How to Lead a Heart Healthy Life

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Overview

- What is Heart disease?
- What are Heart Disease Risk factors?
- Heart disease and Cancer
- Healthy Eating
- Fitness
- Sleep
- Blood Pressure

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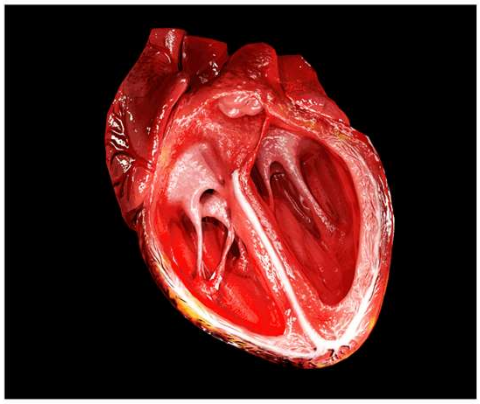
The Heart



- The heart is a muscle that pumps blood to all parts of the body via blood vessels
- Blood pumped by the heart provides the body with oxygen and nutrients needed to function
- It is about the size of a clenched fist and lies in the middle of the chest slightly to the left of the breastbone

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Cardiovascular Disease (CVD)

- Disease/dysfunction of the heart and blood vessels
- Includes a number of conditions many of which are mediated by atherosclerosis (plaque build-up in the vessels):
  - Heart attacks
  - Stroke
  - Heart Failure
  - Valvular Disease
  - Arrhythmias
- Risk Factors: Hypertension, Hyperlipidemia, Diabetes, Obesity

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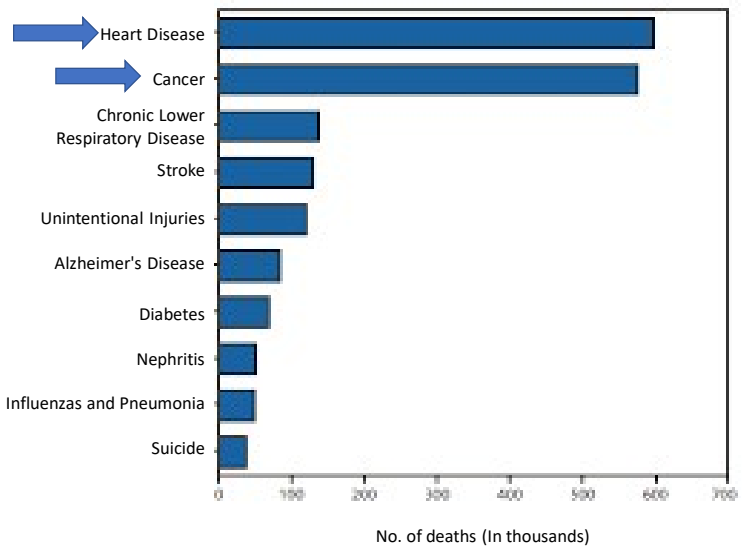
CVD prevalence in the United States



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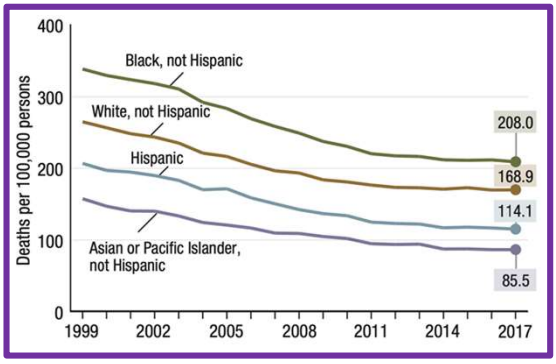
Age-adjusted death rates for heart disease, by race and Hispanic origin: 1999-2017



CDC - NCHS - National Center for Health Statistics. https://www.cdc.gov/nchs/. Accessed April 7, 2020.

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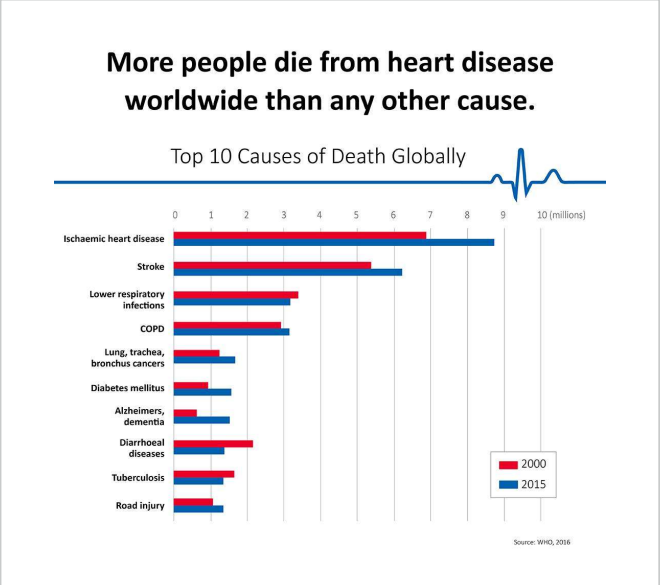
Heart Disease is a Global Issue



