Hypertension Treatment – A Crucial Step on the Pathway to Universal Health Coverage

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RESOLVE TO SAVE LIVES
AN INITIATIVE OF VITAL STRATEGIES

Cardiovascular Disease Is the World's Leading Killer

2004
(actual)

RANK	CAUSE	%
1	Heart disease	12.2
2	Stroke	9.7
3	Lower respiratory infections	7.0
4	Chronic obstructive pulmonary disease	5.1

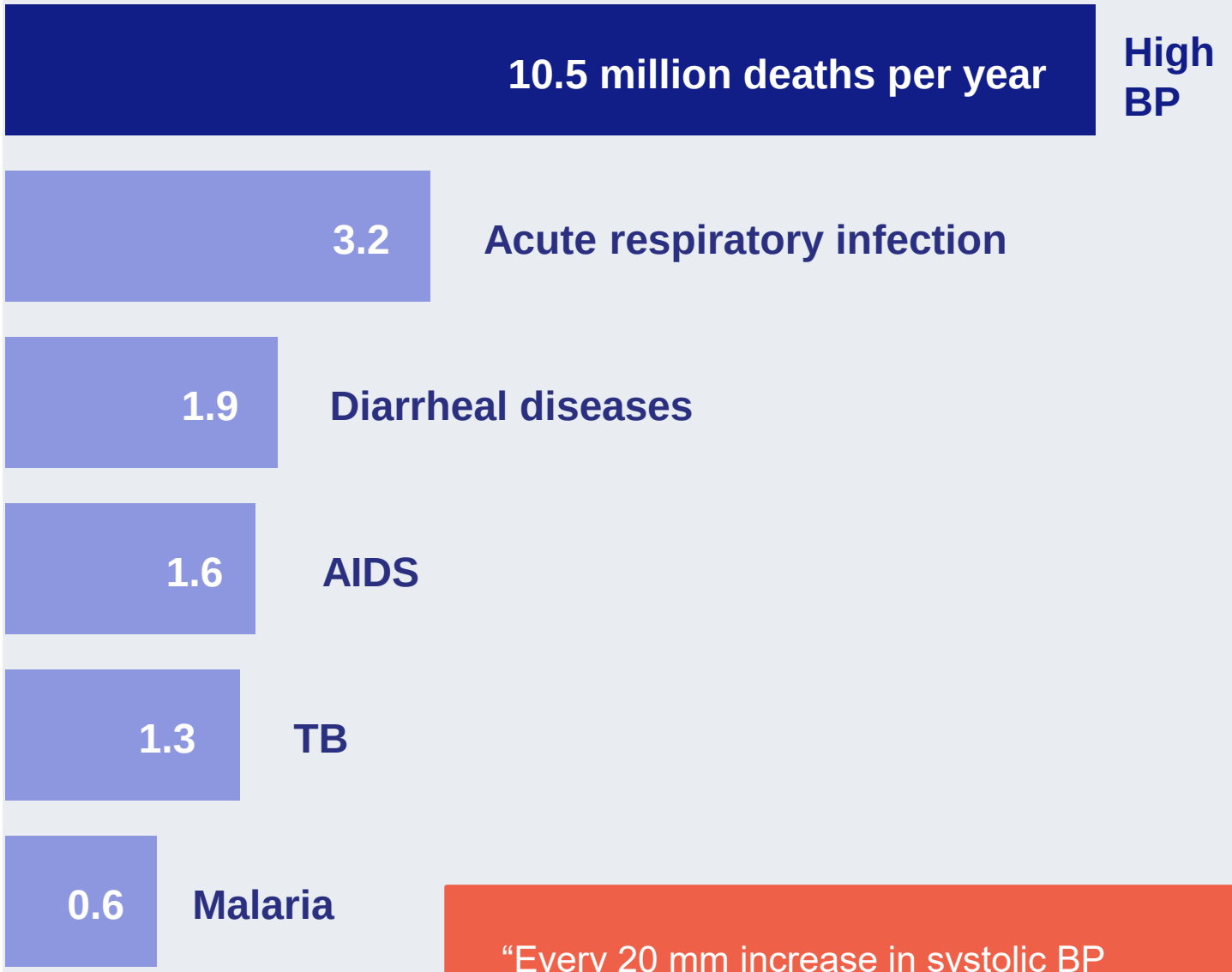
2030
(projected)

