Managing HIV in the 21ˢᵗ Century:

Biology/Behavior and the Social Determinants of HIV Transmission

Robertson Nash, PhD(c), ACNP, BC

Vanderbilt Comprehensive Care Clinic

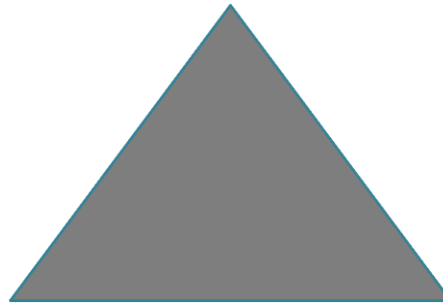# "It's always February 2nd …"

Background

TENSION

Patient Needs
➢ Focus on Strengths
➢ Emphasize Belonging

Provider Needs
➢ Understand challenges without blaming the victim

Compassion, Empathy, Understanding

Guiding tenets: shift the focus

Homeostasis = focus on the fish as individuals

Allostasis = focus on what happens to the fish over time as a result of living in their fishbowl

Guiding tenets: Structural Violence

Access to housing in the US is a useful example of the insidious nature of structural violence:

Working a full 40-hour week, even 52 weeks a year, with no time off for any reason, will not provide enough income for housing at 30% of gross income in any county in the US.
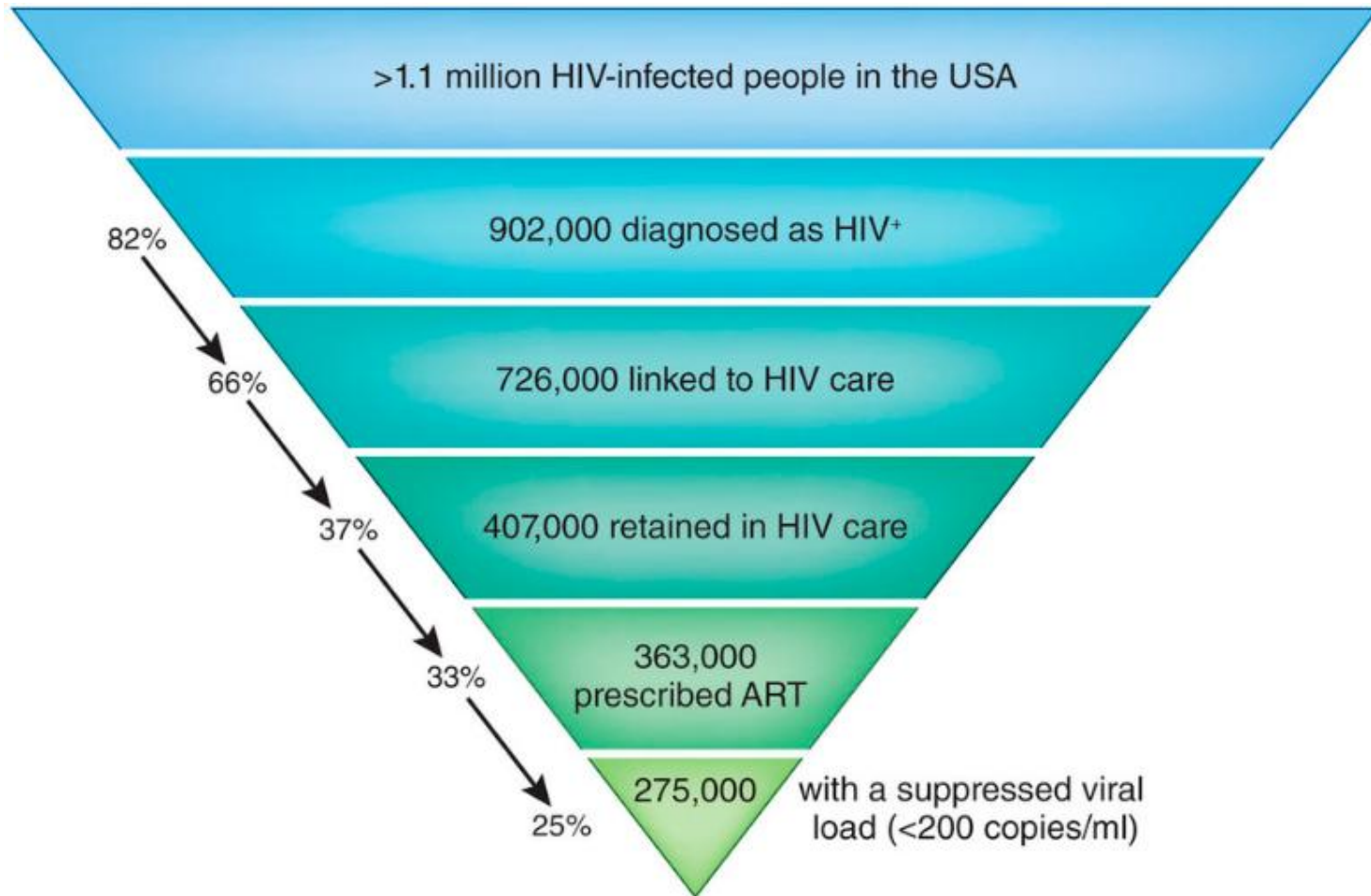
What is Health? Ask a Nurse . . .

