do this by engaging both
  - **Internal, implicit skills, and**
  - **External relational supports**

- When the "3 Pillars of Resilience" are present, **Empowerment** and **Agency** become possible

More about the 3 pillars

- Safety
  - Not just the absence of danger
  - Physical, Emotional and Physiological
  - Reassuring cues from within the body and from others
- Connectedness
  - Quality rather than quantity – agency and being known
  - Co-regulation, Serve and Return, back and forth, reciprocity
  - Predictable rhythm, ebb and flow
- Self-Regulation
  - Energizing (up-regulating) and calming (down-regulating)
  - Shifting fluidly within a **window of tolerance**

How the Social Engagement System Works

- Neuroception (safety signals)
  - External Social Emotional Information
  - Internal Somatic/Visceral Information
- Self Regulation & Wellness
  - Heart Rate Variability/Coherence
  - "Vagal Tone"
- Integration between
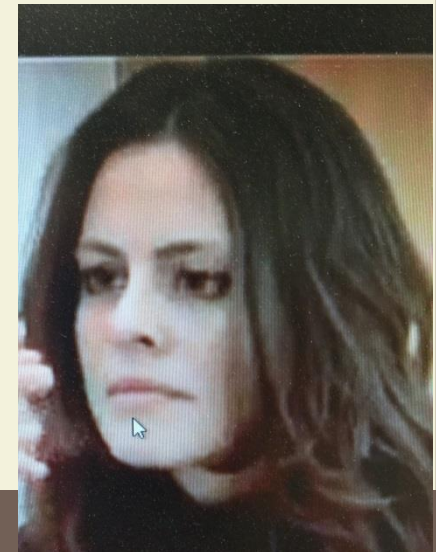 - Body
  - Limbic System
  - Prefrontal Areas
  - Social World
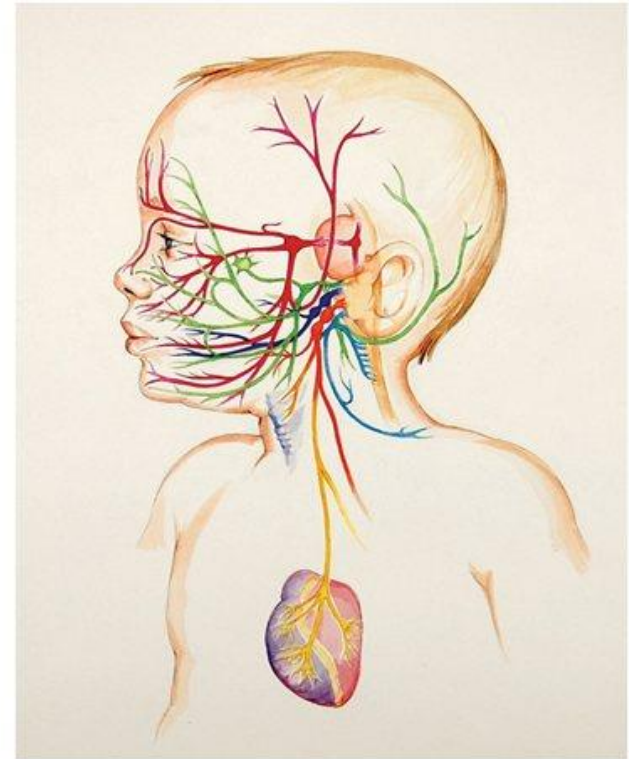
Social Engagement System
Cranial Nerves V, VII, IX, X, XI
Ventral Vagal (X), Dorsal Vagal (X)
An Unique Face-Voice-Heart Connection

ppncenter.com
copyright Kate White 2013
Center for Pre and Perinatal Programs, LLC
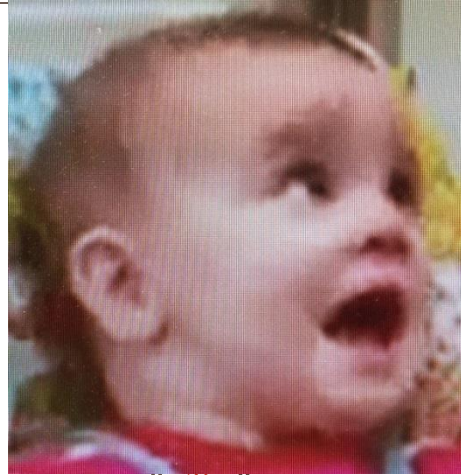
Trauma and Resilience in 90 seconds

Trauma and Survival

Triune Brain

Survival Brain
- Reptilian
Emotional Brain
- Limbic
Thinking Brain
- Neo-cortex
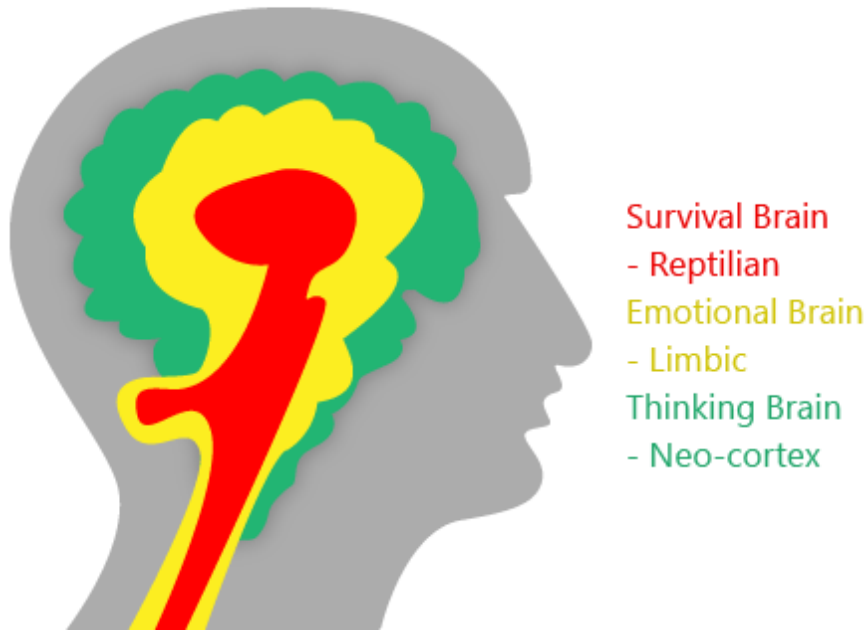
(note: diagram is not to scale)