RANK	CAUSE	%
1	Heart disease	14.2
2	Stroke	12.1
3	Chronic obstructive pulmonary disease	8.6
4	Lower respiratory infections	3.8

World Health Organization

High blood pressure kills more people than any other condition

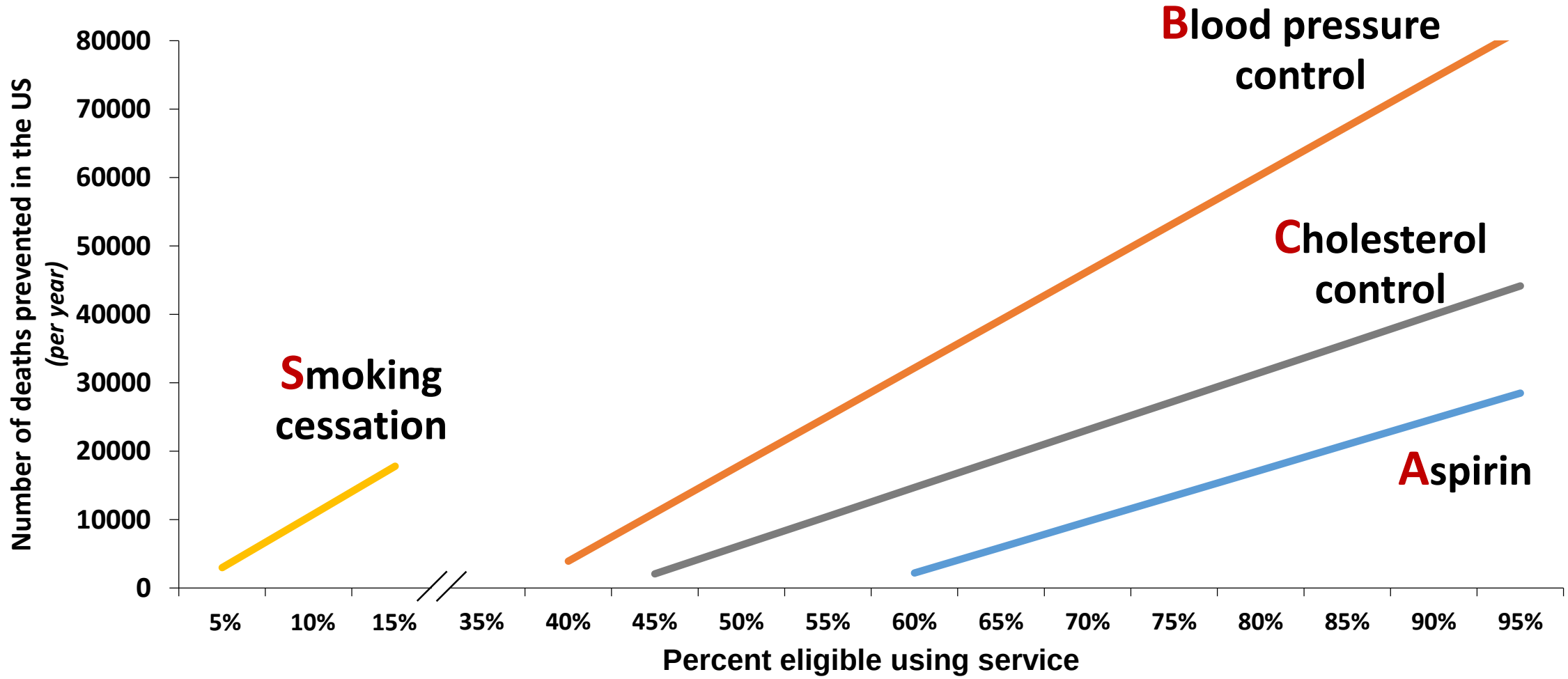
...more than all infectious diseases combined



