Step 1. Create visualization and tables for the following:

**Mean:** SBP, DBP

**Distribution (stacked bars):** BP categories (bpcat, bpcatmed), number of antihypertensive medications being taken among people taking antihypertensive medication defined by self-report and having at least one drug class in their medication inventory.

Proportion and number of US adults in millions:

JNC7 hypertension

ACC/AHA hypertension

Hypertension awareness\*

Taking antihypertensive medication

BP control

Resistant hypertension

* According to the JNC7 definition
* According to the ACC/AHA definition

For each of the statistics, we should require a sub-group option be selected. The options include:

* Overall population
* Among those with hypertension
* Among those aware they have hypertension
* Among those taking antihypertensive medication defined by self-report

Each of the statistics should be allowed to be calculated for the overall population in a single or multiple calendar periods pooled. Only adjacent calendar periods can be pooled and when pooling the calendar periods, the weight (newwt) should be divided by the number of periods being combined.

Each of the statistics should be allowed to be calculated by survey cycle AND any of the covariates on page 5 or 6 (e.g., users can select to show data for each of the 10 survey cycles, separately, and by another variable like sex).

All analyses should take into account the weighting of NHANES data and the use of strata and PSU.

Step 2. We will add in the option of age-adjustment.

NHANES in two year periods

1. Exclude those < 18 years of age.
2. Exclude participants who did not complete the interview and examination
3. Exclude participants without one SBP and one DBP measurement
4. Exclude participants without self-reported antihypertensive medication

NOTE: All analyses should include those with subpophtn=1.

Seqn - participant identifier

Newwt – weight for each survey year. The weights will need to be adjusted if years are pooled

Sdmvstra - strata

Sdmvpsu - psu

**Hypertension variables**

avgsbp - Mean SBP

avgdbp - Mean DBP

bpcat - BP categories according to the 2017 ACC/AHA BP guideline

1 – SBP < 120 and DBP < 80 mm Hg

2 – SBP of 120 to <130 and DBP < 80 mm Hg

3 – SBP of 130 to <140 and/or DBP 80 to < 90 mm Hg (and SBP<140 and DBP < 90)

4 – SBP of 140 to <160 and/or DBP 90 to <100 mm Hg (and SBP<100 and DBP<100)

5 – SBP ≥ 160 or DBP ≥ 100 mm Hg

bpcatmed - BP categories according to the 2017 ACC/AHA BP guideline

1 – SBP < 120 and DBP < 80 mm Hg

2 – SBP of 120 to <130 and DBP < 80 mm Hg

3 – SBP of 130 to <140 and/or DBP 80 to < 90 mm Hg (and SBP<140 and DBP < 90)

4 – SBP of 140 to <160 and/or DBP 90 to <100 mm Hg (and SBP<100 and DBP<100)

5 – SBP ≥ 160 or DBP ≥ 100 mm Hg

6 – taking antihypertensive medications

Jnc7htn - Hypertension according to JNC7

0 – no

1 – Yes

accahahtn - Hypertension according to the 2017 ACC/AHA BP Guideline

0 – no

1 – Yes

htn\_aware - Hypertension awareness

0 – no

1 – yes

Htmeds - Self-reported antihypertensive medication use

0 – no

1 – yes

Jnc7tx - Recommended antihypertensive medication by the JNC7

0 – no

1 – yes

Newgdltx - Recommended antihypertensive medication by the ACC/AHA BP guideline

0 – no

1 – yes

jnc7\_control - BP control by the JNC7

0 – no

1 – yes

accaha\_control - BP control by the 2017 ACC/AHA BP guideline

0 – no

1 – yes

num\_htn\_class - Number of antihypertensive medication classes

rht\_jnc7 - Resistant hypertension – JNC7 definition

0 – no

1 – yes

rht\_accaha - Resistant hypertension – 2017 ACC/AHA definition

0 – no

1 – yes

**Surveyyr**

1999-2000 = 1

2001-2002 = 2

2003-2004 = 3

2005-2006 = 4

2007-2008 = 5

2009-2010 = 6

2011-2012 = 7

2013-2014 = 8

2015-2016 = 9

2017-2020 = 10

**Demographics**

Ridageyr - Age, continuous, years

Agecat4 - Age, categories –

1 – 18 to 44

2 – 45 to 64

3 – 65 – to 74

4 – 75+

Riagendr – Sex (1=women; 2=men)

Race\_wbaho – non-Hispanic white, non-Hispanic Black, non-Hispanic Asian, Hispanic, other

1 – non-Hispanic White

2 – non-Hispanic Black

3 – non-Hispanic Asian (only from 2011-2020)

4 – Hispanic

5 – Other

Pregnant - Currently pregnant

0 - No

1 - Yes

We should have a button “exclude pregnant women” or just exclude pregnant women?

**Comorbid conditions**

nfc\_smoker - Smoking

0 – never

1 – former

2 – current

Bmicat - BMI category, kg/m2

1 - <25

2 – 25 to < 30

3 – 30 to <35

4 – 35+

Diabetes - diabetes

0 – No

1 – Yes

CKD - Chronic kidney disease (eGFR < 60 ml/min/1.73 m2 or ACR > 30)

0 – No

1 – Yes

hxmi - History of MI (self-report)

0 – No

1 – yes

hxchd - History of CHD (self-report)

0 – No

1 – yes

hxstroke - History of stroke (self-report)

0 – No

1 – yes

hxfh - History of heart failure (self-report)

0 – No

1 – yes

Hxascvd - history of ascvd (MI, CHD or stroke)

0 – No

1 – yes

hxcvd\_hf - History of CVD (ASCVD or heart failure)

0 – No

1 – yes

highrisk10 – history of CVD or 10-year predicted ASCVD risk ≥ 10%

0 – No

1 – yes

**Social determinants of health – to be added later**

Born in the US

Marital status

PIR

Education

Health insurance (yes/no)

Health insurance type (private, Medicare, Medicaid, other government, none)

Healthcare visit in the past year

Employment status

Use of the following medications (V2) **– to be added later**

aldo alpha alpha\_beta angioten beta\_cardio\_nonselect beta\_cardio\_vasod beta\_int\_sym central dhpccb diur\_ksparing diur\_loop diur\_thz\_like diur\_thz\_type

ndhpccb renin\_inhibitors vasod ccb betablocker diur\_thiazide

ACE-I

ARB

Aldosterone antagonist

Alpha blocker

Alpha-beta blocker

Cardioselective - Beta-blocker

Noncardioselective - Beta-blocker

Intrinsic sympathomimetic activity - Beta-blocker

Calcium channel blocker - dihydropyridines

Calcium channel blocker – non-dihydropyridines

Central acting agents

Thiazide diuretic

Loop diuretic

Potassium-sparing diuretic

Alpha blocker

Renin inhibitor

Direct vasodilators