- Watson: Philosophy of Science and Caring: "health refers to the unity and harmony within the mind, body, and soul".

- Neuman: Systems Model: "Optimal wellness or stability indicates that total system needs are being met."

- King: Interacting Systems Framework: "the dynamic life experiences of a human being . . . continuous adjustment to stressors in the internal and external environment . . . to achieve maximum potential for daily living."

Tomey, A. & Alligood, M.R. (2002). *Nursing Theorists and Their Work* (5th Ed.) St. Louis, MO: Mosby.

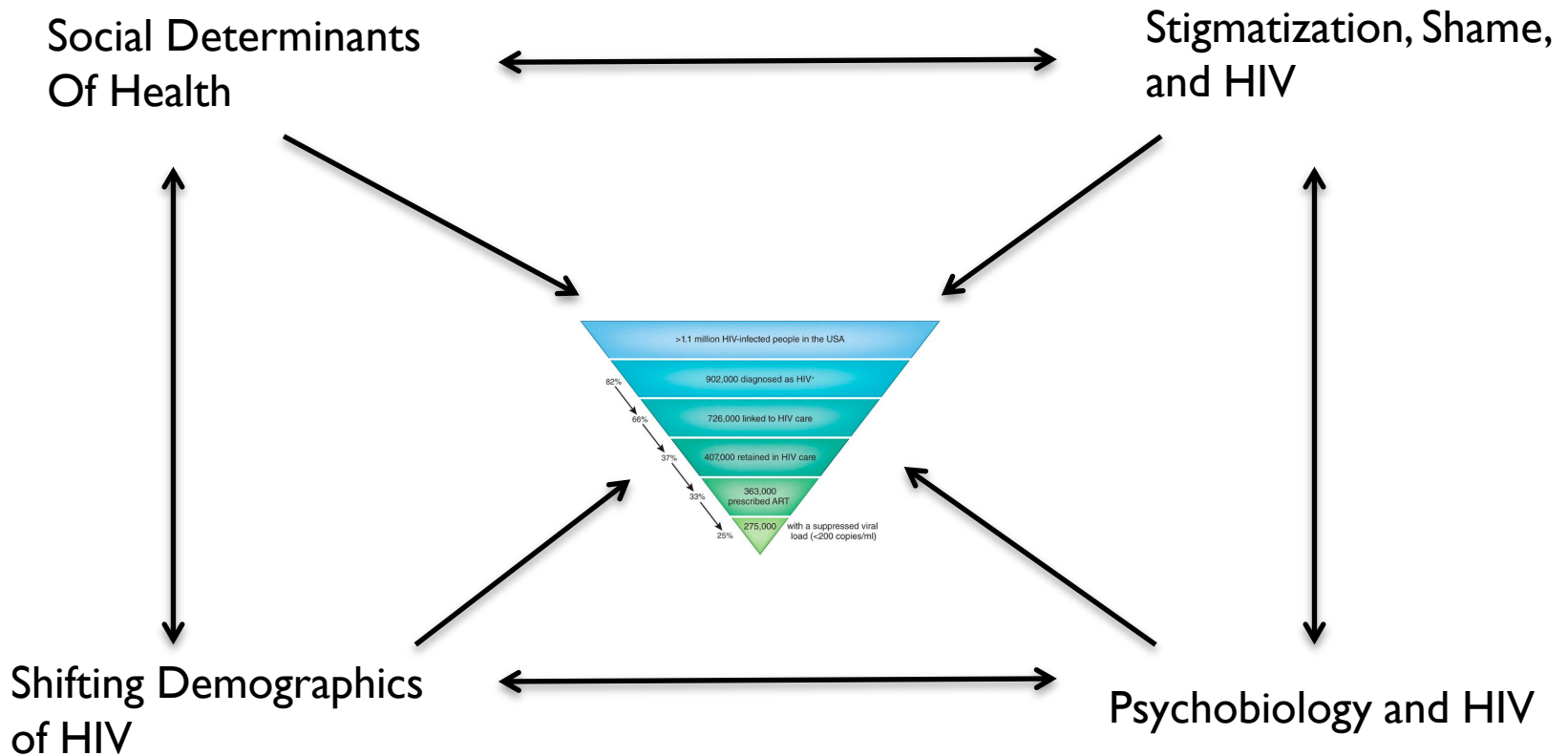VANDERBILT UNIVERSITY School of Nursing

What's unique about this chronic disease?

- We have the pharmacological agents to fully suppress the virus
  - SE burden, pill burden have significantly decreased

- We have the barrier protection necessary to minimize transmission of the virus

- HIV is no longer a bio-medical challenge

Continuum of Care is the Challenge


>1.1 million HIV-infected people in the USA

82%

902,000 diagnosed as HIV+

66%

726,000 linked to HIV care

37%

407,000 retained in HIV care

33%

363,000 prescribed ART

25%

275,000 with a suppressed viral load (<200 copies/ml)

Where to look for answers?

