• Together 2 Goal® Updates
  – Campaign Toolkit
  – Discussion List
  – Data Submission
  – MU/PD National Day of Action

• Assess & Address Risk of Cardiovascular Disease
  Presentation
  – R. James (Jim) Dudl, MD (Kaiser Permanente)

• Q&A
  – Use Q&A or chat feature
To access the Together 2 Goal® Campaign Toolkit:

- **Online:** Visit www.Together2Goal.org and select “Improve Patient Outcomes” & “Campaign Toolkit” in the navigation bar

- **Print:** Send your address to your Regional Liaison (Primary Contacts only)
  - Limited to one print copy per organization
  - All addresses received by Friday, April 22 will be sent the week of April 25th
NEW RESOURCE:
CAMPAIGN DISCUSSION LIST
To send a message to the discussion list:

- Email members directly at AMGA-T2G@amgalist.org
- Email your regional liaison or Together2Goal@amga.org if you prefer anonymity on an issue
CAMPAIGN DISCUSSION LIST: ETIQUETTE

• **Signature:** Include a signature tag on all messages. Include your name, affiliation, location, and e-mail address.

• **Subject Line:** State concisely and clearly the specific topic of the comments in the subject line. This allows members to respond more appropriately to your posting and makes it easier for members to search the archives by subject.

• **Replying:** Include only the relevant portions of the original message in your reply, delete any header information, and put your response before the original posting. Only send a message to the entire list when it contains information that everyone can benefit from.

  Send messages such as "thanks for the information" or "me, too" to individuals—not to the entire list. Do this by using your e-mail application's forwarding option and typing in or cutting and pasting in the e-mail address of the individual to whom you want to respond.

  Do not send administrative messages, such as remove me from the list, through the discussion list. Instead, contact AMGA directly to change your settings or to remove yourself from a list. If you are changing e-mail addresses, you need to advise AMGA to remove you from the list and rejoin under your new e-mail address.
As with any community, there are guidelines governing behavior on the discussion lists. For instance, violating antitrust regulations, libeling others, selling, and marketing are not permissible. Please take a moment to acquaint yourself with these important guidelines. If you have questions, contact the list manager noted in your welcome instructions. AMGA reserves the right to suspend or terminate membership on all lists for members who violate these rules.

Do not challenge or attack others. The discussions on the lists are meant to stimulate conversation not to create contention. Let others have their say, just as you may.

Do not post commercial messages. Contact people directly with products and services that you believe would help them.

The discussion list is not to be used for posting job positions. We ask if you have job listings or are looking to recruit employees to please use AMGA’s professional opportunities page found on www.amga.org.

Use caution when discussing products. Information posted on the lists is available for all to see, and comments are subject to libel, slander, and antitrust laws.

All defamatory, abusive, profane, threatening, offensive, or illegal materials are strictly prohibited. Do not post anything in a discussion list message that you would not want the world to see or that you would not want anyone to know came from you.

Please note carefully all items listed in the disclaimer and legal rules below, particularly regarding the copyright ownership of information posted to the list.

Remember that AMGA and other e-mail list participants have the right to reproduce postings to this discussion list.
DATA REPORTING

Data Tools & Resources Are Now Available!

- Excel template
- Data portal
- User guide
- Reporting deadlines
- Measurement specs

For data assistance contact: DataHelpForT2G@amga.org

*Note: As a benefit to Anceta participants, AMGA Analytics (Anceta) will automatically report data on your organization’s behalf according to the Core Track. Anceta will reach out in advance of the reporting deadline to review your data.
Take an “action” for high blood pressure awareness, detection, or control on Thursday, May 5, 2016!

To learn more:
• Visit www.MeasureUpPressureDown.com/NDA2016/
• Email MUPDNSNationalDayofAction@amga.org
NATIONAL DAY OF ACTION: WHY PARTICIPATE?

By participating on May 5, you’ll:

• Have a sneak peak of what the Together 2 Goal® National Day of Action will be like in November 2016

• Receive visibility in conjunction with this important event

• Help us reach million of Americans with high blood pressure
  – 141 million collective Americans impacted by this event in 2014 & 2015
To access these “actions” please email MUPDNationalDayofAction@amga.org
DM: To Prevent CVD “Bundle Up!”