- 3 Hardwired Survival Systems
- Each deals with a different type of threat
- Each has its own operating system
- We switch back and forth depending on the situation
- We can be very different people in different states!

Three Survival Systems

○ The Social Engagement System (Ventral Vagal Complex)
   ✕ Responds flexibly *to mild threats and opportunities* through **Connectedness and Self-Regulation**

○ The Fight/Flight Response (Limbic System, SNS)
   ✕ Responds to *imminent danger* through **Instrumental Explosive Action**

○ The Freeze/Shut-Down Response (Ancient Vagus Nerve)
   ✕ Responds to *inescapable danger and likely death* through **Biological Shut Down**

The Fight/Flight Response

Fight or Flight Response

Saliva
flow decreases

Skin
blood vessels constrict;
chills and sweating

Heart
beats faster
and harder

Stomach
output of digestive
enzymes decreases

Muscles
become more
tense; trembling
can occur

Eyes
pupils dilate

Lungs
quick, deep
breathing

Bowels
food movement
slows down

Blood vessels
blood pressure
increases as
major vessels dilate
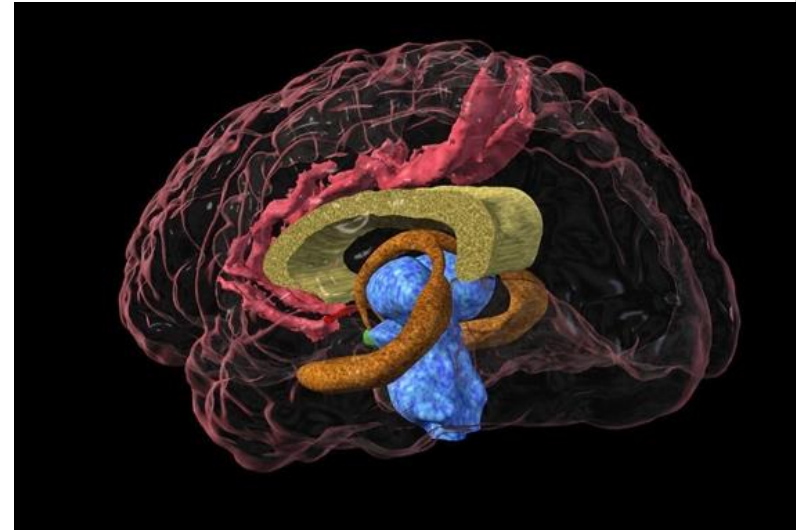
Freeze/Shut-Down: A Last Resort
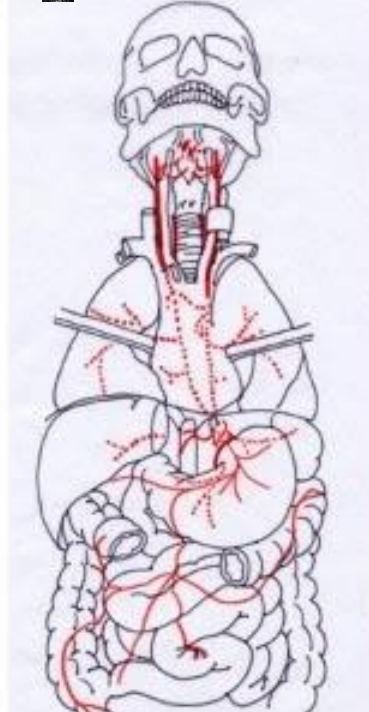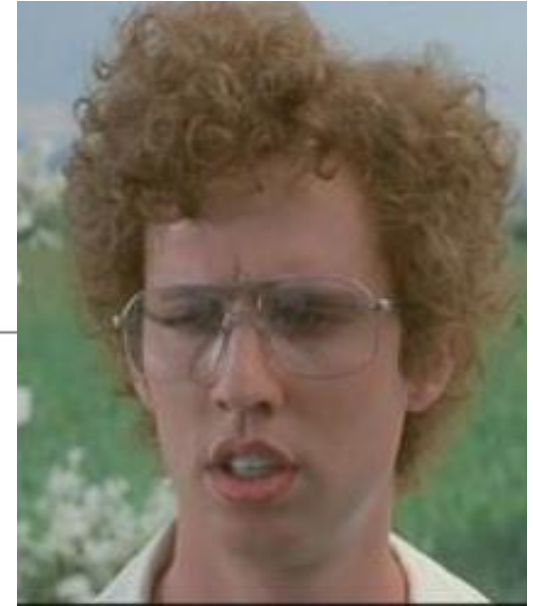
Trauma, Toxic Stress and Autoimmune Disease