Social Determinants
Of Health

Stigmatization, Shame,
and HIV

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Shifting Demographics
of HIV

Psychobiology and HIV

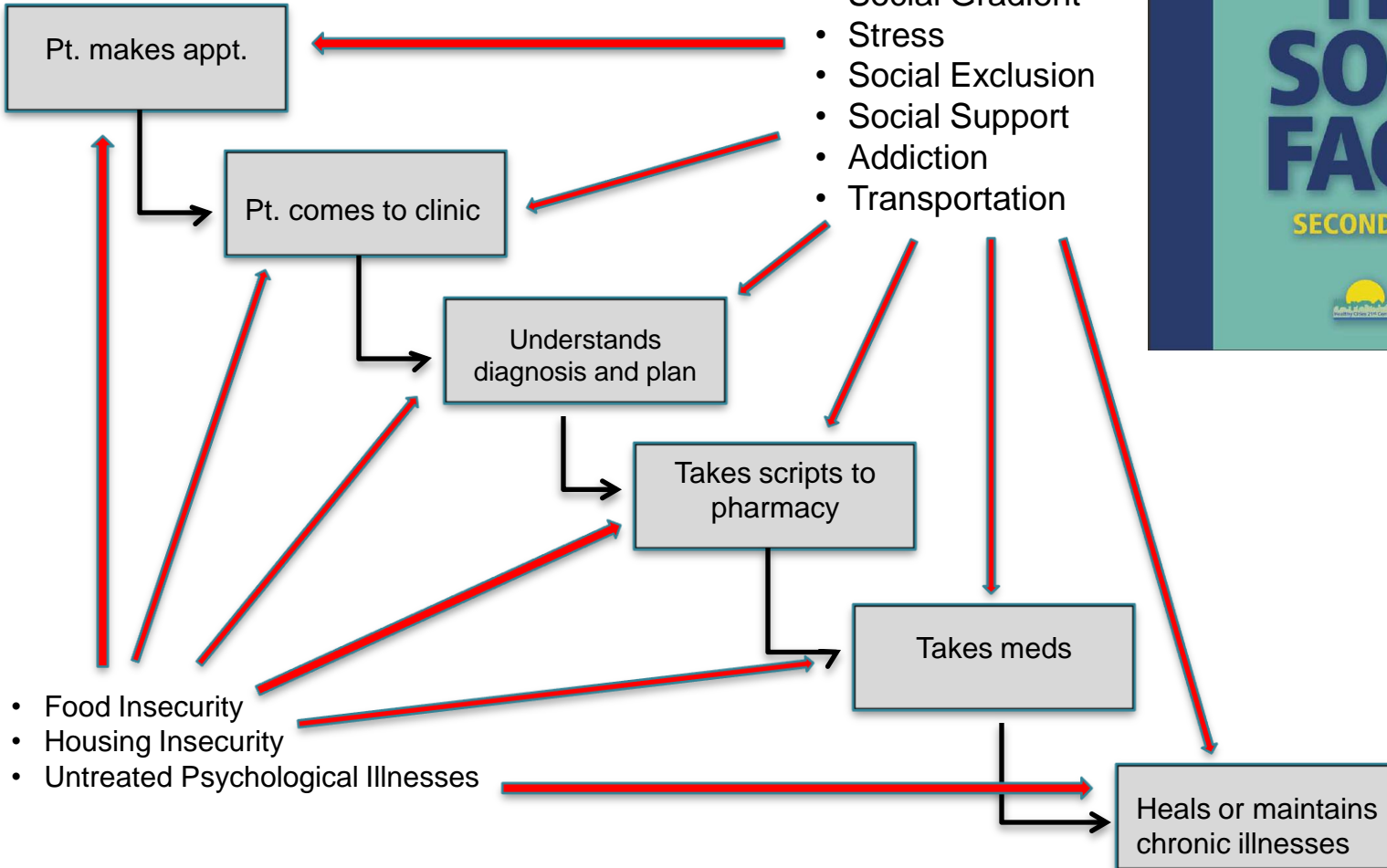# Social Determinants of Health

- The Social Gradient
- Stress
- Early Life
- Social Exclusion
- Work
- Unemployment
- Social Support
- Addiction
- Food
- Transportation
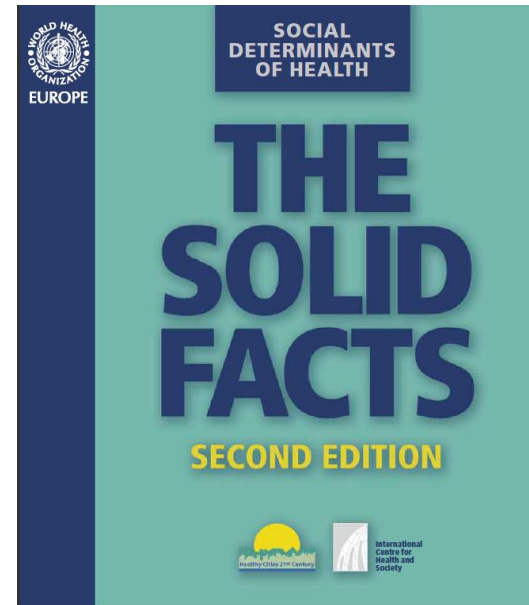
Human social organization is the result of human choices, and those choices have direct impact on every member of a society, especially the least powerful members.

A tale of two visits

- Social Gradient
- Stress
- Social Exclusion
- Social Support
- Addiction
- Transportation

Pt. makes appt.