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Heart Health and Cancer

- Cardio-Oncology:
  - A field within cardiology that focuses on the detection, monitoring and treatment of heart disease occurring as a consequence of chemotherapy and radiotherapy
- Cardiotoxicity:
  - Heart damage that arises from certain cancer treatments
  - Cardiac ultrasound is often used to detect cardiotoxicity

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Heart Health and Cancer

- Risk factors for cardiotoxicity:
  - Hypertension
  - Diabetes
  - Obesity
  - High cholesterol

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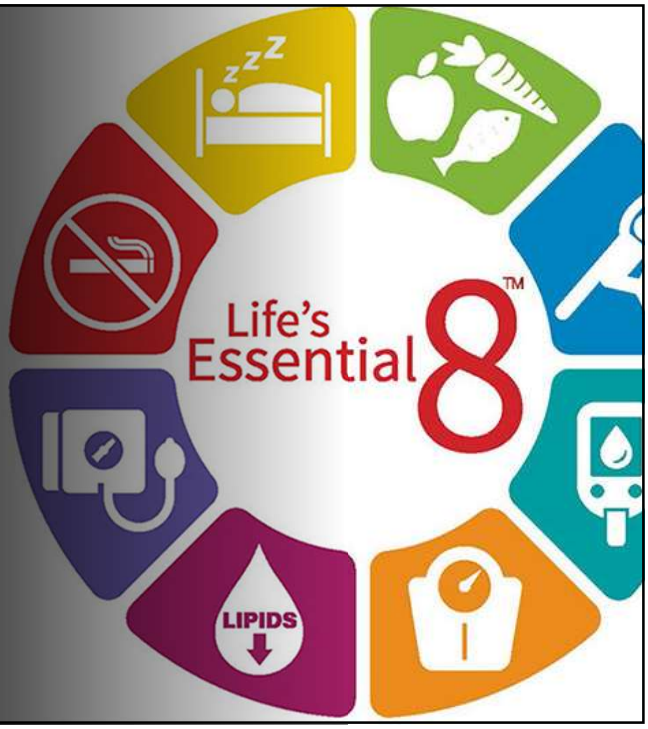
Improving Heart Health: American Heart Association's (AHA) Life's Essential 8



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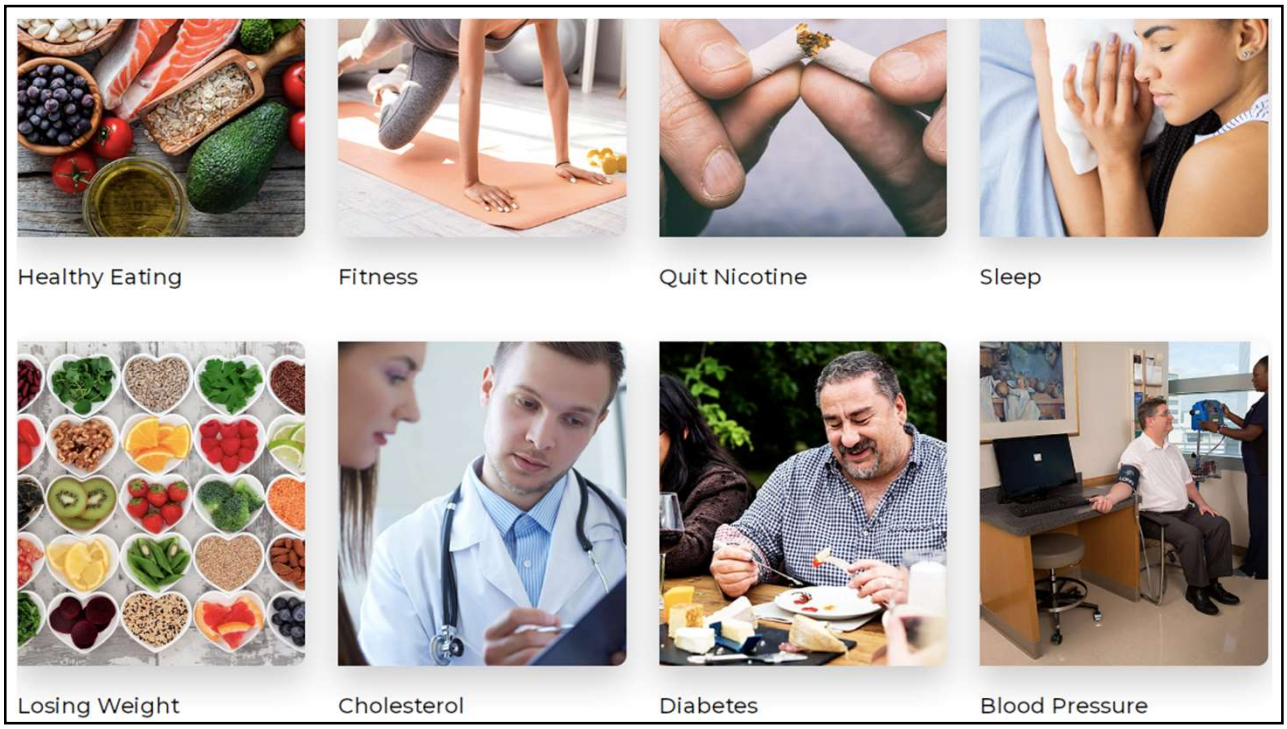

