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Atrial Fibrillation Management in Hispanic Adults
Tania Borja-Rodriguez PhD, RN, FNP-BC, AACC

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Background

- AF mentioned on 183,321 death certificates and found as the underlying cause of death in 26,535 Americans (CDC, 2022).
- > 454,000 hospitalizations with AF as the primary diagnosis (Benjamin et al., 2019).
- AF causes ~1 in 7 strokes and contributes to ~158,000 deaths each year (CDC, 2022).
- Ethnic and race findings indicate an increased AF diagnosis in Whites compared to racial and ethnic minorities (Tamirisa et al., 2021; Wyse et al., 2002).
- Research is warranted to facilitate adoption of and maintenance of AF screening programs, prevention and management in minority adults living in the US specifically in South Bay area of Northern California.



The Health Equity Framework

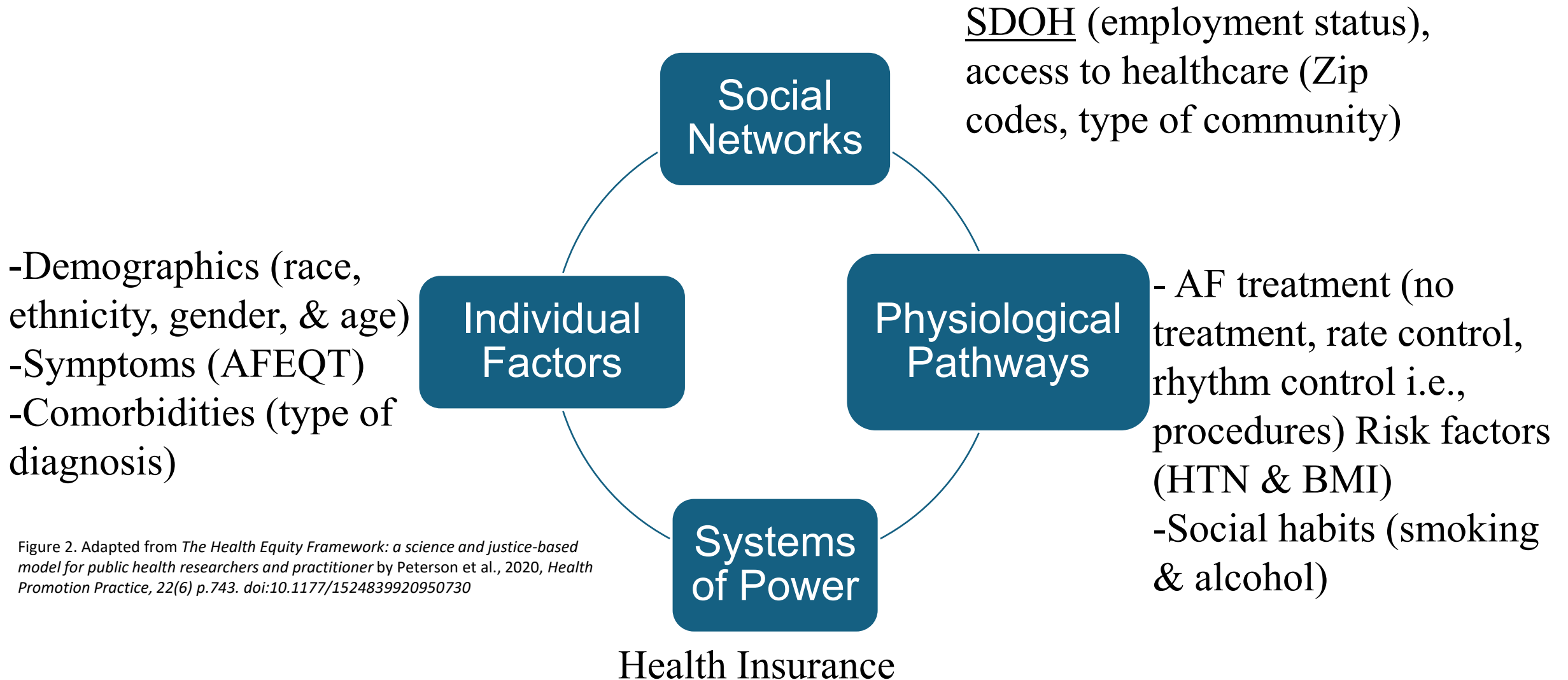


Figure 2. Adapted from *The Health Equity Framework: a science and justice-based model for public health researchers and practitioner* by Peterson et al., 2020, *Health Promotion Practice*, 22(6) p.743. doi:10.1177/1524839920950730