Pt. comes to clinic

Understands diagnosis and plan

Takes scripts to pharmacy

Takes meds

- Food Insecurity
- Housing Insecurity
- Untreated Psychological Illnesses

Heals or maintains chronic illnesses

SOCIAL DETERMINANTS OF HEALTH

THE SOLID FACTS

SECOND EDITION
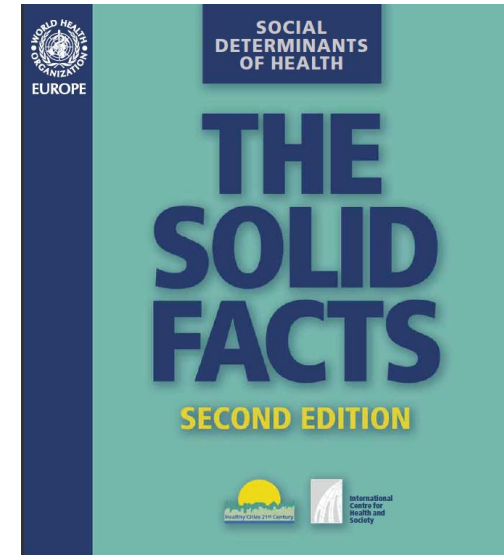
Shifting Demographics of HIV

Table 2. Human Immunodeficiency Virus (HIV) Diagnoses Among Males With Infection Attributed to Male-to-Male Sexual Contact

Age group, y	No. of HIV Diagnoses Among Males With Infection Attributed to Male-to-Male Sexual Contact by Year of Diagnosis[a]										% Change	EAPC (95% CI)
	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011		
13-24	2976	3207	3748	4107	4690	5449	6208	6528	6912	6919	132.5	10.5 (10.1 to 10.9)
25-34	7957	7474	7657	7506	7379	7867	7868	7854	7738	7929	-0.4	0.3 (0 to 0.6)
35-44	9782	9296	9284	8642	8563	8125	7264	6537	5824	5417	-44.6	-6.2 (-6.5 to -5.8)
45-54	3936	3933	4090	4145	4217	4564	4471	4185	4040	4145	5.3	0.6 (0.1 to 1.1)
≥55	1370	1342	1462	1439	1465	1609	1655	1581	1521	1623	18.5	2.0 (1.0 to 3.0)
Total	26 021	25 251	26 240	25 838	26 313	27 614	27 466	26 685	26 035	26 033	0	0.3 (0.1 to 0.5)

Abbreviation: EAPC, estimated annual percentage change.

CDC HIV Surveillance Report (2011): Highest incidence rate in the SE 20.9/100,000 vs 15/100,000 national average

Shifting Demographics of HIV

- MMWR – Prevalence of viral suppression lowest in 18-24 YO (13%) and 25-34 YO (23%) (p < .01) compared to > 65 YO.

  - Linkage to care within 90 days across 19 US States: Black 76%, White 85%

  - Sexual networks – Laumann, 1999

    - "Peripheral" Blacks (one partner last 12 mons) are five times more likely to choose "Core" Black ($\geq$ 4 partners in the past year) partners than "peripheral" Whites are to choose "core" whites

    - Segregation by skin color limits pool of partners – 30% increased likelihood of STD based on this factor

A comparison of sexual behavior patterns among men who have sex with men and heterosexual men and women

