# Health Disparities and Health Equity in Speech-Language Pathology Focus: Aphasia

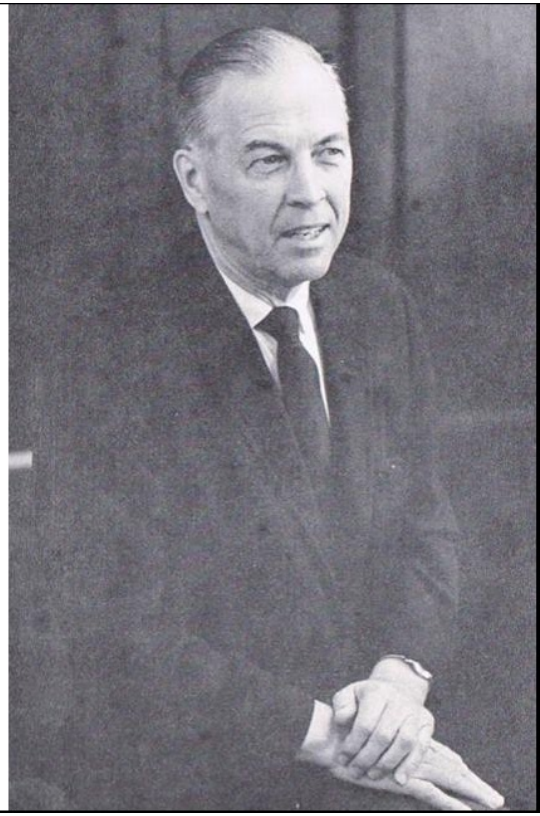
Charles Ellis Jr., PhD CCC-SLP
G. Paul Moore Symposium
University of Florida, Gainesville, FL
February 4, 2022

UFHealth
UNIVERSITY OF FLORIDA HEALTH

Est. 1978

# G. PAUL MOORE SYMPOSIUM

Presented by University of Florida
NSSLHA



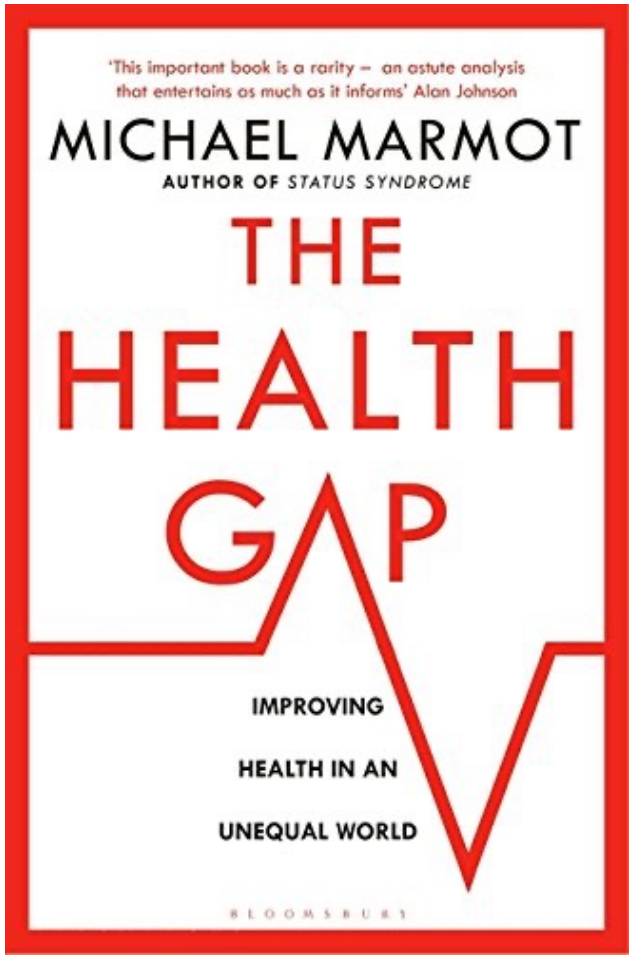
# Schedule

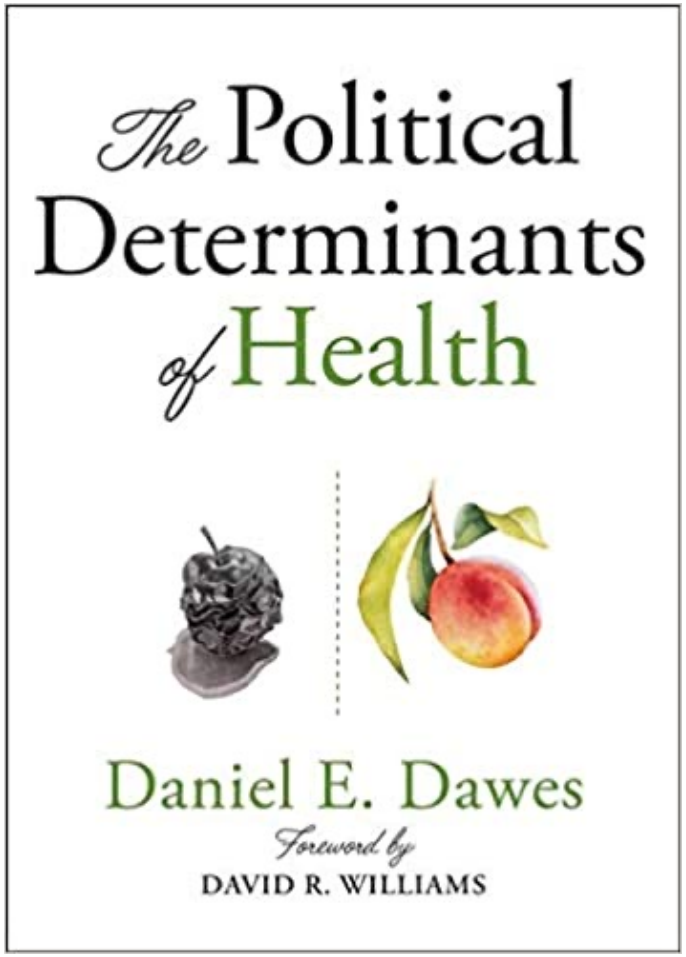
- 9:00 – 10:30 Introduction to Aphasia Disparities and Factors that Contribute to Disparities
- 10:30 – 10:45 Break
- 10:45 – 11:40 Factors that Contribute to Aphasia Disparities – cont.
- 11:40 – 1:00 Lunch
- 1:00 – 2:30 Considerations Required to Reduce the Current Disparity Gap
- 2:30 – 2:45 Break
- 2:45 – 3:50 Considerations Required to Reduce the Current Disparity Gap – cont.
- 3:45 – 4:00 Closing Remarks

# Disclosure

- Salary received from University of FL – Professor and Chair of Speech Language Hearing Sciences

# Recommended Reading

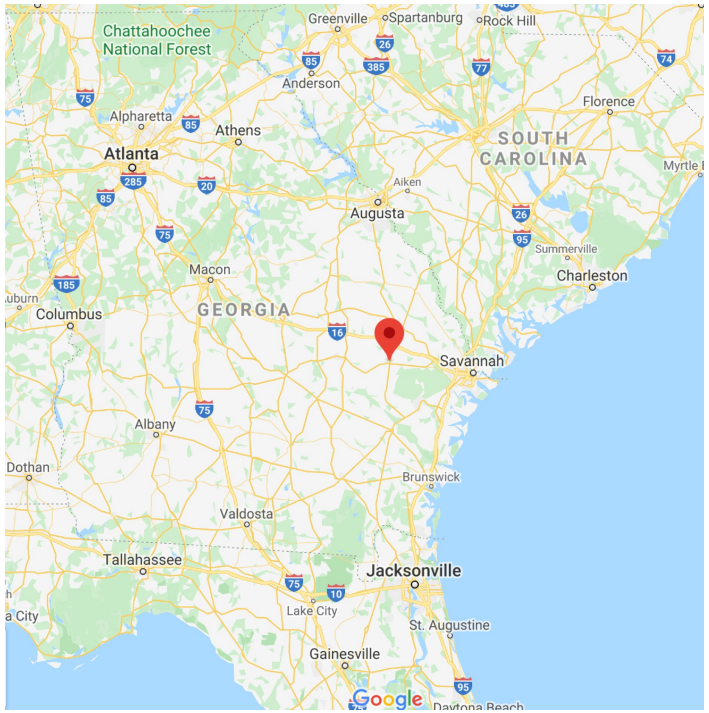



SOMETIMES
YOU NEED TO
SEE FROM A
DIFFERENT
PERSPECTIVE

# Claxton, GA
# The Fruitcake Capital of the World


Claxton Fruit Cake, famous for quality and value for over a century!



# Evans County Heart Study (1958 – 1995)

*Characteristics of the Study Population*

**Cardiovascular Disease Field Study in Evans County, Ga.**

JOHN R. McDONOUGH, M.D., M.P.H., CURTIS G. HAMES, M.D., SARAH C. STULB, M.S., and GLEN E. GARRISON, M.D.

Public Health Reports (1963)
Vol. 78, No. 12, pp. 1051-1059.

CORONARY HEART DISEASE AMONG NEGROES AND WHITES IN EVANS COUNTY, GEORGIA

J. R. McDonough, M.D., M.P.H.*, C. G. Hames, M.D.†, S. C. Stulb, M.S.‡ and G. E. Garrison, M.D.§

University of North Carolina School of Public Health; Evans County Health Department, Georgia; and Duke University Medical Center, Durham, N.C.

(*Received* 1 *May* 1964)

Journal of Chronic Disease
1965, Vol. 18, pp. 443-468.

# Evans County Heart Study

## Cardiovascular Disease Field Study in Evans County, Ga.

JOHN R. McDONOUGH, M.D., M.P.H., CURTIS G. HAMES, M.D., SARAH C. STULB, M.S., and GLEN E. GARRISON, M.D.

*The following report, the first in a series, presents the characteristics of the population in the Evans County (Ga.) cardiovascular disease study. Subsequent papers will report the findings.*

A CARDIOVASCULAR disease field study began in Claxton, Evans County, during 1958–60. The study developed from observation by one of the authors (C. G. H.), a medical practitioner living in Claxton, that coronary heart disease seemed to occur less commonly among Negro than white patients.

Evans County (fig. 1) is located on the coastal plain about 60 miles inland from the port city of Savannah, Ga. The county is 19 miles in greatest diameter, and consists of flat or slightly rolling terrain of red clay and sand soils. Much of the county is covered by pine forests, which are harvested for pulpwood, turpentine, and lumber. About half of the population live on farms; the other half live in a few small villages including the town of Claxton (population 2,000). About 40 percent of the population are Negro.

The study was designed basically around three questions:

1. Is the observation valid, that is, does coronary heart disease occur more commonly among whites than Negroes living in Evans County; if so, what is the extent of the difference?
2. Presupposing an affirmative answer, what is the reason for the difference?
3. What further data should be gathered to enable study of other cardiovascular diseases and conditions among the population?

A morbidity survey was done to measure the prevalence of clinical cases of coronary heart disease. A nutrition survey of a 10 percent random sample of the population was also carried out. A detailed review of mortality in Evans County, undertaken prior to the morbidity survey, revealed higher age-standardized coronary death rates among white than among Negro males.

# Evans County Heart Study

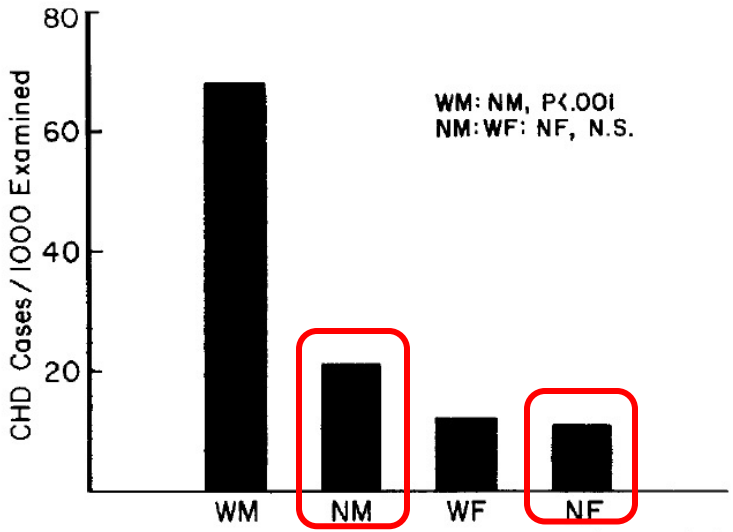



FIG. 1. CHD prevalence among white and Negro males and females aged 40–74 yr (prevalence ratios are age-adjusted).

Journal of Chronic Disease
1965, Vol. 18, pp. 443-468.

# Evans County Heart Study

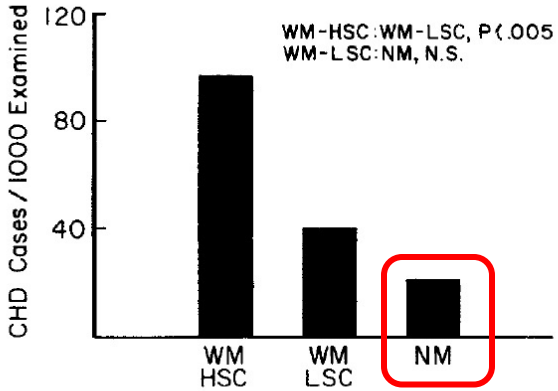
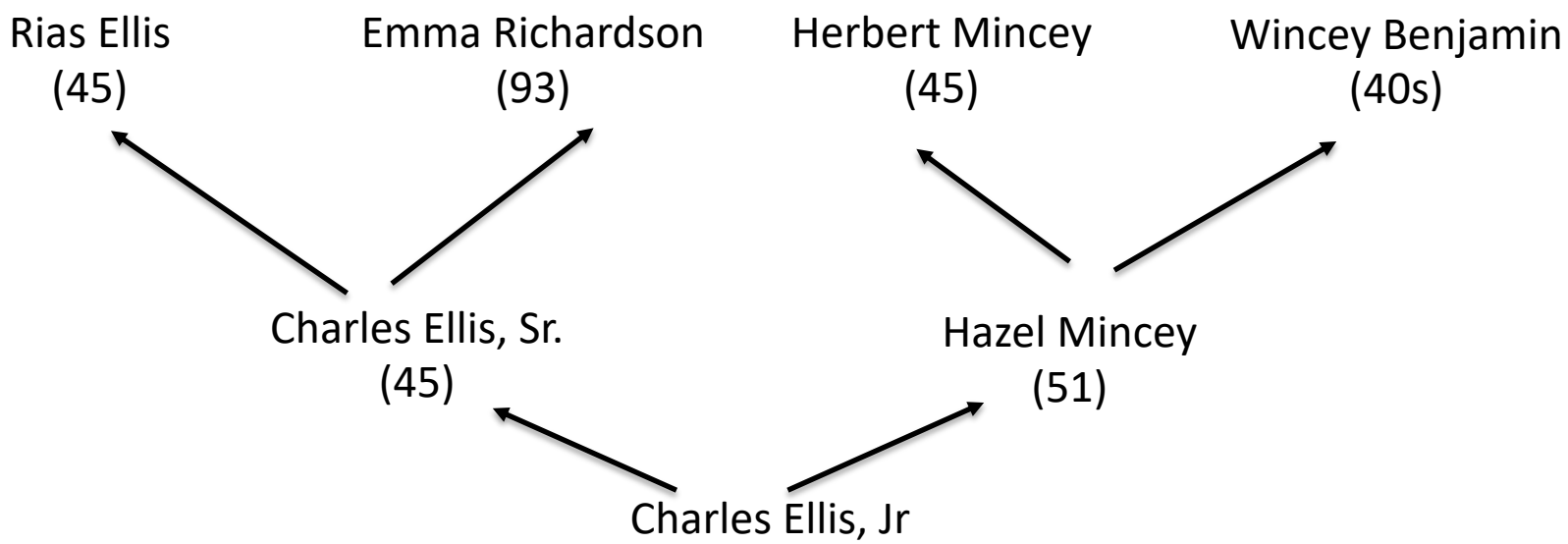



FIG. 2. CHD prevalence among high and low social class white males and Negro males aged 40–74 yr (prevalence ratios are age-adjusted).

Journal of Chronic Disease
1965, Vol. 18, pp. 443-468.

# Personal Perspective – Revisited

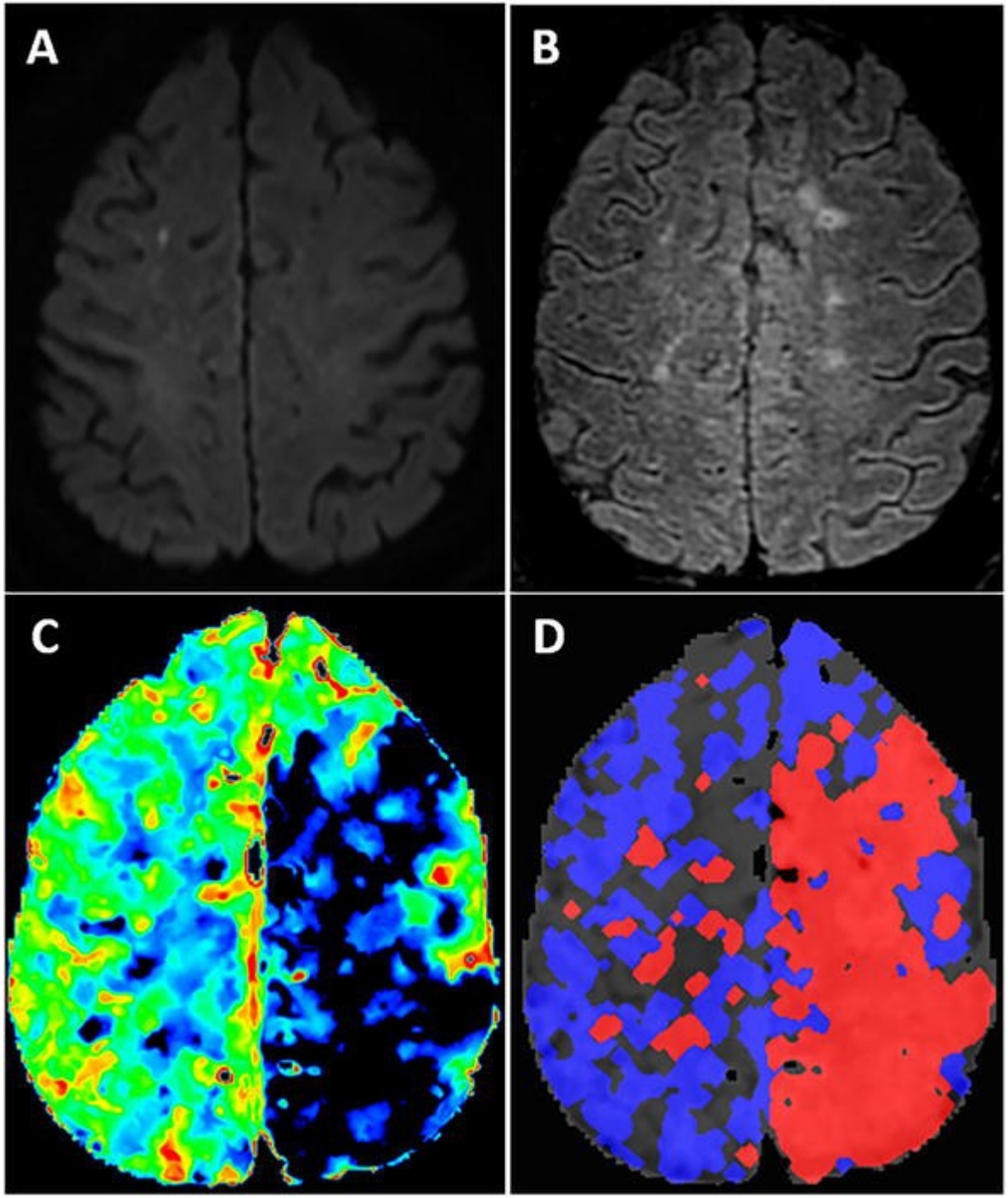
## Longevity is Only Promised to a Few



# Introduction to Aphasia and Aphasia Disparities

# Aphasia

- Aphasia is an ***impairment of language, affecting the production or comprehension of speech and the ability to read or write.*** Aphasia is ***always due to injury to the brain-most commonly from a stroke***, particularly in older individuals. But brain injuries resulting in aphasia may also arise from ***head trauma***, from ***brain tumors***, or from ***infections***.




Left sylvian acute ischemic stroke in a 44-year-old man with global aphasia. DWI (A) and FLAIR (B) are normal in the left sylvian area and show an isolated ischemic spot in the right sylvian area. Perfusion maps show a decrease in cerebral blood flow (C, dark blue) in the left sylvian area, with a consistent increase in Tmax > 6 s (D, red). This corresponds to ischemic penumbra, i.e., salvageable tissue that may benefit from reperfusion treatments.

Taken from: Imaging of Vascular Aphasia; available at: https://www.intechopen.com/online-first/79728.

# Aphasia

- Aphasia is a consequence of stroke, affecting 21–38% of acute stroke patients (Berthier, ML. (2005). Poststroke aphasia : epidemiology, pathophysiology and treatment. Drugs Aging, 22(2):163-82.