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Health & Stress: "Stress kills"

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Heart Healthy Eating: General Tips

- Wide variety of fruits and vegetables
- Whole grains
- Healthy proteins: legumes, nuts, fish, seafood, lean poultry that is unprocessed
- Liquid non-tropical vegetable oils
- Minimally processed foods minimal added sugar
- Little or no salt
- Limited or no alcohol intake

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Healthy Eating

AHA Sugar Recommendation

To keep all of this in perspective, it's helpful to remember the American Heart Association's recommendations for sugar intake.

- **Men** should consume no more than 9 teaspoons (36 grams or 150 calories) of added sugar per day.
- **For women**, the number is lower: 6 teaspoons (25 grams or 100 calories) per day. Consider that one 12-ounce can of soda contains 8 teaspoons (32 grams) of added sugar! There goes your whole day's allotment in one slurp.

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Healthy Eating: Salt

The top 10 food sources of sodium in food and our diet are:

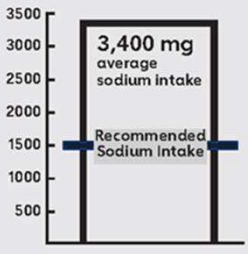
- Breads/Rolls
- Pizza
- Sandwiches
- Cold cuts, luncheon and cured meats
- Soups
- Burritos/Tacos
- Savory snacks (chips, crackers, pretzels, popcorn, snack mixes)
- Poultry
- Cheese
- Egg Dishes/Omelets

It may come as a surprise that some of the foods are on this list because they may not taste salty.

The average amount of sodium in a few foods include:

- 1 slice cheese pizza = 600 milligrams (mg) sodium
- 1 serving fast food chicken tenders = 800 milligrams (mg) sodium
- 1 slice cooked bacon = 400 milligrams (mg) sodium

On average, American adults eat more than 3,400 milligrams (mg) of sodium daily - **more than double the American Heart Association's recommended limit of 1,500 mg for most adults.**



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DASH Diet

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BP Control Via Lifestyle Modifications

- **Maintain a healthy weight.** Strive for a body mass index (BMI) between 18.5 and 24.9.
- **Eat healthier.** Eat lots of fruit, veggies and low-fat dairy, and less saturated and total fat
  - DASH Diet
- **Reduce sodium.** Ideally, stay under 1,500 mg a day, but aim for at least a 1,000 mg per day reduction.
- **Get active**. Aim for at least 90 to 150 minutes of aerobic and/or dynamic resistance exercise per week and/or three sessions of isometric resistance exercises per week.
- **Limit alcohol.** Drink no more than 1-2 drinks a day. (One for most women, two for most men.)

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Physical Activity

Table 1. Key Guidelines for Adults

Adults should move more and sit less throughout the day. Some physical activity is better than none. Adults who sit less and do any amount of moderate-to-vigorous physical activity gain some health benefits.
For substantial health benefits, adults should do at least 150 min (2 h and 30 min) to 300 min (5 h) a week of moderate-intensity, or 75 min (1 h and 15 min) to 150 min (2 h and 30 min) a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. Preferably, aerobic activity should be spread throughout the week.
Additional health benefits are gained by engaging in physical activity beyond the equivalent of 300 min (5 h) of moderate-intensity physical activity a week.
Adults should also do muscle-strengthening activities of moderate or greater intensity, and that involve all major muscle groups on ≥2 days a week, as these activities provide additional health benefits.