Sara Nelson Glick, PhD, MPH[1], Martina Morris, PhD[2,3], Betsy Foxman, PhD[7], Sevgi O. Aral, PhD[8], Lisa E. Manhart, PhD, MPH[4], King K. Holmes, MD, PhD[5,6], and Matthew R. Golden, MD, MPH[6,9]
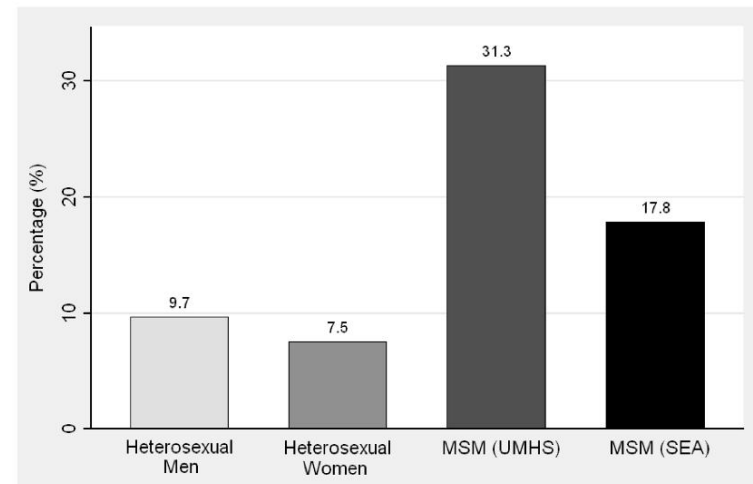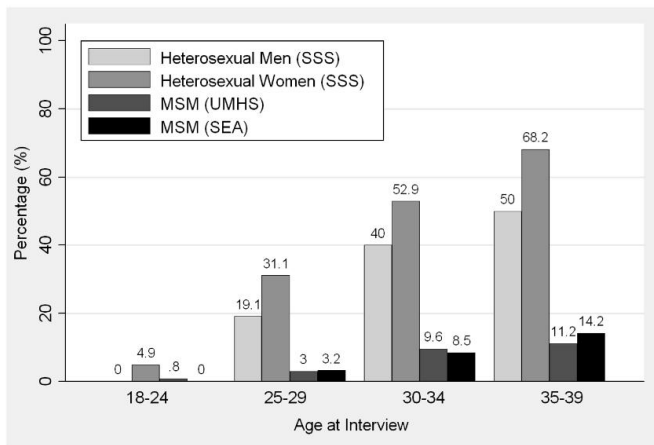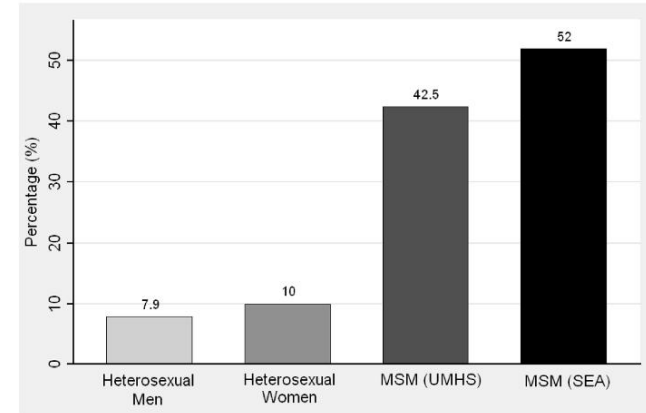