"Every 20 mm increase in systolic BP doubles vascular mortality at ages 35-69"

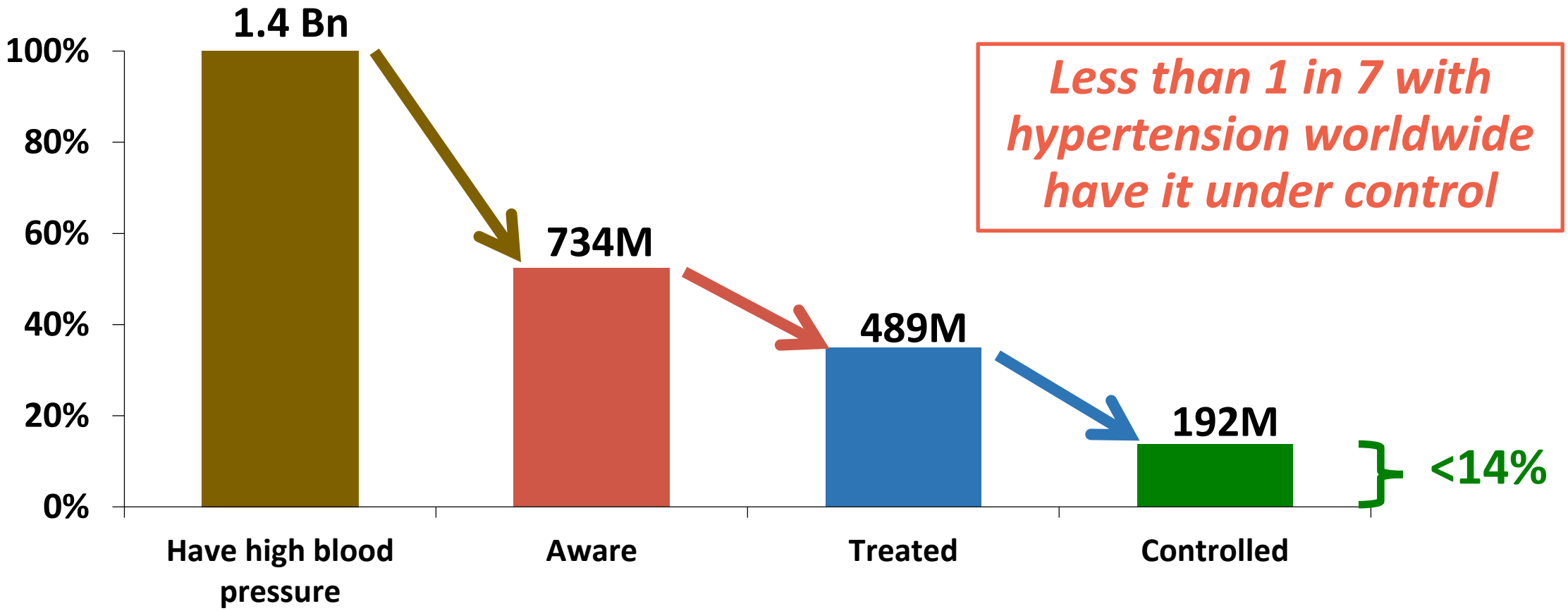
LEWINGTON S. ET AL. LANCET. 2002;360:1903-1913.

Of All Adult Primary Care Interventions, Improvement in Management of Hypertension Treatment Can Save the Most Lives



Farley TA et al. Am J Prev Med 2010;38:600-609.

Most People With Hypertension Globally Do Not Have It Under Control



Mills KT et al. Circulation. 2016 Aug 9;134(6):441-450.