- *Persistent* (ie toxic) stress corresponds to
  - higher incidence of autoimmune diseases
  - multiple co-occurring autoimmune diseases
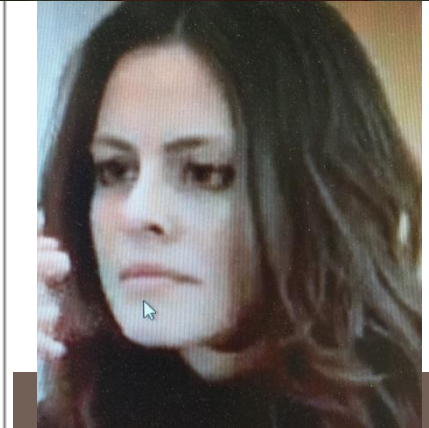 - onset at a younger age
- Emot/phys abuse in childhood doubles risk of Lupus
- Multiple Sclerosis is predicted by
  - Emot and sexual abuse (2x as common)
  - Early trauma (6 mos – 24 mos)
  - Parental loss of a child (doubles the risk)
- Arthritis is predicted by chronic stress
- Asthma is predicted by racial stress

Insult to Injury

TRAUMA INVOLVES DYSREGULATION OF PRIMITIVE SURVIVAL STATES WHICH LEAD TO CHRONIC DISEASES

THESE OFTEN PAINFUL AND FRIGHTENING DISEASES IN TURN BECOME NEW SOURCES OF TRAUMA THAT CAN AMPLIFY A LACK OF CONTROL AND UNPREDICTABILITY

Distress Reducing Behaviors (DRBs)

- Compulsive or addictive behaviors that attempt to regulate and manage experiences of trauma and toxic stress, *often in a way that circumvents connection and internal self-regulation.*
  - Substance misuse, self-injurious behaviors, reckless behaviors, "thrill seeking" are examples
  - Trauma at the core of most substance misuse

- DRBs engender new stresses and traumas which compound and exacerbate a vicious cycle.

The Compounding Impact of Trauma

1. Direct impact of stress on the body over time
   - Wear and tear on biological systems

2. Responses to stress
   - Stress of an unpredictable autonomic nervous system
   - Poor sleep, anxiety, depression

3. Distress Reducing Behaviors (DRBs)
   - Addictions
   - Reckless behaviors

4. Quality of Life
   - Losing friends, job, family
   - Lack of meaning, agency, spiritual crisis

The Adverse Childhood Experiences Study:

36

"A SILENT PUBLIC HEALTH DISASTER"

ACES are Pervasive

Household Challenges

Substance abuse	**27%**
Mental illness	**19%**
Mother treated violently	**13%**
Separation/Divorce	**23%**
Incarcerated Household Member	**5%**

Childhood Abuse:

Physical	**28%**
Sexual	**21%**
Severe Emotional	**11%**

Childhood Neglect:

Physical	**10%**
Emotional	**15%**

64% have one or more
54% have two or more
10% have five or more

How Common are ACES?

ACE Study

ZERO
36%

ONE
26%

TWO
16%

THREE
9.5%

FOUR OR MORE
12.5%
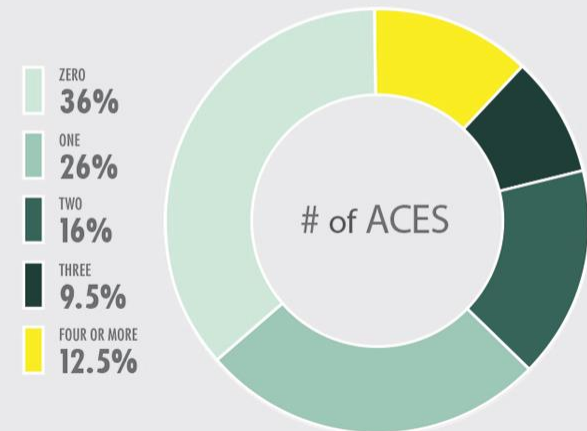
# of ACES

Effects of ACES are Far Reaching and Powerful

ACES can have lasting effects on….

Health (obesity, diabetes, depression, suicide attempts, STDs, heart disease, cancer, stroke, COPD, broken bones)

Behaviors (smoking, alcoholism, drug use)

Life Potential (graduation rates, academic achievement, lost time from work)

ACEs have been found to have a graded dose-response relationship with 40+ outcomes to date.

Risk for Negative Health and Well-being Outcomes

# of ACES

0   1   2   3   4   ≥5
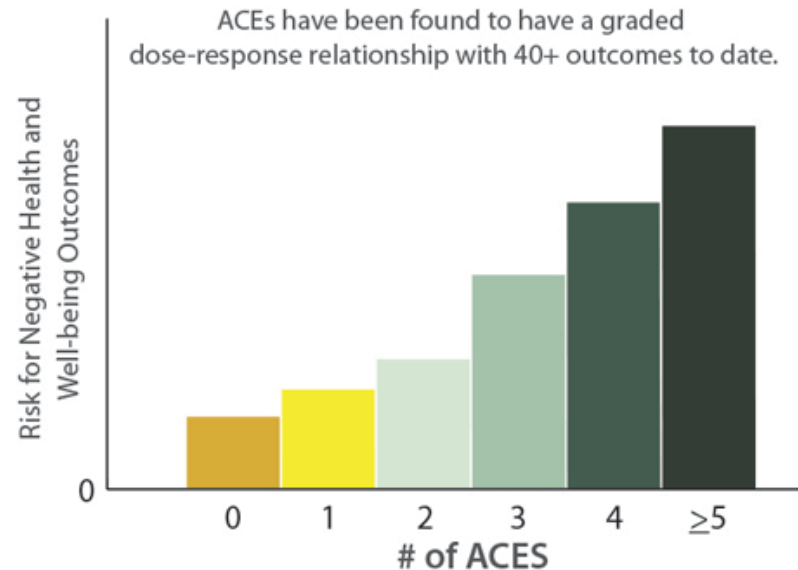
*This pattern holds for the 40+ outcomes, but the exact risk values vary depending on the outcome.