- Aphasia affects about ***one million Americans -or 1 in 250.***
- More than 200,000 Americans acquire the disorder each year. However, ***most people have never heard of it.***
    - National Aphasia Association http://www.aphasia.org/

APHASIOLOGY
2018, VOL. 32, NO. 9, 1075–1086
https://doi.org/10.1080/02687038.2017.1385052

Routledge
Taylor & Francis Group



# Rate of aphasia among stroke patients discharged from hospitals in the United States

Charles Ellis[a], Rose Y. Hardy[b], Richard C. Lindrooth[b] and Richard K. Peach[c]

Table 3. Post-Stroke Aphasia Rate for Respective States, 2011 and 2012

| | 2011 | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total Sample | Oregon | Arizona | Colorado | Florida | Kentucky | North Carolina | South Carolina | Arkansas |
| Total stroke patients | 73,086 | 4,125 | 7,184 | -- | 28,616 | 6,897 | 14,487 | 7,036 | 4,741 |
| **Total stroke patients with aphasia at discharge** | 13,041 | 937 | 1,608 | -- | 5,166 | 1,152 | 2,078 | 1,294 | 806 |
| **Aphasia rate among stroke patients†** | 17.84 | 22.72 | 22.38 | -- | 18.05 | 16.70 | 14.34 | 18.39 | 17.00 |
| | 2012 | | | | | | | | |
| | Total Sample | Oregon | Arizona | Colorado* | Florida | Kentucky | North Carolina | South Carolina | Arkansas |
| Total stroke patients | 79,886 | 5,044 | 7,447 | 3,965 | 29,968 | 7,073 | 14,768 | 7,420 | 5,047 |
| **Total stroke patients with aphasia at discharge** | 15,045 | 1,020 | 1,502 | 986 | 5,690 | 1,230 | 2,416 | 1,347 | 854 |
| **Aphasia rate at discharge among stroke patients†** | 18.83 | 24.30 | 20.17 | 24.87 | 18.99 | 17.39 | 16.36 | 18.15 | 16.93 |

*Data for 2012 only

† Aphasia rate among stroke patients= Total stroke patients with aphasia/ Total stroke patients

# Economic Burden of Aphasia

- Economic burden among those with aphasia is significantly greater than those without aphasia. (Ellis, et al, 2012)
- Recent estimates suggest that 2.5 million people in the US suffer from aphasia (Simmons-Mackie, 2018) at an annual cost $15.8 million. (Jacobs & Ellis, 2021)

# Effect of aphasia on acute stroke outcomes

Amelia K. Boehme, PhD, MSPH
Sheryl Martin-Schild, MD, PhD
Randolph S. Marshall, MD
Ronald M. Lazar, PhD

Correspondence to Dr. Lazar: ral22@columbia.edu

**ABSTRACT**

**Objective:** To determine the independent effects of aphasia on outcomes during acute stroke admission, controlling for total NIH Stroke Scale (NIHSS) scores and loss of consciousness.

**Methods:** Data from the Tulane Stroke Registry were used from July 2008 to December 2014 for patient demographics, NIHSS scores, length of stay (LOS), complications (sepsis, deep vein thrombosis), and discharge modified Rankin Scale (mRS) score. Aphasia was defined as a score >1 on question 9 on the NIHSS on admission and hemiparesis as >1 on questions 5 or 6.

**Results:** Among 1,847 patients, 866 (46%) had aphasia on admission. Adjusting for NIHSS score and inpatient complications, those with aphasia had a 1.22 day longer LOS than those without aphasia, whereas those with hemiparesis (n = 1,225) did not have any increased LOS compared to those without hemiparesis. Those with aphasia had greater odds of having a complication (odds ratio [OR] 1.44, confidence interval [CI] 1.07–1.93, $p = 0.0174$) than those without aphasia, which was equivalent to those having hemiparesis (OR 1.47, CI 1.09–1.99, $p = 0.0137$). Controlling for NIHSS scores, aphasia patients had higher odds of discharge mRS 3–6 (OR 1.42 vs 1.15).

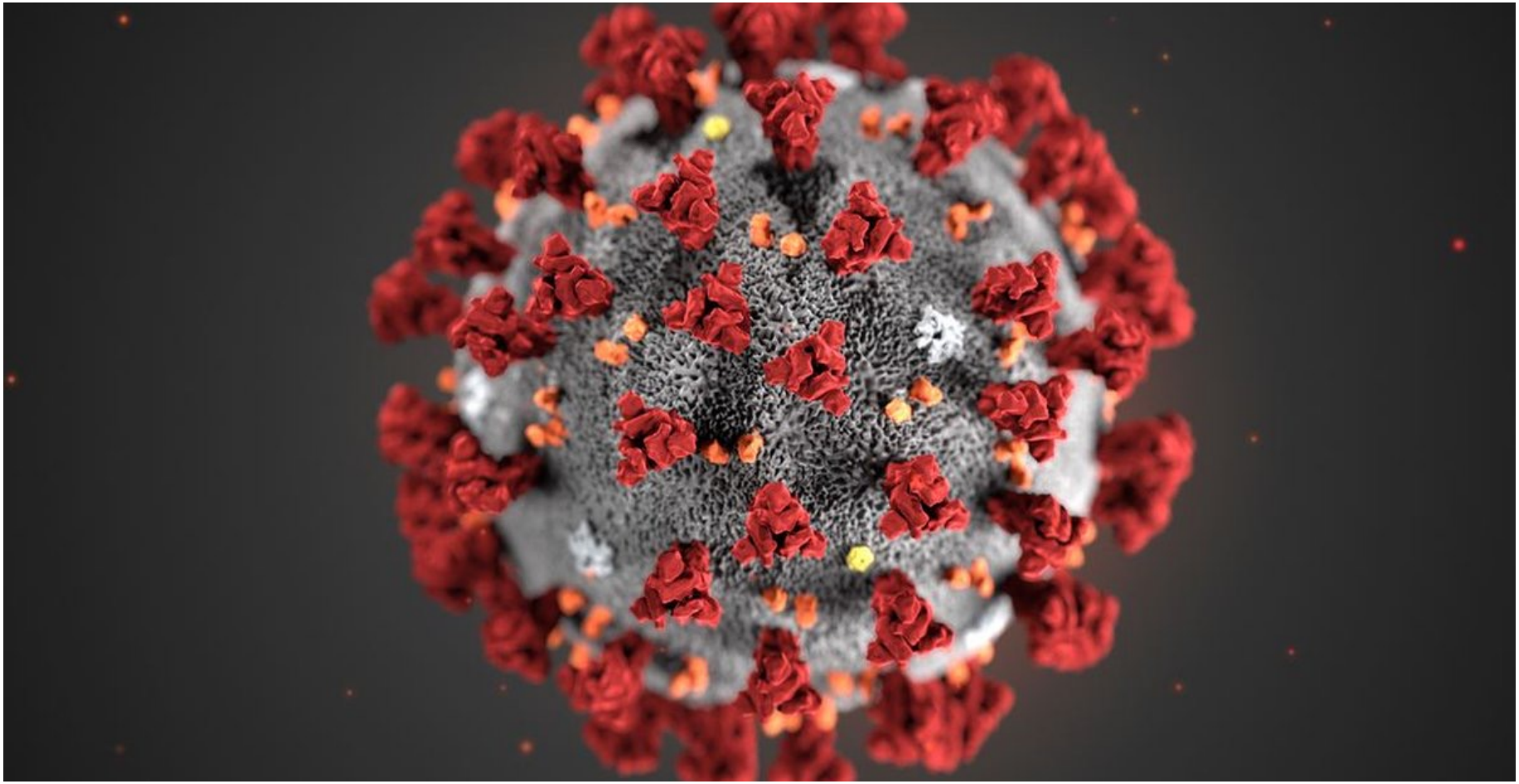
**Conclusion:** Aphasia is independently associated with increased LOS and complications during the acute stroke admission, adding $2.16 billion annually to US acute stroke care. The presence of aphasia was more likely to produce a poor functional outcome than hemiparesis. These data suggest that further research is necessary to determine whether establishing adaptive communication skills can mitigate its consequences in the acute stroke setting. *Neurology®* 2016;87:2348–2354

# Factors that Contribute to Aphasia Disparities

# Understanding Disparities General Definitions

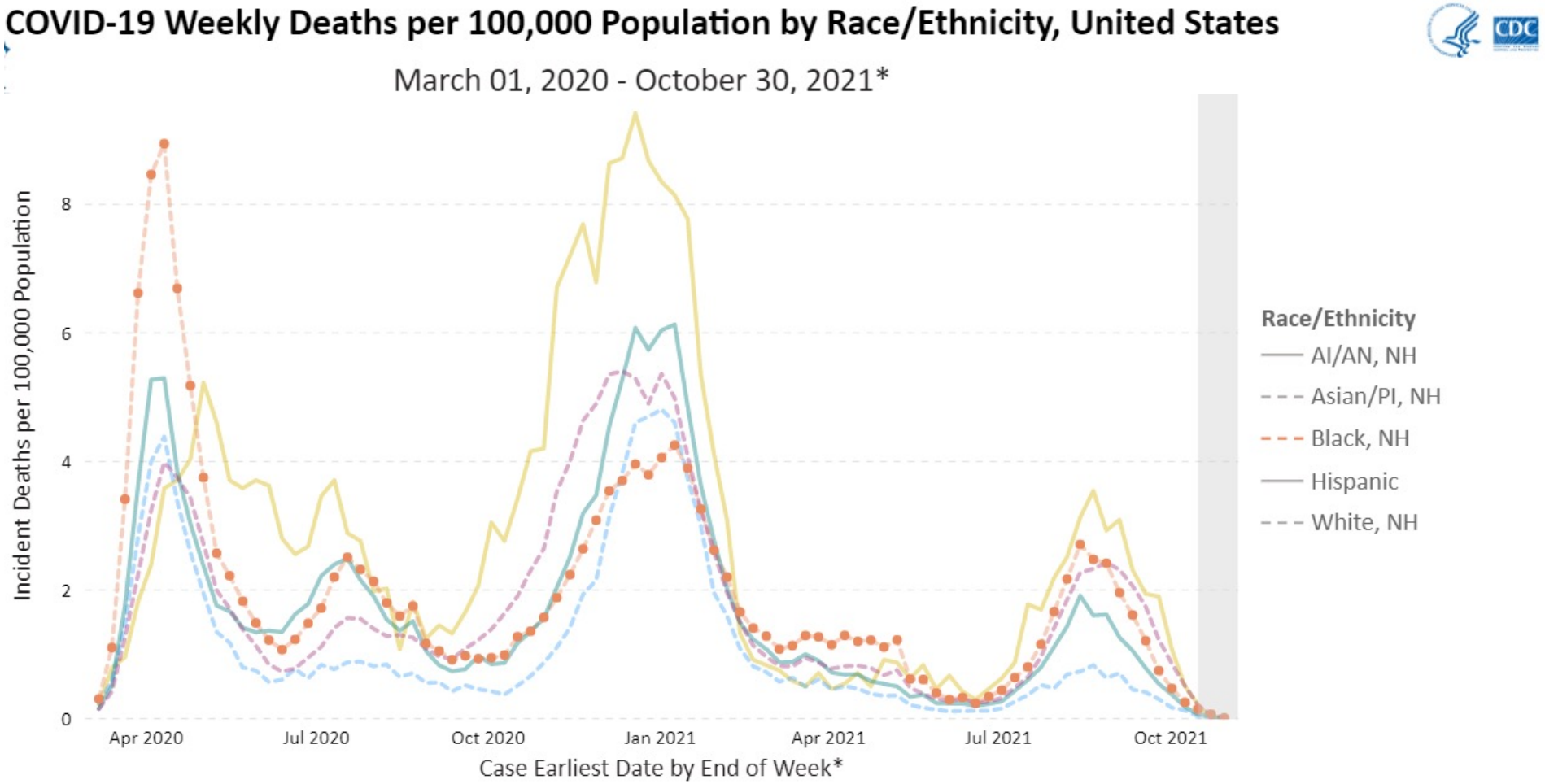
- **Health disparities** are differences in health outcomes and their causes among groups of people.
  - Many health disparities are related to **social determinants** of health, the conditions in which people are born, grow, live, work and age.
- **Healthcare disparities** are differences between population groups in the way they access, experience, and receive healthcare that are influenced by social, economic, environmental, and other disadvantages.
- **Health equity** is when everyone has the opportunity to be as healthy as possible.

https://www.cdc.gov/features/reduce-health-disparities/index.html#:~:text=

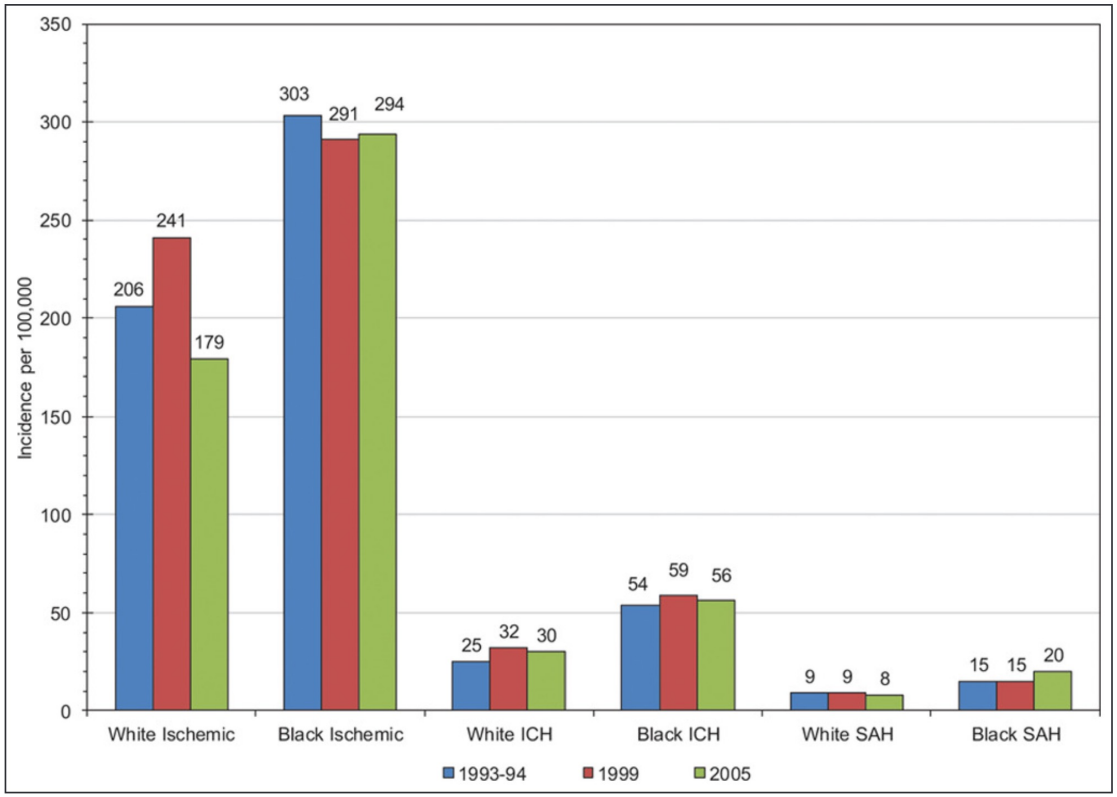


# Focus on Disparities – Why Now?

# COVID-19 Disparities

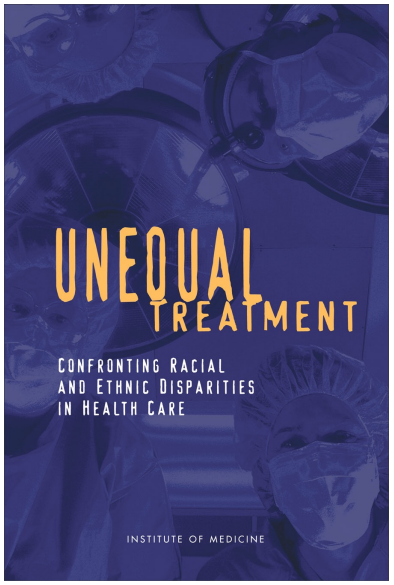


# Stroke Disparities In the US



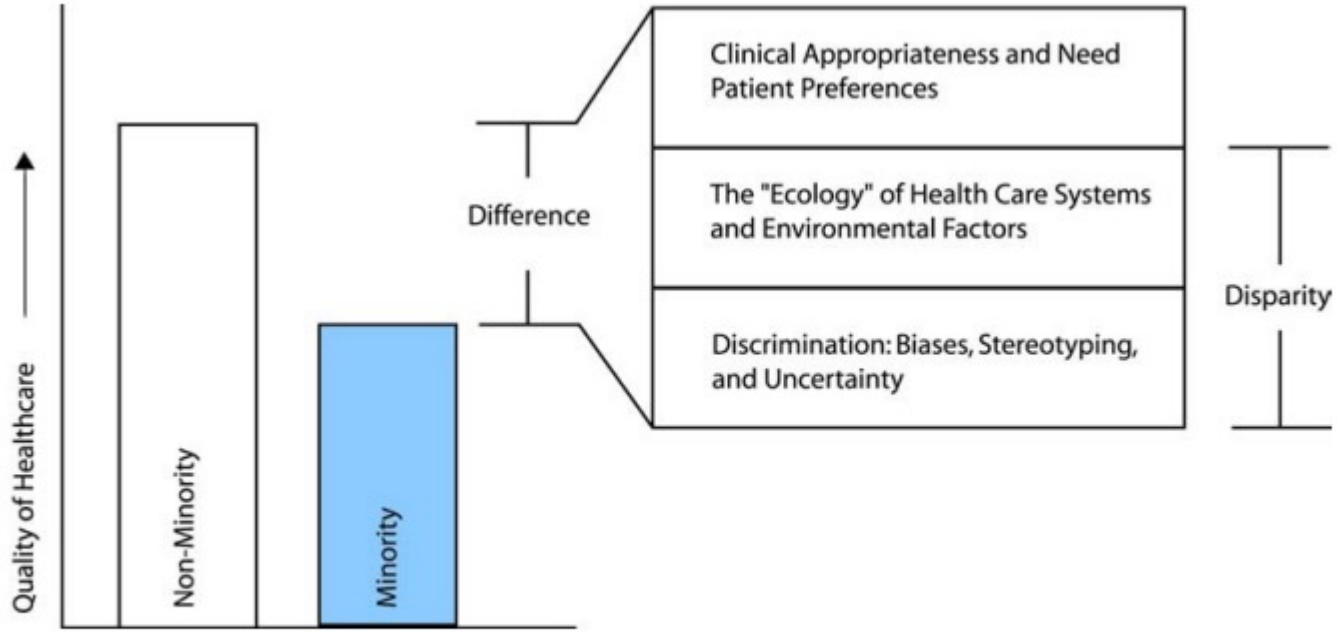

**Heart Disease and Stroke Statistics—2020 Update: A Report From the American Heart Association**

# Unequal Treatment: Confronting Racial and Ethnic Disparities in Healthcare (2003)



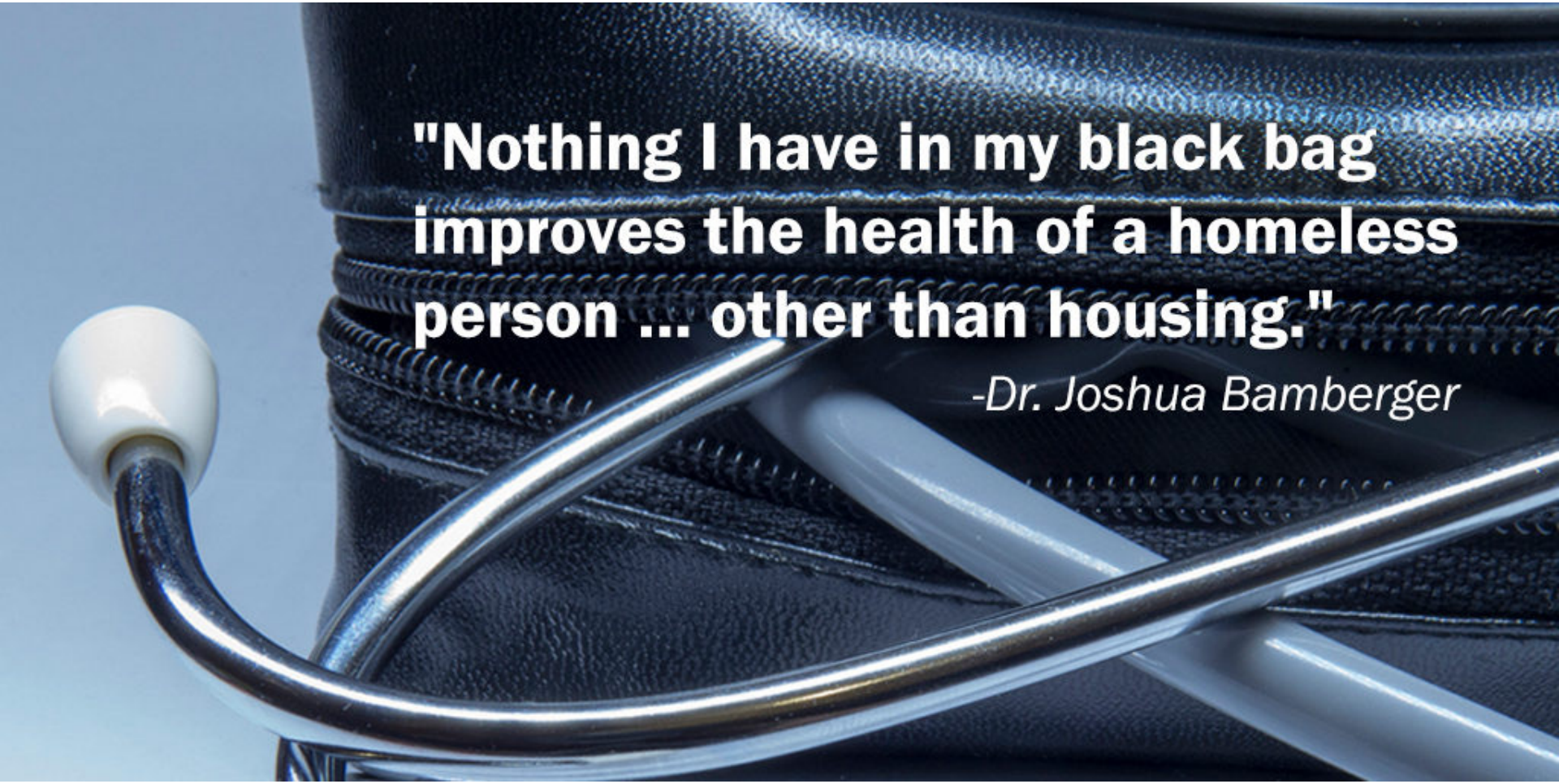

- Disparities consistently found across a wide range of disease areas and clinical services
- Disparities are found even when clinical factors, such as stage of disease presentation, co-morbidities, age, and severity of disease are taken into account
- Disparities are found across a range of clinical settings, including public and private hospitals, teaching and non-teaching hospitals, etc.
- Disparities in care are associated with higher mortality among minorities