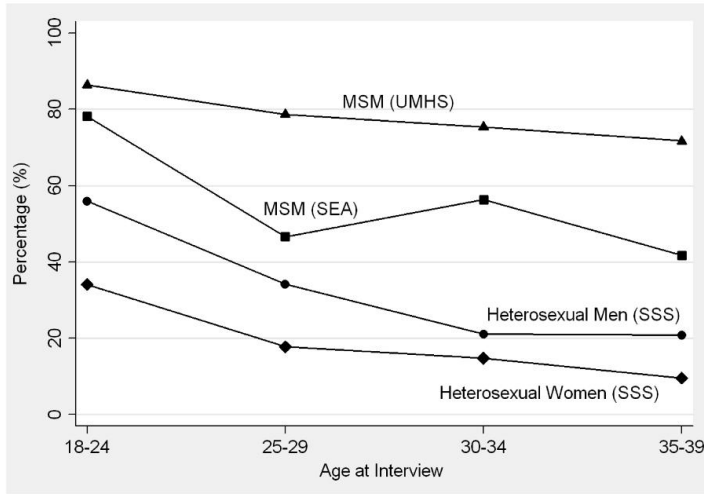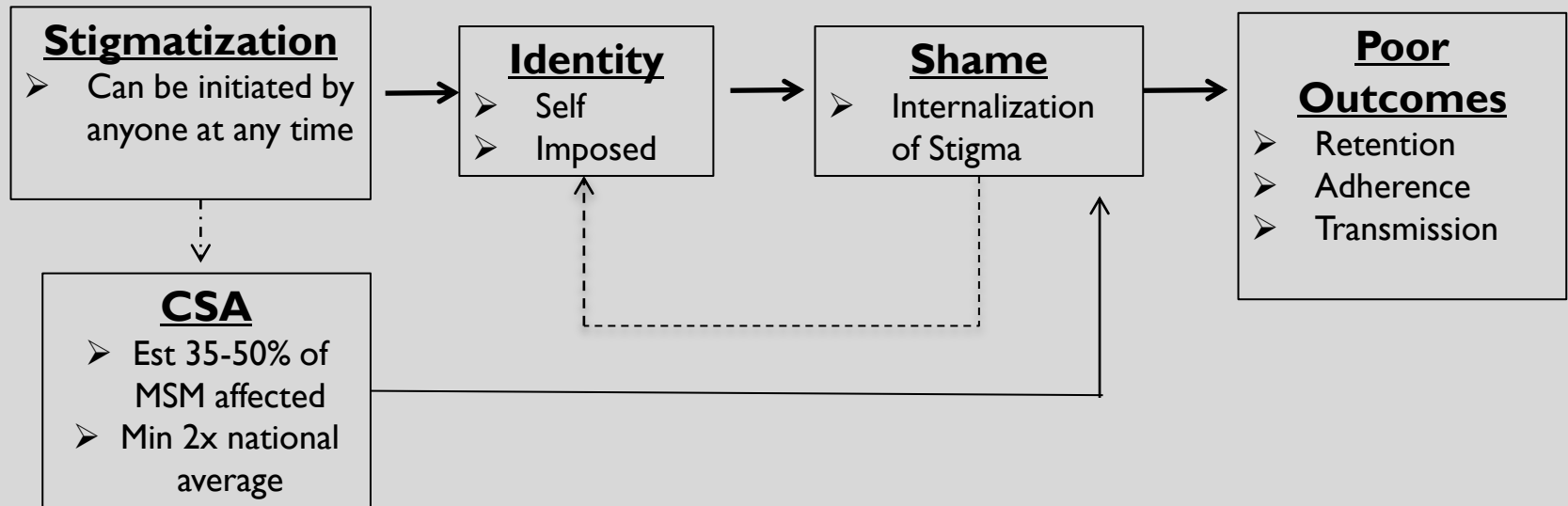
Social Resistance Framework
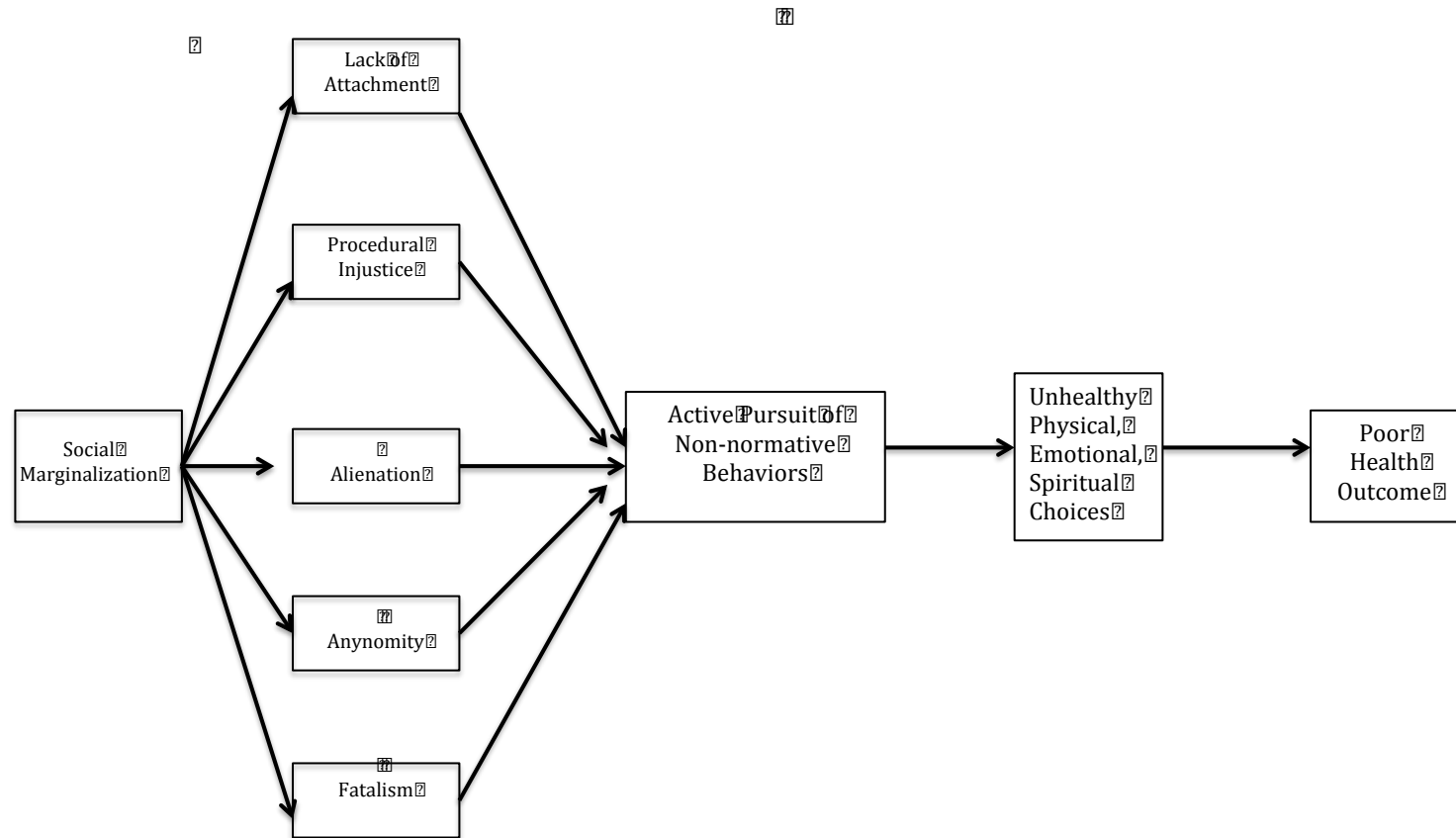
Factor, Kawachi, Williams. Understanding high-risk behavior among non-dominant minorities: A social resistance framework. Social Science & Medicine 73(2011) 1292-1301.