ACEs are Linked with 7 of the 10 Leading Causes of Death

	Leading Cause of Death in US	Odds Ratio Associated with 4+ ACEs
1	**Heart Disease**	2.1
2	**Cancer**	2.3
3	**Chronic Lower Respiratory Diseases**	3.0
4	Accidents	
5	**Stroke**	2.4
6	**Alzheimer's**	11.2
7	**Diabetes**	1.5
8	Influenza and Pneumonia	
9	Kidney Disease	
10	**Suicide**	30.1

Some Effects of ACES:

Health Outcomes	Mental Health Outcomes
• Heart Disease	• Anxiety
• Cancer	• Panic disorders
• Inflammatory illnesses	• Depressive disorders
• Chronic lung disease	• Anger control problems
• Liver disease	• High perceived stress
• Morbid obesity	• Hallucinations
• Perceived Risk of AIDS	• Sleep disturbances
• Fetal Death	• Self-Esteem
• Skeletal fractures	• Somatic complaints
• Poor self-rated health	• Memory disturbances
• Stroke	• Suicide Attempts

Other Effects of ACES

Distress Reducing Behaviors

- Promiscuity
- Perceived risk of AIDS
- Sexually transmitted diseases
- Early onset of 1st intercourse
- Teen pregnancy
- Unintended pregnancy
- Alcoholism
- Smoking
- Illicit drug use
- Injection drug use

Quality of Life/ Social Outcomes

- Sexual dissatisfaction
- Impaired job performance
- Absenteeism
- Early death of family members
- Victim of DV
- Perpetrating DV
- Marriage problems
- Marriage to alcoholic partner
- Relationship problems
- Shortened life span

Social Determinants of Health
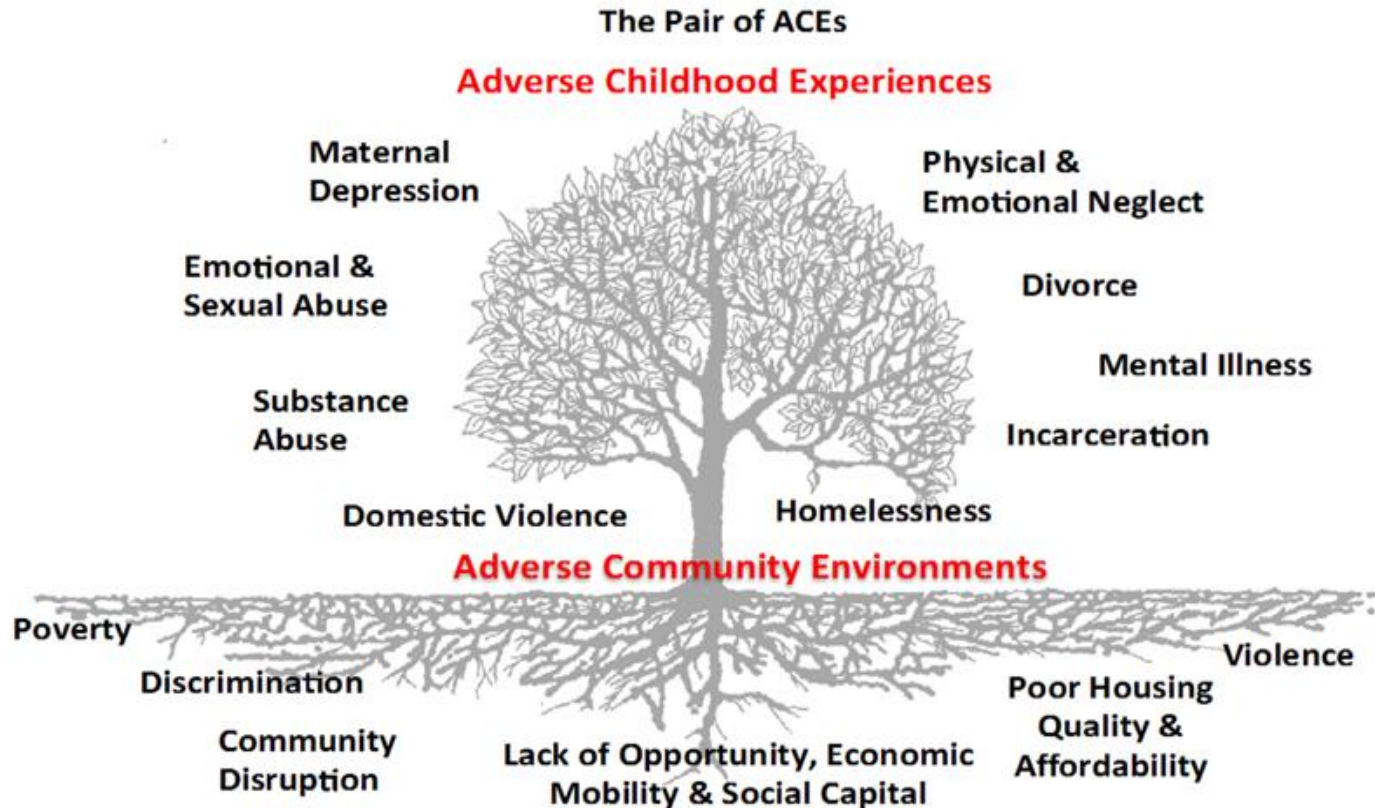
The Pair of ACEs

