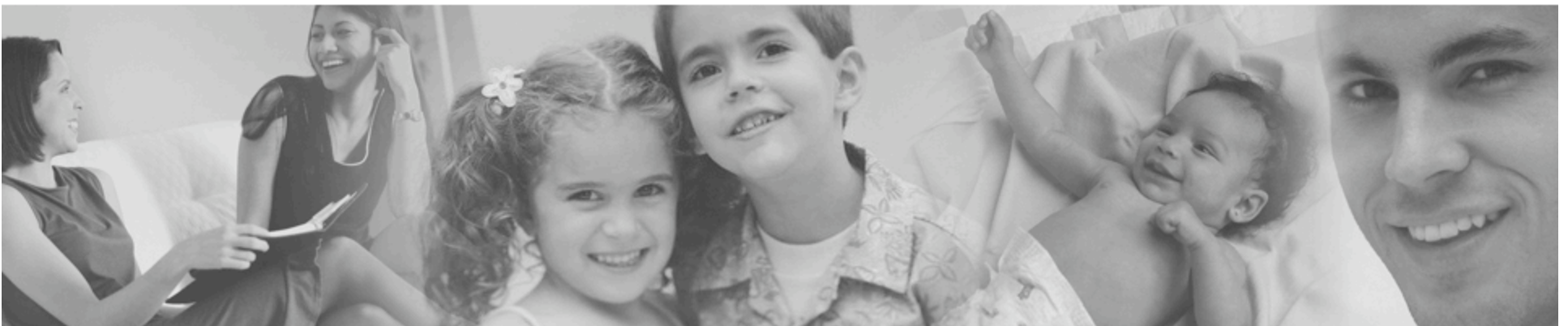


“Starting to Figure it Out – Toward Better Diagnostic Strategies & Treatment for Health Problems related to Intimate Partner Violence”

Jacquelyn Campbell, PhD, RN, FAAN
Anna D. Wolf Chair & Professor
Johns Hopkins University School of Nursing
National Program Director, Robert Wood Johnson Foundation
Nurse Faculty Scholars Programs

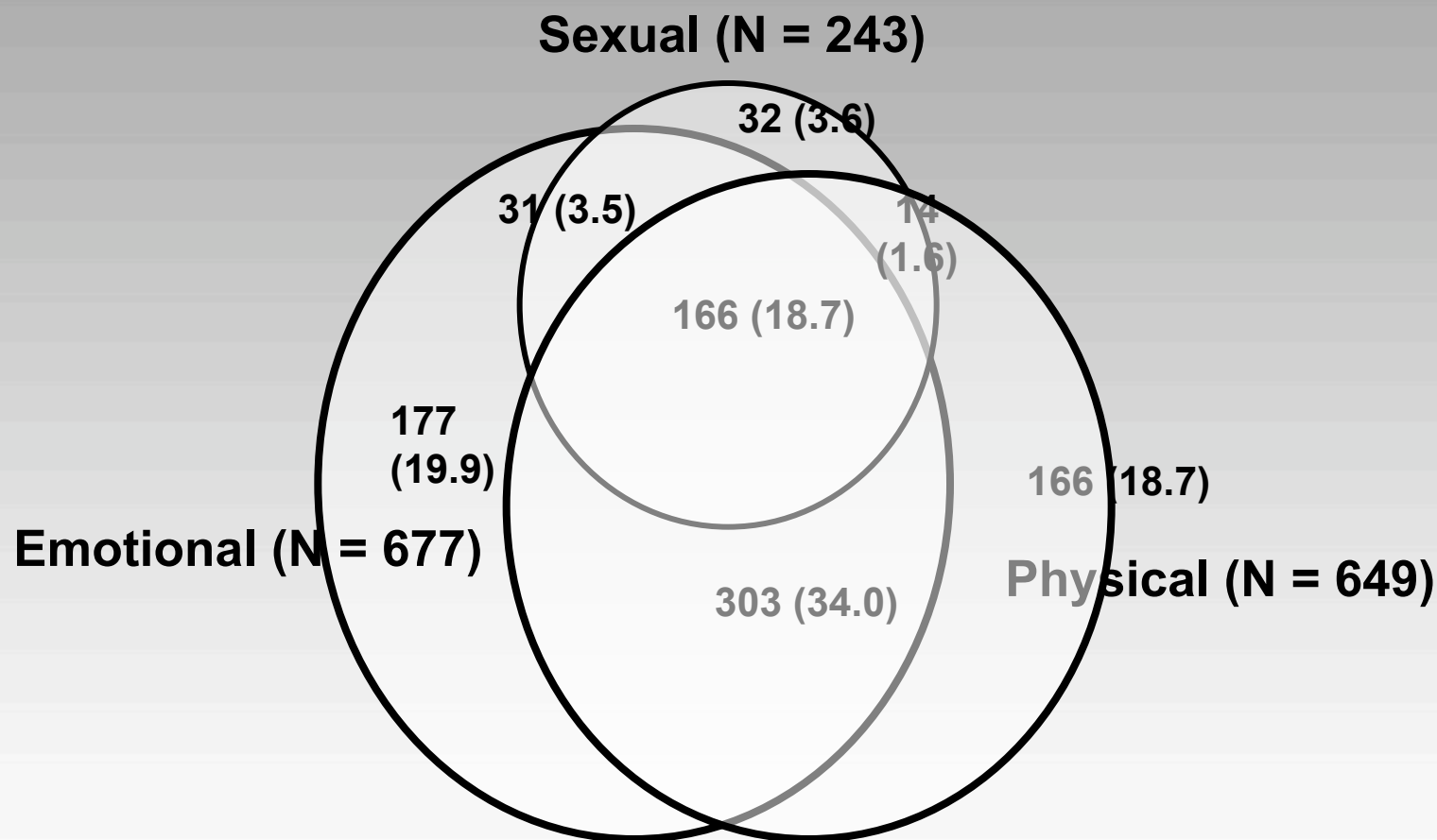




MMRW '08 – BRFSS '05 – 4 questions – physical &/or sexual or threats; weighted; 16 states

- Lifetime IPV – 11.5% for men; 23.6% for women
 - Significantly higher among multiracial, non-Hispanic & AI/AN women; & lower-income respondents.
 - 600,000 injuries to men 1.2 ml injuries to women
- Average of 1600-1700 IP homicides per year of women – 500-600 for men (BJS '09) – addition of ex-BF/GF
 - 45-47% of women killed seen in health care system before homicide; 83% of cases somewhere in system (Campbell '03; Wadman '01)
- Past year – higher rates - in low income settings, IPV specific, w/safety protocols &/or anonymous inquiry
 - Urban, 12 cities pop based - 9.8% past 2 yrs (Walton-Moss et al '05)
 - Clinic based computerized – 18% - (Campbell '10)