# Sources of Healthcare Disparities




Differences, Disparities, and Discrimination: Populations with Equal Access to Healthcare.
SOURCE: Gomes and McGuire, 2001

# The Determinants of Health

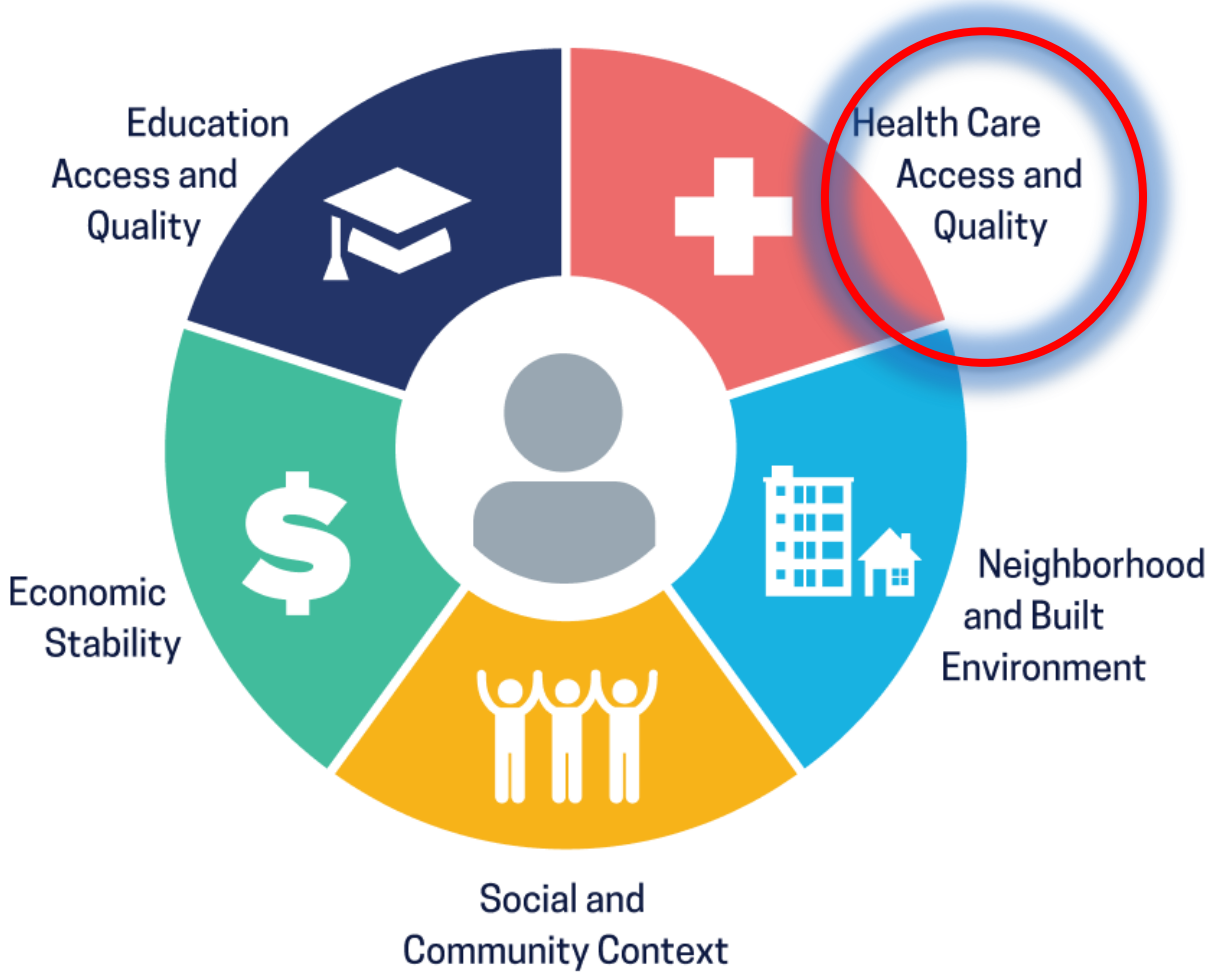

"Nothing I have in my black bag improves the health of a homeless person ... other than housing."
-Dr. Joshua Bamberger

# Social Determinants of Health

are conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of life-risks and outcomes.


CDC – Healthy People 2020

# Social Determinants of Health




Social Determinants of Health



Healthy People 2030

# Health Care System as a Social Determinant

Figure 1

Social Determinants of Health

| Economic Stability | Neighborhood and Physical Environment | Education | Food | Community and Social Context | Health Care System |
|---|---|---|---|---|---|
| Employment | Housing | Literacy | Hunger | Social integration | Health coverage |
| Income | Transportation | Language | Access to healthy options | Support systems | Provider availability |
| Expenses | Safety | Early childhood education | | Community engagement | Provider linguistic and cultural competency |
| Debt | Parks | Vocational training | | Discrimination | Quality of care |
| Medical bills | Playgrounds | Higher education | | Stress | |
| Support | Walkability | | | | |
| | Zip code / geography | | | | |

**Health Outcomes**

Mortality, Morbidity, Life Expectancy, Health Care Expenditures, Health Status, Functional Limitations

*Du Bois Rev.* 2011 April ; 8(1): 115–132. doi:10.1017/S1742058X11000130.

**STRUCTURAL RACISM AND HEALTH INEQUITIES:**

**Old Issues, New Directions1**

**Gilbert C. Gee** and
School of Public Health, University of California, Los Angeles

**Chandra L. Ford**
School of Public Health, University of California, Los Angeles

Structural racism is defined as the macrolevel systems, social forces, institutions, ideologies, and processes that interact with one another to generate and reinforce inequities among racial and ethnic groups

Taken from: https://www.kff.org/disparities-policy/issue-brief/beyond-health-care-the-role-of-social-determinants-in-promoting-health-and-health-equity/:

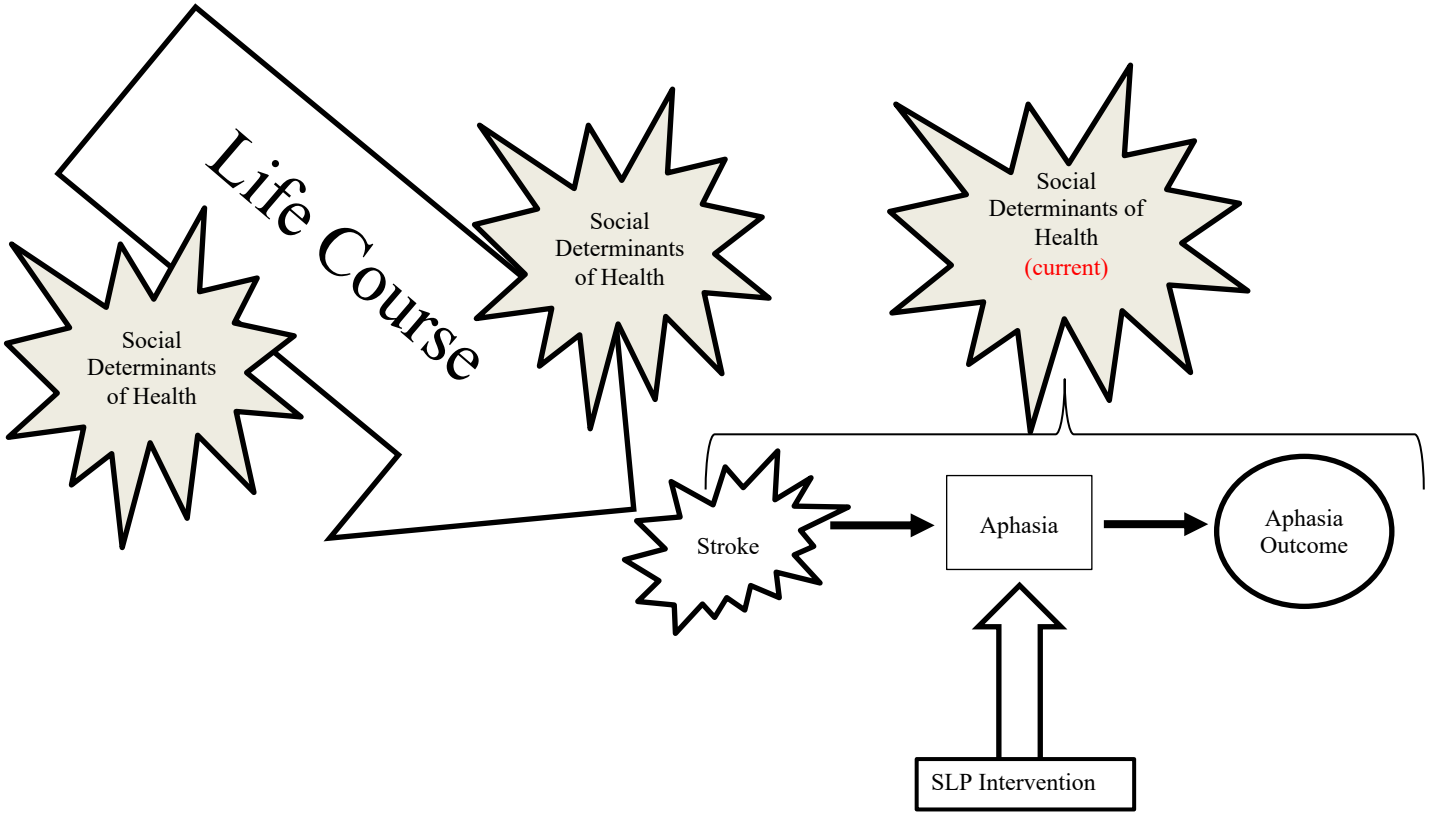
# Examples of SDOH

- Safe housing, transportation, and neighborhoods
- Racism, discrimination, and violence
- Education, job opportunities, and income
- Access to nutritious foods and physical activity opportunities
- Polluted air and water
- Language and literacy skills

# Consideration of Life Course of Determinants to Understand Aphasia Disparities

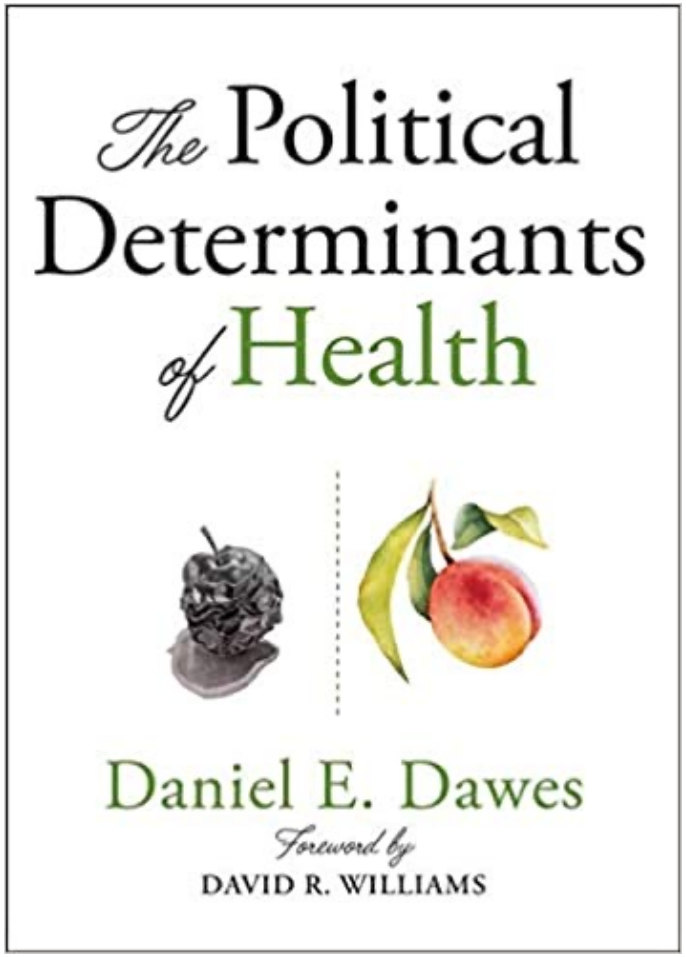
**The Health Wealth Gap – Marmot 2015**
The evidence is clear that what happens through the whole of the life course impacts on the health and well-being of older people. (p227).

# Impact of Social Determinants of Health on Communication Outcomes

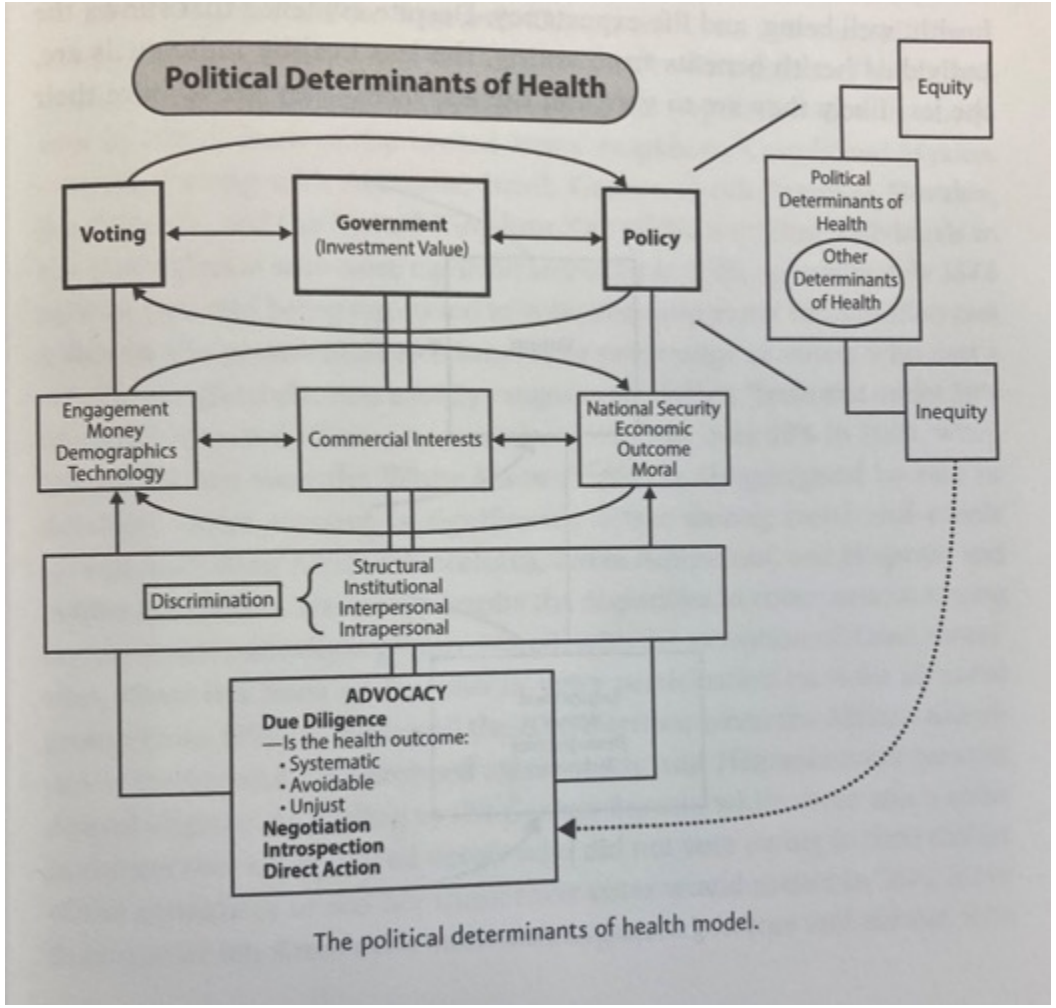


# The Political Determinants of Health

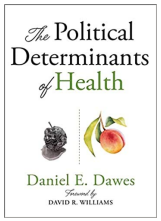
- The political determinants of health involve the systematic process of structuring relationships, distributing resources, and administering of power, operating simultaneously in ways that mutually reinforce or influence one another to shape opportunities that either advance health equity or exacerbate health inequities (p.44).



# The Political Determinants of Health




The political determinants of health model.



# Political Determinants

- 2010 - Patient Protection and Affordable Care Act (PPACA) designed to reduce the nation's continually rising healthcare costs by emphasizing coverage, costs, and care.
- PPACA also designed to reduce healthcare disparities by improving access to health care for all US citizens

# Do Disparities Exist in Aphasia

*Viewpoint*

## Does Race/Ethnicity Really Matter in Adult Neurogenics?

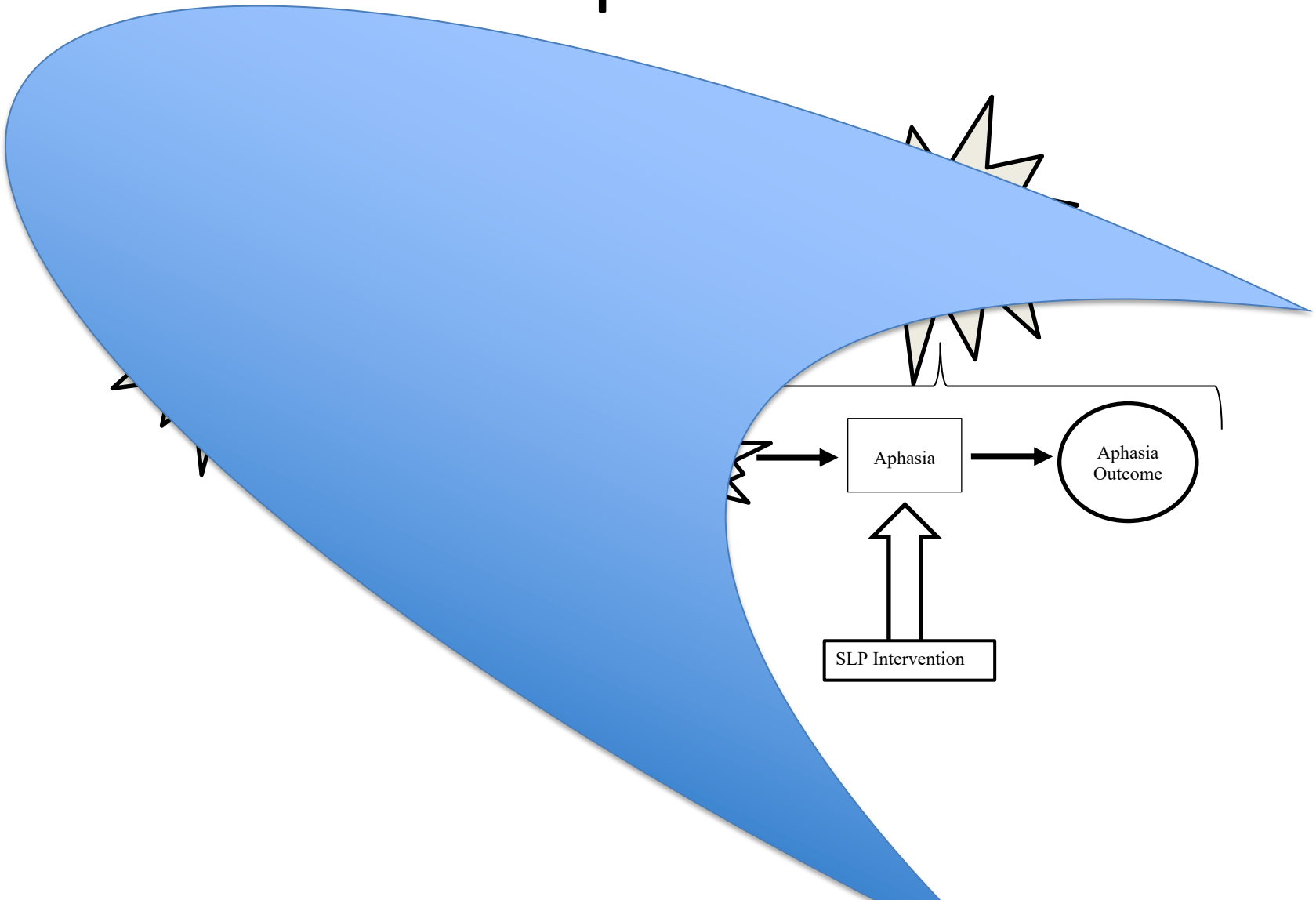
- **Conclusions:** Because few studies report race/ethnicity or consider how race/ethnicity has the potential to confound the results and conclusions drawn, the generalization of the reported findings may be limited. Reporting race/ethnicity is likely critical to the external validity of studies in adult neurogenic communication disorders and when available can enhance the relevance of the findings reported.