Literature Review

AF Hispanics Race Vulnerability

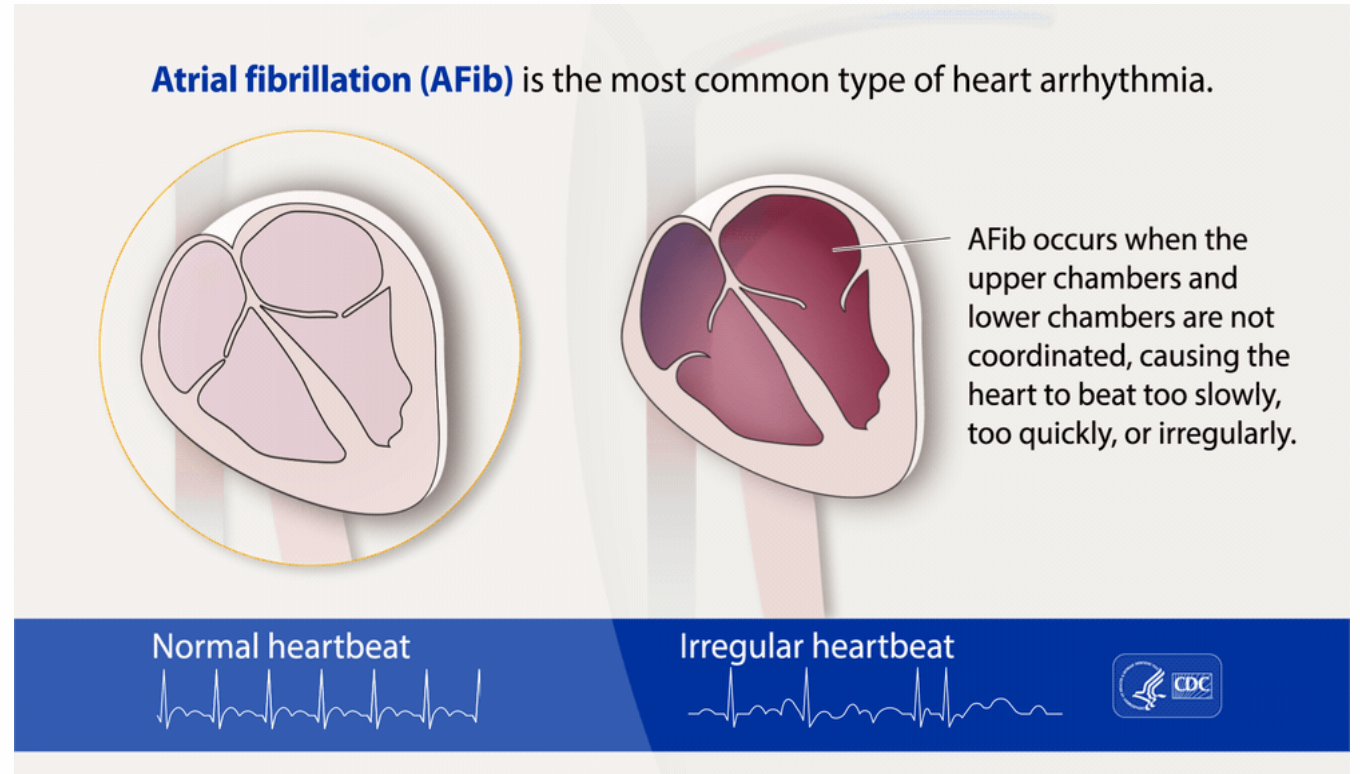


Figure: [National Center for Chronic Disease Prevention and Health Promotion](#) , [Division for Heart Disease and Stroke Prevention](#) (2022)