Overlap between physical, sexual and emotional abuse (N = 889) (Campbell et. al. '02 from Ellsberg '00)



PHYSICAL HEALTH EFFECTS

(NIH, CDC funded interdisciplinary research)

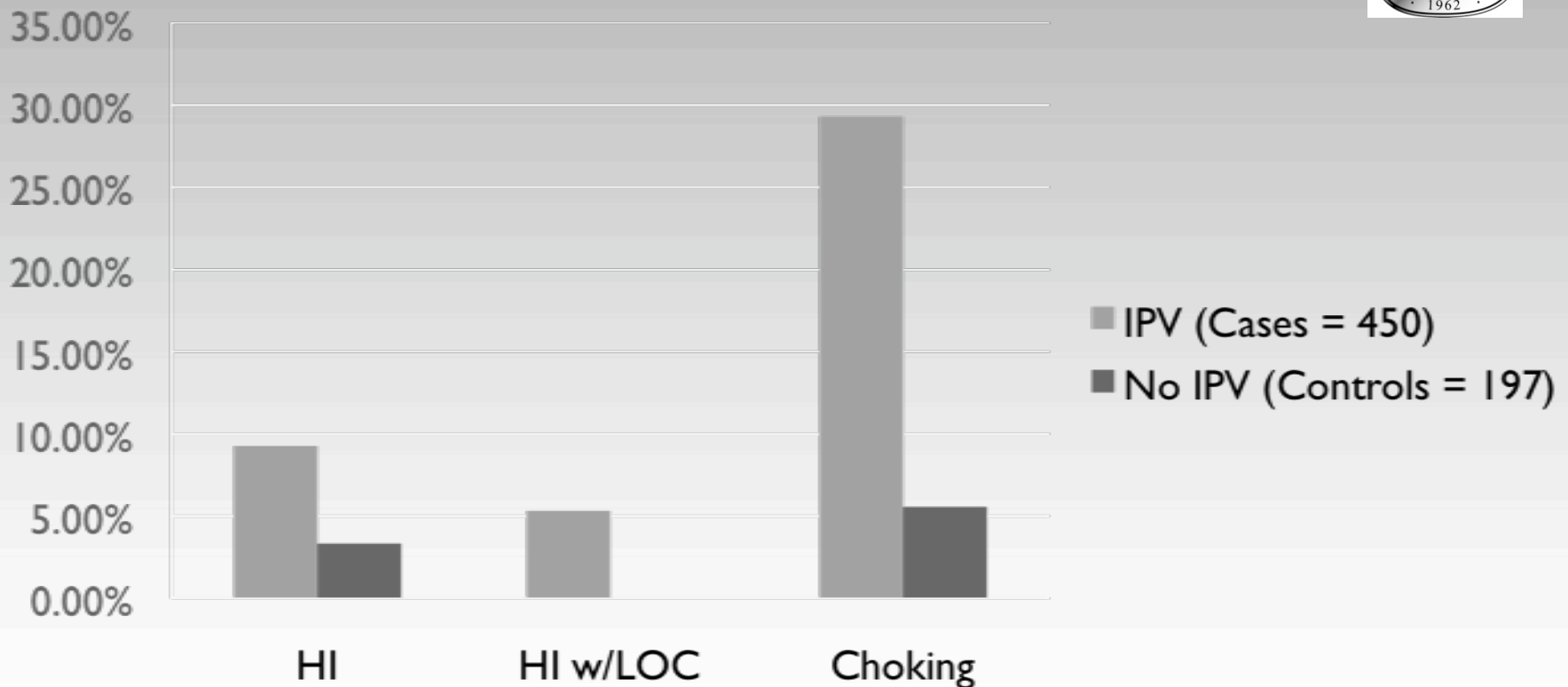
- **Physical Injury (Facial, fractures, dental, neurological - soft tissue, internal, "falls"- Grisso '91)**
 - **TBI & Strangulation:(McClane '05; Corrigan'03; Valera'03; Banks '07)**
- **Neurological Sx - Coker '00; Campbell '02**
 - **IPV & stroke or Sx consistent w/stroke (Black '08; Lown,'01; Loxton '06)**
- **Chronic Pain (Back, abdominal, chest, head) (Campbell '00; Coker '02;. Wuest et al '09) – after IPV**
 - **Fibromyalgia (Alexander '99; Walker '00)**
 - **Immune system activation (Gill, Page & Campbell '05)**
- **Chronic Irritable Bowel Syndrome (Drossman '98)**
- **Hypertension (Schollenberger et al '02; Coker '99)**
- **Smoking (30-34% IPV 13-15% controls) (MMWR '08)**