- ***"Therefore, one might conclude that race/ethnicity really does matter in the study of adult neurogenic communication disorders."***

# Aphasia Disparities

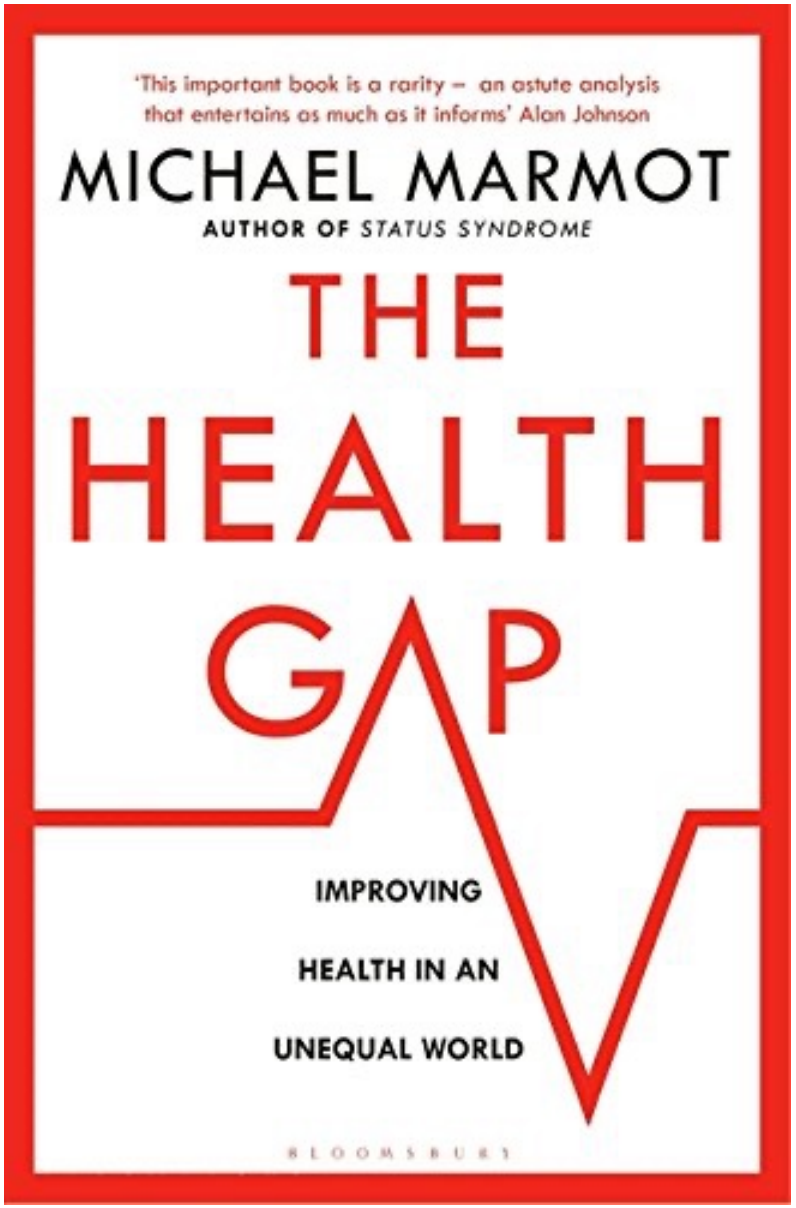
| Author(s)/Year | Sample | | |
|---|---|---|---|
| Ellis et al., 2018 | 21,280 White w/aphasia<br>4,333 AA w/aphasia<br>1,719 Hispanic w/aphasia | Presence of post-stroke aphasia | AAs age 19-44, 45-54, 55-64 at least two times more likely to have aphasia than Whites at the same age. |
| **Aphasia Outcomes** | | | |
| Wertz et al., 1997 | 14 AA w/aphasia<br>37 White w/aphasia | PICA, TT | At 48 weeks post-onset of aphasia, AAs had lower PICA gestural and graphic modality scores. Overall groups demonstrated same amount and rate of improvement |
| Ellis & Peach, 2016 | 29 AA w/aphasia<br>261 Whites w/aphasia<br>**AphasiaBank | BNT | Lower mean scores among AAs (4.8) compared to Whites (6.5) after controlling for age, education, duration of aphasia and treatment duration |
| Ellis & Peach, 2017 | 29 AA w/aphasia<br>261 White w/aphasia<br>**AphasiaBank | WAB-R | No significant differences between groups on total WAB-AQ. Lower scores among AAs on WAB-R word fluency and auditory comprehension subtests |
| Ellis & Jacobs 2021 “In Press” | 96 Whites w/aphasia<br>78 AA w/aphasia<br>**MAPPD database | WAB-R | AAs (74.5, SD=16.5) differed significantly (t=1.98, p=0.0498) from Whites (69.3, SD=17.2). Holding all other factors constant (aphasia type, age, sex), estimates showed that Blacks exhibited lower average WAB-R AQs. The WAB-R AQ among Blacks was on average 0.011 (SD=0.49) points lower on the WAB-R AQ for Whites. |
| Burkes et al. ASHA 2021 | 96 Whites w/aphasia<br>78 AA w/aphasia<br>**MAPPD database | PNT | AAs with aphasia scored lower on PNT. AAs with aphasia exhibited significantly higher odds of scoring below the 50th percentile compared to Whites despite aphasia type. |

# What Are the Potential Sources of Disparities?



# Potential Sources

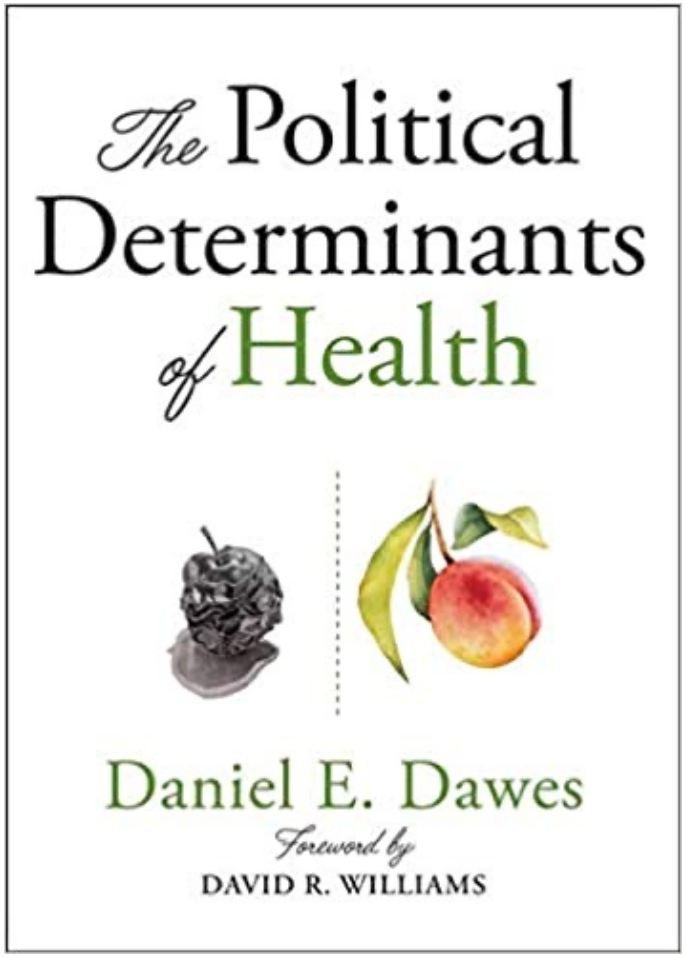
- Sociodemographic Characteristics
- Quality and Availability of Services
- Healthcare Providers & Systems
- Patient Beliefs & Attitudes




- Access to high-quality health care for everyone would be a good thing, but health inequalities would not go away. Health inequalities arise from the conditions that make people sick; health care is what is needed to treat people when they get sick. Lack of health care is no more a cause of ill-health than aspirin deficiency is the cause of a headache.
    - p. 72

# The Political Determinants of Health

- The political determinants of health inequitably distribute social, medical and other determinants and create structural barriers to equity for population groups that lack power and privilege (p. 42)



# An Exploration of Service Utilization

Journal of the Neurological Sciences 376 (2017) 76–83

Contents lists available at ScienceDirect

Journal of the Neurological Sciences

journal homepage: www.elsevier.com/locate/jns

# Greater healthcare utilization and costs among Black persons compared to White persons with aphasia in the North Carolina stroke belt

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Disparities

ABSTRACT

*Purpose:* To examine racial differences in healthcare utilization and costs for persons with aphasia (PWA) being treated in acute care hospitals in North Carolina (NC).
*Methods:* NC Healthcare Cost and Utilization Project State Inpatient Database (HCUP-SID) data from 2011–2012 were analyzed to examine healthcare utilization and costs of care for stroke patients with aphasia. Analyses emphasized length of stay, charges and cost of general hospital services. Generalized linear models (GLM) were constructed to determine the impact of demographic characteristics, stroke/illness severity, and observed hospital characteristics on utilization and costs. Hospital fixed effects were included to yield within-hospital estimates of disparities.
*Results:* GLM models demonstrated that Blacks with aphasia experienced 1.9 days longer lengths of stay compared to Whites with aphasia after controlling for demographic characteristics, 1.4 days controlling for stroke/illness severity, 1.2 days controlling for observed hospital characteristics, and ~1 extra day controlling for unobserved hospital characteristics. Similarly, Blacks accrued ~$2047 greater total costs compared to Whites after controlling for demographic characteristics, $1659 controlling for stroke/illness severity, $1338 controlling for observed hospital characteristics, and ~$1311 greater total costs after controlling for unobserved hospital characteristics.
*Conclusions:* In the acute hospital setting, Blacks with aphasia utilize greater hospital services during longer hospitalizations and at substantially higher costs in the state of NC. A substantial portion of the adjusted difference was related to the hospital treating the patient. However, even after controlling for the hospital, the differences remained clinically and statistically significant.

APHASIOLOGY, 2017
VOL. 31, NO. 12, 1433–1440
https://doi.org/10.1080/02687038.2017.1303440

Routledge
Taylor & Francis Group



# The influence of race on SLP utilisation and costs among persons with aphasia

Charles Ellis[a], Richard K. Peach[b], Rose Y. Hardy[c] and Richard C. Lindrooth[c]

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**ABSTRACT**

**Background**: Recent evidence suggests racial disparities exist in post-stroke conditions such as aphasia, yet the underlying cause of such disparities is unclear. Disparities in rehabilitation service utilisation have been previously proposed as a contributor to racial disparities in post-stroke outcomes.

**Aim**: To examine racial differences in speech–language pathology (SLP) service utilisation and costs among persons with aphasia being treated in acute care hospitals in North Carolina.

**Methods & Procedures**: The North Carolina Healthcare Cost and Utilization Project data from 2011 to 2012 were analysed to examine SLP service utilisation and costs for stroke patients with aphasia. Analyses included length of stay (LOS) and charges/costs of SLP services. Generalised linear models were constructed to determine the impact of demographic characteristics, stroke severity, residence, and hospital fixed effects (variability of hospital management practices) on SLP utilisation and costs.

**Outcomes & Results**: Approximately 5% more Blacks with aphasia were seen for SLP services than Whites with aphasia. LOSs were 2.1 days longer in acute care at 17% greater cost. Generalised linear models showed that Blacks with aphasia were seen for approximately 0.416 more visits than Whites after controlling for demographic characteristics, stroke/illness severity and residence and 0.25 more visits after controlling for hospital fixed effects. The slight increase in visits occurred at a cost of $57 when controlling for demographic characteristics, $63 when controlling for stroke/illness severity, $50 when controlling for residence, and $23 when controlling for hospital fixed effects.

**Conclusions**: Blacks with aphasia utilise more SLP services during longer LOSs and with greater costs when compared to Whites with aphasia.

**ARTICLE HISTORY**
Received 21 December 2016
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**KEYWORDS**
Disparities; economic; costs

'02687038.2017.1303440

# No Racial Difference in Rehabilitation Therapy Across All Post-Acute Care Settings in the Year Following a Stroke

Lesli E. Skolarus, Chunyang Feng, and James F. Burke

Originally published 31 Oct 2017 | https://doi.org/10.1161/STROKEAHA.117.017290 | Stroke. 2017;48:3329–3335

**Table 2. Stroke Rehabilitation Therapy Utilization by Race**

| Description | White Stroke Patients (n=164 398), % (n) | Black Stroke Patients (n=21 770), % (n) |
|---|---|---|
| Speech and language therapy | | |
| Any setting | 73.6 (120 923) | 77.6 (16 901) |
| Hospital | 64.8 (106 513) | 67.6 (14 718) |
| Inpatient rehabilitation facility | 20.8 (34 186) | 22.1 (4809) |
| Skilled nursing facility | 30.6 (50 331) | 34.9 (7602) |
| Home health agency | 13.8 (22 637) | 16.9 (3679) |
| Outpatient setting* | 16.0 (26 279) | 16.6 (3620) |

*$P$=0.01. All other $P$ values are <0.001.

# No Racial Difference in Rehabilitation Therapy Across All Post-Acute Care Settings in the Year Following a Stroke

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Originally published 31 Oct 2017 | https://doi.org/10.1161/STROKEAHA.117.017290 | Stroke. 2017;48:3329–3335

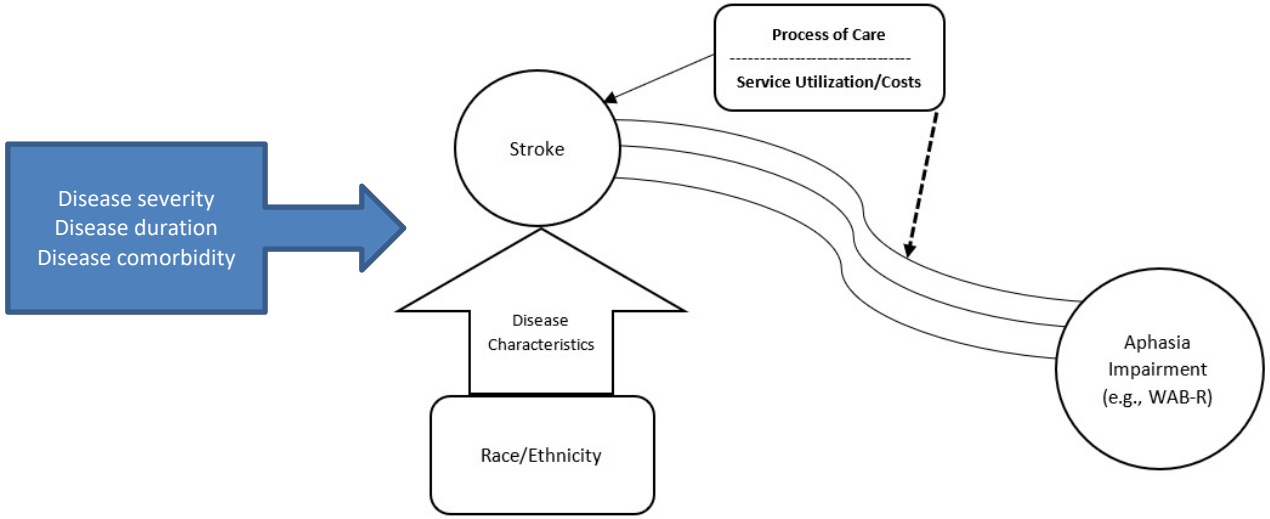
**Table 3. Intensity of Stroke Rehabilitation Therapy in the Year After a Stroke by Race**

| Description | White Stroke Patients, Median (IQR), min/y | Black Stroke Patients, Median (IQR), min/y | *P* Value |
|---|---|---|---|
| Speech and language therapy | | | |
| Any setting | 658.1 (2020.2) | 865.7 (2294.6) | <0.01 |
| Hospital | 101.6 (161.2) | 117.1 (163.3) | <0.01 |
| Inpatient rehabilitation facility | 719.9 (1134.8) | 750.7 (1163.6) | <0.01 |
| Skilled nursing facility | 1046.0 (1649.3) | 1176.9 (1766.4) | <0.01 |
| Home health agency | 891.9 (1383.5) | 844.9 (1361.3) | 0.06 |
| Outpatient setting | 485.0 (1119.0) | 473.5 (1115.5) | 0.18 |

IQR indicates interquartile range.

# Upstream Consideration in Stroke and Aphasia Disparities

# Stroke-related "upstream factors" associated with differences in stroke outcomes that potentially influence aphasia outcomes




Ellis, C., Peach, R.K., & Briley (Forthcoming). Race and Outcomes: Implications for Speech-Language Pathologists Managing Adults with Acquired Aphasia. In G. Wallace (Ed.), Cultural competence in neurorehabilitation: A community based rehabilitation approach for speech-language pathologists. San Diego, CA: Plural Publishing, Inc.

# Duration of Upstream Effects- Hypertension

**TABLE 1** Characteristics According to Race and Age of 184 Children With Primary Hypertension at the Time of Referral for Hypertension

| Characteristics | AA Children ($N = 45$) | | Non-AA Children ($N = 139$) | | $P$ for Age < 13 y[a] | $P$ for Age ≥ 13 y[a] |
|---|---|---|---|---|---|---|
| | Age < 13 y ($n = 24$) | Age ≥ 13 y ($n = 21$) | Age < 13 y ($n = 56$) | Age ≥ 13 y ($n = 83$) | | |
| Age, mean ± SD, mo | 119 ± 29 | 185 ± 20 | 114 ± 32 | 188 ± 18 | .5 | .6 |
| Male, $n$ (%) | 14 (58) | 18 (86) | 27 (48) | 60 (72) | .4 | .2 |
| Height percentile, mean ± SD | 84 ± 19 | 62 ± 27 | 69 ± 30 ($n = 54$) | 66 ± 28 ($n = 82$) | .03 | .5 |
| Weight, mean ± SD, kg | 60 ± 25 | 95 ± 37 | 52 ± 24 ($n = 55$) | 87 ± 26 | .2 | .3 |
| BMI, mean ± SD | 26 ± 6 | 32 ± 11 | 25 ± 7 ($n = 54$) | 29 ± 9 | .4 | .2 |
| BMI percentile, mean ± SD | 95 ± 8 | 85 ± 24 | 87 ± 20 ($n = 54$) | 85 ± 20 ($n = 82$) | .06 | .9 |
| BMI percentile ≥85%, $n$ (%) | 23 (96) | 16 (76) | 40 (74) ($n = 54$) | 56 (69) ($n = 82$) | .02 | .5 |
| Family history of hypertension, $n$ (%) | 21 (95) ($n = 22$) | 20 (95) | 44 (81) ($n = 54$) | 70 (90) ($n = 78$) | .2 | .7 |
| Average SBP, mean ± SD, mm Hg | 133 ± 9 | 144 ± 10 | 130 ± 15 | 141 ± 11 | .4 | .2 |
| Average DBP, mean ± SD, mm Hg | 74 ± 9 | 82 ± 12 | 74 ± 10 | 76 ± 11 | .9 | .03 |
| Casual SBP 95% index, mean ± SD[b] | 1.1 ± 0.06 | 1.1 ± 0.07 | 1.1 ± 0.1 ($n = 54$) | 1.07 ± 0.08 ($n = 82$) | .7 | .2 |
| Casual DBP 95% index, mean ± SD | 0.93 ± 0.11 | 0.98 ± 0.15 | 0.95 ± 0.12 ($n = 54$) | 0.90 ± 0.13 ($n = 82$) | .6 | .02 |
| Plasma renin activity, mean ± SD, ng/mL per h | 8.7 ± 15 ($n = 16$) | 6.0 ± 12 ($n = 13$) | 3.6 ± 2.7 ($n = 35$) | 4.1 ± 6.4 ($n = 51$) | .05 | .4 |
| LVH, %[c] | 56 ($n = 18$) | 41 ($n = 17$) | 26 ($n = 43$) | 34 ($n = 62$) | .04 | .6 |

DBP indicates diastolic BP.
[a] Student's $t$ test or $\chi^2$ analysis.
[b] BP index is measured SBP or DBP/95th-percentile SBP or DBP.
[c] Based on LVMI ≥ 95th percentile or cardiologist diagnosis.