Adverse Childhood Experiences

Maternal Depression

Physical & Emotional Neglect

Emotional & Sexual Abuse

Divorce

Mental Illness

Substance Abuse

Incarceration

Domestic Violence

Homelessness

Adverse Community Environments

Poverty

Violence

Discrimination

Poor Housing Quality & Affordability

Community Disruption

Lack of Opportunity, Economic Mobility & Social Capital

Adverse Community Experiences

- ## The Community Loss Index (CLI)
  1. Foster Care Placement
  2. Incarceration
  3. Long Term Hospitalization (asthma, diabetes, psychiatric care)
  4. Untimely Death (suicide, homicide, heart attack, stroke, accidents)
  5. Unemployment/Underemployment
  6. Foreclosure/Housing Insecurity

- ## Disproportionately affects communities of color and communities with children under age 5
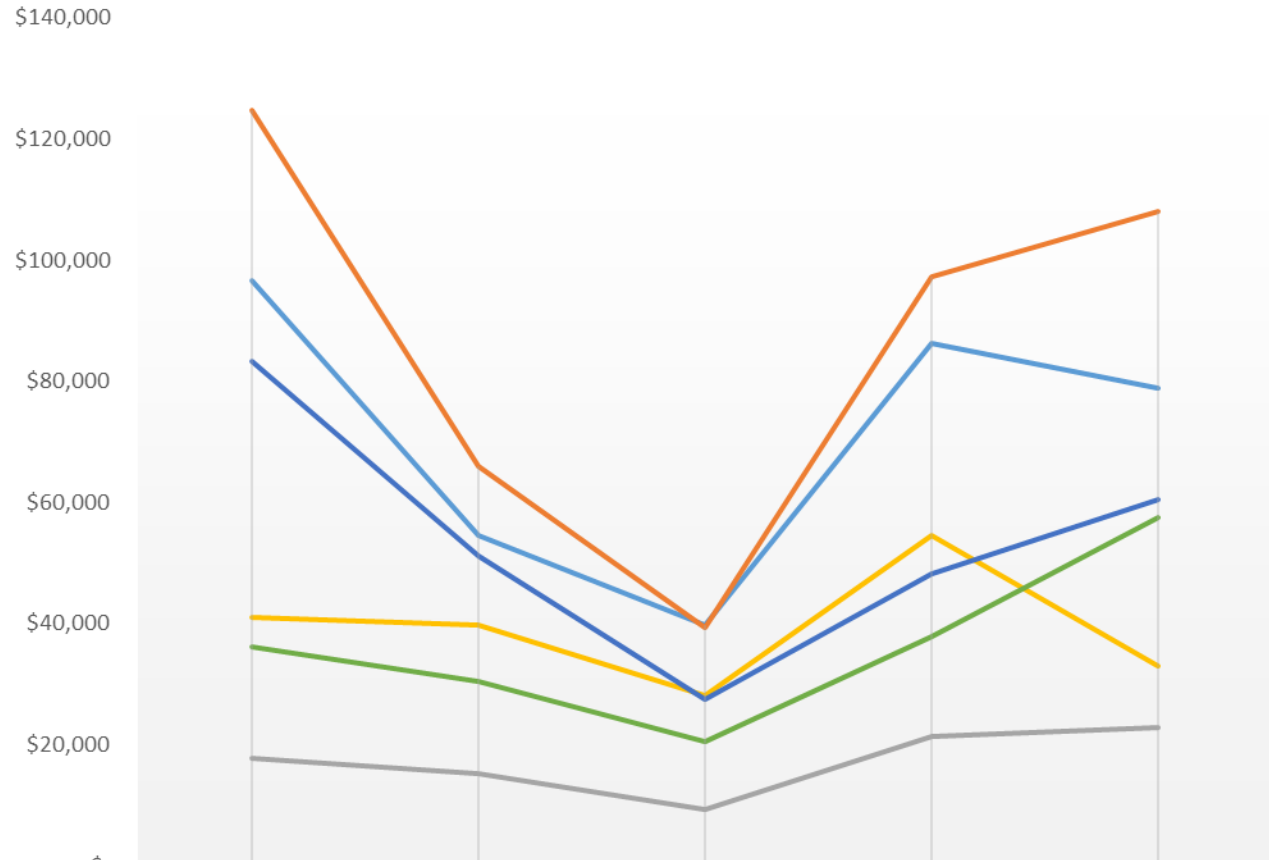
Geographic Clustering of SDH, DRBs, and Health Outcomes

Aggregated Vulnerabilities Across 70 Indicators Within Peekskill's 5 Census Tracts