TBI in Abused Women – From Repeated Choking &/or Head Injury – ACAAWS study

HI = Head Injury

HI w/LOC = with Loss of Consciousness

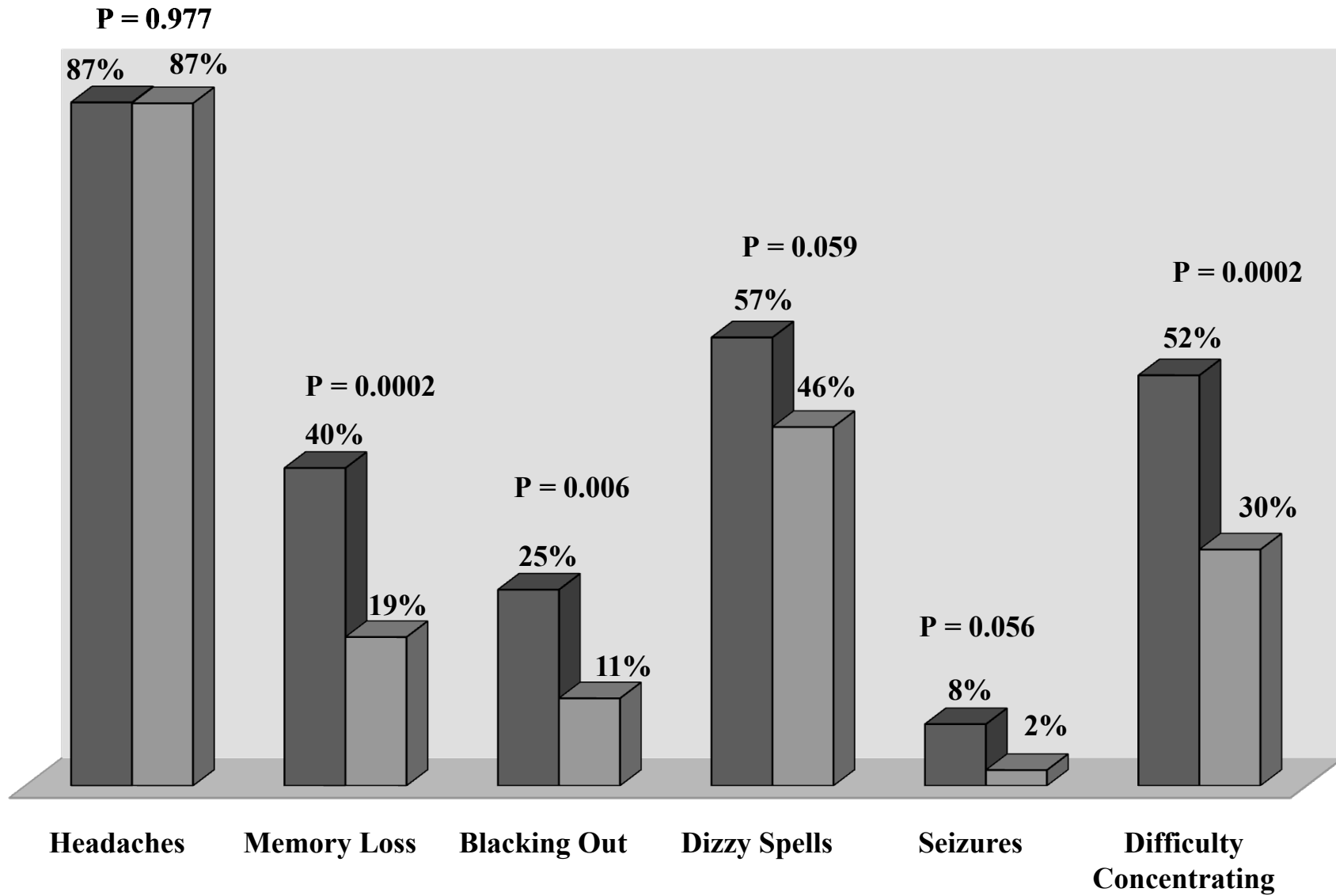
Choking = Attempted Strangulation



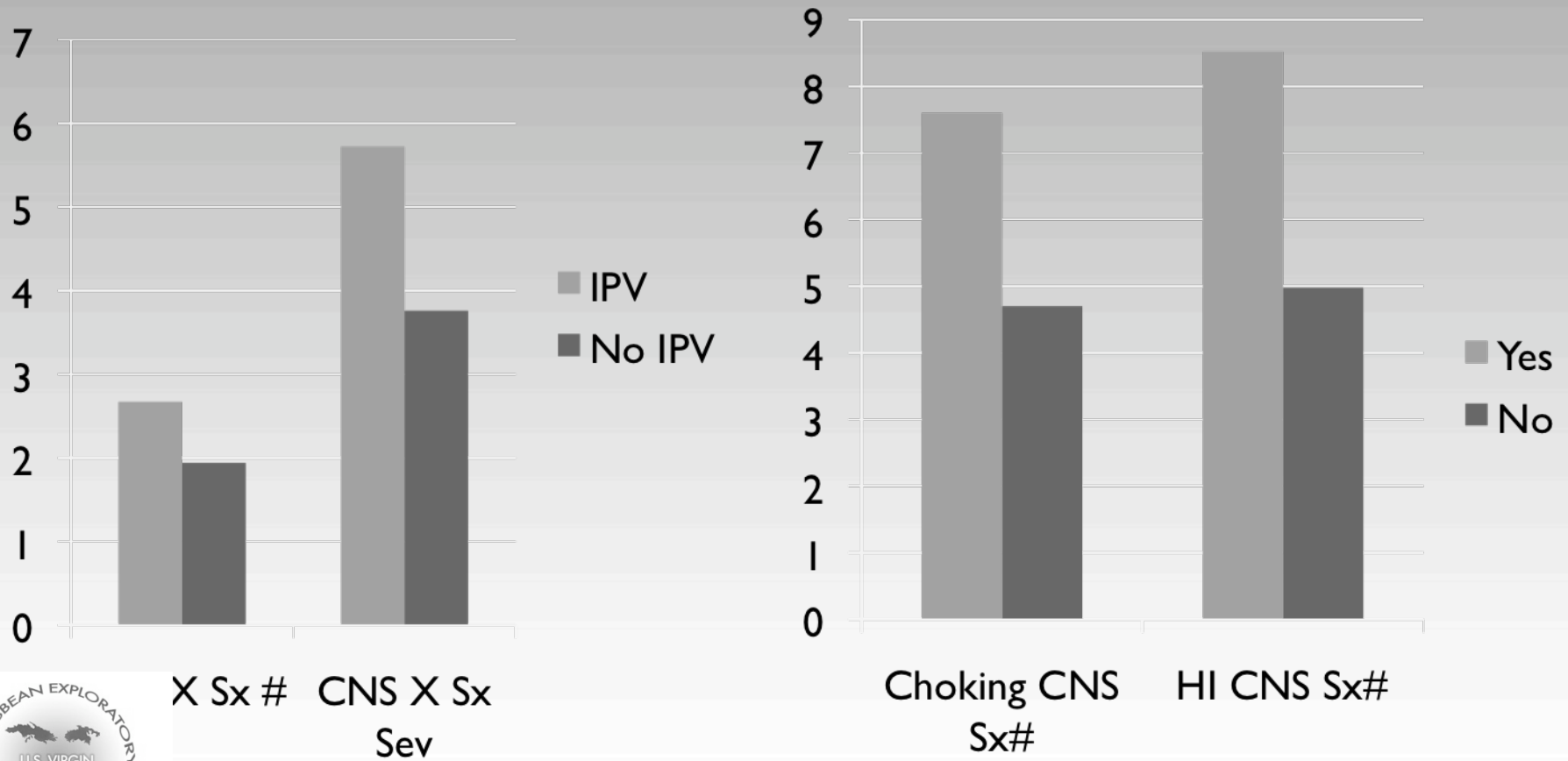
Research supported by the Abuse Status and Health Effects among African Caribbean and African American Women (ACAAWS) study (J. Campbell & D. Campbell, Co-PI's) from the Caribbean Exploratory NCMHD Research Center of Excellence (CERC), University of the Virgin Islands, Grant # 5P20MD002286, National Institutes of Health, G. Callwood PI