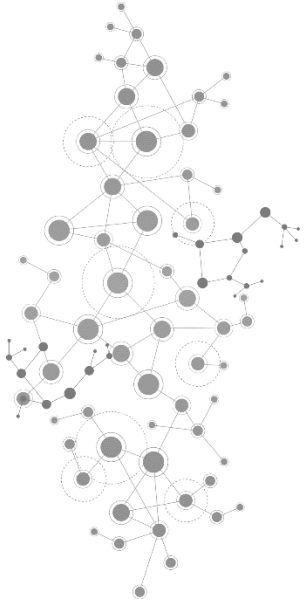
Universal Health Coverage and Hypertension

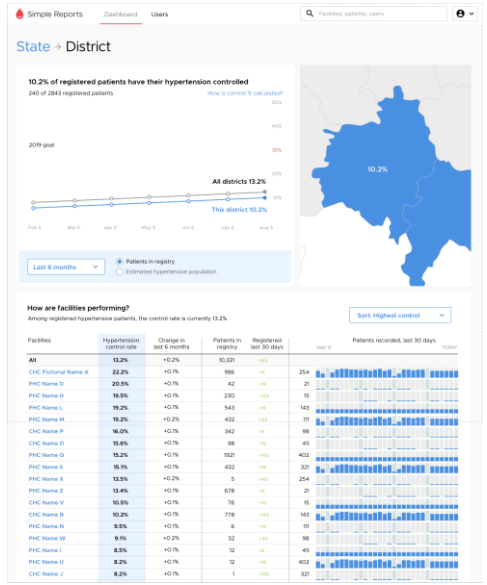
Providing effective hypertension treatment services both ***requires*** and ***facilitates*** the establishment of effective and high-impact primary health care systems!

Equity:

Control rates range from 70% (Canada) to less than 5% (most of Africa), but are only 10-15% globally, including in China and India