https://www.ahajournals.org/doi/10.1161/CIRCOUTCOMES.118.005263#T1

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Activity

- Moderate exercise intensity is defined as exercise that that leads to 50-70% of your maximum heart rate
- Vigorous exercise intensity 70%-85% of your maximum heart rate

Moderate-Intensity Aerobic Activities >150 min/week	Vigorous-intensity Aerobic Activities > 75 min/week
Brisk walking (>3 miles/h)	Uphill walking or race walking
Bicycling (<10 miles/h)	Bicycling (>10miles/h)
Water aerobics	Running or jogging
Tennis (doubles	Tennis (singles)
Ballroom dancing	Aerobic dancing
General gardening	Heavy gardening (digging/hoeing)

From the Centers for Disease Control and Prevention guidelines.

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Sleep

- According to the AHA, most people need 6-8 hours of sleep daily
- Sleep deprivation can slow down metabolism and also decreases heart healthy behaviors such as physical activity
- Adequate sleep has a positive effect on heart health, stress hormones, immune system and mental status, also boosts metabolism

https://www.heart.org/en/healthy-living/go-red-get-fit/sleep-women-and-heart-disease

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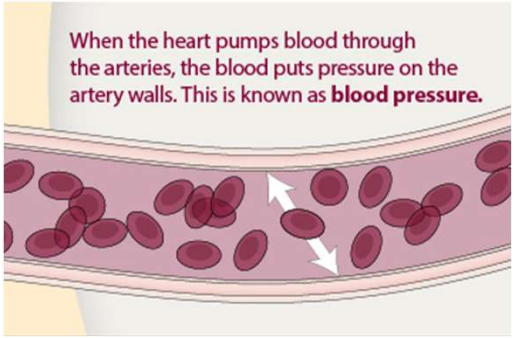
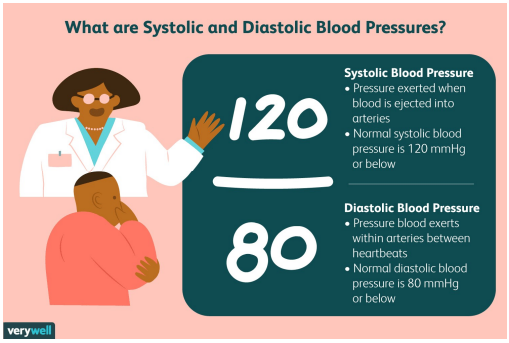
Blood Pressure



https://www.cdc.gov/bloodpressure/about.htm



https://www.verywellhealth.com/systolic-and-diastolic-blood-pressure-1746075

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Blood Pressure Categories

American Heart Association | American Stroke Association

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
HYPERTENSIVE CRISIS (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

To diagnose a person with hypertension, it is important to use an average based on ≥2 readings obtained on ≥2 occasions to estimate the individual's level of BP

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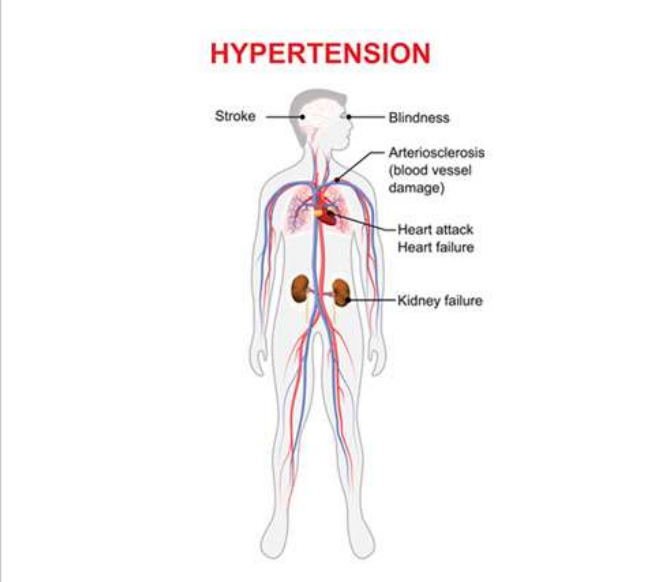
Consequences of High BP