■ Case ■ Control



ACAAWS Study – TBI - CNS Sx





TBI Related Injuries Result from Primary and Secondary Causes

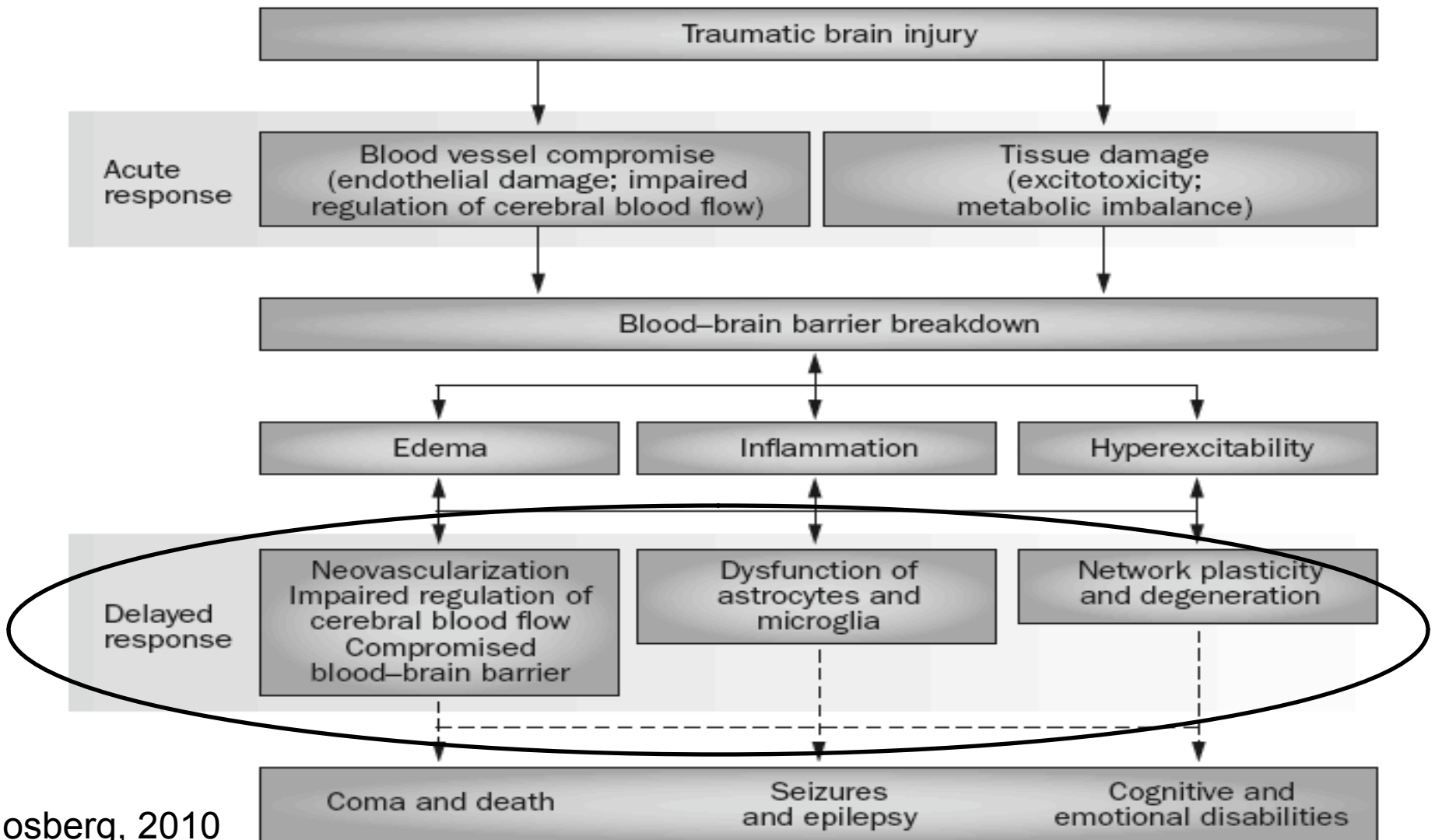
- Primary (Acute): related to damage to the neurons related to the direct impact of the injury
 - Injury can be blunt force, acceleration/de-acceleration OR anoxic injuries – “choking” – attempted strangulation
- Secondary (Delayed): Occurs within hours and days of injury and includes blood brain barrier (BBB) breakdown



Image of a Severe TBI



Acute and Delayed Response





Vulnerability to TBI's in Abused Women – Jessica Gill, PhD, RN

- Abused women have higher levels of inflammatory cytokines (IL6) (Woods et al., '05; '10; Gill, '07)
- High levels of inflammatory cytokines may increase vulnerability to TBI's through increased disruption of the blood brain barrier (BBB)
- Lower levels of neuropeptides in abused women with PTSD, which may impair neuronal repair following TBI's (Gill et al)
- Use of epigenetic modifications: differential expression and transcription of genes following an event such as a TBI, and reflects chronic symptoms and experiences – lifetime, multiple traumas – injury & psychological harm

New Data from BRFSS (MMWR '08; Breiding, Black & Ryan '08a & b)

❖ Women -lifetime IPV

❖ High Cholesterol: AOR 1.3 ([CI] = 1.1--1.4)

❖ Disability AOR = 1.7; activity limitations 2.1

❖ Arthritis AOR = 1.6

❖ Heart Attack; Heart Disease; Stroke :1.4; 1.7; 1.8

❖ Smoking AOR = 2.3

❖ Risk factors for HIV/STD's 3.1 (CI = 2.4--4.0).

❖ Men: increased use of disability equipment, arthritis, asthma, activity limitations, stroke, risk factors for HIV infection or STDs, smoking, and heavy or binge drinking. (AOR's 1.4 (CI = 1.0--2.0) - stroke to 2.6 (CI = 2.0--3.6) – HIV/STD risk



Needed Future Directions with Population Based Studies – Lifetime IPV

- BRFSS – combine the ACE's module with the IPV module (states are trading off)
 - Also need full range of continuum of sexual assault, WPV
- ACE's data – combining adult IPV & SA w/ACE's as IV's
- Health disparities/inequities analyses
 - What proportion of variance in health inequities – various conditions (e.g. cardiovascular disease, HIV/AIDS, maternal child health px) is related to lifetime trauma
 - Examine for African Americans, Aboriginal peoples, Immigrants
 - Intersections (& multiplicative effect) with stressors of poverty, discrimination, institutional racism, hx trauma, violent neighborhoods
 - Issues of lack of access to appropriate care -



Well established negative health outcomes of IPV – new findings

❖ Forced sex

- ❖ HIV/AIDS intersections – physiological as well as “negotiating” safe sex
- ❖ UTI’s
- ❖ Increased STI’s; cervical cancer (Coker et al ’03)
- ❖ Forced first sex – Stockman et al ’09 – up to 21% of US women whose first sexual experience <14
- ❖ Other GYN problems