Jim Dudl MD, DM lead & Community Benefit Kaiser Permanente
Why Focus On Heart Attacks & Strokes in DM? It’s Almost a CVD Risk Equivalent and…

No Cal 1996 costs of DM Complications

ACEi’s, Statins, ASA

Sugar control

If you focus on CVD prevention you will do the most good possible
If you do not you will miss the biggest opportunity. To help your pt.
Change From Lowering Chol & BP to Preventing CVD in High Risk Pts

- AHA/ACC guidelines: Treat High CVD risk not LDL levels
  - How do you calculate high CVD risk?
  - What Does ADA AHA say about DM pt over 40?
  - If you don’t have the calculation what comes close? 55yo

- What is a very simple way to do prevention for all high CVD risk pts? DM and
  - With HTN -- TALL
  - With CVD -- ALL
  - Over 40? --- AL

- But how can you get people on the meds?
  - Start the bundle all at once
  - How to check on adherence? Ask Educate Ask
ALL VIDEO:

- https://www.youtube.com/channel/UCSALjVDfoKWsVS8FdYUnfng/videos
  - Or
- https://www.youtube.com/watch?v=3sjyb_tTno
Who is Hi Risk? Hypertension & Hi CVD Risk are the Biggest Risk Groups for a Heart Attack or Stroke

<table>
<thead>
<tr>
<th><strong>Thiazide</strong></th>
<th><strong>Aspirin</strong></th>
<th><strong>Lipid lowering</strong></th>
<th><strong>Lisinopril ACE or ARB</strong></th>
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</table>

High CVD risk >10 AL

DM >40 AL

MI or Stroke ALL

HTN & CVD >10% risk

Think TALL

**care management institute**
# of Diabetes-Related Conditions

75% Dyslip 66% HTN  >80% HTN or Dyslip and either 94%

- None
- DYL
- HTN
- DYL, HTN
- DYL, HTN, OthCV

15-19: 15,938
20-24: 29,058
25-29: 45,968
30-34: 71,469
35-39: 93,649
40-44: 108,804
45-49: 121,689
50-54: 106,037
55-59: 17,806
Rx
High Intensity Statin
ie Atorva 40
AHA/ACC Rx Recommendation:

Moderate-intensity statin of simvastatin 20-40mg

High-intensity statin = Atorvastatin 40 mg

HEDIS & Medicare will look for 80% adherence to any statin
HOPE 3 Evidence Statins Work In Intermediate Risk Pts w/o Lipid Levels

- HOPE3 trial: no lipid or BP criteria

  - Criteria  Men >55 women >65 with 1 of
    - Waste /hip ratio > .8
    - HDL < 40
    - Smoker
    - Dysglycemia [pre-diabetes or DM on no meds]
    - FH CVD: male <55 female <65

- Exclusion
  - Any group already proven to benefit: [DM & CVD]

- LDLC 127 but <112 group did better than rest

Published on April 2, 2016, at NEJM.org. DOI: 10.1056/NEJMoai600176
A Second Coprimary Outcome

Hazard ratio, 0.75 (95% CI, 0.64–0.88)
P<0.001

B Stroke

Hazard ratio, 0.70 (95% CI, 0.52–0.95)
P=0.02

CHF or Hospitalization

No. at Risk
Placebo 2118 2083 2055 2018 1967 1638 674 164
Rosuvastatin 2117 2091 2068 2034 1999 1662 604 165

Stroke

No. at Risk
Placebo 6344 6275 6210 6126 6010 5013 2094 505
Rosuvastatin 6361 6308 6259 6176 6069 5074 2132 534

C Myocardial Infarction

Hazard ratio, 0.65 (95% CI, 0.44–0.94)
P=0.02

D Coronary Revascularization

Hazard ratio, 0.63 (95% CI, 0.44–0.91)
P=0.01

Myocardial Infarct

No. at Risk
Placebo 6344 6278 6215 6132 6019 5024 2091 504
Rosuvastatin 6361 6306 6257 6177 6067 5075 2135 534

Revascularization

No. at Risk
Placebo 6344 6276 6213 6127 6010 5015 2085 496
Rosuvastatin 6361 6309 6259 6174 6063 5069 2125 530
Lowering LDL-C reduced CVD events Even When Starting LDL Was Below 77 mg% 

Meta analysis of 170,000 pts in RCTS

CTT: Lancet 2010; 376: 1670-1681  170,000 pt meta analysis 26
New: Aspirin: USPSTF recommends it if 50-60yo & if >10% CVD risk*

| Adults ages 50 to 59 years | The USPSTF recommends low-dose aspirin use for the primary prevention of cardiovascular disease (CVD) and colorectal cancer in adults ages 50 to 59 years who have a 10% or greater 10-year CVD risk, are not at increased risk for bleeding, have a life expectancy of at least 10 years, and are willing to take low-dose aspirin daily for at least 10 years. |

*Similar recommendation 60 to 70 yo but “C” evidence
No specific DM recommendation
JNC8 advice is Compatible with Lisinopril use in DM HTN pts.