	Tract 141	Tract 142	Tract 143	Tract 144	Tract 145
■ Most Vulnerable or a Close Second	7	20	64	5	4
■ Most Vulnerable	2	11	52	1	2
■ Notably Most Vulnerable	2	0	24	0	2
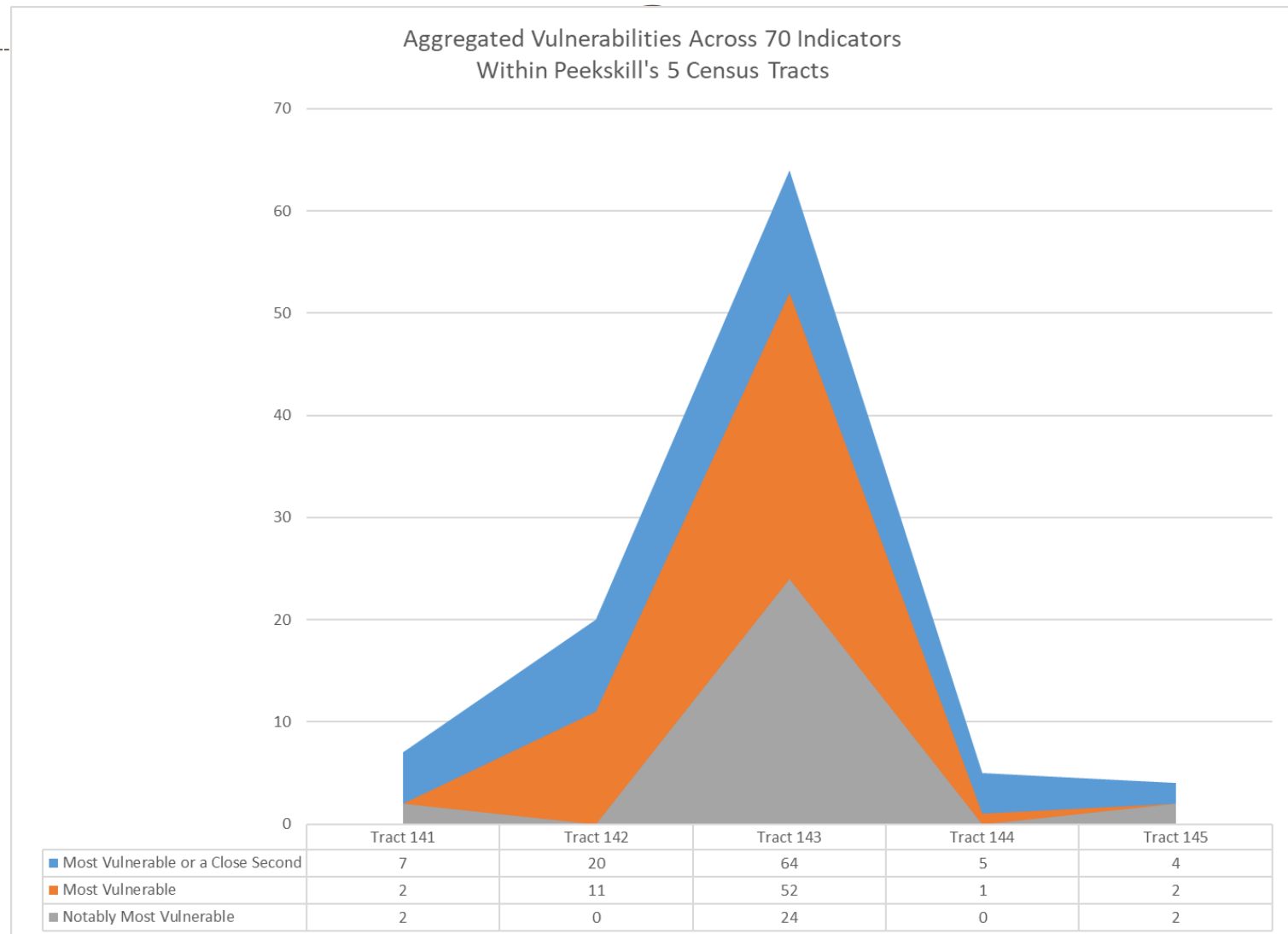
Income Metrics Across Peekskill's 5 Census Tracts

	Tract 141	Tract 142	Tract 143	Tract 144	Tract 145
Median Household Income	$96,610	$54,558	$39,794	$86,307	$78,875
Median Family Income	$124,670	$66,000	$39,365	$97,228	$107,950
Mean Income of Households in Lowest 1/5 Income Level	$17,711	$15,250	$9,308	$21,283	$22,860
Individual Average Income, Black or African American	$41,000	$39,824	$28,150	$54,518	$32,890
Individual Average Income, White	$83,259	$51,162	$27,433	$48,305	$60,409
Individual Average Income, Hispanic	$36,087	$30,506	$20,503	$37,862	$57,543