Purpose and Aims

Purpose: to explore the SDOH, select sociodemographic and symptom burden in Hispanic/Latino adults compared to non-Hispanics who obtain treatment

Aim 1: Describe sociodemographic, clinical characteristics, SDOH and AF management

Aim 2: Examine associations among sociodemographic, clinical characteristics, SDOH and AF management

Aim 3: Analyze the type of treatment received among Hispanics and non-Hispanics

Methods

- Design
 - Cross-sectional
- Data Source
 - EHR
- Data Collection
 - Retrospective June 2020 – June 2022
- Human Subjects
- Study Variables



Methods

AIM 1 Frequencies, percentages

AIM 2 Bivariate analysis

AIM 3 Logistic regression



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| Race | n | % |
|-------------------------|-----|------|
| White | 441 | 58.8 |
| Black, African American | 7 | 0.9 |
| Asian | 40 | 5.3 |
| American Indian | 2 | 0.3 |
| Other | 260 | 34.7 |

| Ethnicity | n | % |
|--------------|-----|------|
| Hispanic | 289 | 38.8 |
| Not Hispanic | 455 | 61.2 |

| Race-Ethnicity combined | n | % |
|---------------------------|-----|------|
| White, unknown ethnicity | 5 | 0.7 |
| White, Hispanic | 32 | 4.3 |
| White, non-Hispanic | 404 | 53.9 |
| Black, non-Hispanic | 7 | 0.9 |
| Asian, Hispanic | 5 | 0.7 |
| Asian, non-Hispanic | 35 | 4.7 |
| American Indian, Hispanic | 2 | 0.3 |
| Other, unknown ethnicity | 1 | 0.1 |
| Other, Hispanic | 250 | 33.3 |
| Other, non-Hispanic | 9 | 1.2 |

| Race-Ethnicity combined | n | % |
|---|-----|------|
| White, non-Hispanic | 404 | 53.9 |
| Black, non-Hispanic | 7 | 0.9 |
| Asian, non-Hispanic | 35 | 4.7 |
| Other, non-Hispanic | 9 | 1.2 |
| Hispanic (White, Asian, American Indian, Other) | 289 | 38.5 |
| Other, unknown ethnicity | 1 | 0.1 |
| White, unknown ethnicity | 0.7 | 0.7 |

Table 1

Sociodemographic and Clinical Characteristics, Social Determinants of Health, and Symptom Burden of Study Population Overall and by Ethnicity (N = 750)

| Characteristic | Overall | | Hispanic | | Non-Hispanic | | χ^2 | p |
|---|---------|------|----------|-------|--------------|-------|----------|--------------------|
| | n | % | n | % | n | % | | |
| Gender | | | | | | | 451.90 | <.001 ^f |
| Male | 370 | 49.3 | 0 | 0.0 | 365 | 100.0 | | |
| Female | 380 | 50.7 | 289 | 76.3 | 90 | 23.7 | | |
| Race | | | | | | | 649.63 | <.001 |
| White | 441 | 58.8 | 32 | 7.3 | 404 | 92.7 | | |
| Black, African American | 7 | 0.9 | 0 | 0.0 | 7 | 100.0 | | |
| Asian | 40 | 5.3 | 5 | 12.5 | 35 | 87.5 | | |
| American Indian | 2 | 0.3 | 2 | 100.0 | 0 | 0.0 | | |
| Other race | 260 | 34.7 | 250 | 96.5 | 9 | 3.5 | | |
| Ethnicity ^a | | | | | | | -- | -- |
| Hispanic, Latino (White, Asian, American Indian Other) | 289 | 38.8 | -- | -- | -- | -- | | |
| Non-Hispanic, non-Latino (White, Black, Asian, Other) | 455 | 61.2 | -- | -- | -- | -- | | |
| Insurance | | | | | | | 58.05 | <.001 |
| Medicare | 450 | 60.0 | 130 | 29.2 | 315 | 70.8 | | |
| MediCal | 27 | 3.6 | 23 | 85.2 | 4 | 14.8 | | |
| Private | 260 | 34.7 | 127 | 49.0 | 132 | 51.0 | | |
| Other insurance ^b | 13 | 1.7 | 9 | 69.2 | 4 | 30.8 | | |