Theoretical Framework

Individual Level

Stigmatization
- Can be initiated by anyone at any time

Identity
- Self
- Imposed

Shame
- Internalization of Stigma

Poor Outcomes
- Retention
- Adherence
- Transmission

CSA
- Est 35-50% of MSM affected
- Min 2x national average

Social/Cultural Normative Values and Behaviors
Many of our patients are marginalized

Relationship between HIV Stigma and Self-Isolation among People Living with HIV in Tennessee

Carolyn M. Audet[1*], Catherine C. McGowan[2], Kenneth A. Wallston[3], Aaron M. Kipp[4]

- Qualitative Study, N = 32
- Three main HIV stigma themes uncovered:
  - Negative attitudes, fear of contagion, misperceptions re: transmission
  - discrimination by family, friends, co-workers, and healthcare providers
  - Use of self-isolation as a coping mechanism

Reasons for HIV disclosure and non-disclosure: an exploratory study of rural African-American men

TABLE 1
Sample Characteristics ($n = 40$, unless otherwise noted)

Sample Characteristics	
Age	Frequency (%)
Range	22–49
Mean	38
Education	
H.S. graduate	29 (72.5)
Not a H.S. graduate	11 (27.5)
Living Arrangement	
Living alone/single	17 (42.5)
Living with a friend or relative	12 (30.0)
Living with partner, unmarried	8 (20.0)
Married, living with wife	3 (7.5)
Annual Income	
Under $10,000	31 (77.5)
At least $10,000 but less than $20,000	6 (15.0)
At least $20,000 but less than $40,000	2 (5.0)
$40,000 or more	1 (2.5)
Time HIV+	
Less than 5 years	14 (35.0)
5 to 10 years	10 (25.0)
Greater than 10 years	16 (40.0)
Symptoms ($N = 39$)	
Yes	2 (5.1)
No	37 (94.9)

Reasons for not disclosing HIV status:

Fear of negative reactions/stigma

Fear of disclosure recipient telling others

No need to tell

Not ready to tell

Not wanting to burden others

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Effect of Stress on Risky Behaviors

Stress and Coping with Racism and Their Role in Sexual Risk for HIV Among African American, Asian/Pacific Islander, and Latino Men Who Have Sex with Men
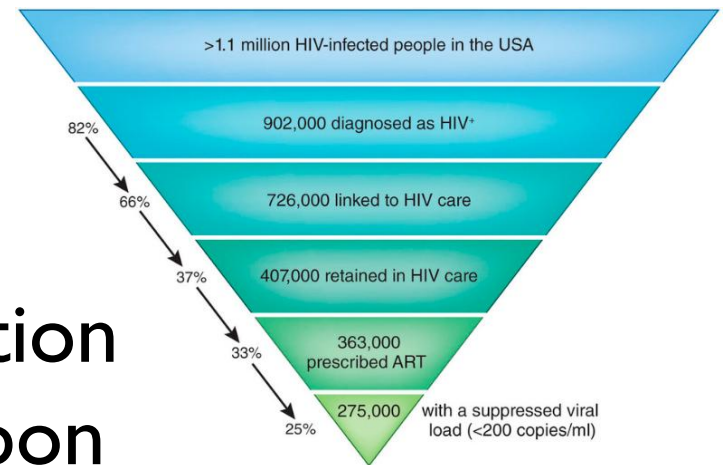
Chong-suk Han · George Ayala · Jay P. Paul ·
Ross Boylan · Steven E. Gregorich · Kyung-Hee Choi

Table 2   Associations of stress from racism and coping with racism with UAI: results of bivariate and multivariate logistic regression analyses using a backward elimination process

	Bivariate		Multivariate[a]	
	Unadjusted Odds Ratio	95 % CI	AOR	95 % CI
Stress from racism experienced in the gay community				
Never experienced racism	1.50	(0.92, 2.44)	1.70	(0.98, 2.94)
Stressed when experienced racism	1.76	(1.22, 2.54)**	1.71	(1.15, 2.53)**
Not stressed when experienced racism	1.00		1.00	
Avoidance coping	1.22	(1.04, 1.41)*	1.30	(1.06, 1.58)*
Dismissal coping	0.98	(0.84, 1.14)	0.88	(0.73, 1.05)
Education/confrontation coping	1.03	(0.87, 1.21)	–	–
Social support coping	1.13	(0.96, 1.32)	–	–

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Continuum of Care is a reflection . . .

- Any expression of non-majority-sanctioned behaviors or attributes can trigger stigmatization

- Access to and full participation in HIV care is contingent upon acknowledgment of belonging to a stigmatized group or groups

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82% 902,000 diagnosed as HIV⁺

66% 726,000 linked to HIV care

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Type D Personality

- Unique combination of negative affect and social inhibition

- Interesting body of evidence from cardiology that CAD outcomes are worse in patients with Type D personality
  - This finding comes on the heels of significant work in cardiology to explore the impact of depression on morbidity and mortality

Biological responses to social threats

Psychobiological responses to social threat: Evolution of a psychological model in psychoneuroimmunology

Margaret E. Kemeny *

Health Psychology Program, Department of Psychiatry, University of California San Francisco School of Medicine, 3333 California Street, Suite 465, San Francisco, CA 94143-0848, USA
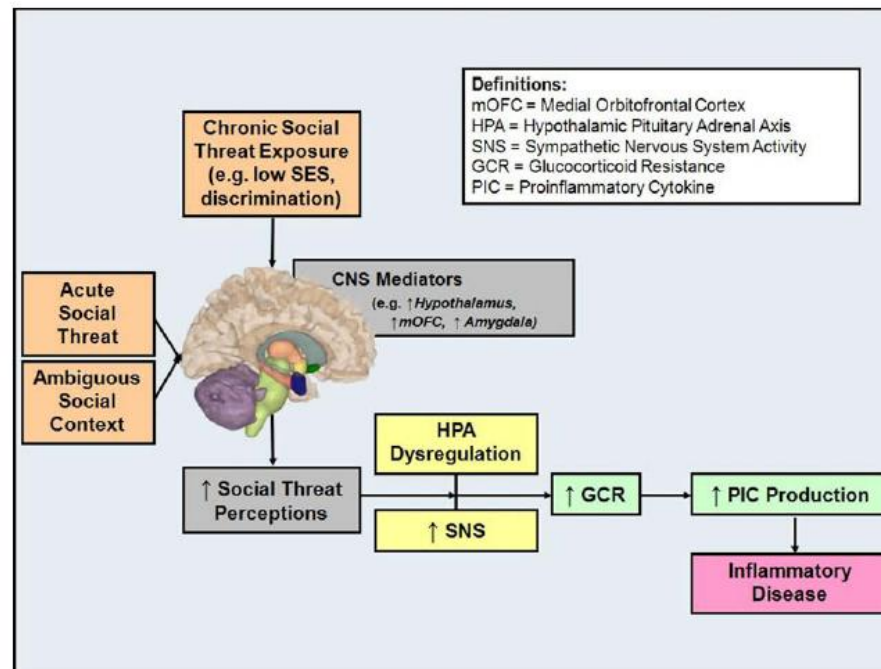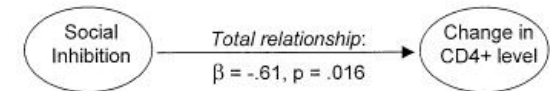
PNI and HIV