Patterns of Chronic Illness Across Peekskill's 5 Tracts
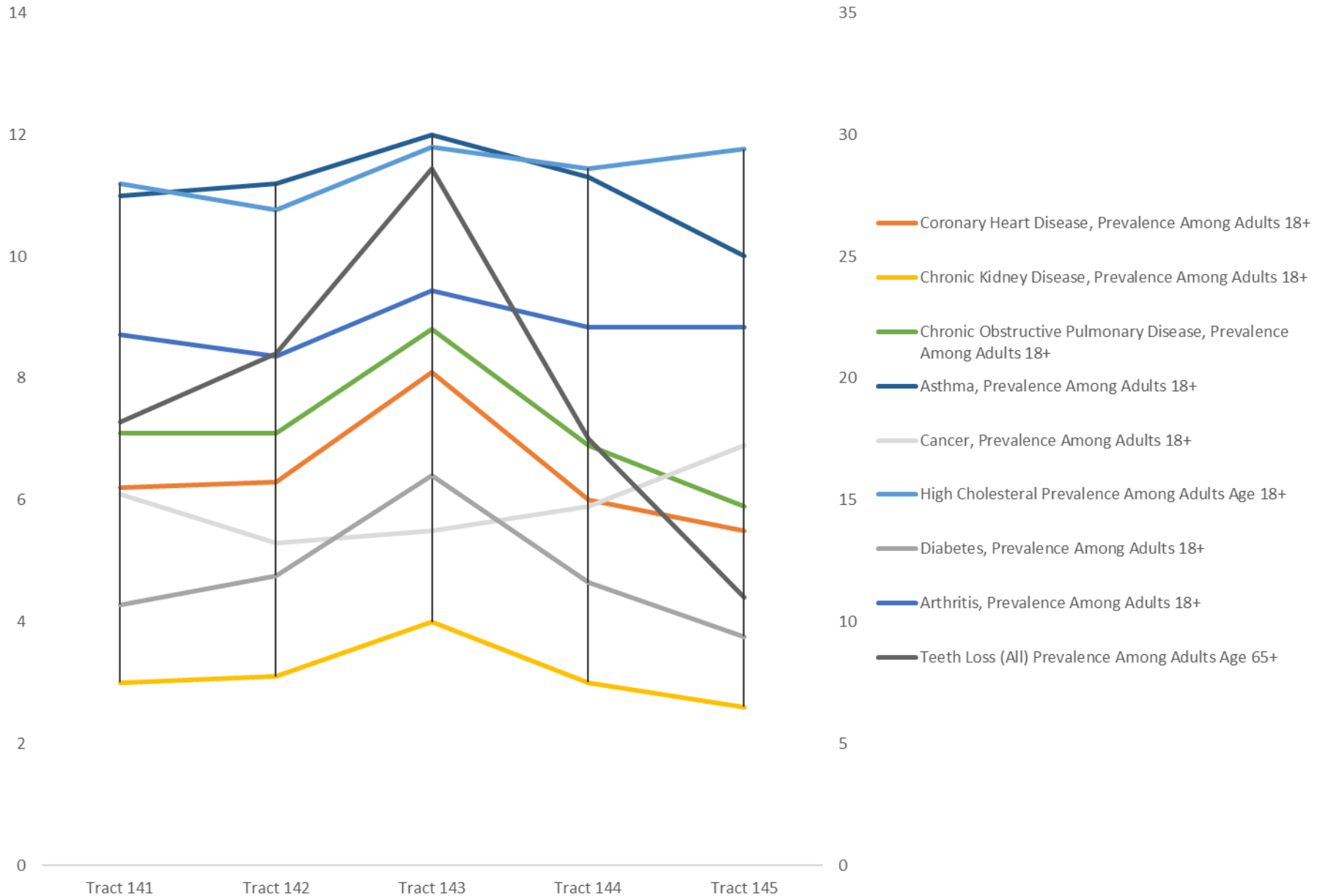
Some Good News

CONNECTEDNESS

CAN COUNTERACT

AND

OVERRIDE

ACES

Connectedness within Schools

- Connectedness to Schools is especially important to students contending with high ACEs in their family.
  - Implication: Promoting connectedness and safety within SDH can have a disproportional POSITIVE impact on reducing toxic stress and health inequities.

- Example from MS 339 in the Bronx

- Safe, Stable, Nurturing Relationships – AAP

- Connected Families predict "Flourishing" later on in life

  - Kids with 4+ ACEs **AND** Connected Families were more likely to be flourishing than kids with **no ACES** and low Family Connectedness.

    - **Implication: It's better to have adversity within a connected family than to have no adversity within a disconnected family**

  - A later study found this was particularly true for AA and H families, and less economically privileged families

    - **Implication: Family Connectedness has a disproportionately POSITIVE impact on reducing effects of ACES for families of color and low SES families.**

Applying a Polyvagal Lens To SDHs

Positive SDHs are:		Toxic SDHs are:
Safe, Supportive and Nurturing	vs	• **Threatening** and Dangerous psychologically and objectively
Connected and Responsive	vs	• **Unresponsive**, Denigrating, Dehumanizing, Otherizing
Reliable and Trustworthy, **supporting self-regulation**	vs	• **Unpredictable**, Unreliable, Arbitrary and Disruptive
Empowering, allowing agency, choice and self-determination	vs	• **Coercive** and Controlling, Oppressive, Infantilizing

In What Ways is Our Service System...

Safe, Supportive and Nurturing

vs

Threatening and Dangerous psychologically and objectively

Connected and Responsive

vs

Unresponsive, Denigrating, Dehumanizing, Otherizing

Reliable and Trustworthy, supporting self-regulation

vs

Unpredictable, Unreliable, Arbitrary and Disruptive

Empowering, allowing agency, choice and self-determination

vs

Coercive and Controlling, Oppressive, Infantilizing

In What Ways is Our Service System… Threatening, Otherizing, Unpredictable, and Disempowering (see handout)?

In What Ways is Our Service System... Threatening, Otherizing, Unpredictable, and Disempowering (see handout)?

Wordcloud Poll   121 responses   55 participants

Understaffed

Too much paperwork

Stigma attached to substance use disorders

Expensive

Inequality

Lack of accessibility

Naturing

Lack of access

Silos

Unresponsive

Implicit bias

Social bias

Financial instability

Bias

Unreliable

Stigma

Access

Lack of Information

Traumatizing

Lack of funding

Resources

Sigmas

Stigmatizing language

Unpredictable

Unwilling to change with times

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In What Ways is Our Service System...