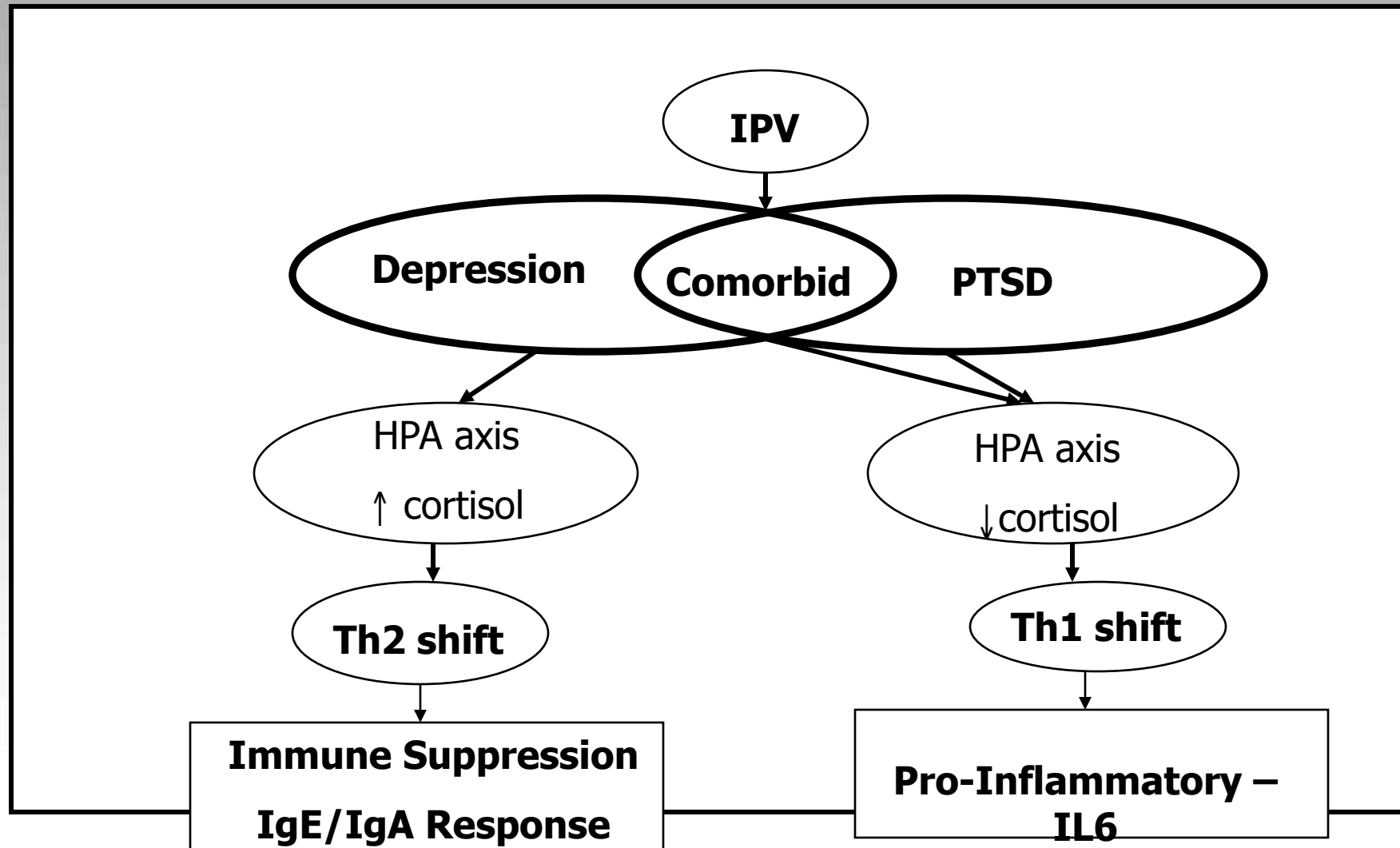
Abuse During Pregnancy – Health Correlates

- Patterns of abuse during pregnancy – from PRAMS ('03)
- Unintended pregnancy (Saltzman '03; Pallito et al, '04)
- Maternal health correlates: depression, substance abuse, low social support, spontaneous abortion, smoking, risk of homicide (Gielen et al '94; Campbell '92)
- Infant outcomes: LBW (Murphy et. al. '01 – meta analysis - CMAJ), through connections w/ smoking, low weight gain & substance abuse & stress (Curry et al '99; Altarac & Strobino '02) & SGA (Alhusen '11)
- Child abuse (most severe - nonbiological father)
- Maternal Mortality (Chang et al '10, Chang, Saltzman et al)
- Post partum depression – PRAMS analysis – MMWR '09

MENTAL HEALTH EFFECTS – (Golding '99; Stith '04; Mitchell '09)

- **Depression 10 - 43 pop; 32 - 70% clinical (9.3% non abused)**
- **Suicidality 14 - 40% (4.9% non abused)**
 - **Among African American & African Caribbean women –
IPV & suicidality AOR = 10.39 (Campbell '10; Houry '09)**
- **Post Traumatic Stress Disorder 2 - 12% pop; 31 - 84% clinical (weighted \bar{X} prev 64% vs. 5% non abused)**
- **Alcohol Abuse 4 - 16% pop; 23 - 44% clinical**
- **Drug Abuse 5 - 16% pop; 23 - 44% clinical (2% non abused)**
- **Eating Disorders - bulimia (McCauley et. al. '95)**

Bio-Psycho-Immunologic Response to Trauma (Woods et al, '02; Gill et al .04)



Co-Morbidity of PTSD & Depression in Battered Women



- ❖ Far more comorbidity in battered women than rape victims or Vietnam Vets – recent research suggests that only depression IF PTSD (Woods '05; Resick '07)
- ❖ Predictors: childhood victimization, – importance of child abuse on physical health – ACE
- ❖ Importance of severity of physical abuse
- ❖ Lifetime trauma response
- ❖ Issues of ongoing trauma