- “treat to SBP <140mmHg”
- “… initial antihypertensive treatment should include a thiazide-type diuretic, (CCB), (ACEI), or (ARB)”.
- “c- Begin with 2 drugs at the same time, either as 2 separate pills or as a single pill combination

No where in JNC8 does it say to use, or not To use STATINS!
**What’s the Evidence for Statins if HTN?**

Effects on major vascular events per 1.0 mmol/L reduction in LDL cholesterol 22%

**Lancet 2010; 376: 1670–81**

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<th>Treated hypertension</th>
<th>Yes</th>
<th>No</th>
<th>χ² (p)</th>
<th>0.80 (0.76–0.84)</th>
<th>0.76 (0.72–0.80)</th>
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<td>6176 (3.7%)</td>
<td>7350 (4.5%)</td>
<td>2.6 (0.1)</td>
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<td></td>
<td>4543 (2.7%)</td>
<td>5707 (3.5%)</td>
<td>1.1 (0.3)</td>
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<tr>
<td>&lt;140</td>
<td>5470 (3.2%)</td>
<td>6500 (3.8%)</td>
<td>1.1 (0.3)</td>
<td>0.80 (0.77–0.85)</td>
<td>0.75 (0.70–0.80)</td>
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<tr>
<td>≥140 to &lt;160</td>
<td>3145 (3.0%)</td>
<td>4049 (3.9%)</td>
<td>0.3 (0.0)</td>
<td>0.79 (0.73–0.85)</td>
<td>0.79 (0.73–0.85)</td>
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<td>≥160</td>
<td>2067 (3.6%)</td>
<td>2473 (4.5%)</td>
<td>0.2 (0.1)</td>
<td>0.79 (0.74–0.84)</td>
<td>0.77 (0.72–0.82)</td>
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<td><strong>Diastolic blood pressure (mm Hg)</strong></td>
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<tr>
<td>&lt;80</td>
<td>4558 (3.5%)</td>
<td>5306 (4.2%)</td>
<td>2.0 (0.1)</td>
<td>0.81 (0.76–0.85)</td>
<td>0.77 (0.73–0.82)</td>
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<td>≥80 to &lt;90</td>
<td>3670 (3.0%)</td>
<td>4587 (3.8%)</td>
<td>0.2 (0.1)</td>
<td>0.77 (0.72–0.82)</td>
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<td>≥90</td>
<td>2452 (3.0%)</td>
<td>3128 (3.9%)</td>
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<td><strong>Body-mass index (kg/m²)</strong></td>
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<tr>
<td>&lt;25</td>
<td>3030 (3.0%)</td>
<td>3688 (3.7%)</td>
<td>1.0 (0.3)</td>
<td>0.79 (0.74–0.84)</td>
<td>0.77 (0.72–0.82)</td>
</tr>
</tbody>
</table>
But if no HTN or CVD BP meds don't work, but if HTN they are Also Effective

MI or Stroke or death from them BP Rx only significant in BP >143 Systolic
Principle 4: Causes OF a Heart Attack or Stroke in a Pt with DM, HTN or High CVD RISK is the SAME, why not reuse the same treatments?
What are AL, ALL and TALL? Bundles of Meds that Prevent Heart Attacks & Strokes

- **TALL**: 25% HTN & Risk CVD >7.5, 22% CVD w or w/o DM, 20% Risk CVD >7.5
- **ALL**: 22% HTN & Risk CVD >7.5, 35% CVD w or w/o DM, 6% Risk CVD >7.5
- **AL**: 38% HTN & Risk CVD >7.5, 10% CVD w or w/o DM, 0% Risk CVD >7.5

**Thiaz**
- Lisinopril or any ACE/ARB
- Lip lowering Statin

**ASA**
Principle 1: Simplicity. What Could Be Simpler Than Taking 3 Pills at Once?

- Lisinopril
- Aspirin
- Lipid Lowering statin
In People with CVD w or w/o DM Did ALL Decrease Heart Attacks & Strokes?