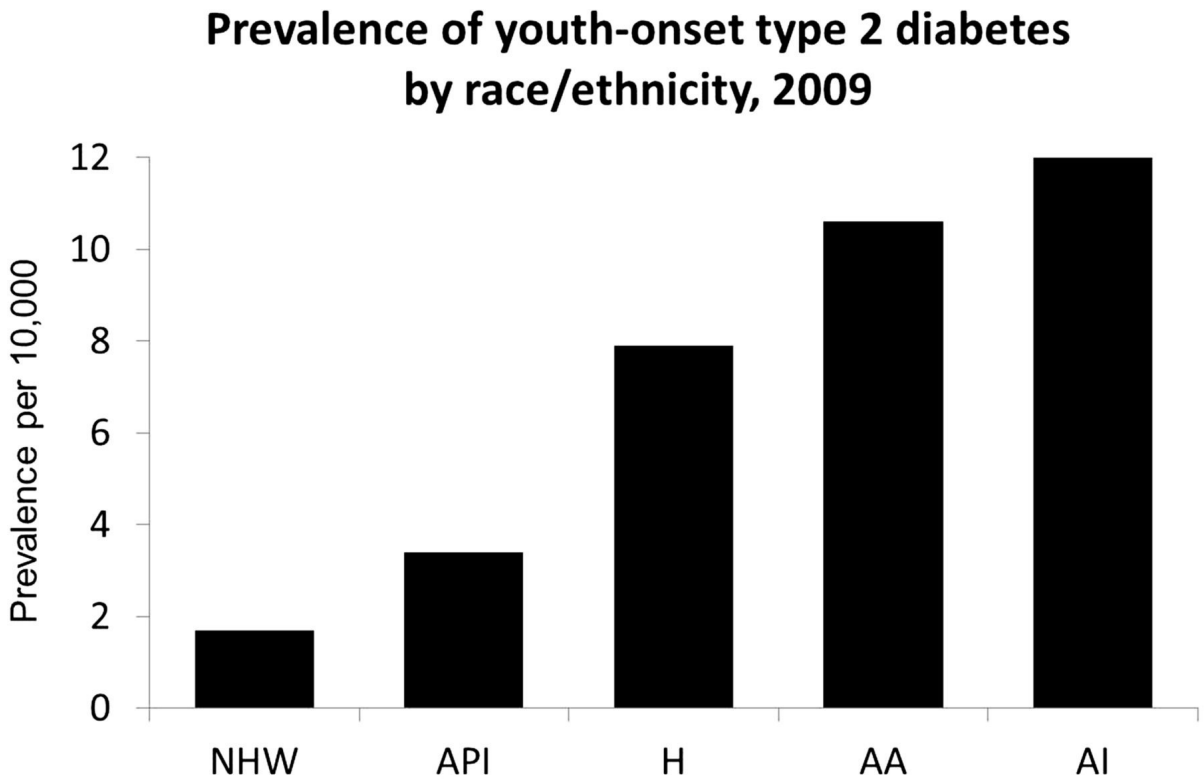
**TABLE 2** ABPM of 123 Children With Primary Hypertension at the Time of Referral for Hypertension

| Characteristics | AA Children ($N = 31$) | | Non-AA Children ($N = 92$) | | $P$ for Age < 13 y[a] | $P$ for Age ≥ 13 y[a] |
|---|---|---|---|---|---|---|
| | Age < 13 y ($n = 13$) | Age ≥ 13 y ($n = 18$) | Age < 13 y ($n = 34$) | Age ≥ 13 y ($n = 58$) | | |
| 24-h mean SBP index[b] | 1.02 ± 0.1 ($n = 11$) | 1.0 ± 0.1 ($n = 9$) | 0.99 ± 0.1 ($n = 27$) | 0.95 ± 0.1 ($n = 34$) | .3 | .08 |
| 24-h mean DBP index | 0.9 ± 0.1 ($n = 11$) | 0.90 ± 0.1 ($n = 9$) | 0.9 ± 0.1 ($n = 27$) | 0.80 ± 0.1 ($n = 34$) | .9 | .05 |
| Daytime mean SBP index | 1.06 ± 0.1 ($n = 11$) | 1.04 ± 0.1 ($n = 9$) | 1.02 ± 0.1 ($n = 26$) | 0.98 ± 0.1 ($n = 34$) | .3 | .04 |
| Daytime mean DBP index | 0.94 ± 0.1 ($n = 11$) | 0.94 ± 0.1 ($n = 9$) | 0.95 ± 0.1 ($n = 26$) | 0.85 ± 0.1 ($n = 34$) | .7 | .02 |
| Nocturnal mean SBP index | 0.98 ± 0.1 ($n = 11$) | 0.94 ± 0.1 ($n = 9$) | 0.92 ± 0.1 ($n = 27$) | 0.90 ± 0.1 ($n = 32$) | .07 | .3 |
| Nocturnal mean DBP index | 0.82 ± 0.1 ($n = 11$) | 0.81 ± 0.2 ($n = 9$) | 0.79 ± 0.1 ($n = 27$) | 0.75 ± 0.1 ($n = 24$) | .5 | .2 |
| 24-hour SBP load, %[c] | 59 ± 34 | 57 ± 26 | 58 ± 27 | 41 ± 28 | .9 | .04 |
| 24-hour DBP load, % | 33 ± 29 | 28 ± 21 | 30 ± 22 | 19 ± 18 | .6 | .06 |
| Daytime SBP load, % | 60 ± 35 | 56 ± 32 | 59 ± 27 ($n = 32$) | 40 ± 30 ($n = 57$) | .9 | .06 |
| Daytime DBP load, % | 32 ± 28 | 29 ± 23 | 33 ± 21 ($n = 32$) | 20 ± 19 ($n = 57$) | .9 | .1 |
| Nocturnal SBP load, % | 65 ± 35 | 63 ± 28 | 62 ± 35 ($n = 32$) | 46 ± 32 ($n = 55$) | .8 | .05 |
| Nocturnal DBP load, % | 31 ± 35 | 30 ± 28 | 19 ±19 ($n = 32$) | 18 ± 23 ($n = 55$) | .1 | .09 |

Data are presented as mean ± SD. DBP indicates diastolic BP.
[a] Student's $t$ test or $\chi^2$ analysis.
[b] BP index is measured SBP or DBP/95th-percentile SBP or DBP.
[c] BP load is the percentage of readings above the 95th percentile SBP or DBP.

PEDIATRICS Volume 126, Number 5, November 2010

**Prevalence of youth-onset type 2 diabetes by race/ethnicity. 2009 prevalence of type 2 diabetes among youth, as published by the SEARCH for Diabetes in Youth study (4).**




**Kristen J. Nadeau et al. Dia Care 2016;39:1635-1642**



American Diabetes Association

# Duration of Upstream Effects- Diabetes Type I

**Table 1—Comparison of participant characteristics, by race/ethnicity, at diagnosis of type 1 diabetes (*N* = 927)**

| | NHW (*N* = 631)* | Hispanic (*N* = 216)* | AA (*N* = 80)* | $P_{AA\ vs.\ NHW}$ | $P_{Hispanic\ vs.\ NHW}$ |
|---|---|---|---|---|---|
| Age (years), mean ± SD | 9.2 ± 4.1 | 9.1 ± 4.3 | 9.8 ± 4.4 | 0.20 | 0.87 |
| <5 | 124 (20) | 41 (19) | 11 (14) | | |
| 5 to <12 | 340 (54) | 114 (53) | 43 (54) | | |
| 12 to <19 | 167 (26) | 61 (28) | 26 (33) | | |

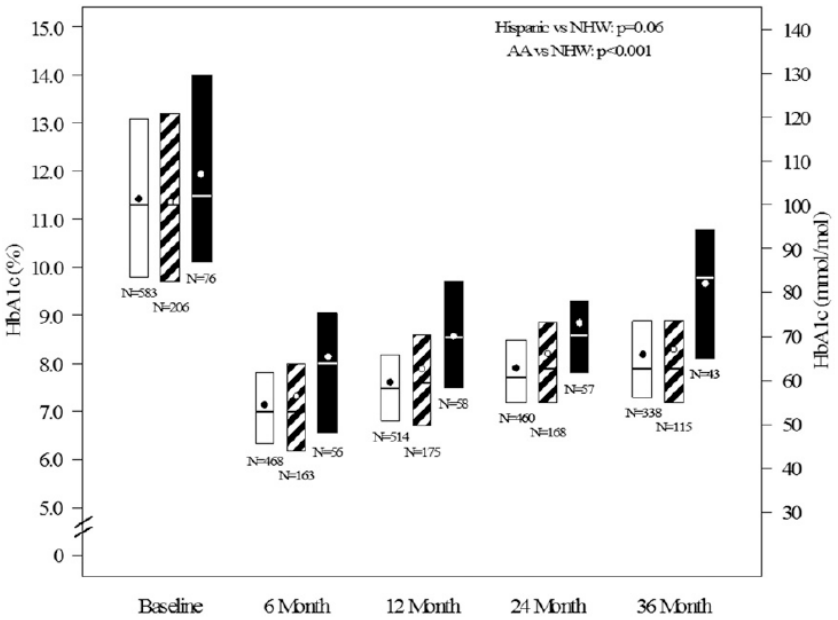
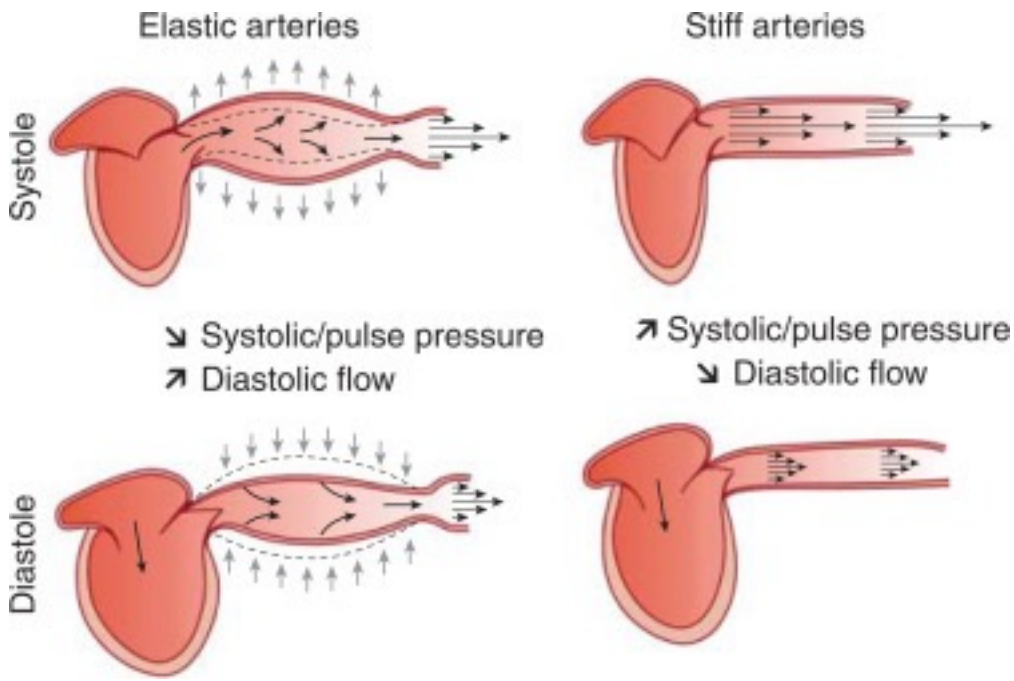



**Figure 1**—$HbA_{1c}$ at diagnosis and on follow-up by race/ethnicity. Bottom and top of each box denote the 25th and 75th percentiles, respectively. Horizontal line inside each box denotes the median, and the dot denotes the mean. Solid white box represents the NHW group, black-and-white striped box represents the Hispanic group, and solid black box represents the AA group.

**Diabetes Care** Volume 41, May 2018

# Consequence of Duration of Upstream Effects-Vascular Stiffness




*Kidney International* 2012 82, 388-400DOI: (10.1038/ki.2012.131)

# Consequence of Duration of Upstream Effects-Vascular Stiffness

**Table 3.** Measures of Vascular Function by Racial Group Adjusted for CVD Risk Factors

| | Baseline PVA† | RHI | fRHI | PAT-AIx | CAIx | PWV |
|---|---|---|---|---|---|---|
| Blacks | 275±6** | 2.1±0.04** | 0.8±0.01 | 21.4±1.1** | 21.2±0.6** | 7.3±0.1** |
| Whites | 328±6 | 2.3±0.03 | 0.8±0.01 | 15.7±1.0 | 16.6±0.6 | 7.1±0.1 |

Values are mean±standard error. Values are adjusted for race, sex, age, smoking, history of hypertension or diabetes, BMI, mean arterial pressure, lipids, and glucose. CVD indicates cardiovascular disease; PVA, pulse volume amplitude; RHI, reactive hyperemia index; fRHI, Framingham reactive hyperemia index; PAT-AIx, peripheral augmentation index; CAIx, central augmentation index; PWV, pulse-wave velocity; BMI, body mass index.

*$P \leq 0.01$, **$P \leq 0.001$ when compared with whites.

†Values shown are in occluded arm.

**Pulse Volume Amplitude (PVA)** – is a measure of degree of expansion of an artery

**Pulse Wave Velocity (PWV)** is a measure of arterial stiffness, or the rate at which pressure waves move down the vessel. It has been established as a highly reliable prognostic parameter for cardiovascular morbidity and mortality. **As vessels become stiffer and the speed at which the pressure wave moves through the system is increased.**

J Am Heart Assoc. 2013;2:e002154

# Changing Demographics in Stroke and Relationship to Aphasia

# Disparities in Stroke Incidence Contributing to Disparities in Stroke Mortality

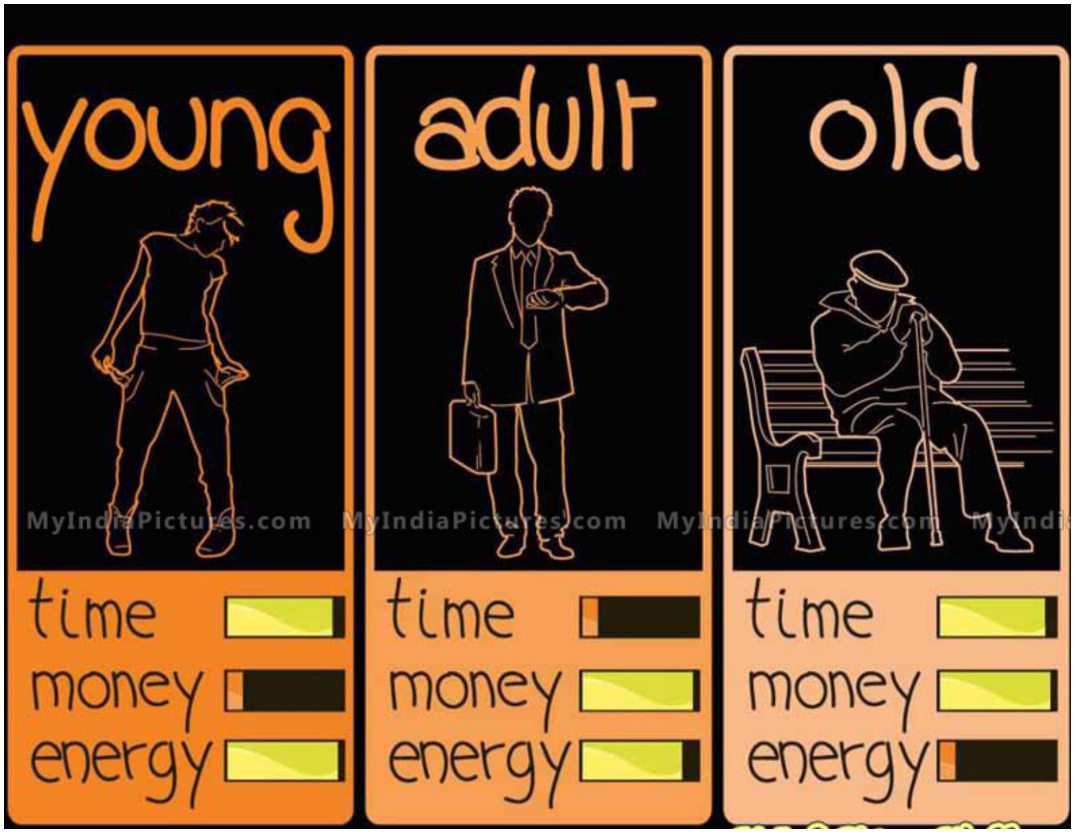
TABLE 3: Estimated Stroke Incidence Rate (per 100,000 person-years) and Incidence Rate Ratio (with 95% CI) for all Stroke, Cerebral Infarction, and Hemorrhagic Stroke

| | | All Strokes[a] | | Ischemic Stroke[a] | | Hemorrhagic Stroke[a] | |
|---|---|---|---|---|---|---|---|
| | Participants at Risk For Events | Incidence Rate | Incidence Rate Ratio (95% CI) | Incidence Rate | Incidence Rate Ratio (95% CI) | Incidence Rate | Incidence Rate Ratio (95% CI) |
| Region (adjusted for age, race, and sex) | | | | | | | |
| Non–stroke belt | 12,296 | 517 (429–623) | 1.0 (ref) | 416 (338–512) | 1.0 (ref) | 70 (42–117) | 1.0 (ref) |
| Stroke belt | 9,615 | 547 (447–670) | 1.06 (0.87–1.29) | 456 (361–575) | 1.10 (0.88–1.36) | 68 (40–118) | 0.98 (0.53–1.81) |
| Stroke buckle | 5,833 | 614 (487–773) | 1.19 (0.96–1.47) | 496 (381–645) | 1.19 (0.93–1.53) | 69 (36–134) | 0.99 (0.49–2.02) |
| Race (adjusted for sex) | | | | | | | |
| All Ages | | | | | | | |
| White | 16,541 | 479 (409–561) | 1.0 (ref) | 386 (320–465) | 1.0 (ref) | 56 (35–92) | 1.0 (ref) |
| Black | 11,203 | 722 (601–867) | 1.51 (1.26–1.81) | 584 (474–720) | 1.52 (1.24–1.85) | 85 (51–140) | 1.50 (0.87–2.60) |
| Age 45–54 yr | | | | | | | |
| White | 1,936 | 71 (25–197) | 1.0 (ref) | 52 (15–174) | 1.0 (ref) | | |
| Black | 1,607 | 284 (156–518) | 4.02 (1.23–13.11) | 194 (94–401) | 3.73 (0.93–14.97) | | |
| Age 55–64 yr | | | | | | | |
| White | 6,188 | 276 (216–352) | 1.0 (ref) | 245 (188–319) | 1.0 (ref) | | |
| Black | 4,535 | 492 (391–619) | 1.79 (1.27–2.51) | 403 (311–523) | 1.64 (1.13–2.39) | | |
| Age 65–74 yr | | | | | | | |
| White | 5,412 | 548 (456–660) | 1.0 (ref) | 457 (372–562) | 1.0 (ref) | | |
| Black | 3,474 | 792 (633–990) | 1.44 (1.07–1.94) | 709 (561–896) | 1.55 (1.12–2.14) | | |
| Age 75–84 yr | | | | | | | |
| White | 2,654 | 1086 (893–1319) | 1.0 (ref) | 883 (713–1095) | 1.0 (ref) | | |
| Black | 1,414 | 1450 (1130–1859) | 1.34 (0.98–1.82) | 1165 (864–1570) | 1.32 (0.92–1.89) | | |
| Age 85+ | | | | | | | |
| White | 351 | 1353 (803–2277) | 1.0 (ref) | 1050 (558–1977) | 1.0 (ref) | | |
| Black | 173 | 1162 (514–2627) | 0.86 (0.33–2.20) | 1093 (439–2722) | 1.04 (0.33–3.23) | | |

Shown by region, and race-age strata for all stroke and infarction and by race for hemorrhagic stroke (detailed breakdown not possible because of a relatively small number of events).
[a]The participants with 2 events were included in the analysis for ischemic and hemorrhagic strokes if relevant, but only the first stroke was counted for the all-stroke incidence analysis.
CI = confidence interval.

Howard et al. 2011. Annals of Neurology

# Life Stages – Implications for aphasia




Taken from: http://myindiapictures.weebly.com/home/time-money-energy-and-young-adult-old-life-

# Social Networks

- The structure and connectedness of interpersonal relationships associated with an individual

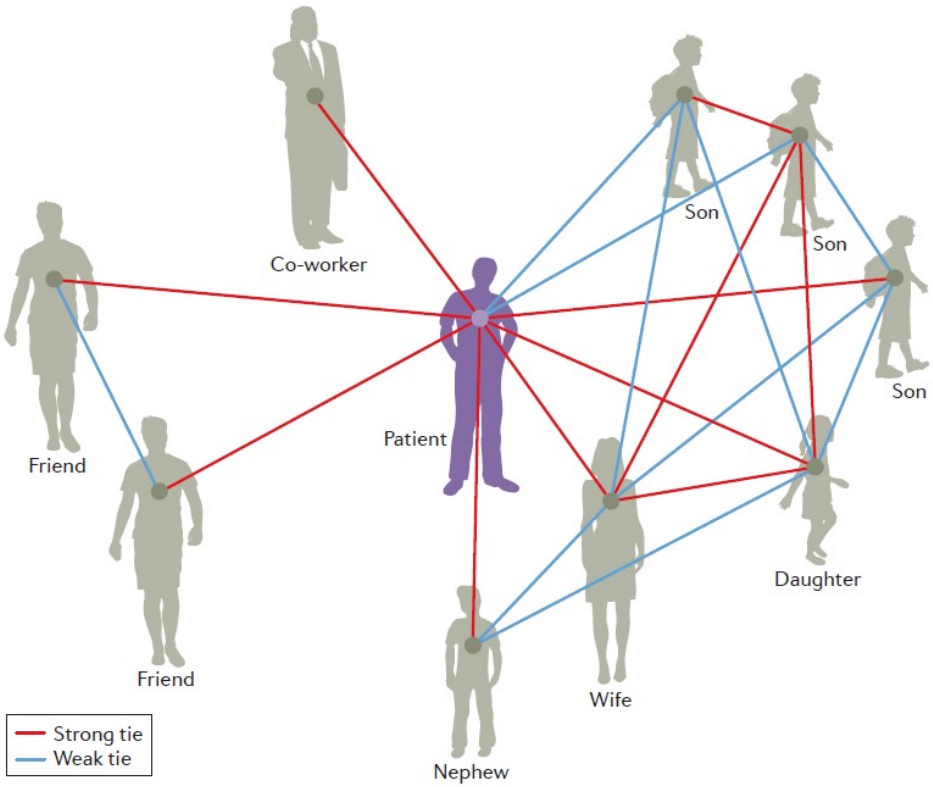



Figure 1 | **The personal network of a patient.** The ego (that is, the patient) is connected to members of his personal network, known as alters, by either a strong or a weak tie. In this figure, the personal network of the patient includes subgroups of family members, friends and a co-worker. By evaluating the architecture and composition of relationships among network members, neurologists might be able to identify patients who are at risk of poor outcomes.