Chi Square

| Characteristic | Yes | | No | | χ^2 | p |
|------------------------------------|----------|-----------|----------|-----------|----------|---------------------|
| | n | % | n | % | | |
| Prior AF Surgical Ablation | | | | | 1.08 | .298 ^e |
| Yes | 1 | 50.0 | 1 | 50.0 | | |
| No | 49 | 6.6 | 699 | 93.4 | | |
| Cardioversion | | | | | 18.44 | < .001 ^e |
| Yes | 6 | 35.3 | 11 | 64.7 | | |
| No | 44 | 6.0 | 689 | 94.0 | | |
| AF Related Symptoms | | | | | 35.89 | < .001 ^e |
| Yes | 26 | 18.3 | 116 | 81.7 | | |
| No | 24 | 3.9 | 584 | 96.1 | | |
| Activity Limitation | | | | | 67.48 | < .001 ^e |
| Yes | 22 | 30.1 | 51 | 69.9 | | |
| No | 28 | 4.1 | 649 | 95.9 | | |
| Treatment Concerns | | | | | 244.76 | < .001 ^e |
| Yes | 25 | 73.5 | 9 | 26.5 | | |
| No | 25 | 3.5 | 691 | 96.5 | | |
| AFEQT Patient Questionnaire | | | | | 362.86 | < .001 ^e |
| Yes | 28 | 93.3 | 2 | 6.7 | | |
| No | 22 | 3.1 | 698 | 96.9 | | |
| | M | SD | M | SD | t | p |
| Age, years | 69.02 | 9.04 | 81.64 | 11.45 | 6.12 | < .001 ^e |
| Travel distance to hospital, miles | 18.53 | 24.43 | 13.26 | 29.35 | -1.23 | .220 |
| Body mass index, kg/m ² | 31.31 | 7.71 | 28.56 | 7.75 | -2.12 | .035 |

Note. ^aOther insurance = Uninsured, self-pay, workers compensation, international insurance. ^bUnemployed = Retired, disabled, student, other not seeking work. ^cEmployed = Full-time, part-time, self-employed. ^dResidence type based on the 2020 definition of the US Department of Agriculture (<https://www.ers.usda.gov/data-products/rural-urban-commuting-area-codes/>). ^eICD-10 Codes: Infectious, parasitic diseases (A00-B99), Neoplasms (C00-D49), Blood, blood-forming organ, immune diseases (D50-D49), Endocrine, nutritional, metabolic diseases (E00-E89), Mental, behavioral, neurodevelopmental diseases (F01-F99), Nervous system diseases (G00-G99), Eye diseases, adnexa (H00-H59), Ear, mastoid process diseases (H60-H95), Circulatory system diseases (I00-I99), Respiratory system diseases (J00-J99), Digestive system diseases (K00-K95), Skin, subcutaneous tissue diseases (L00-L99), Musculoskeletal, connective tissue diseases (M00-M99), Genitourinary system diseases (N00-N99), Congenital malformations, deformations, chromosomal abnormalities (Q00-Q99), Symptoms, signs, abnormal clinical/lab findings (R00-R99), Injury, poisoning, other consequences of external causes (S00-T88), Special purpose codes (i.e., Covid-19, U00-U85), Factors influencing health status, contact with health services (Z00-Z99). p-value is Fisher's Exact tests, unless otherwise specified ^fYate's Continuity Correction Sig. (2-sided). ^gMonte Carlo Sig. (2-sided). ^hUnequal sample sizes and variances; t-test performed with a random sample of largest group, equal to smallest group (N = 100).