ALL

22%

35%

6%

CVD w or w/o DM

- Thiaz
- Lisinopril or any ACE/ARB
- Lip lowering Statin
- ASA
In 70,000 People with CVD or DM >55yo ALL Dropped Events >60% in 3 yrs

Reduction in Heart Attacks & Strokes/1000 pers/yo

-15
-26
-30
-25
-20
-15
-10
-5
0

Low Util
High Util

Even 1 day of 5 utilization was significant
But taking it 2/3 of the time was much more beneficial

For Hypertension A combination of ACE/Thiazide with Statin ASA Models drop in CVD events of 75%
It Can Decrease Heart Attacks, Strokes or Death from them [MACE]*

MACE (Kaplan–Meier)
Relative difference from control arm

* Population: SBP >140 & age>55yo Major Adverse Coronary Events
Effect Of Therapies On Systolic Blood Pressure

Given 80% of HTN is under 165/90, ACE/Thiaz should hit that mark too
And Its OK to Begin treatment Using ALL’s Lisinopril & Add a Thiazide combined in a single pill

Begin with Lisinopril/HCTZ

ACE-Inhibitor\(^2\) / Thiazide Diuretic

Lisinopril / HCTZ
(Advance as needed)
20 / 25 mg X ½ daily
20 / 25 mg X 1 daily
20 / 25 mg X 2 daily

Pregnancy Potential: Avoid ACE-Inhibitors\(^2\)

If not in control

Why is that Important? It makes it EASY
Summary: For HTN to get 75% less MI’s & strokes, For the first visit, simply change From ALL Aspirin Lipid Lowering statin Lisinopril to TALL Aspirin Thiaz/ACE* Lipid Lowering statin
& If Just High CVD Risk, You Can Still Drop Heart Attacks & Strokes

AL

38%

10%

Risk CVD >7.5

Lip lowering Statin
ASA
If DM >40yo w/o HTN, CVD can be decreased by AL ~50% in 3 yrs*

ASCVD cumulative *vs someone not on these therapies
Relative difference from control arm

- Aspirin 19%
- Atorvastatin 20 or simvastatin 40 mg 38%
- Simvastatin 40 mg & aspirin 47%
- Atorvastatin 40 & aspirin 54%

10%CHD risk, same costs of meds, and lower risk will it save about half, or less than half or more then half the events?
If BP or Chol still High, More Treatment?

What if the LDL is still over 100 mg/dl or SBP still over 140 AFTER ALL TALL or AL, should we treat with more?

Evidence: CVD decreased 50-75% already but another 5-25% can be had by adding more BP &/or stronger lipid meds like atorvastatin 40 or 80 mg/d
Principle #5: Get The Biggest Gain for Everyone Before Trying to Get everyone to Goal

Do NOT try to get each person “to target” before offering your high CVD risk pts AL ALL or TALL
What if they Can’t Take a Statin?

- Retry Retry Retry:
  - even if “proven” intolerant, when re-challenged ½ were able to tolerate it.
  - Stop and restart ½ dose
  - Try another type statin like pravastatin, or resuvastatin [crestor]
    2x/wk at ¼ lowest dose

- Consider ezetimibe [Zetia]

- PCSK9’s: Rarely indicated if severe recurrent CVD or familial hypercholesterolemia, not approved for use in “statin intolerant”
We do it all the time,

- in patients admitted for MI’s” BALL
- HTN combination meds are standard of therapy
- We start bundles for TB and AIDS
- When explaining drugs just say
  - “This bundle protects against heart attacks & strokes three ways.
  - If you get muscle aches, or a cough or bruising stop and contact us, and read this pamphlet for other side effects”.
Medication Non-Adherence is often ~50% in a year.

Figure 1. Medication-taking behavior over the MEDICATION USE CONTINUUM (AHA, American Heart Association 2002).