NATURE REVIEWS | NEUROLOGY VOLUME 12 | OCTOBER 2016 |

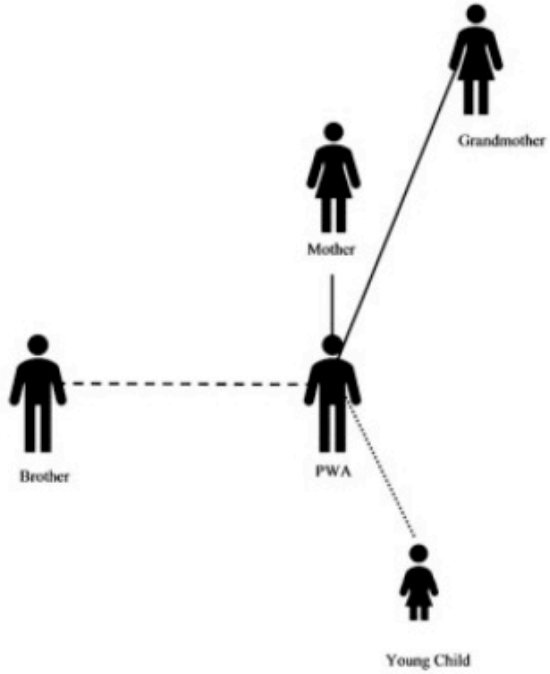
Dhand, Luke, Lang & Lee (2016).

# Social Network Structure in Young Stroke Survivors with Aphasia: A Case Series Report

**Charles Ellis, Ph.D., CCC-SLP,[1,2] Rhiannon Phillips, M.S., CCC-SLP, CBIS,[2] Tina Hill, M.S., CCC-SLP,[3] and Patrick M. Briley, M.S., CCC-SLP[1,2]**

**SEMINARS IN SPEECH AND LANGUAGE/VOLUME 40, NUMBER 5 2019**

# Case #1 – 33 y.o. Black Male




——— Solid line represents social network relationship that is present and contributes to the PWA recovery/ management

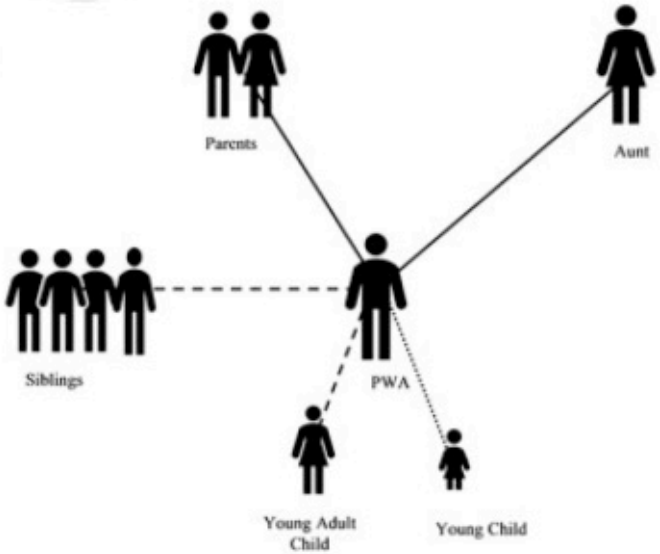
– – – – Dashed line represents a social network relationship that is present but does not contribute to the PWA's recovery/management.

·····The dotted line is a young child that offers emotional support which contributes to recovery/management.

**Figure 1** Social network construction for Case 1.

Ellis, C. et al. *Seminars in Speech and Language*, 40(5), 359-369.

# Case #2 – 43 y.o. Black male

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•••••••The dotted line is a young child that offers emotional support which contributes to recovery/management.

**Figure 2** Social network construction for Case 2.

Ellis, C. et al. *Seminars in Speech and Language*, 40(5), 359-369.

# Case #3 – 47 y.o. White male

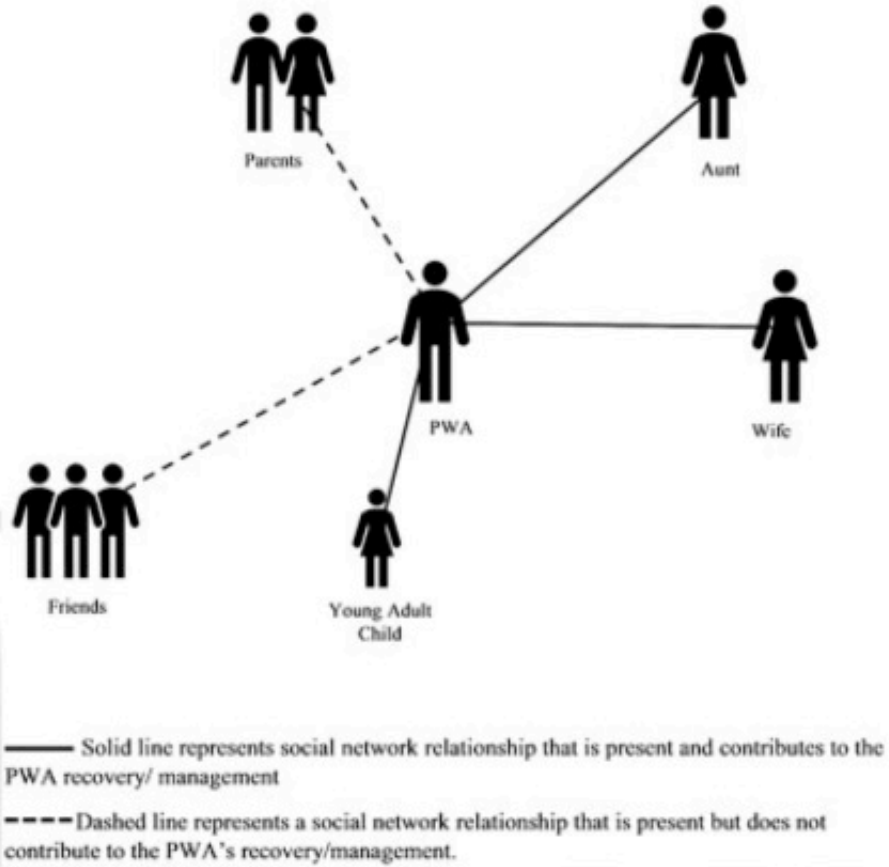
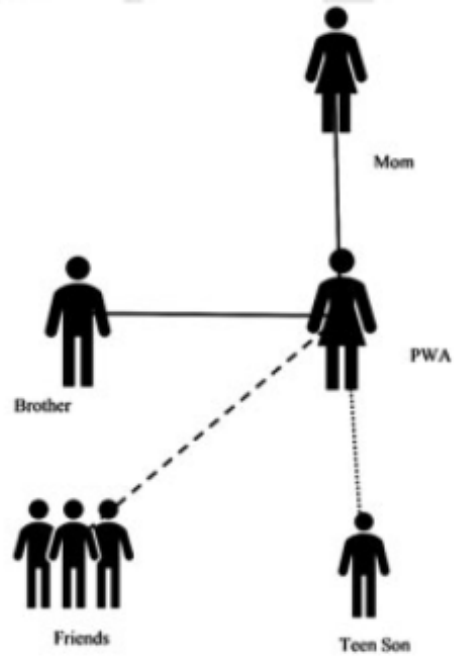



**Figure 3** Social network construction for Case 3.

Ellis, C. et al. *Seminars in Speech and Language*, 40(5), 359-369.

# Case #4 – 47 y.o. White female




——— Solid line represents social network relationship that is present and contributes to the PWA recovery/ management

– – – – Dashed line represents a social network relationship that is present but does not contribute to the PWA's recovery/management.

····· The dotted line is a young child that offers emotional support which contributes to recovery/management.

**Figure 4** Social network construction for Case 4.

# Social Network Issues in Young Adults with Aphasia

- Key Issues
  - Immediate dramatic reduction in social networks
  - Large reliance on parents for income and housing
  - Significant transportation issues
  - Significant isolation particularly among those with severe aphasia and/or apraxia of speech

Ellis, C. et al. *Seminars in Speech and Language*, 40(5), 359-369.

# Aphasia and Covid-19

- "Individuals who have been quarantined for long periods of time report stress, insomnia, emotional exhaustion, and increased substance abuse"
- "Even in the absence of COVID-19, many individuals with aphasia can experience a dramatic reduction in wellbeing caused by their inability to communicate, develop relationships, and engage in society. Many report significant changes in their perception of their position in life which results in feelings of isolation and depression that translates into dramatic reductions in quality of life."
- "Recommend a reconsideration of the commonly used term **social distancing** to "**physical distancing and social connectedness**" **(PDSC)**

Ellis & Jacobs (2021). Journal of Patient Experience, 8: 1-3

# Considerations Required to Reduce the Current Disparity Gap

# Cross-Cultural Beliefs and Attitudes of PWA

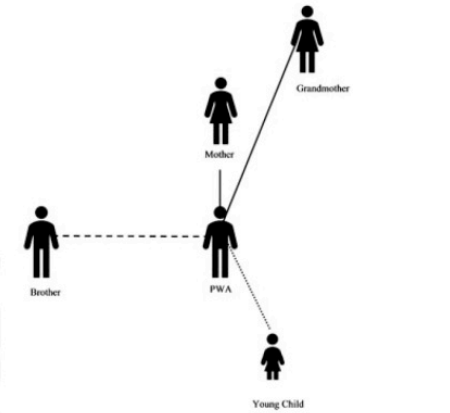
# An exploration of lifestyle beliefs and lifestyle behaviour following stroke: findings from a focus group study of patients and family members

Maggie Lawrence, Susan Kerr, Hazel Watson, Gillian Paton & Graham Ellis

*BMC Family Practice* **11**, Article number: 97 (2010) | Cite this article

- **Results**
- Although many participants initially reported receiving no lifestyle information, further exploration revealed that most had received written information. However, it was often provided when people were not receptive, there was no verbal reinforcement, and family members were rarely involved, even when the patient had aphasia. Participants believed that information and advice regarding healthy lifestyle behaviour was often confusing and contradictory and that this influenced their behavioural intentions. Family members and peers exerted both positive and negative influences on behavioural patterns. The influence of HCPs was rarely mentioned. Participants' sense of control over lifestyle issues was influenced by the effects of stroke (e.g. depression, reduced mobility) and access to appropriate resources.

# Beliefs and Attitudes Among PWA

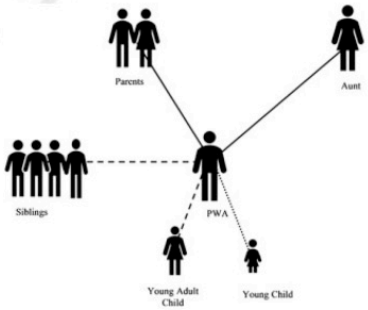



—— Solid line represents social network relationship that is present and contributes to the PWA recovery/ management

– – – – Dashed line represents a social network relationship that is present but does not contribute to the PWA's recovery/management.

••••••• The dotted line is a young child that offers emotional support which contributes to recovery/management.

**Figure 1** Social network construction for Case 1.




—— Solid line represents social network relationship that is present and contributes to the PWA recovery/ management

– – – – Dashed line represents a social network relationship that is present but does not contribute to the PWA's recovery/management.

••••••• The dotted line is a young child that offers emotional support which contributes to recovery/management.

**Figure 2** Social network construction for Case 2.

Perception of public transportation

Family support and time for rehabilitation

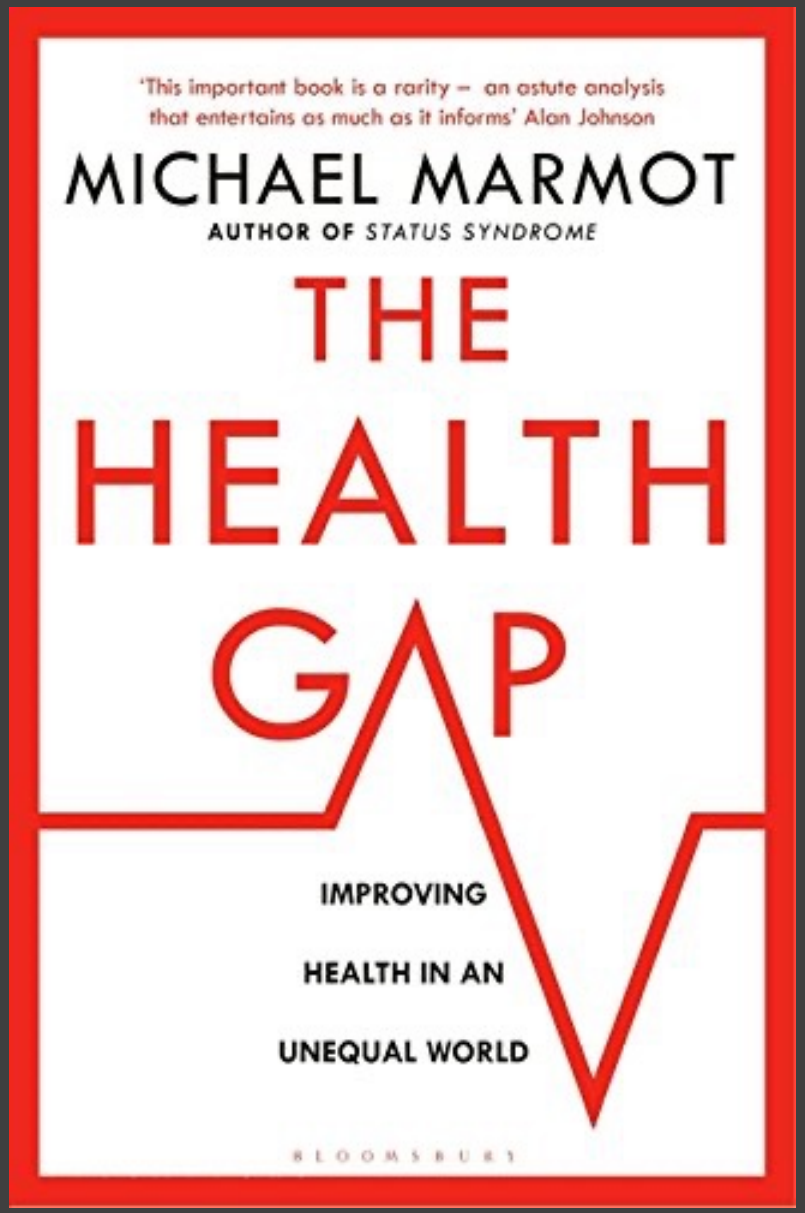
Ellis, C. et al. *Seminars in Speech and Language*, 40(5), 359-369.

# Environments of PWA

"Health happens in neighborhoods."

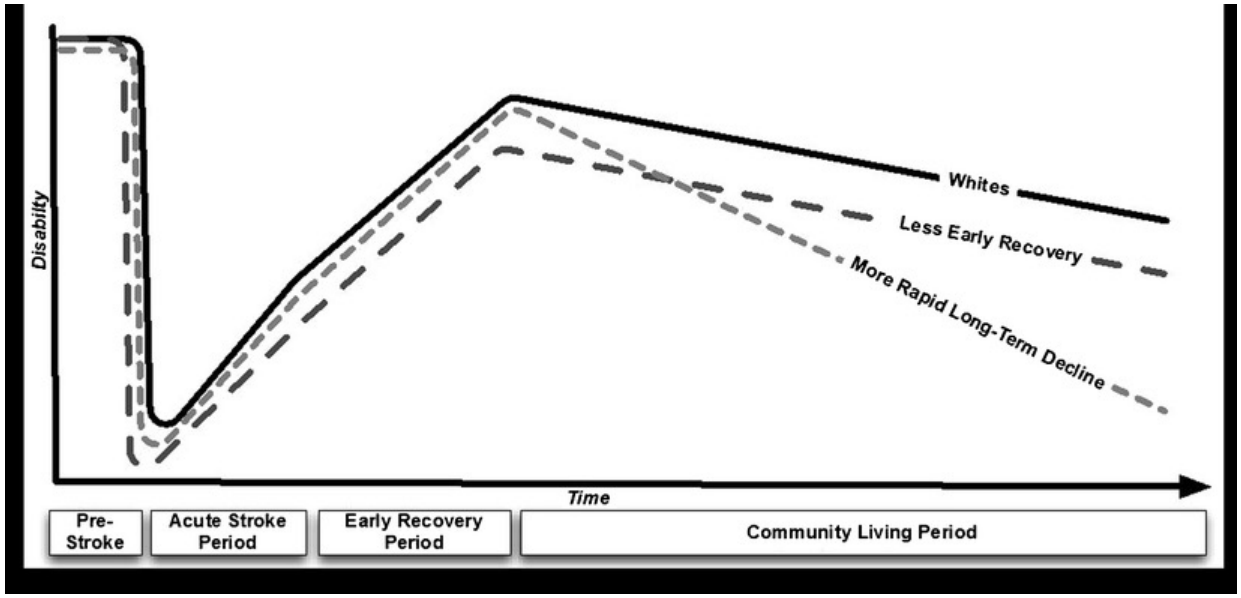
*-Dr. David Erickson*

Taken from: https://www.focusforhealth.org/sdoh_neighborhood/




- Why treat sick people and send them back to the conditions that made them sick?
    - p.1

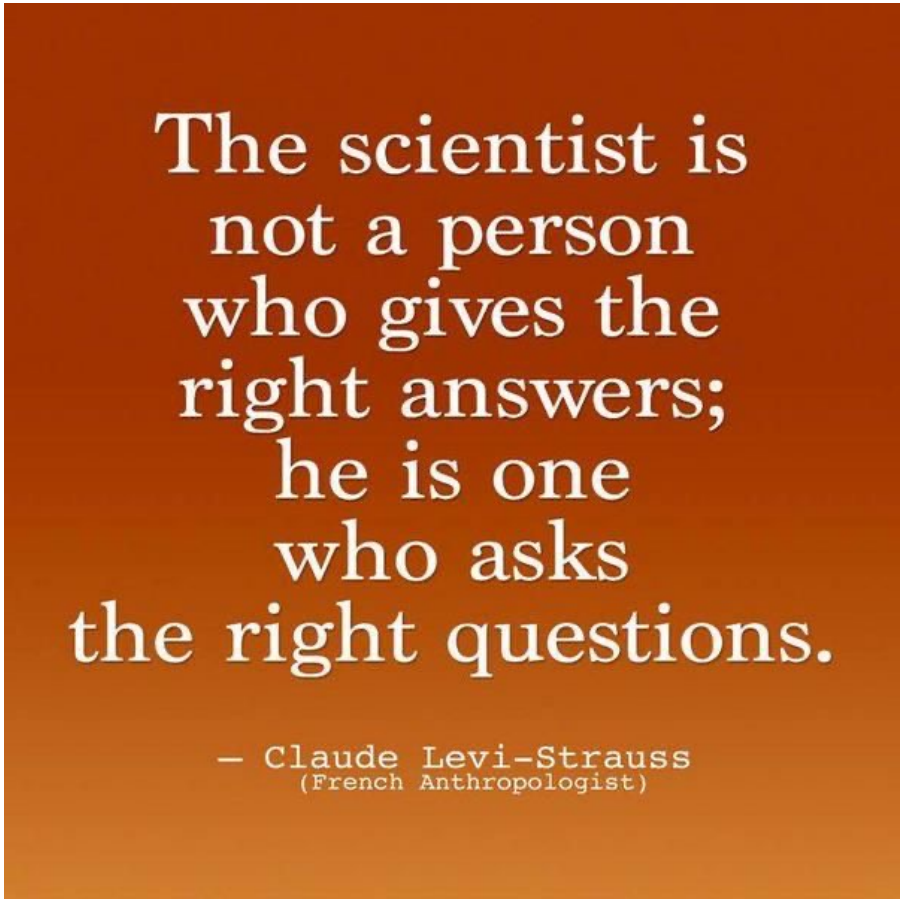
# Post-Stroke Living Environment




Curr Epidemiol Rep (2015) 2:191–196
DOI 10.1007/s40471-015-0047-3

# Current Gaps in Knowledge

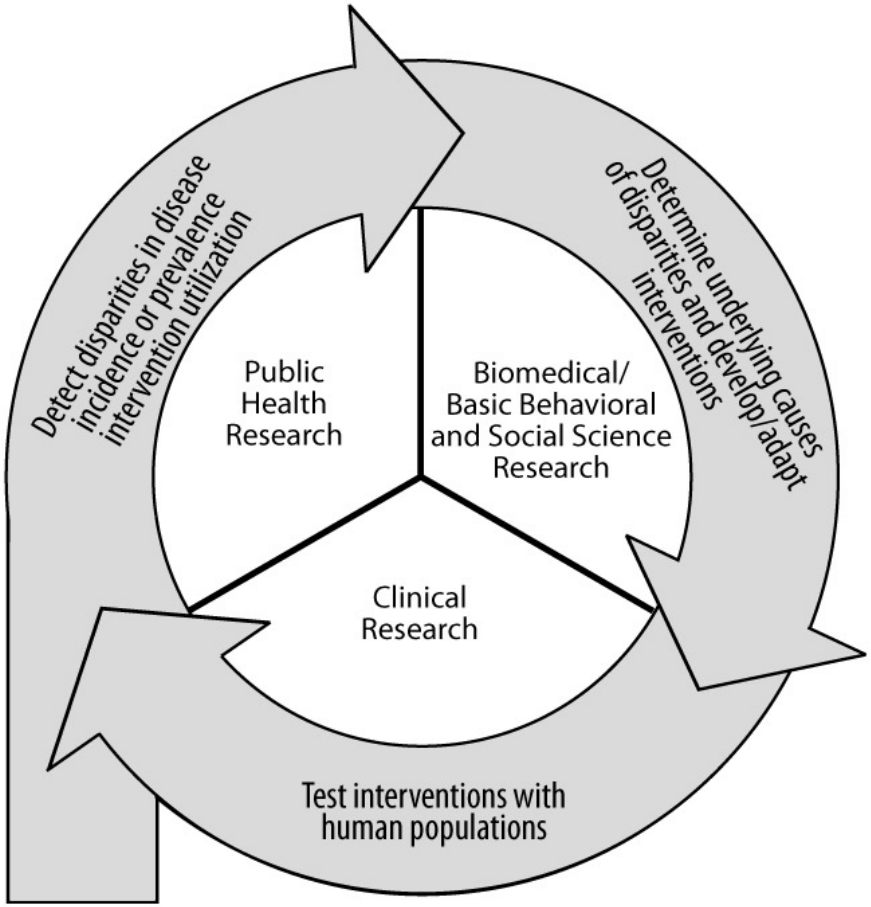
# Disparities in Speech Language Pathology