| Characteristic | Overall | | Hispanic | | Non-Hispanic | | χ^2 | p |
|----------------------------------|---------|------|----------|------|--------------|------|----------|-------------------|
| | n | % | n | % | n | % | | |
| AF Classification | | | | | | | 3.57 | .471 |
| Chronic unspecified AF | 75 | 10.0 | 27 | 36.0 | 48 | 64.0 | | |
| Long-standing persistent AF | 9 | 1.2 | 1 | 11.1 | 8 | 88.9 | | |
| Other persistent AF | 71 | 9.5 | 30 | 42.9 | 40 | 57.1 | | |
| Permanent AF | 284 | 37.9 | 111 | 39.5 | 170 | 60.5 | | |
| AF unspecified | 311 | 41.5 | 120 | 38.8 | 189 | 61.2 | | |
| AF Related Symptoms | | | | | | | 10.31 | .001 ^f |
| Yes | 142 | 18.9 | 72 | 51.1 | 69 | 48.9 | | |
| No | 608 | 81.1 | 217 | 36.0 | 386 | 64.0 | | |
| Activity Limitation | | | | | | | 5.35 | .021 ^f |
| Yes | 73 | 9.7 | 38 | 52.1 | 35 | 47.9 | | |
| No | 677 | 90.3 | 251 | 37.4 | 420 | 62.6 | | |
| Treatment Concerns | | | | | | | 1.41 | .236 ^f |
| Yes | 34 | 4.5 | 17 | 50.0 | 17 | 50.0 | | |
| No | 716 | 95.5 | 272 | 38.3 | 438 | 61.7 | | |
| AFEQT Patient Questionnaire | | | | | | | 0.11 | .746 ^f |
| Yes | 30 | 4.0 | 13 | 43.3 | 17 | 56.7 | | |
| No | 720 | 96.0 | 276 | 38.7 | 438 | 61.3 | | |
| In-hospital Antiarrhythmic Drugs | | | | | | | 2.41 | .121 ^f |
| Yes | 146 | 19.5 | 65 | 44.8 | 80 | 55.2 | | |
| No | 604 | 80.5 | 224 | 37.4 | 375 | 62.6 | | |



Logistic Regression

Table 7

Summary of Logistic Regression Analysis Predicting Patient Prior Catheter Ablation ($N = 750$)

| Variable | <i>B</i> | <i>SE</i> | <i>OR</i> | 99% CI | | <i>Wald statistic</i> | <i>P</i> |
|-----------------------------|----------|-----------|-----------|--------|--------|-----------------------|------------------|
| | | | | Lower | Upper | | |
| Ethnicity: Hispanic, Latino | 1.29 | 0.47 | 3.62 | 1.44 | 9.13 | 7.45 | .006 |
| Hypertension diagnosis: Yes | -0.72 | 0.44 | 0.49 | 0.20 | 1.16 | 2.61 | .106 |
| AF related symptoms: Yes | 0.27 | 0.50 | 1.31 | 0.50 | 3.48 | 0.30 | .583 |
| Age | -0.06 | 0.02 | 0.94 | 0.92 | 0.97 | 14.64 | < .001 |
| Treatment concerns: Yes | 4.22 | 0.59 | 68.07 | 21.46 | 215.94 | 51.34 | < .001 |

$\chi^2(5) = 133.545, p < .001$
 $-2 \text{ Log likelihood} = 233.02. \text{ Nagelkerke } R^2 = 42.2\%$

Notes. CI = Confidence interval for odds ratio (OR). *Reference categories:* Ethnicity, Non-Hispanic/Latino; Hypertension diagnosis, No; AF related symptoms, No; Treatment concerns, No.

Discussion

- **Nursing implications:**
 - Equitable care
- **Clinical Practice:**
 - Early screening
- **Education and Policy:**
 - include SDOH
- **Nursing Research:** covariates ethnicity, educations, income to elucidate health inequities for those who must travel longer distance and adjust for necessity



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