Common Barriers:
- Understanding the benefits of therapy
- Denial
- Financial
- Health literacy
- Perceived side effects
- Not understanding the Benefit:Side effect ratio
- Taking too many meds
- Denial
- Forgetfulness
- Side effects
- Financial
- Taking too many meds
- Minimal provider feedback ongoing reinforcement

% Relative Risk of Death from Stroke if Non-Adherent: BP or Statins

- Adherent: 0%
- Non-adherent BP: 30%
- Non-adherent Statin: 82%

*J Am Coll Cardiol. 2016;67(13):1507-1515*
Relative Risk Death from Stroke if Non-Adherent to Both BP & Statin Meds

J Am Coll Cardiol. 2016;67(13):1507-1515
Barriers to medication adherence

Patient-related

- Forgetfulness
- Lack of knowledge
- Value of therapy
- Cultural/Ethnic
- Denial
- Financial
- Health literacy
- Social support

Medication-related

- Complex regimens
- Side effects
- Taking multiple medications
- Length of therapy

Provider-related

- Poor relationship and/or poor communication with healthcare provider
- Disparity between provider and patient around cultural/religious beliefs
- Lack of feedback and ongoing reinforcement from the provider
- Providers/pharmacists emphasizing negative aspects of the medication (side effects with minimal solutions) vs benefits
How to Treat Non-Adherence?

- Didn’t pick up the first Rx: Patient Reminders letter/cal
- Didn’t pick up refill due: effect of electronic/letter contact
  - Pharmacist consultation at time of a pharmacy visit
  - For all practitioners a technique: Ask-Educate-Ask
Clinician Tool Ask Educate Ask: Ask 75% of the time

ASK - EDUCATE - ASK

- **ASK** about the barriers
  - “In order to start taking your medication regularly tomorrow, what problems questions or concerns do you need to deal with now?”

- **EDUCATE** around the point then

- **ASK** about their next steps [talk back]:
  - “What would work for you?
  - What will you do now to make that happen?
  - What else?”
  - What are you going to DO [Teachback]
What is TEACH-BACK?

- Ask the person to tell back to you what they agreed to do.
- Why is this critical to action? It insures three things happened
  - The person must have
    - heard what you said, must
    - understand it &
    - agree to it!
  - What evidence is there that it works?
    - A randomized study at improved A1C
      - One group left after usual care
      - Second group with the same care were asked what they were going to do. Only 1/3 got it right the first time! Only 2/3 after re discussion. And a third took 3 or more repeat attempts
% A1C < mean with Teach Back.

Arch Intern Med. 2003;163:83-90
Can You Tell Us:

- What 1 thing did you hear that has moved you toward new treatment process?
  - And if any,

- What will be your next step?
Appendix

- ACEi & DM if nephropathy or retinopathy
- Evidence BP meds don’t work in normotensive people w/o CVD
If DM & Stroke, Retinopathy/Albuminuria add ACE/ARB

- **Stroke**
  - RR signif if range <1
  - >=140/90: 0.74 (0.64-0.86)
  - <140/90: 0.69 (0.52-0.92)

- **Albuminuria**
  - >=140/90: 0.71 (0.63-0.79)
  - <140/90: 0.86 (0.81-0.90)

JAMA. 2015;313(6):603-615
### Mortality, mm Hg

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Studies</th>
<th>Baseline SBP, Mean, mm Hg</th>
<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
<th>Favors Control</th>
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<td>13</td>
<td>149</td>
<td>1614</td>
<td>16418</td>
<td>1626</td>
<td>14580</td>
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<td>&lt;140 mm Hg</td>
<td>7</td>
<td>137</td>
<td>720</td>
<td>1275</td>
<td>693</td>
<td>11284</td>
<td>1.07 (0.92-1.26)</td>
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<tr>
<td>Overall</td>
<td></td>
<td>137</td>
<td>720</td>
<td>1275</td>
<td>693</td>
<td>11284</td>
<td>0.87 (0.78-0.96)</td>
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### Cardiovascular disease, mm Hg

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<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
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<td>11</td>
<td>148</td>
<td>1861</td>
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<td>6</td>
<td>137</td>
<td>1369</td>
<td>10780</td>
<td>1362</td>
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<tr>
<td>Overall</td>
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<td>1369</td>
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### Coronary heart disease, mm Hg

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<th>BP Lowering, No. Events</th>
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<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
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<td>7</td>
<td>137</td>
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### Stroke, mm Hg

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<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
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<tr>
<td>≥140 mm Hg</td>
<td>14</td>
<td>148</td>
<td>1129</td>
<td>19066</td>
<td>1245</td>
<td>17868</td>
<td>0.74 (0.64-0.86)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;140 mm Hg</td>
<td>5</td>
<td>137</td>
<td>221</td>
<td>8548</td>
<td>230</td>
<td>8579</td>
<td>0.69 (0.52-0.92)</td>
<td></td>
<td></td>
<td>P=.70</td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>137</td>
<td>221</td>
<td>8548</td>
<td>230</td>
<td>8579</td>
<td>0.86 (0.74-0.94)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Heart failure, mm Hg