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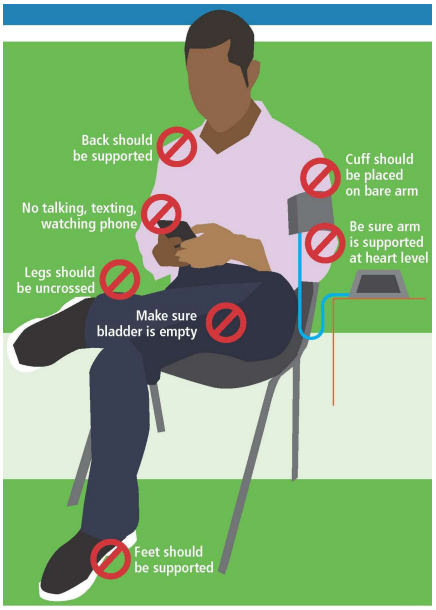

BP Measurement

- Patient should be seated comfortably with back supported, legs uncrossed and upper arm bared
- Arm should be supported at heart level
- Ensure cuff is sized appropriately
- AHA recommends at least 2 BP measurements, with one-minute interval between them

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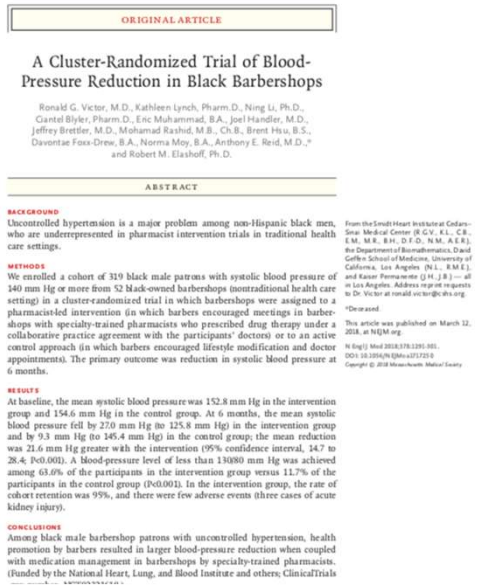
Community Engaged Research: Barbershop Trial

- Barber led health promotion
- Pharmacist-directed intervention
- Primary outcome: Systolic blood pressure
- Methods: 2 full-time doctoral-level pharmacists received specialized certification as HTN clinicians
- PharmDs regularly reviewed participant's treatment w MDs
- Pharmacists in collaboration w/ shop owners, met regularly with participants in barbershops & prescribed anti-HTN drug meds, measured BP, encouraged TLC and monitored plasma electrolyte levels



ORIGINAL ARTICLE

A Cluster-Randomized Trial of Blood-Pressure Reduction in Black Barbershops

Ronald G. Victor, M.D., Kathleen Lynch, Pharm.D., Ning Li, Ph.D., Ciantel Blyler, Pharm.D., Eric Muhammad, B.A., Joel Handler, M.D., Jeffrey Brettler, M.D., Mohamad Rashid, M.B., Ch.B., Brent Hsu, B.S., Davontae Foxx-Drew, B.A., Norma Moy, B.A., Anthony E. Reid, M.D.,* and Robert M. Elashoff, Ph.D.

ABSTRACT

BACKGROUND
Uncontrolled hypertension is a major problem among non-Hispanic black men, who are underrepresented in pharmacist intervention trials in traditional health care settings.

METHODS
We enrolled a cohort of 319 black male patrons with systolic blood pressure of 140 mm Hg or more from 52 black-owned barbershops (nontraditional health care setting) in a cluster-randomized trial in which barbershops were assigned to a pharmacist-led intervention (in which barbers encouraged meetings in barbershops with specialty-trained pharmacists who prescribed drug therapy under a collaborative practice agreement with the participants' doctors) or to an active control approach (in which barbers encouraged lifestyle modification and doctor appointments). The primary outcome was reduction in systolic blood pressure at 6 months.

RESULTS
At baseline, the mean systolic blood pressure was 152.8 mm Hg in the intervention group and 154.6 mm Hg in the control group. At 6 months, the mean systolic blood pressure fell by 27.0 mm Hg (to 125.8 mm Hg) in the intervention group and by 9.3 mm Hg (to 145.4 mm Hg) in the control group; the mean reduction was 21.6 mm Hg greater with the intervention (95% confidence interval, 14.7 to 28.4; P<0.001). A blood-pressure level of less than 130/80 mm Hg was achieved among 63.0% of the participants in the intervention group versus 11.7% of the participants in the control group (P<0.001). In the intervention group, the rate of cohort retention was 95%, and there were few adverse events (three cases of acute kidney injury).