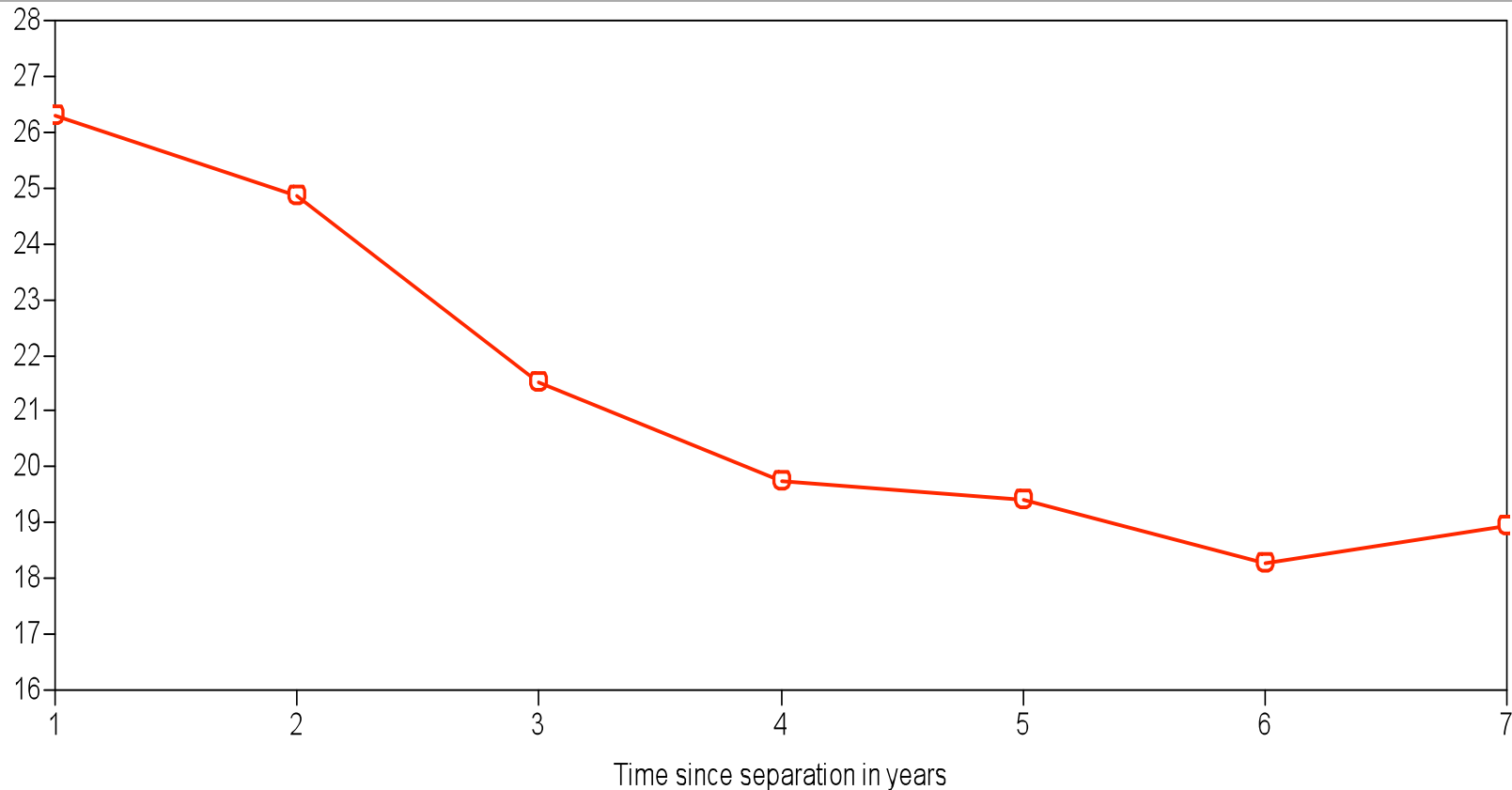


Pro Inflammatory Response

- ❖ Associations with chronic pain – Woods et al '05 (fibromyalgia)
- ❖ Other inflammatory conditions – asthma – chronic fatigue syndrome, urinary tract infections
- ❖ Implications for BMI, obesity
- ❖ Implicated with cardiovascular disease -
 - ❖ ACE study
 - ❖ Cardiovascular risk factors with BFRSS -

CHANGES IN DEPRESSIVE SYMPTOMS

Ford – Gilboe et al 2010 – Women’s Health Effects Study - WHES



Growth Parameters

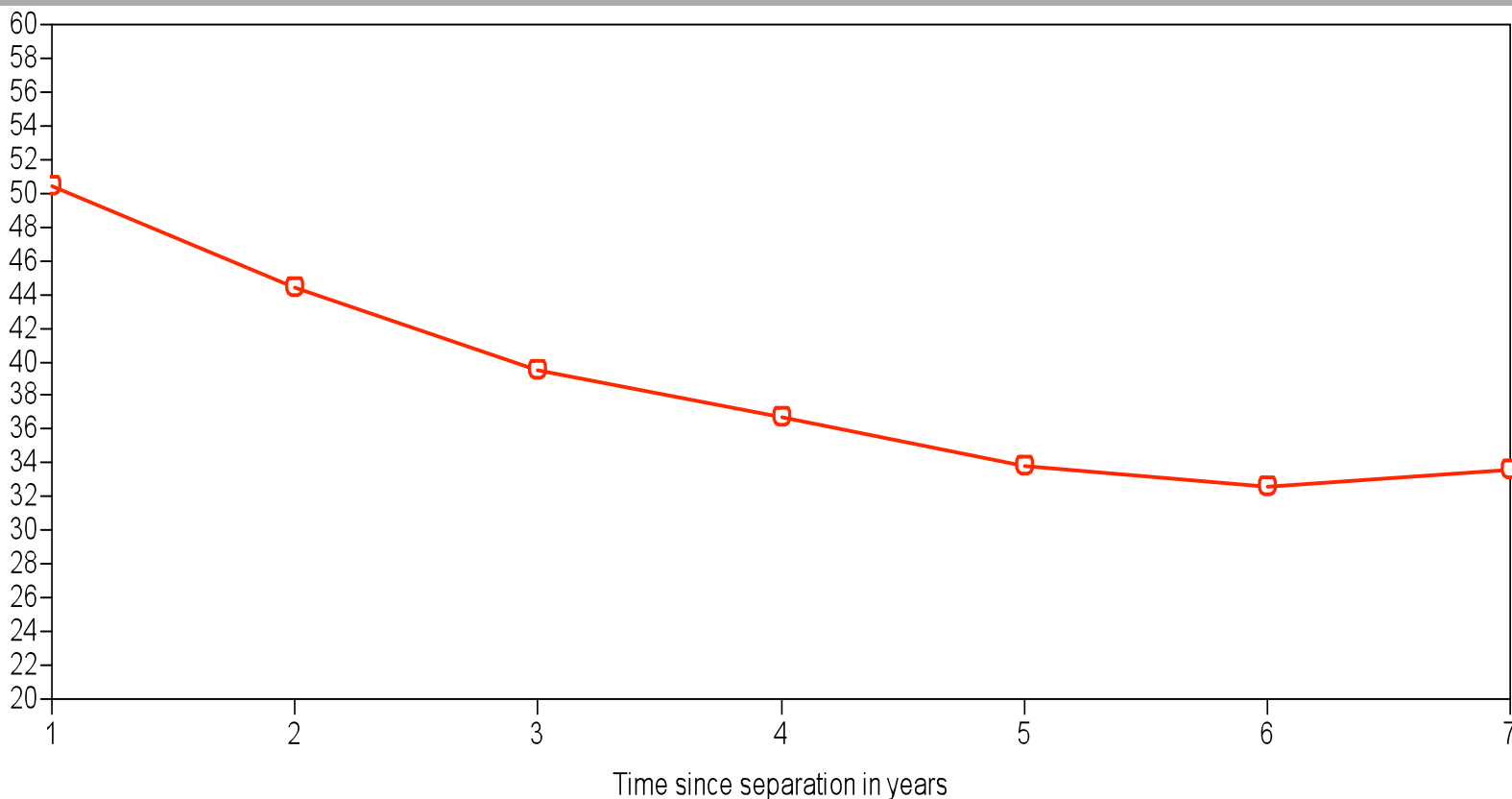
Intercept	26.61	Variance	45.57*
Slope	-3.069	Variance	5.88*
Quadratic	0.121	Variance	0.50