Key Components of Hypertension Control





Consistent protocol

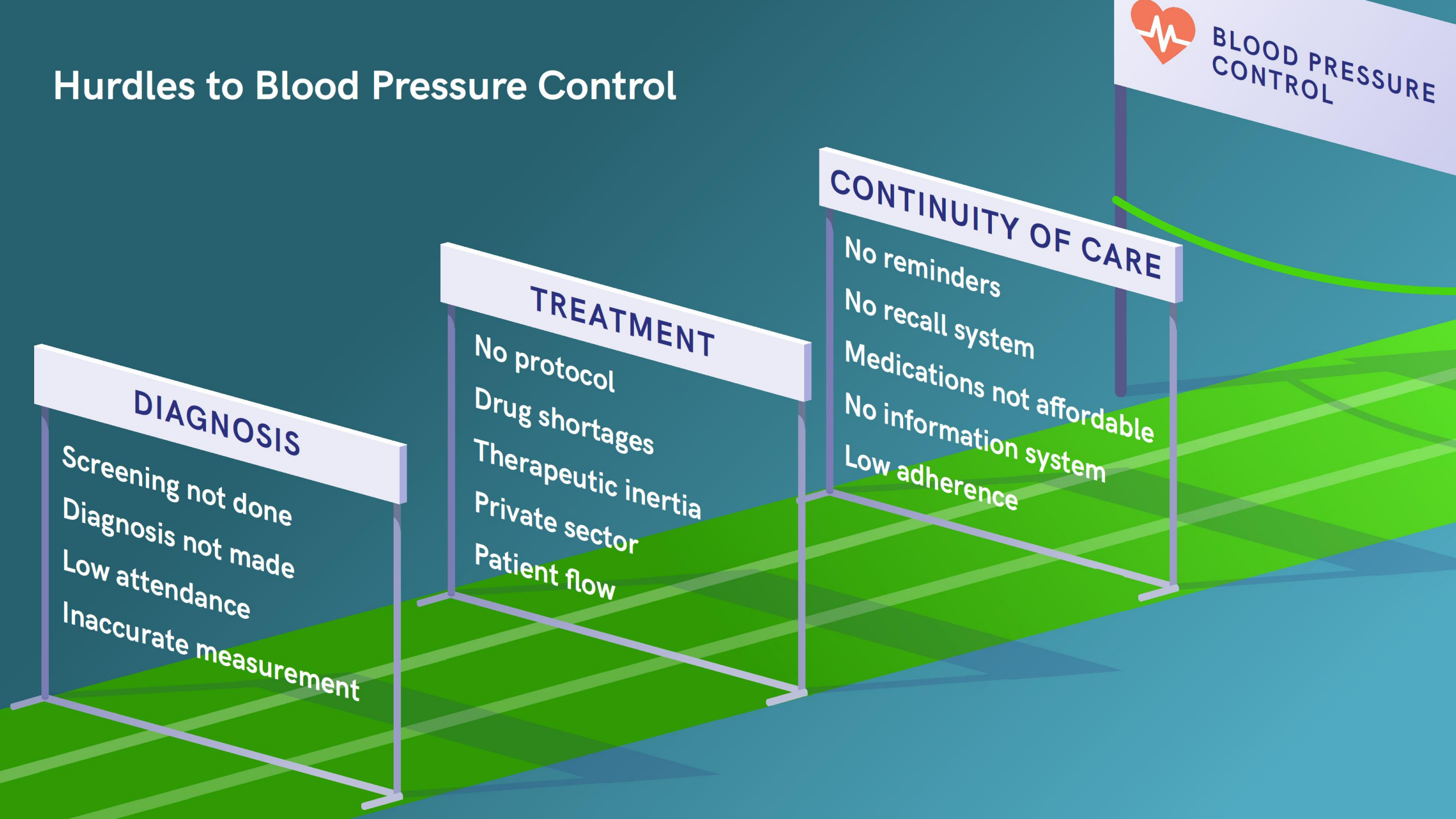
Medication supply

Community-based treatment

Patient-centered care

Information systems

Hurdles to Blood Pressure Control



Treatment Protocols Improve Outcomes

- Precise protocols to establish standard treatment of patients
- Drug- and dose-specific, with schedule for titration or addition of medications if blood pressure not controlled
- Eases logistics, training, task-sharing, financing, supervision, evaluation, and future changes

Recommended single-pill combination treatment protocol

HEARTS HYPERTENSION PROTOCOL SINGLE PILL COMBINATION AS FIRST-LINE TREATMENT

World Health Organization

Telmisartan 40 mg[1]/Amlodipine 5 mg[2] Single Pill Combination[3] Regimen

SCREEN ALL ADULTS

If BP ≥ 140 or ≥ 90[4]
Prescribe half pill per day

REVIEW AFTER 4 WEEKS

If still ≥ 140 or ≥ 90[5]
Increase to single pill per day

REVIEW AFTER 4 WEEKS

If still ≥ 140 or ≥ 90[5]
Increase to 2 pills per day

REVIEW AFTER 4 WEEKS

If still ≥ 140 or ≥ 90[5]
Add chlorthalidone 12.5 mg[6]

REVIEW AFTER 4 WEEKS

If still ≥ 140 or ≥ 90[5]
Check that patient has been taking drugs regularly and correctly – if this is the case refer patient to a specialist[7]