CONCLUSIONS
Among black male barbershop patrons with uncontrolled hypertension, health promotion by barbers resulted in larger blood-pressure reduction when coupled with medication management in barbershops by specialty-trained pharmacists. (Funded by the National Heart, Lung, and Blood Institute and others; ClinicalTrials

From the Smidt Heart Institute at Cedars-Sinai Medical Center (R.G.V., K.L., C.B., E.M., M.R., B.H., D.F.D., N.M., A.E.R.), the Department of Biomathematics, David Geffen School of Medicine, University of California, Los Angeles (N.L., R.M.E.), and Kaiser Permanente (J.H., J.B.) — all in Los Angeles. Address reprint requests to Dr. Victor at ronald.victor@cshs.org.

*Deceased.

This article was published on March 12, 2018, at NEJM.org.

N Engl J Med 2018;378:1291-301.
DOI: 10.1056/NEJMoa1717210

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Barbershop Trial Results

Table 2. Primary and Secondary Blood-Pressure Outcomes.*

Outcome	Intervention Group (N=132)	Control Group (N=171)	Intervention Effect	P Value†
Blood pressure				
Systolic blood pressure — mm Hg‡				
At baseline	152.8±10.3	154.6±12.0		
At 6 mo	125.8±11.0	145.4±15.2		
Change	−27.0±13.7	−9.3±16.0	−21.6 (−28.4 to −14.7)§	<0.001
Diastolic blood pressure — mm Hg				
At baseline	92.2±11.5	89.8±11.2		
At 6 mo	74.7±8.3	85.5±12.0		
Change	−17.5±11.0	−4.3±11.8	−14.9 (−19.6 to −10.3)§	<0.001
Hypertension control at 6 mo — no. (%)				
Blood pressure <140/90 mm Hg	118 (89.4)	55 (32.2)	3.4 (2.5 to 4.6)¶	<0.001
Blood pressure <135/85 mm Hg	109 (82.6)	32 (18.7)	5.5 (2.6 to 11.7)¶	<0.001
Blood pressure <130/80 mm Hg	84 (63.6)	20 (11.7)	5.7 (2.5 to 12.8)¶	<0.001

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The Faith Trial

- Key points:
- Health education (HE) Vs MINT (motivational interviewing)-TLC (Therapeutic Lifestyle Change)
- 32 churches in NYC enrolled, 373 parishioners
- MINT-TLC:
  - 11 90-min weekly group sessions (healthy lifestyle low-fat, low-sodium diet, exercise, wt loss, food journals) + Motivational Interviewing (problem-solving + maintaining lifestyle changes)
  - HE:
    - 11 educational sessions per week. 1 was about HTN, others about different topics
  - Primary Outcome: change in BP at 6 & 9 months

Circulation: Cardiovascular Quality and Outcomes

ORIGINAL ARTICLE

Cluster Randomized Clinical Trial of FAITH (Faith-Based Approaches in the Treatment of Hypertension) in Blacks

Main Trial Results

See Editorial by Sussman and Heisler

Antoinette M. Schoenthaler, EdD
Kristie J. Lancaster, PhD, RD
William Chaplin, PhD
Mark Butler, PhD
Jessica Forsyth, PhD
Gbenga Ogedegbe, MD, MPH, MS

BACKGROUND: Therapeutic lifestyle change (TLC) is a recommended treatment for patients with hypertension, but its effectiveness in community-based settings remains untested, particularly in black churches—an influential institution for health promotion in black communities.

METHODS AND RESULTS: The FAITH study (Faith-Based Approaches in the Treatment of Hypertension) evaluated the comparative effectiveness of a TLC intervention plus motivational interviewing (MINT) sessions versus health education (HE) alone, on blood pressure (BP) reduction among blacks with uncontrolled hypertension. Data were collected on 373 participants meeting eligibility criteria (self-identification as black, age ≥18 years, self-reported diagnosis of hypertension, and uncontrolled BP [BP ≥140/90 or ≥130/80 mm Hg with diabetes mellitus or chronic kidney disease) from 32 New York City churches. The MINT-TLC intervention plus motivational interviewing treatment comprised 11 weekly group sessions on TLC plus 3 MINT sessions delivered monthly by lay health advisors. The HE control group received 1 TLC session plus 10 sessions on health topics delivered by local experts. The outcomes were BP reduction at 6 months (primary) and BP control and BP reduction at 9 months (secondary). The sample mean age was 63 years; 76% women, with mean BP of 153/87 mm Hg. Using linear mixed-effects regression models, the MINT-TLC intervention plus motivational interviewing group had a significantly greater systolic BP reduction of 5.79 mm Hg compared with the HE group at 6 months (P=0.029). The treatment effect on systolic BP persisted at 9 months but had reduced significance (5.21 mm Hg; P=0.068). The between-group differences in diastolic BP reduction (0.41 mm Hg) and mean arterial pressure (2.24 mm Hg) at 6 months were not significant. Although the MINT-TLC intervention plus motivational interviewing group had greater BP control than the HE group at 9 months, the difference was not statistically significant (57.0% versus 48.8%; odds ratio, 1.43; 95% CI, 0.90–2.28).