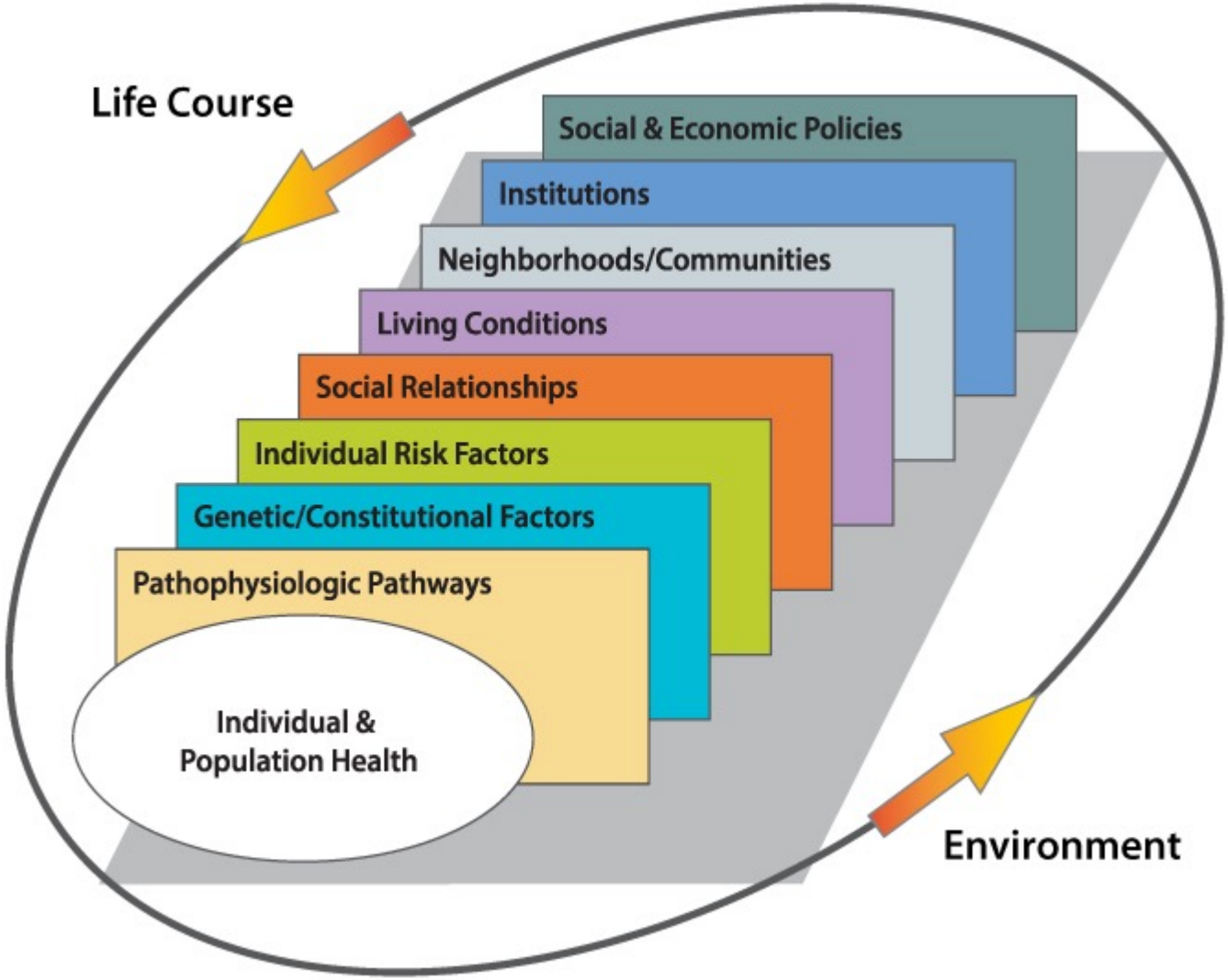
# Things We Don't Know

- How low utilization and disparities in tPA use impacts aphasia outcomes.
- How disparities in stroke type impact aphasia type and aphasia outcomes.
- How the structure of tests that were primary designed decades ago contribute to aphasia outcomes given their outdated cultural relevance.
- How or if emphasis on cultural competence translates to provider behavior and ultimately aphasia outcomes.
- How systems of care and care transitions impact aphasia outcomes.
- How the organization of the US healthcare systems impacts aphasia outcomes.
- How the sociodemographic characteristics of SLP impacts aphasia outcomes.
- How reimbursement influences service frequency, intensity and quality of SLP services and how that translates to aphasia outcomes.

# Health disparities research framework




Fleming et al. (2008). The role of translational research in addressing health disparities: a conceptual framework. Ethn Dis. 2008; 18(2 Suppl 2): S2–155-60.




Adams et al. (2018). Addressing Racial Disparities in Stroke: The Wide Spectrum Investigation of Stroke Outcome Disparities on Multiple Levels (WISSDOM)

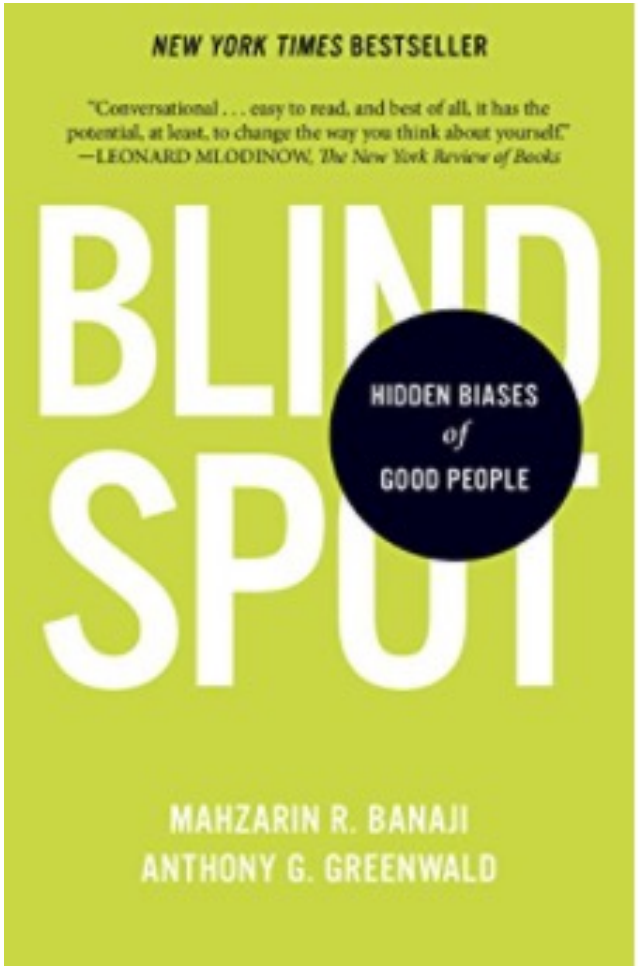
# The Danger of Health Equity Tourists and Disparities Evidence

- “A disturbing trend: a gold rush mentality where researchers with little or no background or training in health equity research, often white and already well-funded, are rushing in to scoop up grants and publish papers. STAT has documented dozens of cases where white researchers are building on the work of, or picking the brains of, Black and brown researchers without citing them or offering to include them on grants or as co-authors.”

Taken from McFarling (2021). Available at:https://www.pacesconnection.com/blog/health-equity-tourists-how-white-scholars-are-colonizing-research-on-health-disparities-statnews-com

# Provider Bias

# Interesting Reading




- Implicit Association Test
  - Assessment intended to detect subconscious associations between mental representations of objects
  - Applied to a variety of belief associations, such as those involving racial groups, gender, sexuality, age, religion, self-esteem, political views

# Implicit Bias in Patient Care: An Endemic Blight on Quality Care

- "Implicit (or unconscious) bias refers to positive or negative attitudes or stereotypes, activated automatically and involuntarily, that influence our understanding, decisions, and behaviors without our awareness or voluntary control."
- The following patients are at greatest risk: people of color, female gender, advanced age, low SES, non–English speaking, LGTBQ+, disabled, obese, mental illness, AIDS, and drug addiction, etc.

Alspach, (2018). Crit Care Nurse (2018) 38 (4): 12–16.

# Concern About Bias in SLP/A is Not New

Jul 1980

**An Investigation of Sex-Bias in Classroom Teachers' Speech and Language Referrals**

Apr 1988

**Bias Effects in Speech-Language Assessment and Decision-Making**

Feb 1990

**Bias Effects of Socioeconomic Status and Sex in Decision Making in Speech-Language Pathology**

Nov 2017

**Look at Your Blind Spots**

Do unconscious preconceptions shape your clinical judgment? A school-based clinician offers ways to uncover—and address—implicit bias.

October 2021

**Implicit Bias in Audiology: How Does It Affect Families of Deaf Children?**

# Implicit Bias in Patient Care: An Endemic Blight on Quality Care

- "As health care professionals, we go to work every day intending to provide an optimal level of care to every patient we encounter. As noble as that intention is, it does not represent the level of care received by every patient."
- "Many groups of patients receive a significantly lower quality of care—that is, substandard care—attributable in part to biases held by health care providers"

Alspach, (2018). Crit Care Nurse (2018) 38 (4): 12–16.

# Implicit Racial/Ethnic Bias Among Health Care Professionals and Its Influence on Health Care Outcomes: A Systematic Review

William J. Hall, PhD, Mimi V. Chapman, PhD, Kent M. Lee, MS, Yesenia M. Merino, MPH, Tainayah W. Thomas, MPH, B. Keith Payne, PhD, Eugenia Eng, DrPH, Steven H. Day, MCP, and Tamera Coyne-Beasley, MD

- Main Results. Almost all studies used cross-sectional designs, convenience sampling, US participants, and the Implicit Association Test to assess implicit bias. Low to moderate levels of implicit racial/ethnic bias were found among health care professionals in all but 1 study. These implicit bias scores are similar to those in the general population. Levels of implicit bias against Black, Hispanic/Latino/Latina, and dark-skinned people were relatively similar across these groups. Although some associations between implicit bias and health care outcomes were nonsignificant, results also showed that implicit bias was significantly related to patient–provider interactions, treatment decisions, treatment adherence, and patient health outcomes. Implicit attitudes were more often significantly related to patient–provider interactions and health outcomes than treatment processes.

American Journal of Public Health | December 2015, Vol 105, No. 12

# Health Professionals Are Not Immune to Bias

- Studies suggest health professionals exhibit implicit bias at same rate as the general population.
  - » Fitzgerald & Hurtz (2017)
  - Bias can affect diagnostic assessments
  - Bias can affect therapies considered
  - Bias is associated with higher complication rates, greater morbidity, and higher mortality

Alspach, (2018). Crit Care Nurse (2018) 38 (4): 12–16.

# How Bias Works

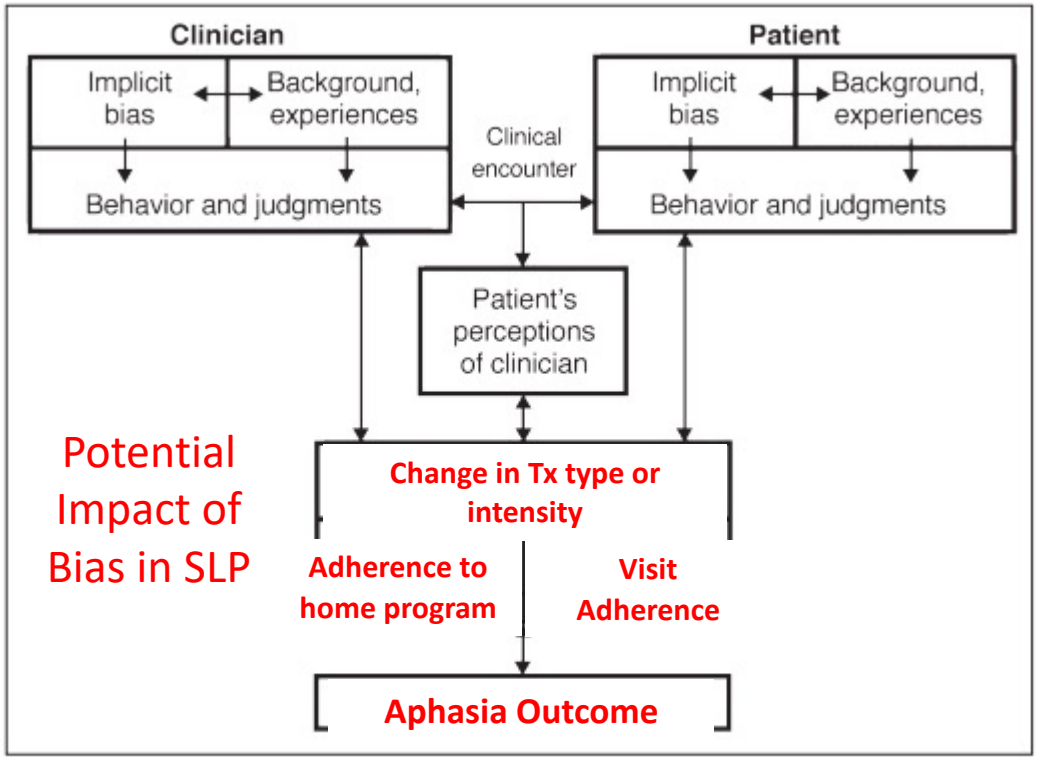
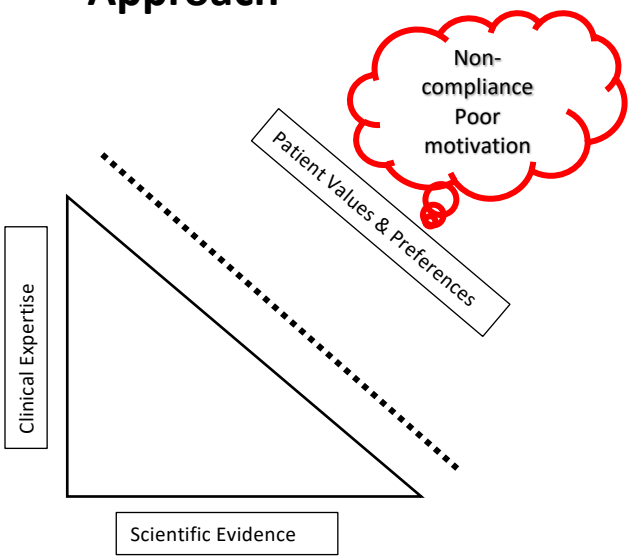



Figure 1. Conceptual model of the influence of implicit bias on hypertension control.

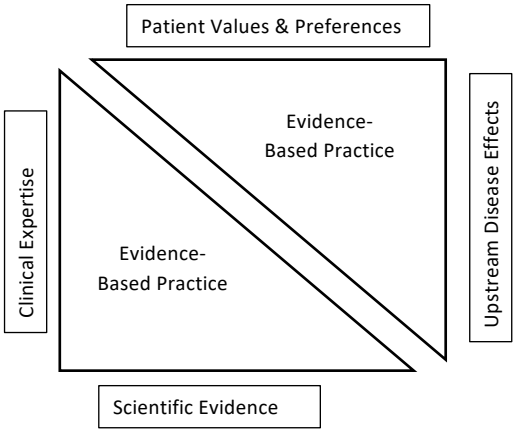
Blair et al. (2011). Unconscious (implicit) bias and health disparities: where do we go from here?. The Permanente journal, 15(2), 71–78.

# Bias and Evidence-Based Practice

**Commonly Utilized "Disconnected" Approach**




**Revised Approach Bringing Together Four Key Elements**




Ellis, Peach, Briley (2021)

# Other Bias Considerations

# Bias and the Social Determinants of Health

are conditions in the places where people live, learn, work, and play that affect a wide range of health and quality-of life-risks and outcomes.


CDC – Healthy People 2020

# 10 Cognitive Biases That May Be Affecting Your Speech Pathology Relationships

- **BACKFIRE EFFECT -** people's beliefs actually become stronger when challenged by evidence that is contradictory to those beliefs.
- **CURSE OF KNOWLEDGE** - a better-informed person finds it extremely difficult to think about problems from the perspective a lesser-informed person.
- **FUNDAMENTAL ATTRIBUTION ERROR** - tendency for people to place undue emphasis on internal characteristics (e.g. personality) to explain other people's behaviour.
- **CONFIRMATION BIAS** - tendency to search for and interpret information in a way that confirms one's preconceptions.
- **PLACEBO EFFECT** - when a patient, in stable condition, shows physical improvement when no therapeutic intervention has been given.
- **HALO EFFECT** - tendency to use global evaluations to make judgments about specific traits.
- **STEREOTYPING** - attributes that people subconsciously believe categorise a group, and are usually acquired in early childhood.
- **GENDER BIAS** - prejudice based on one's sex.
- **RACIAL BIAS** - prejudice based on one's race.
- **BIAS BLIND SPOT** – difficultly in identifying bias in ourselves.

Taken from: https://www.linkedin.com/pulse/10-cognitive-biases-may-affecting-your-speech-pathology-rebecca-kidd

# Dealing with Bias


# Mitigating Bias

Marcelin et al. (2019). The Impact of Unconscious Bias in Healthcare: How to Recognize and Mitigate It. The Journal of infectious diseases, 220(220 Suppl 2), S62–S73.

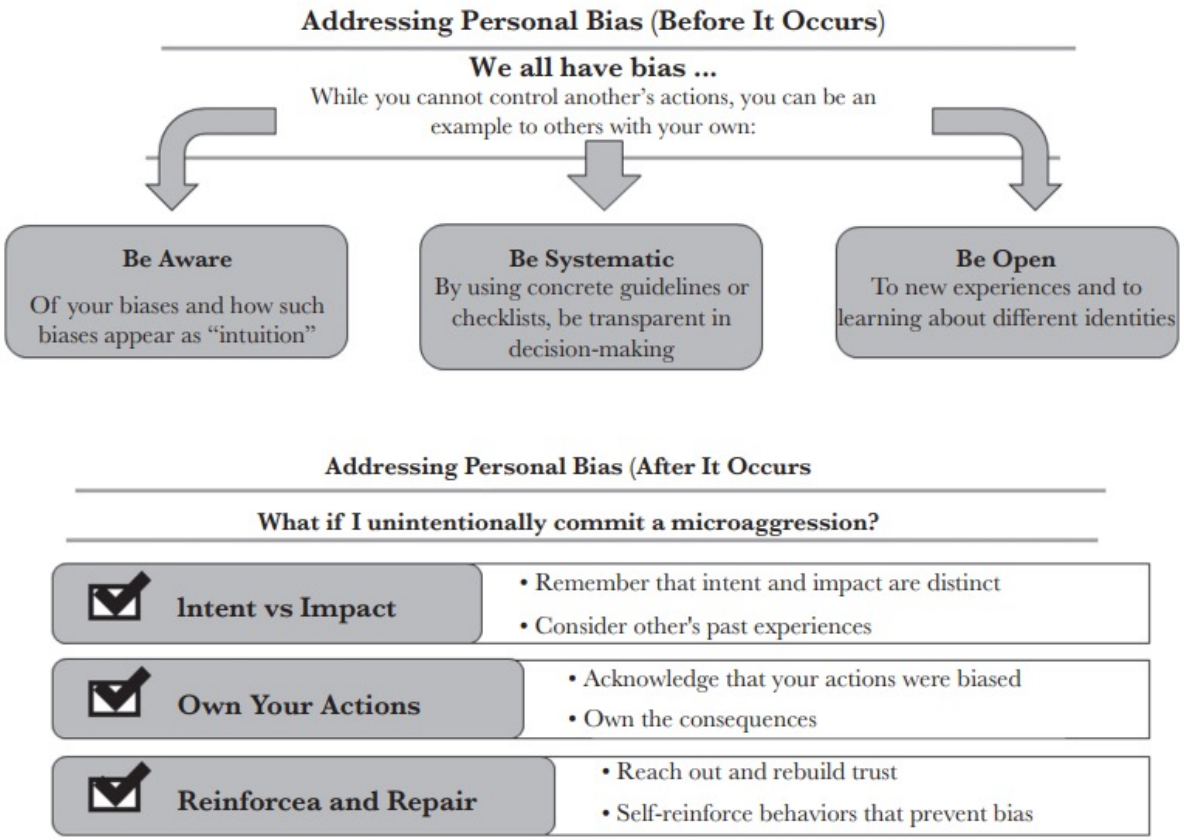



**Figure 3.** Strategies to address personal bias before and after it occurs.

Marcelin et al. (2019). The Impact of Unconscious Bias in Healthcare: How to Recognize and Mitigate It. The Journal of infectious diseases, 220(220 Suppl 2), S62–S73.