Safe, Supportive and Nurturing

2. Connected and Responsive

3. Reliable and Trustworthy, supporting self-regulation

4. Empowering, allowing agency, choice and self-determination

VS

1. **Threatening and Dangerous psychologically and objectively**

2. Unresponsive, Denigrating, Dehumanizing, Otherizing

3. Unpredictable, Unreliable, Arbitrary and Disruptive

4. Coercive and Controlling, Oppressive, Infantilizing

Safety vs Threat to Survival

- Service System as "Gatekeeper"
  - Financial Support and benefits: SNAP, SSI, SSD, TANF
  - Access to services and treatments
  - Termination of services and treatments
  - Housing

- Danger of Family separation
  - CPS removal of a child
  - Danger of deportation, incarceration and involvement of justice system

Applying a Polyvagal Lens To SDHs

In What Ways is Our Service System…

1. Safe, Supportive and Nurturing

Connected and Responsive

3. Reliable and Trustworthy, supporting self-regulation

4. Empowering, allowing agency, choice and self-determination

VS

1. Threatening and Dangerous psychologically and objectively

2. **Unresponsive, Denigrating, Dehumanizing, Otherizing**

3. Unpredictable, Unreliable, Arbitrary and Disruptive

4. Coercive and Controlling, Oppressive, Infantilizing

Connected vs Otherizing, Denigrating, Dehumanizing

- Helping System as Pathologizer and Stigmatizer
  - Harmful diagnoses – from slavery to DSM
  - IQ as a pretext for inferiority/superiority
  - Underdiagnosing pain, substance misuse, ASD
  - Overdiagnosing paranoia and schizophrenia
- Segregation Undermines Reciprocity & Attunement
  - Disparities in ED classification and tracking of students
  - Helpers don't look like you, speak your language, understand your culture, respect your values
- Implicit Bias Distorts Connectedness Via Stereotypes
- Children of color suspended and expelled for lesser infractions than white children

Applying a Polyvagal Lens To SDHs

In What Ways is Our Service System…

1. Safe, Supportive and Nurturing

2. Connected and Responsive

3. **Reliable and Trustworthy, supporting self-regulation**

4. Empowering, allowing agency, choice and self-determination

VS

1. Threatening and Dangerous psychologically and objectively

2. Unresponsive, Denigrating, Dehumanizing, Otherizing

3. **Unpredictable, Unreliable, Arbitrary and Disruptive**

4. Coercive and Controlling, Oppressive, Infantilizing

Reliable vs Unpredictable and Disruptive

- Wait lists… not contingent on need
- Change in providers and services
- Closing of child care sites, reductions in child care subsidies
- Internet access issues prevent making an appt
- Violations of confidentiality

In What Ways is Our Service System...

1. Safe, Supportive and Nurturing

2. Connected and Responsive

3. Reliable and Trustworthy, supporting self-regulation

Empowering, allowing agency, choice and self-determination

VS

1. Threatening and Dangerous psychologically and objectively

2. Unresponsive, Denigrating, Dehumanizing, Otherizing

3. Unpredictable, Unreliable, Arbitrary and Disruptive

4. **Coercive and Controlling, Oppressive, Infantilizing**

Empowering vs Coercive, Controlling and Infantilizing

- Helping system as Enforcer
  - Mandated reporters
  - Unnecessary law enforcement involvement in MH crises
  - COVID distancing rules enforced more strongly among AA/H
  - 911 calls to ER for preadolescent black males (OMH 2004)
- System as Paternalistic Infantilizer
  - Rescuing through disempowerment
  - Having to admit to parental capacity deficits to gain access to DSS preventive services
  - Getting a job and raising income is 'punished' by loss of Medicaid and SSI

Taking Action

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USING THIS FRAMEWORK TO GENERATE

ACTIONS THAT MIGHT ADDRESS INEQUITIES

IN

HEALTH OUTCOMES

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List one or more Actions that Would Make a Difference in Achieving Equity of Health Outcomes in Putnam County...

ⓘ Start presenting to display the poll results on this slide.

List one or more Actions that Would Make a Difference in Achieving Equity of Health Outcomes

Wordcloud Poll ☑ 121 responses 👥 54 participants

Universal basic income
Shared resources
More staffing
Patience
Health education
Awareness
Training
Systemic change
Empathy
Funding
Compassion
Education
Free healthcare
Understanding
Access
Listening
Universal healthcare
Knowledge
Validation
Trauma informed care
Religiousvalues
Research
Understanding implicit bias
Universality
Transportation empathy trauma-informed care

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The Role of Community Conversations

- Applying a PVT Framework with residents of neighborhoods and communities
  - How would they answer questions about the 3 pillars?
  - What would they prioritize?
  - How might the answers differ from those of service providers?
- Convening "Data Parties"
  - Sharing public health data
  - Engaging in dialogue to explore meaning(s) of results
  - Seeking input about what else should be measured
- Determining collaborative next steps

Community Conversations as Living Embodiments of Trauma Informed Care and Resilience

- Safety
  - Meetings should be inclusive and welcoming
- Connectedness
  - Listening without judgment
- Trust and Reliability
  - We should be accountable and follow through
- Empowerment
  - Distribution of authority and sharing power

Thank You!

ANDREW BELL

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