PROVISION FOR SPECIFIC PATIENTS

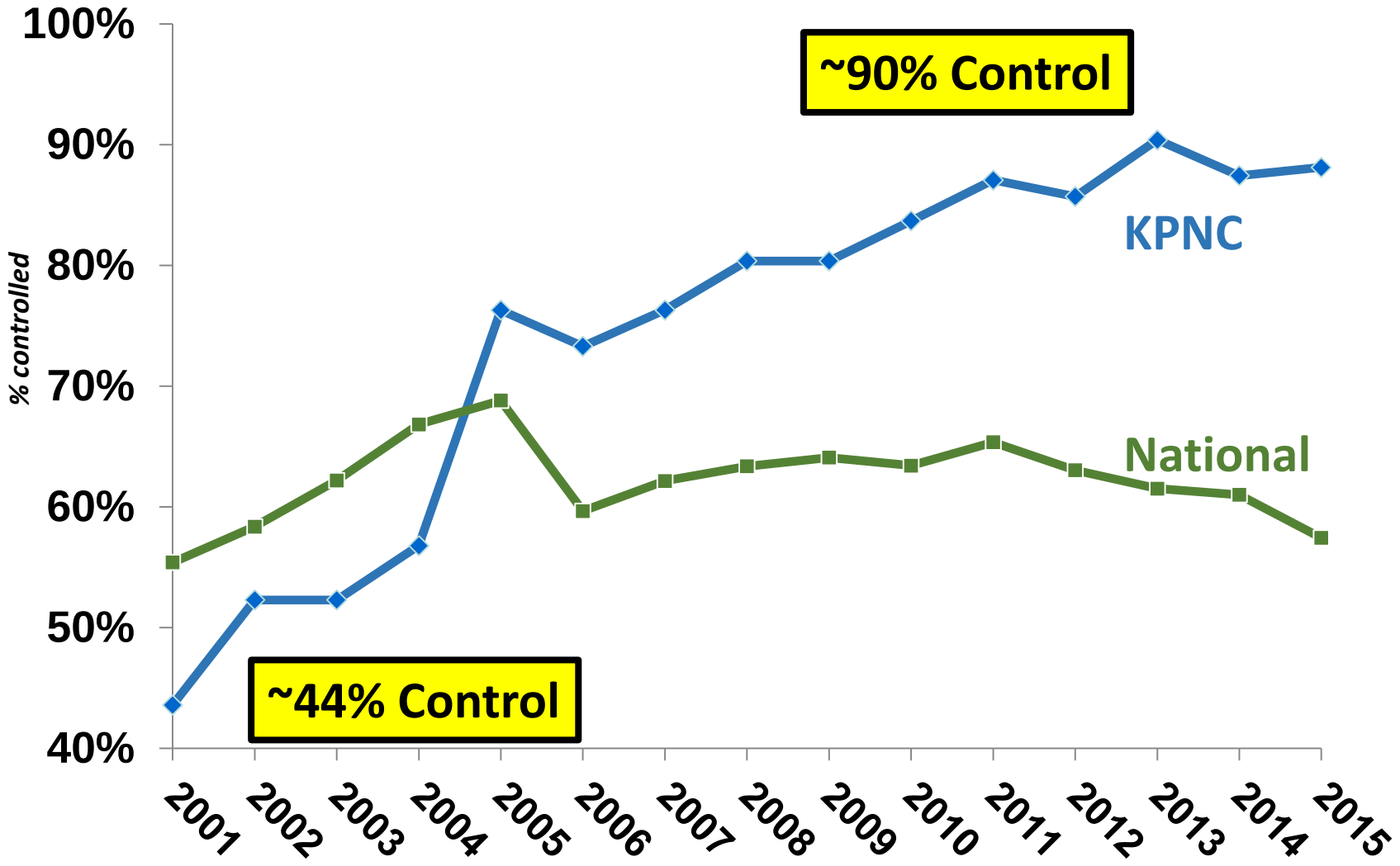
- Manage diabetes as indicated by national protocol
- Aim for BP target of <130/80 for people with diabetes or otherwise at high risk
- Start statin and aspirin in people with prior heart attack or ischemic stroke
- Start beta blocker in people with heart attack in past 3 years
- Consider statin in people at high risk

LIFESTYLE MANAGEMENT ADVICE FOR ALL PATIENTS

- Stop all tobacco use, avoid second-hand tobacco smoke
- Avoid unhealthy alcohol intake
- Increase physical activity to equivalent of brisk walk 150 minutes per week
- If overweight, lose weight
- Eat a heart-healthy diet:
  - Eat less that 1 teaspoon of salt per day
  - Eat ≥5 servings of vegetables/fruit per day
  - Use healthy oils
  - Eat nuts, legumes, whole grains and foods rich in potassium
  - Limit red meat to once or twice a week at most
  - Eat fish or other food rich in omega 3 fatty acids at least twice a week
  - Avoid added sugar