# Reducing Bias

- **Replace stereotypes:** Recognize when a response comes from a stereotype, label the response as stereotypical, and reflect on why the response occurred. Then, consider how to respond in an unbiased way in similar situations in the future.
- **Counter stereotypic imagining:** Think about individuals–personal acquaintances, famous people or imaginary characters–who counter the stereotypes you hold.
- **Individuate:** Obtain specific information about people, rather than simply associating them with characteristics of groups.
- **Take a different perspective:** Imagine yourself as a person from a group toward which you hold biases.
- **Increase opportunities:** Seek out ways to contact or engage in positive interactions with individuals from backgrounds different from our own.

Exploring our implicit biases allows us to move closer to the cultural competence needed to develop positive relationships with our clients and seek to understand their experiences.

- **Take the Implicit Association Test** developed by Project Implicit.
- **Participate in the online "bias cleanse"** developed by the Kirwan Institute for the **Study of Race and Ethnicity and MTV**.
- **Talk to student clinicians** you teach or supervise about the concept of implicit bias, and share your experiences of learning about and countering your own implicit biases.
- **Work with other professionals in your setting** to obtain training on the concept of implicit bias.
- **Encourage dialogue** among colleagues. Be honest about your own experiences with bias and ask questions of others who may have a different perspective.
- **Increase your familiarity** with issues surrounding racial, gender and socioeconomic inequity in the community where you practice.

Arora, N. (2017). Look at your blind spots. Do unconscious preconceptions shape your clinical judgment? A school-based clinician offers ways to uncover—and address—implicit bias, ASHA Leader, 22, (11), Available at: https://leader.pubs.asha.org/doi/full/10.1044/leader.FMP.22112017.6

# Understanding and Addressing Bias

| Table 2. Suggestions for action to understand and address implicit bias in health care | |
|---|---|
| **Clinicians** | |
| • Consciously affirm egalitarian goals and consider specific ways to implement them.[1,2]<br>• Consider "gut" reactions to specific individuals or groups as *potential* indicators of implicit bias,[3] and consider how these reactions might affect your work.<br>• Acknowledge and reappraise[4,5] rather than suppress uncomfortable feelings and thoughts.[6] | • Consider the situation from the patient's perspective.[7]<br>• Consider changing situations that increase negative or stereotypical responses.[8-11]<br>• Partner with researchers and participate in research to advance understanding of implicit bias and to develop evidence-based interventions. |
| **Researchers** | |
| • Identify biases that may be active in your community, especially those that have been overlooked by others.<br>• Conduct studies on a broad array of potential biases with different types of health care professionals.<br>• Assess the relations between implicit bias and actual health care processes and outcomes, partnering with clinicians to define clinical interactions likely to be affected by implicit bias. | • Design and test theory-based interventions[12-14] in laboratory and field settings, working with clinicians to identify interventions that could be translated into actual practice.<br>• Consider interventions at multiple levels (eg, patients, clinicians, and health care teams), acknowledging the interdependent nature of health care and the social networks that are involved. |
| **Policymakers** | |
| • Affirm equity of care and diversity as core organizational and institutional values.[1,2,15,16]<br>• Consider ways to improve detection of disparities, and reconsider policies that may (unintentionally) worsen disparities.[17]<br>• Support research that seeks to better understand bias and develop interventions to improve communication and lessen disparities. | • Support clinicians' efforts to implement change to address disparities directly.<br>• Invite dialogue with community leaders to better identify services in need of improvement and unrecognized biases in the health care system and workforce.<br>• Support efforts to increase workforce diversity, especially in leadership positions.[18-20] |
| **Patients and Community Members** | |
| • Consider implicit biases that you yourself may bring into the health care setting. What are your gut reactions and how might they affect your thoughts and behavior?<br>• Partner with researchers and participate in research to better understand bias and develop interventions that are effective and responsive to the needs of the community. | • Realize that your clinicians are people too. To the degree that bias exists in health care, it is not unique to that arena and must be addressed as a community. Patience and honest communication can help solve many problems.<br>• Provide feedback to help your clinicians improve services, especially in areas that appear to be inequitable. |

Blair et al. (2011). Unconscious (implicit) bias and health disparities: where do we go from here?. The Permanente journal, 15(2), 71–78.

# Evidence-Based Practice and Cultural Competence

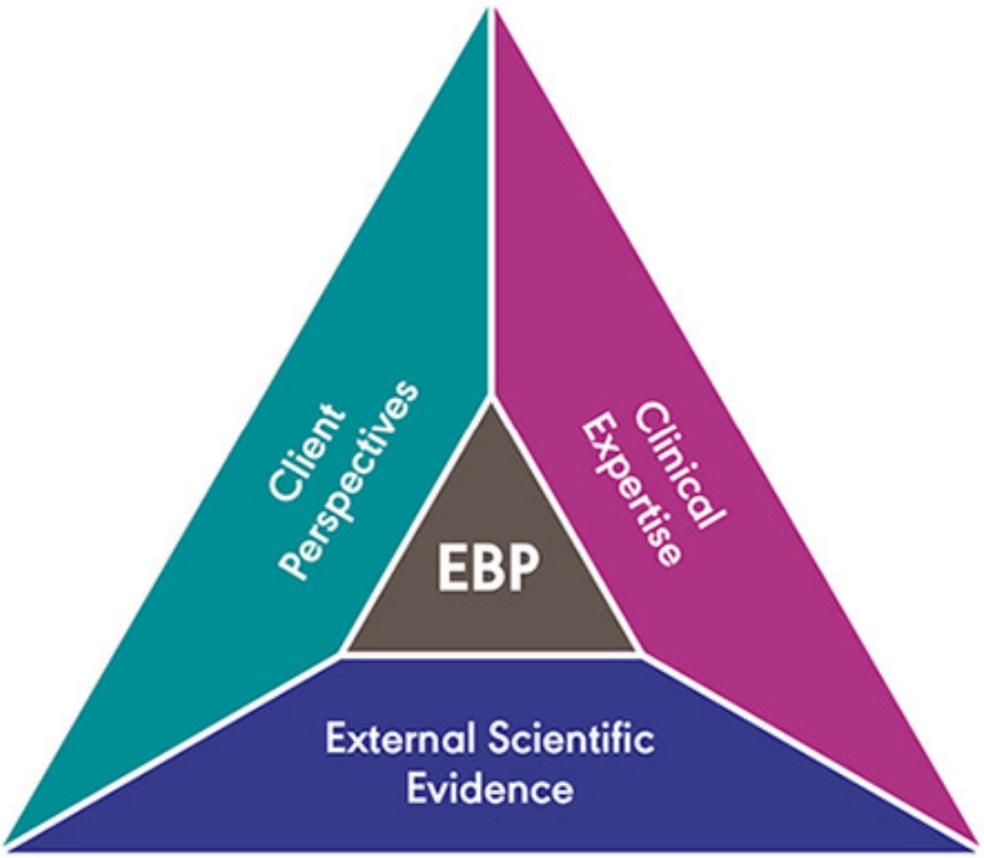
The JAMA Network

From: **The Anatomy of Health Care in the United States** JAMA. 2013;310(18):1947-1964.


AND THERE ARE CONFLICTS IN GOALS, OBJECTIVES AND BELIEFS/ATTITUDES

Medicine's Triangle of Conflicting Expectations

Does our typical approach offer equity of services or contribute to disparities in outcomes?




https://leader.pubs.asha.org/do/10.1044/new-tools-to-simplify-using-evidence-based-practice/full/

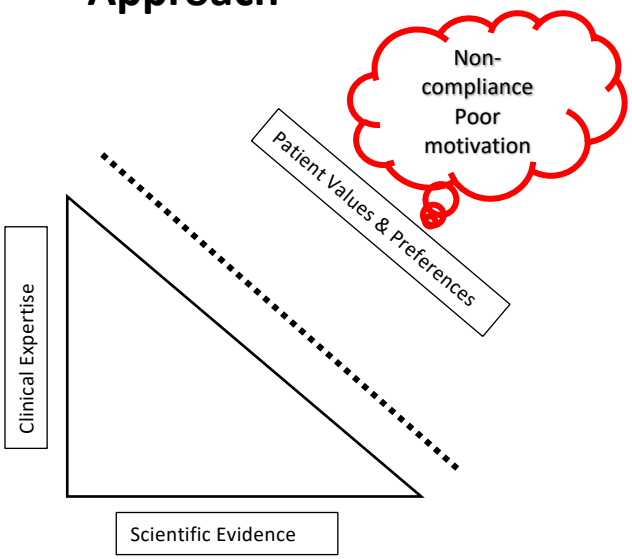
# Why isn't evidence-based practice improving health care for minorities in the United States?

Achieving health equity by improving the health care of all racial/ethnic groups is one of the key goals of Healthy People 2020. The implementation of evidence based practice (EBP) has been a major recommendation to achieve health equity in hopes of eliminating the subjectivity of clinical decision making. However, health disparities among racial/ethnic minorities are persistent in spite of the adoption of standardized care based on evidence. The EBP with racial and ethnic minorities is often seen as a possible cause of health and health care disparities. Three potential issues of using EBP to reduce health disparities have been identified: (1) a lack of data for EBP with ethnic/racial minority populations; (2) limited research on the generalizability of the evidence based on a European-American middle-class; and (3) sociocultural considerations in the context of EBP. Using EBP to reduce disparities in health care and health outcomes requires that nurse professionals should know how to use relevant evidence in a particular situation as well as to generate knowledge and theory which is relevant to racial/ethnic minorities. In addition, EBP implementation should be contextualized within the sociocultural environments in which patients are treated rather than solely focusing on the health problems.

Lee, H., Fitzpatrick, J. J., & Baik, S. Y. (2013). Why isn't evidence based practice improving health care for minorities in the United States?. Applied nursing research : ANR, 26(4), 263–268. https://doi.org/10.1016/j.apnr.2013.05.004

# One other Issue– Evidence-Based Practice and Aphasia – How Are We Doing?

**Commonly Utilized "Disconnected" Approach**

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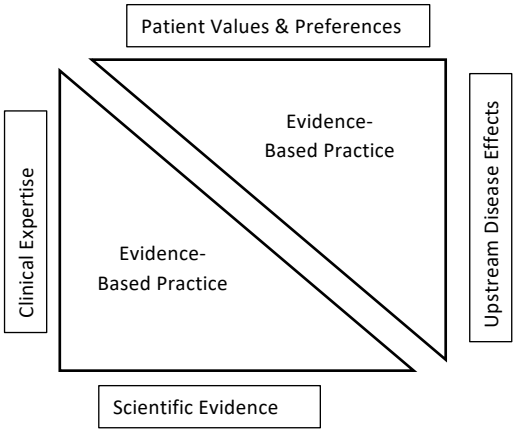



Ellis, Peach, Briley (2021)

# Cultural Competence +…….
# = "Disparities/Equity Competence"

- Cultural competence is the ability to understand, communicate with and effectively interact with people across cultures. Cultural competence encompasses. being aware of one's own world view. developing positive attitudes towards cultural differences. gaining knowledge of different cultural practices and world views.
  - Social Determinants of Health
  - Understanding upstream and downstream effects and recovery patterns
  - Understanding how families, social networks and other support impact outcomes (positively and negatively)
  - Understanding how sociodemographic characteristics of PWA, particularly age, impact outcomes and quality of life

# Quality of Care in Aphasia

“The good physician treats the disease; the great physician treats the patient who has the disease.”

*— Sir William Osler, FRS, FRCP*

“The good SLP treats the aphasia; the great SLP treats the person with aphasia.”

# Measuring Quality

- **Structural Measures -** give consumers a sense of a health care provider's capacity, systems, and processes to provide high-quality care.
    - Whether the health care organization uses electronic medical records or medication order entry systems.
    - The ratio of providers to patients.
- **Process measures** indicate what a provider does to maintain or improve health, either for healthy people or for those diagnosed with a health care condition. These measures typically reflect **generally accepted recommendations for clinical practice** and can inform consumers about **medical care they may expect to receive for a given condition or disease**.
    - The percentage of people receiving preventive services.
    - The percentage of people with diabetes who had their blood sugar tested and controlled.
- **Outcome measures** reflect the impact of the health care service or intervention on the health status of patients.
    - The percentage of patients who died as a result of surgery (surgical mortality rates).
    - The rate of surgical complications or hospital-acquired infections.

https://www.ahrq.gov/talkingquality/measures/types.html

# Measuring Quality in SLP

**Potential Measures**

- **Structural Measures**
  - ??? Availability of Imaging and tPA for early management
  - ??? Availability of SLPs.
  - ??? Ratio of SLP to PWA.
- **Process measures**
  - ??? % of PWA receiving inpatient SLP.
  - ??? % of PWA referred to OP in timely fashion.
  - ??? % of PWA receiving evidence-based treatments for aphasia.
- **Outcome measures**
  - ??? % of PWA who return to "No aphasia".
  - ??? % of PWA who improve to lesser form.

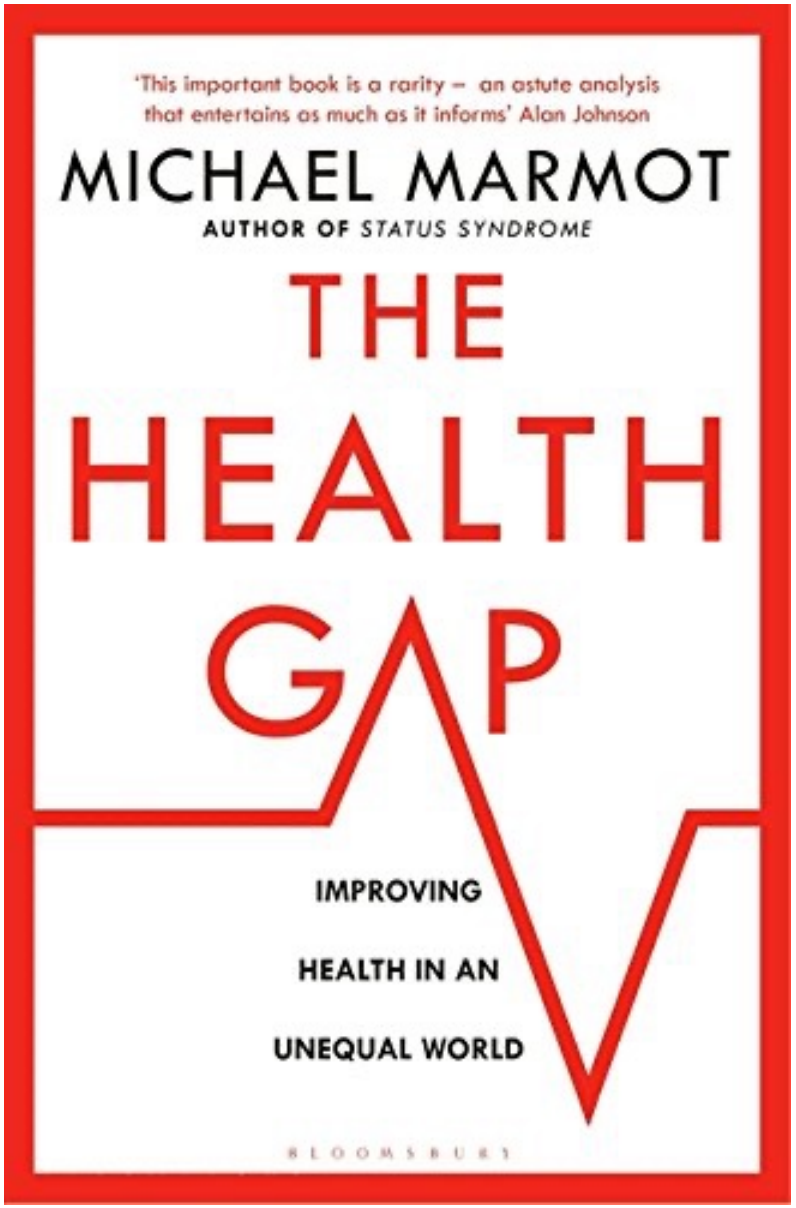
**What is Not Measured**

- **Structural Measures**
  - Availability of experienced aphasiologists
  - Ratio of aphasiologists to PWA
- **Process measures**
  - % of PWA receiving evidence-based treatments for aphasia
  - % of PWA receiving high intensity care
  - % of PWA receiving disparities competent care vs culturally competent care
- **Outcome measures**
  - **Same**
- **Other**
  - Patient beliefs/attitudes about SLP services
  - SLP beliefs/attitudes about aphasia care
  - Receipt of care from race/ethnicity concordant provider

https://www.ahrq.gov/talkingquality/measures/types.html

# Conclusions

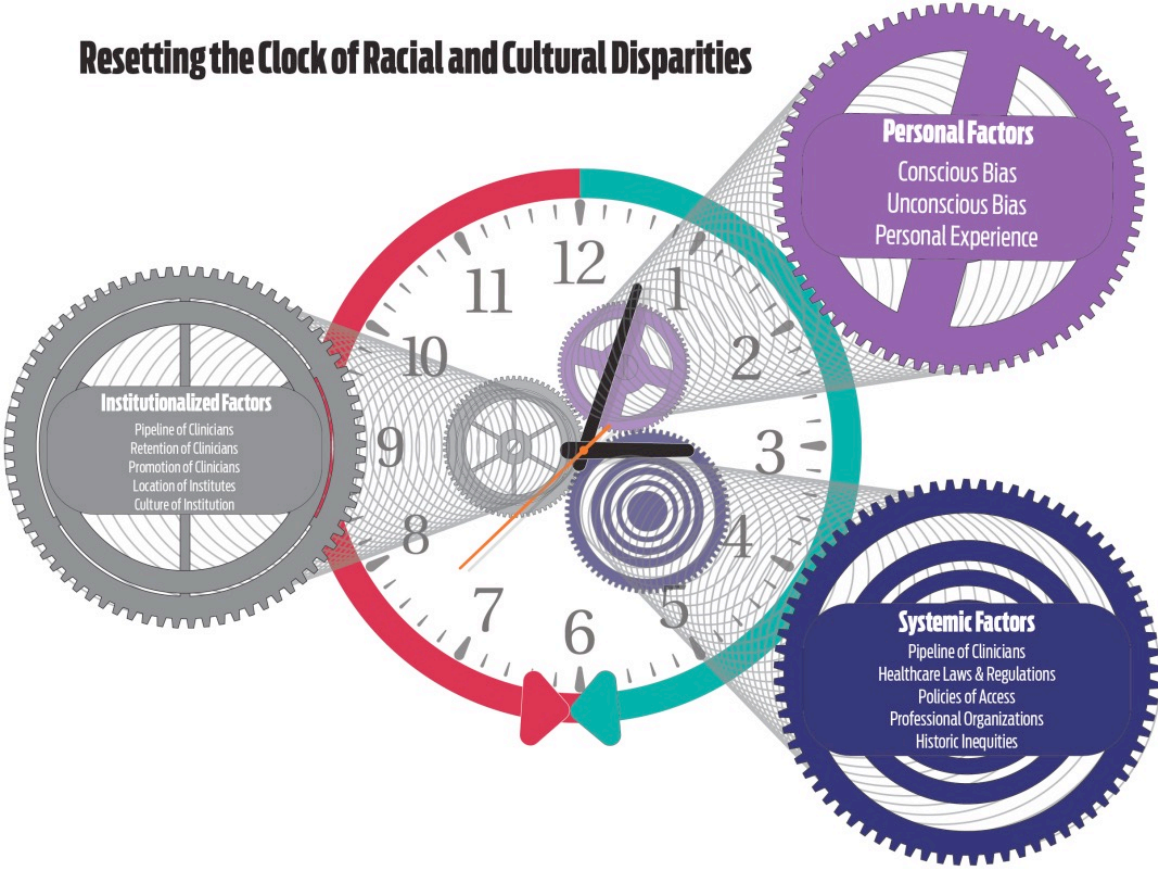
- The study of disparities in aphasia is complex and difficult
- Solutions designed to reduce disparities in aphasia may not be straight forward or build upon the current knowledge base of SLP/A
- Future research must move beyond traditional approaches to examining disparities and utilize explanatory models from other fields
- Future research related to health disparities and health equity must be translated to treatment approaches to reduce the disparity gap and improve health equity for all




- The central issue is that good conditions of daily life, the things that really count, are unequally distributed, much more so than is good for anything, whether for our children's future, for a just society, for the economy and, crucially for health. The result of unequal distribution if lie chances is that health is unequally distributed…… Being at the wrong end of inequality is disempowering, it deprives people of control over their lives.
  - pp. 6-7

The green arrow represents the evolution of societal thought. It advances the clock towards the future as mores and norms evolve (clockwise rotation). The red arrow represents resistance to change. This is the force opposing modification created by the inertia of accepted or typical convention or societal order. This slows or retards the advancement toward a new normal (counter-clockwise rotation). The gears inside of the clock are the components that make the clock function. They are factors that contribute to worsening or amelioration of the disparities.

- Sholas, 2020



# Final Thought

On studying social causes of ill-health……..Research is immensely rewarding, but shouldn't we and that includes me, be trying to do something about it.

- The Health Gap, p. 17

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# Thank you for your attention


Any
Questions ?