CONCLUSIONS: A community-based lifestyle intervention delivered in churches led to significantly greater reduction in systolic BP in hypertensive blacks compared with HE alone.

CLINICAL TRIAL REGISTRATION: URL: https://www.clinicaltrials.gov. Unique identifier: NCT01065831.

Key Words: African Americans • blood pressure • faith-based organizations

https://www.ahajournals.org/journal/circoutcomes

Circ Cardiovasc Qual Outcomes. 2018;11:e004091. DOI: 10.1161/CIRCOUTCOMES.118.004691 October 2018 1

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Faith Trial Results

Table 3. Intent-to-Treat and Complete Case Mean SBP and DBP and MAP in the HE and MINT-TLC Groups

	Mean BP, mm Hg			Mean Difference From Baseline		Effect Size, mm Hg	
	Baseline	3 mo	6 mo	3 mo	6 mo	Baseline to 3 mo	Baseline to 6 mo
MAP (intent-to-treat)							
MINT-TLC	109.6 (104.2 to 114.9)	104.5 (96.4 to 112.7)	99.5 (88.6 to 110.4)	−5.0 (−7.8 to −2.3)	−10.1 (−15.6 to −4.5)	−1.1 (−2.8 to 0.5)	−2.2 (−5.6 to 1.1)
HE	107.8 (105.6 to 109.9)	103.8 (100.5 to 107.2)	99.9 (95.5 to 104.5)	−3.9 (−5.0 to −2.8)	−7.8 (−10.1 to −5.6)	…	…
MAP (complete case)*							
MINT-TLC	109.4 (104.3 to 114.5)	100.9 (94.5 to 107.4)	100.0 (92.9 to 107.2)	−8.5 (−9.9 to −7.1)	−9.4 (−11.4 to −7.4)	−1.3 (−4.5 to 1.8)	−2.1 (−5.1 to 1.0)
HE	107.6 (105.5 to 109.6)	100.4 (97.7 to 103.1)	100.2 (97.3 to 103.1)	−7.2 (−7.8 to −6.6)	−7.3 (−8.2 to −6.5)	…	…
SBP (intent-to-treat)							
MINT-TLC	153.8 (147.5 to 160.0)	145.5 (134.9 to 156.1)	137.2 (122.3 to 152.2)	−8.3 (−12.6 to −3.9)	−16.5 (−25.2 to −7.8)	−2.9 (−5.5 to −0.3)	−5.8 (−11.0 to −0.6)
HE	151.0 (148.5 to 153.6)	145.6 (141.4 to 149.9)	140.3 (134.2 to 146.3)	−5.4 (−7.1 to −3.6)	−10.7 (−14.3 to −7.2)	…	…
SBP (complete case)*							
MINT-TLC	153.9 (147.7 to 160.2)	140.7 (133.1 to 148.4)	139.3 (128.5 to 150.1)	−13.2 (−14.6 to −11.8)	−14.6 (−19.1 to −10.1)	−3.1 (−8.3 to 2.2)	−5.6 (−11.0 to −0.2)
HE	151.2 (148.6 to 153.7)	141.0 (137.9 to 144.2)	142.1 (137.7 to 146.5)	−10.1 (−10.7 to −9.5)	−9.1 (−10.9 to −7.2)	…	…
DBP (intent-to-treat)							
MINT-TLC	87.3 (80.9 to 93.7)	84.0 (75.3 to 92.8)	80.7 (69.6 to 91.8)	−3.3 (−5.7 to −1.0)	−6.6 (−11.3 to −1.9)	−0.2 (−1.6 to 1.2)	−0.4 (−3.2 to 2.4)
HE	86.0 (83.4 to 88.7)	82.9 (79.3 to 86.5)	79.8 (75.3 to 84.3)	−3.1 (−4.1 to −2.2)	−6.2 (−8.1 to −4.3)	…	…

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GLOBAL MEDED NETWORK

Global Medical Education Network Inc.

https://www.globalmedednetwork.org

- Global Medical Education Network (GMEN) Inc. is a non-profit organization that seeks to address & study disparities in medical education and patient care delivery by leveraging technology and innovation to provide high quality virtual learning and hands-on skill development.
- Our mission is to **address global disparities in health outcomes** by **empowering** local clinicians and patients by providing equal access to innovative and high-quality medical education.
- Our vision is to **revolutionize** medical education globally to **create positive and *sustainable local* change** in medical care by **elevating the lived experiences** of the communities we serve.

