Appendix 2: Inclusion and exclusion criteria (adapted from SPRINT analysis[1])

[posted as supplied by author]

Inclusion criteria

1. Age ≥ 50 years old

AND

2. Systolic blood pressure (SBP):
    a) 130-180 mm Hg on 0-1 antihypertensive drugs
    b) 130-170 mm Hg on ≤ 2 antihypertensive drugs
    c) 130-160 mm Hg on ≤ 3 antihypertensive drugs
    d) 130-150 mm Hg on ≤ 4 antihypertensive drugs

    "If a screenee is otherwise eligible for SPRINT but presents with a treated BP and/or number of medications that fall outside the SPRINT inclusion criteria, BP-lowering medications may be adjusted prior to the randomization visit to determine whether, with such adjustments, the screenee will meet eligibility criteria for SPRINT. A screenee who presents on no BP medications should have documentation of SBP ≥130 mm Hg on 2 visits within 3 months prior to the randomization visit in order to be eligible for the trial."

AND

3. Cardiovascular risk (≥ 1 of the following)
    a) Presence of clinical* or subclinical** cardiovascular disease other than stroke; **OR**
    b) CKD, defined as eGFR 20 – 59 ml/min/1.73m2 based on the 4-variable Modification of Diet in Renal Disease (MDRD) equation and latest lab value, within the past 6 months. (If the serum creatinine is unstable within the last 6 months, enrollment into SPRINT could be delayed until the serum creatinine has been stabilized and the eGFR is still within the allowed range.); OR
    c) Framingham Risk Score for 10-year CVD risk ≥ 15% based on laboratory work done within the past 12 months for lipids; **OR**
    d) Age ≥ 75 years.

* Clinical CVD (other than stroke)
    a) Previous myocardial infarction (MI), percutaneous coronary intervention (PCI), coronary artery bypass grafting (CABG), carotid endarterectomy (CE), carotid stenting
    b) Peripheral artery disease (PAD) with revascularization
    c) Acute coronary syndrome with or without resting ECG change, ECG changes on a graded exercise test (GXT), or positive cardiac imaging study
    d) At least a 50% diameter stenosis of a coronary, carotid, or lower extremity artery
    e) Abdominal aortic aneurysm (AAA) ≥5 cm with or without repair

** Subclinical CVD
    a) Coronary artery calcium score ≥ 400 Agatston units within the past 2 years.
    b) Ankle brachial index (ABI) ≤0.90 within the past 2 years.
    c) Left ventricular hypertrophy (LVH) by ECG (based on computer reading), echocardiogram

Exclusion criteria

1. An indication for a specific BP lowering medication (e.g., beta-blocker following acute myocardial infarction) that the person is not taking and the person has not been documented to be intolerant of the medication class. (If a screenee has a non-hypertension indication for a BP-lowering medication (e.g., beta blocker post-MI, renin angiotensin system (RAS) blocker for CVD prevention, or alpha blocker for benign prostatic hypertrophy (BPH)), the screenee should be on the appropriate dose of such medication before assessing whether he/she meets the SPRINT inclusion criteria. If the investigator believes that a potential participant has such an indication but is not receiving appropriate treatment, he/she should encourage the potential participant's primary care provider to consider placing the patient on the appropriate therapy prior to proceeding with the screening process.)

OR

2. Known secondary cause of hypertension that causes concern regarding safety of the protocol.

OR

3. One minute standing SBP < 110 mm Hg. Not applicable if unable to stand due to wheelchair use.

OR

4. Proteinuria in the following ranges (based on a measurement within the past 6 months)
    a. 24 hour urinary protein excretion ≥1 g/day, or
    b. If measurement (a) is not available, then 24 hour urinary albumin excretion ≥ 600 mg/day, or
    c. If measurements (a) or (b) are not available, then spot urine protein/creatinine ratio ≥ 1 g/g creatinine, or
    d. If measurements (a), (b), or (c) are not available, then spot urine albumin/creatinine ratio ≥ 600 mg/g creatinine, or
    e. If measurements (a), (b), (c), or (d) are not available, then urine dipstick 2+ protein

OR

5. Arm circumference too large or small to allow accurate blood pressure measurement with available devices

OR

6. Diabetes mellitus. Participants taking medications for diabetes at any time in the last 12 months are excluded. Participants are also excluded if there is documentation of: FPG at or above 126 mg/dL, A1C ≥6.5 percent, a two-hour value in an OGTT (2-h PG) at or above 200 mg/dL or a random plasma glucose concentration ≥200 mg/dL. The diagnosis of diabetes must be confirmed on a subsequent day by repeat measurement, repeating the same test for confirmation. However, if two different tests (eg, FPG and A1C) are available and are concordant for the diagnosis of diabetes, additional testing is not needed. If two different tests are discordant, the test that is diagnostic of diabetes should be repeated to confirm the diagnosis.

OR

7. History of stroke (not CE or stenting)

OR

8. Diagnosis of polycystic kidney disease

OR

9. Glomerulonephritis treated with or likely to be treated with immunosuppressive therapy

OR

10. eGFR < 20 ml/min /1.73m2 or end-stage renal disease (ESRD)

OR

11. Cardiovascular event or procedure (as defined above as clinical CVD for study entry) or hospitalization for unstable angina within last 3 months

OR

12. Symptomatic heart failure within the past 6 months or left ventricular ejection fraction (by any method) < 35%

OR

13. A medical condition likely to limit survival to less than 3 years, or a cancer diagnosed and treated within the past two years that, in the judgment of clinical study staff, would compromise a participant's ability to comply with the protocol and complete the trial. Exceptions to the exclusion for diagnosed cancer would include, for example, non-melanoma skin cancer, early-stage prostate cancer, localized breast cancer.

OR

14. Any factors judged by the clinic team to be likely to limit adherence to interventions. For example
    a. Active alcohol or substance abuse within the last 12 months
    b. Plans to move outside the clinic catchment area in the next 2 years without the ability to transfer to another SPRINT site, or plans to be out of the study area for more than 3 months in the year following enrollment.
    c. Significant history of poor compliance with medications or attendance at clinic visits
    d. Significant concerns about participation in the study from spouse, significant other, or family members
    e. Lack of support from primary health care provider
    f. Residence too far from the study clinic site such that transportation is a barrier including persons who require transportation assistance provided by the SPRINT clinic funds for screening or randomization visits
    g. Residence in a nursing home. Persons residing in an assisted living or retirement community are eligible if they meet the other criteria.
    h. Clinical diagnosis of dementia, treatment with medications for dementia, or in the judgment of the clinician cognitively unable to follow the protocol
    i. Other medical, psychiatric, or behavioral factors that in the judgment of the Principal Investigator may interfere with study participation or the ability to follow the intervention protocol

OR

15. Failure to obtain informed consent from participant

OR

16. Currently participating in another clinical trial (intervention study). Note: Patient must wait until the completion of his/her activities or the completion of the other trial before being screened for SPRINT.

OR

17. Living in the same household as an already randomized SPRINT participant

OR

18. Any organ transplant

OR

19. Unintentional weight loss > 10% in last 6 months

OR

20. Pregnancy, currently trying to become pregnant, or of child-bearing potential and not using birth control

1 Group SR, Wright JT, Williamson JD, et al. A Randomized Trial of Intensive versus Standard Blood-Pressure Control. *N Engl J Med*. 2015;373(22):2103-2116. http://eutils.ncbi.nlm.nih.gov/entrez/eutils/elink.fcgi?dbfrom=pubmed&id=26551272&retmode=ref&cmd=prlinks.