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Studies</th>
<th>Baseline SBP, Mean, mm Hg</th>
<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
<th>Favors Control</th>
<th>P for Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥140 mm Hg</td>
<td>8</td>
<td>146</td>
<td>774</td>
<td>13592</td>
<td>814</td>
<td>12676</td>
<td>0.75 (0.59-0.94)</td>
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<td></td>
<td>P=.09</td>
</tr>
<tr>
<td>&lt;140 mm Hg</td>
<td>5</td>
<td>137</td>
<td>461</td>
<td>8092</td>
<td>534</td>
<td>8115</td>
<td>0.97 (0.79-1.19)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>137</td>
<td>461</td>
<td>8092</td>
<td>534</td>
<td>8115</td>
<td>0.86 (0.74-1.00)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Renal failure, mm Hg

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Studies</th>
<th>Baseline SBP, Mean, mm Hg</th>
<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
<th>Favors Control</th>
<th>P for Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥140 mm Hg</td>
<td>6</td>
<td>147</td>
<td>389</td>
<td>12475</td>
<td>346</td>
<td>11530</td>
<td>0.75 (0.52-1.08)</td>
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<td>P=.21</td>
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<tr>
<td>&lt;140 mm Hg</td>
<td>3</td>
<td>138</td>
<td>207</td>
<td>7360</td>
<td>214</td>
<td>7382</td>
<td>1.00 (0.77-1.29)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>138</td>
<td>207</td>
<td>7360</td>
<td>214</td>
<td>7382</td>
<td>0.91 (0.74-1.12)</td>
<td></td>
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</tbody>
</table>

### Retinopathy, mm Hg

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Studies</th>
<th>Baseline SBP, Mean, mm Hg</th>
<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
<th>Favors Control</th>
<th>P for Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>≥140 mm Hg</td>
<td>4</td>
<td>146</td>
<td>564</td>
<td>7946</td>
<td>586</td>
<td>7753</td>
<td>0.86 (0.70-1.04)</td>
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<td>P=.85</td>
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<tr>
<td>&lt;140 mm Hg</td>
<td>3</td>
<td>137</td>
<td>280</td>
<td>1835</td>
<td>319</td>
<td>1813</td>
<td>0.88 (0.74-1.05)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>137</td>
<td>280</td>
<td>1835</td>
<td>319</td>
<td>1813</td>
<td>0.87 (0.76-0.99)</td>
<td></td>
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</tbody>
</table>

### Albuminuria, mm Hg

<table>
<thead>
<tr>
<th>Outcome</th>
<th>No. of Studies</th>
<th>Baseline SBP, Mean, mm Hg</th>
<th>BP Lowering, No. Events</th>
<th>BP Lowering, No. Participants</th>
<th>Control, No. Events</th>
<th>Control, No. Participants</th>
<th>Relative Risk (95% CI)</th>
<th>Favors BP Lowering</th>
<th>Favors Control</th>
<th>P for Interaction</th>
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</thead>
<tbody>
<tr>
<td>≥140 mm Hg</td>
<td>4</td>
<td>146</td>
<td>1681</td>
<td>8447</td>
<td>1898</td>
<td>7647</td>
<td>0.71 (0.63-0.79)</td>
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<tr>
<td>&lt;140 mm Hg</td>
<td>3</td>
<td>137</td>
<td>1118</td>
<td>5357</td>
<td>1265</td>
<td>5174</td>
<td>0.86 (0.81-0.90)</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>Overall</td>
<td></td>
<td>137</td>
<td>1118</td>
<td>5357</td>
<td>1265</td>
<td>5174</td>
<td>0.83 (0.79-0.87)</td>
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</tr>
</tbody>
</table>

### Relative Risk (95% CI)
IF NOT HTN the BP meds didn’t work

BP 138 fall 6/3 ARB & Thiaz Rx

A Death from Cardiovascular Causes, Myocardial Infarction, Stroke, Cardiac Arrest, Revascularization, or Heart Failure

Hazard ratio, 0.95 (95% CI, 0.81–1.11) P=0.51

B Stroke

Hazard ratio, 0.80 (95% CI, 0.59–1.08) P=0.14

C Myocardial Infarction

Hazard ratio, 0.84 (95% CI, 0.58–1.21) P=0.34

D Coronary Revascularization

Hazard ratio, 0.83 (95% CI, 0.58–1.19) P=0.32

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Questions?