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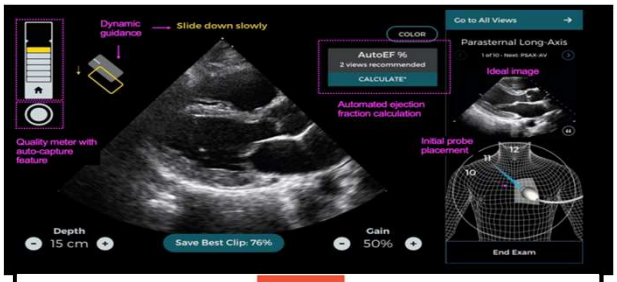
Snapshot of our Global Work



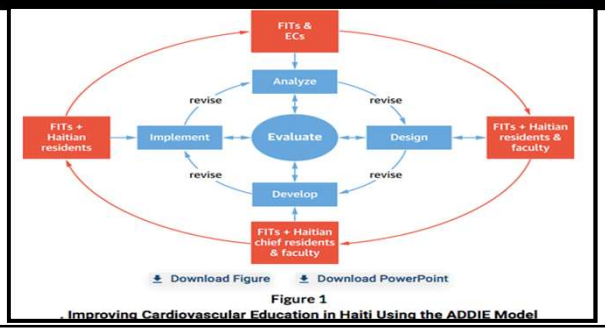


Figure 1

. Improving Cardiovascular Education in Haiti Using the ADDIE Model

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Thank You!

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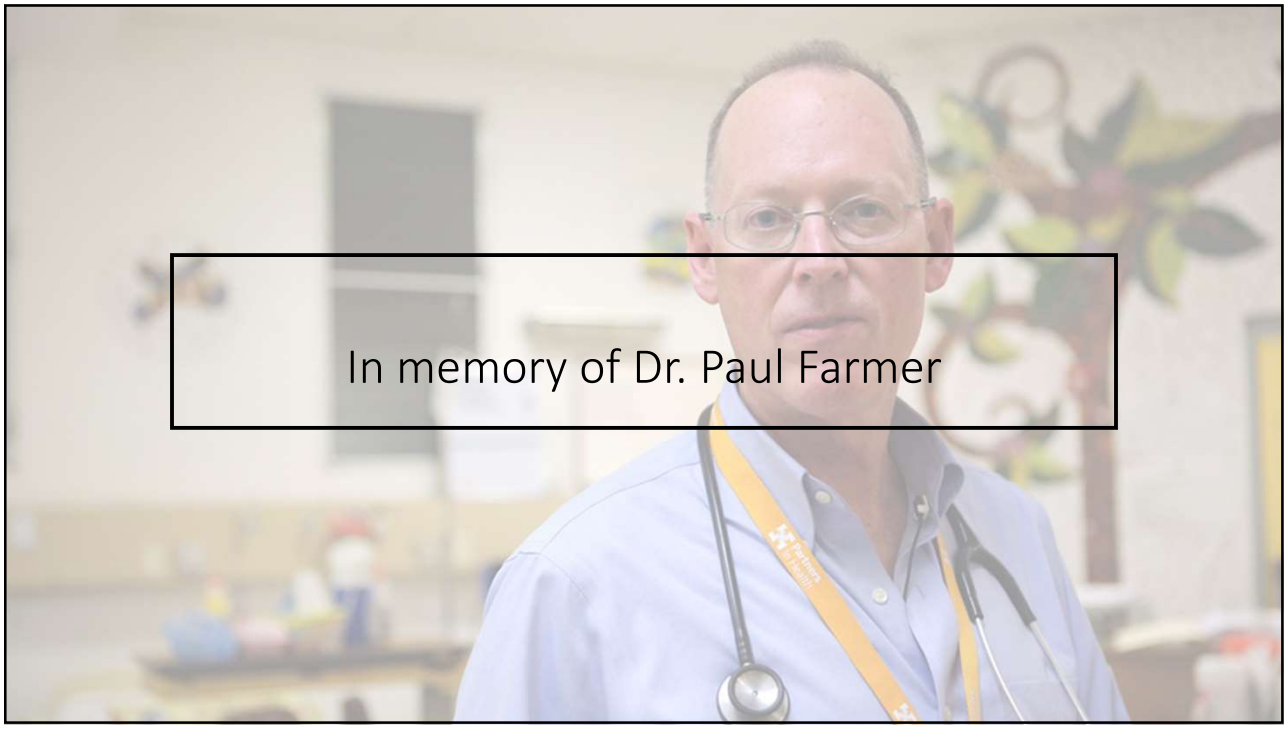

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