Psychological Risk Factors for HIV Pathogenesis:
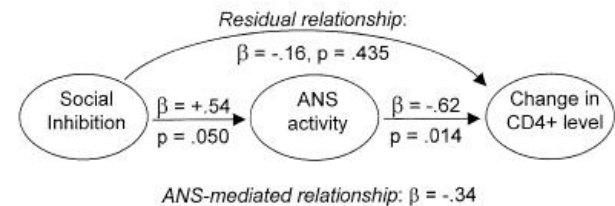Mediation by the Autonomic Nervous System

Steve W. Cole, Margaret E. Kemeny, John L. Fahey, Jerome A. Zack, and
Bruce D. Naliboff
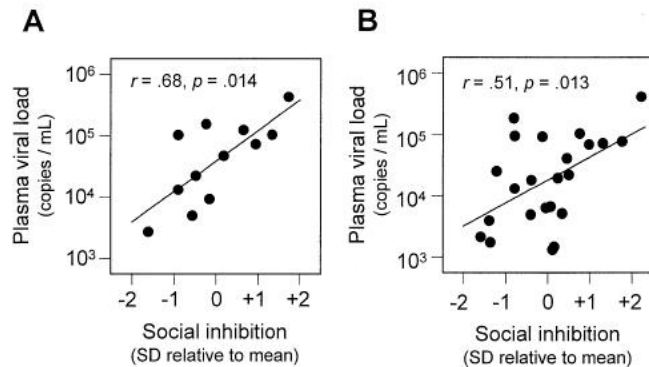
Nash Study 1 (N = 239)

Hypothesis: The Psychological Adjustment Screener (PAS) will be a clinically efficient and useful screening tool in a busy Southeastern USA HIV clinic.

Findings: Statistically significant inverse relationships between General Self-efficacy and 8 of the 10 domains of the PAS. Significant burden of concerns relative to community and clinical samples upon which the instrument is based.

PAS Element	Spearman rho correlation	p-value	% of sample at mod/marked risk for diagnosis
Alienation	-.47	< .001	38%
Health Problems	-.47	< .001	60%
Negative Affect	-.44	< .001	48%
Social Withdrawal	-.44	< .001	74%
Anger Control	-.32	< .001	40%
Suicidal Thinking	-.20	.001	34%
Psychotic Features	-.19	.003	49%
Hostile Control	.16	.014	64%
Acting Out	-.11	.080	62%
Alcohol Problems	-.03	.636	25%
Total PAS Score	-.47	< .001	

Nash Study 2 (N= 100)

Hypothesis: There are identifiable clusters of patients receiving HIV care in our clinic. Clusters are based on patient psychological adjustment characteristics.

Findings: 2 clusters were observed. Statistical significance of difference between groups 1 and 2 on all variables listed below (p < .001).

Table 1. Descriptive Statistics for Clusters 1 and 2.

	Self-blame	Negative Affect	Health Problems	Socially Withdrawn	Psychotic Features	LH Score	Anger Control	Alienation
Cluster 1								
N	39	39	39	39	39	39	39	39
Mean	3.05	37.246	45.982	51.759	43.938	33.00	43.905	40.444
Median	3.00	30.600	42.600	39.100	39.100	35.00	41.300	34.800
IQR	2-4	27.1-39.3	36.3-42.6	39.1-72.1	39.1-39.1	26-39	38.3-48.5	33.9-41.6
Cluster 2								
N	44	44	44	44	44	44	44	44
Mean	5.64	67.400	69.398	74.789	65.261	43.86	58.673	61.109
Median	6	62.9	74.4	79.3	72.1	43	55.8	68.6
IQR	4-7	39.3-92.4	59.5-80.8	72.1-91.5	39.1-79.3	36.25-48	48.5-63.1	34.8-82.9

Future Directions

- Stress engagement with mental health for all of our patients

- Advocate for open community discussion re: CSA

- Focus on community awareness of links between mental health and risky behaviors
  - Get to at-risk groups before the HIV does

- Shift to the fish bowl

Questions ?

Robertson Nash

Vanderbilt Comprehensive Care Clinic

615-438-7199

Robertson.nash@vanderbilt.edu