Direct Effects

Child Abuse
IPV Severity

CHANGES IN PTSD SYMPTOMS

Ford – Gilboe et al 2010



Growth Parameters

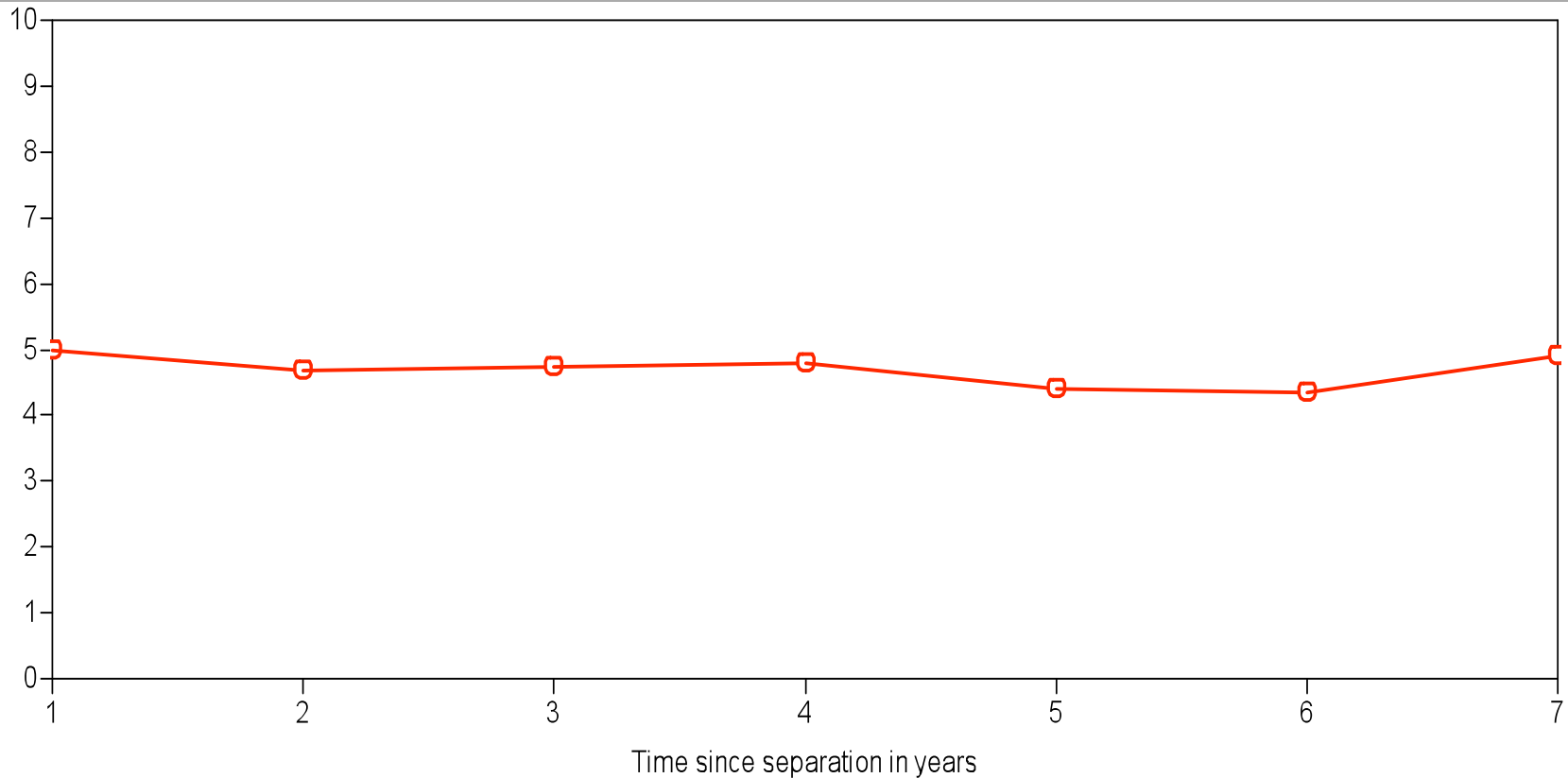
Intercept	50.26	Variance	317.6*
Slope	-6.78	Variance	21.66*
Quadratic	0.65	Variance	1.545

Direct Effects

Child Abuse
IPV Severity

CHANGES IN CHRONIC PAIN

Ford – Gilboe et al 2010; Wuest '09



Growth Parameters

Intercept	4.95	Variance	3.20*
Slope	0.19	Variance	0.05
Quadratic	0.01	Variance	0.00

Direct Effects

Child Abuse
From Wuest et al '09 – injury also

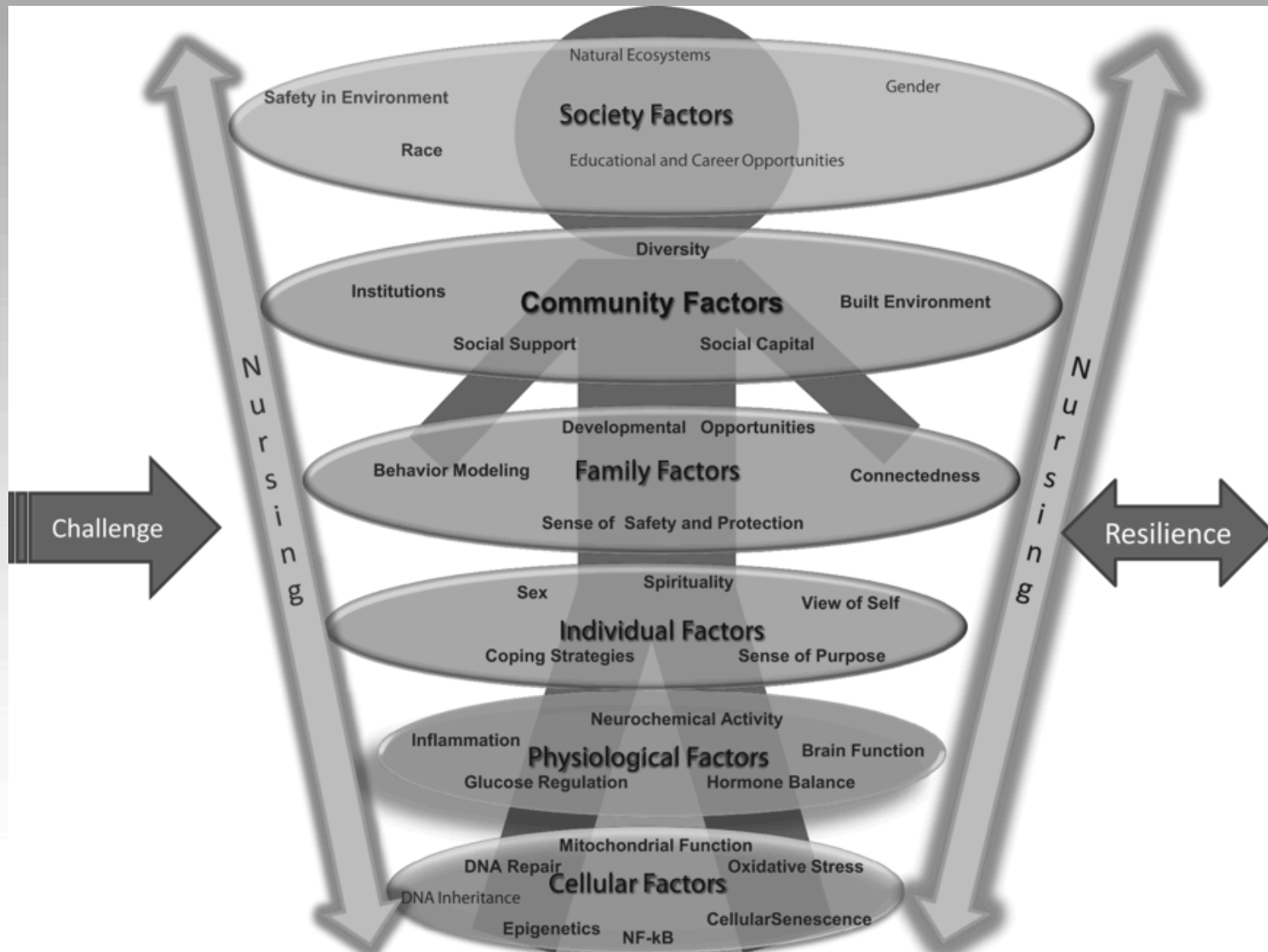


It all matters

- ❖ For appropriate diagnoses and complete treatment and prevention of further, longterm problems
- ❖ And to decrease health disparities
- ❖ To consider in our burgeoning study of epigenetics (Humphreys '09; Weiss '11) and HPA stress responses
- ❖ And to increase effectiveness of other treatment/ interventions – obesity, smoking cessation, hypertension, substance abuse, home visitation, workplace injuries, burnout, HIV prevention
- ❖ And to build resilience; repair damage
- ❖ Need to test evidence based interventions with physiological outcomes also

Society-to-Cells Resilience Framework

Szanton & Gill ANS 2010





Interventions in Health Care

- ❖ We know routine assessment/inquiry (vs screening language) does no harm – MacMillan et al (JAMA '09)
 - ❖ Creating an opportunity
- ❖ We know women – abused & not – support routine inquiry – in many samples & contexts – ED's, military, US national population based (Gielen et al '06)
- ❖ We know what to “assess” with – Abuse Assessment Screen (Helton & McFarlane – '86; Rabin et al '09 *AJPM*, 36, 439–45)
- ❖ But women are afraid to disclose
 - ❖ *IF* they think we automatically report to police (but offer!)
 - ❖ *IF* they think we automatically report to CPS (Renker '06)
 - ❖ *IF* they think someone will be deported (Rodriguez '09)



And if we do not **routinely assess & appropriately refer**

- ❑ Indicator based assessment – so many indicators – will we remember?
- ❑ We will often mis or incompletely Dx & inadequately treat if we fail to identify current or past IPV (e.g. CNS Sx w/o identifying TBI from IPV HI or choking)
- ❑ RADAR (MASS Medical Assoc) - National Consensus Guidelines at www.endabuse.org
 - ❖ R = Routine Inquiry
 - ❖ A = Assessment – types of IPV, associated px, forced sex, HIV risk, mental health, lifetime trauma (if not ACE assessment)
 - ❖ D = Document – for now & for later – child custody, citizenship
 - ❖ A = Assess immediate safety – homicide & suicide risk
 - ❖ R = Review Options; appropriate referral



Single Question – Gender Neutral

- ❖ Are you safe at home? (JHH) – does NOT work well
- ❖ Are you afraid (or concerned) that someone at home or someone you love has (or may) hurt you or tried to hurt you?
- ❖ If yes, need to ask specifically about forced sex – or have a separate forced sex question



We know

- ❖ How to “assess” – computer based approaches well supported - 3 studies – women prefer computerized inquiry – build into HIT – computer tablets?
 - ❖ Trautman et al –’07 - ED – increased disclosure through computerized assessment
 - ❖ O’Connor et al – pediatric primary care setting – well child and acute illness – handheld
 - ❖ McMillan et al . – ED’s & primary care in Canada
 - ❖ Current study in Baltimore, MD – X3- X4 prevalence using ACASI system than question on history form or over phone assessment in same population
 - ❖ Takes away issues of asking badly!! – (Rhodes ’09)




What matters – how you ask—“You’re not a victim of Domestic Violence, Are You?”

- ❖ ED provider (46 attendings, 47 residents, 4 NP’s) communication behaviors associated with women disclosing IPV:
 - ❖ Included probing (asking 1 additional topically related question),
 - ❖ Providing open-ended opportunities to talk
 - ❖ Being generally responsive to patient clues (any mention of a psychosocial issue)

❖ Rhodes et al ‘09

What Matters – System Change – Campbell et al '02



- ❖ How you introduce the screen
 - ❖ Because domestic violence happens to so many women, we are asking *ALL* women
 - ❖ Because domestic violence results in so many health problems for women.....
- ❖ The environment – posters – signals we care
- ❖ How to signal under what conditions we will report
- ❖ Notices in rest rooms
- ❖ Forms changing
- ❖ Incentives for staff



We Know What Works

- ❖ G. Feder systematic review – ‘09 Tiwari (& Humphreys) adaptation of the 10 minute intervention (McFarlane & Parker) in Hong Kong – clinical trial supporting health care system intervention IPV
 - ❖ For pregnant women/prenatal care
 - ❖ Sharps, Bullock – DOVE adaptation
- ❖ RCT - significantly less repeat IPV & fewer very LBW babies & preterm deliveries w/brief computerized intervention- based on McFarlane & Parker’s (Kiely-*OB/GYN* ‘10)
- ❖ MacMillan Trial – asked but info not acted on by providers



NATIONAL DOMESTIC VIOLENCE

HOTLINE: 1 800 799-SAFE (7233)

DATING VIOLENCE HOTLINE

1-866-SAFEYOUTH

1-866-723-3968