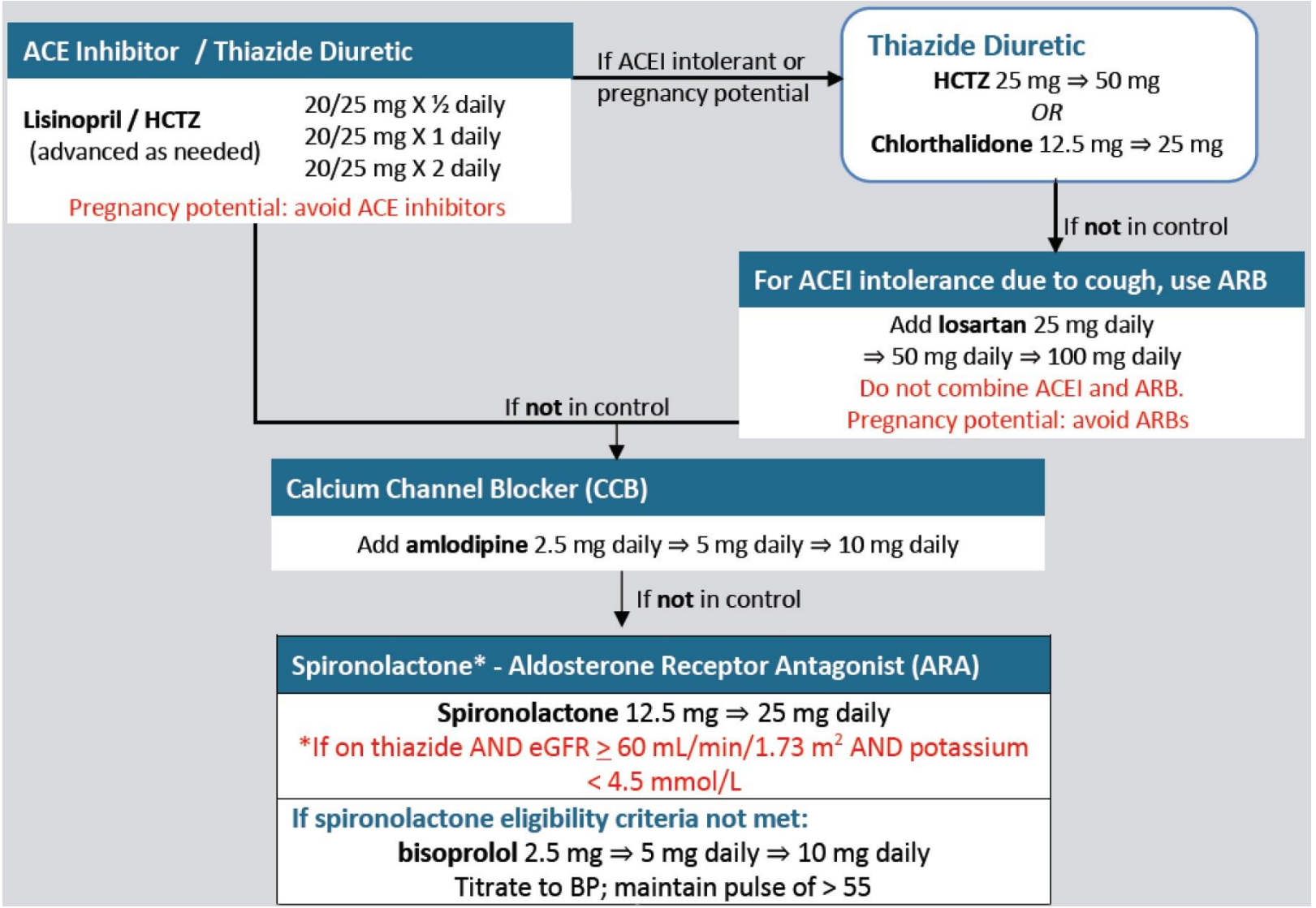
1 Telmisartan 40 mg can be replaced with any once-daily Angiotensin receptor blocker (ARB) (e.g., losartan 50 mg) or once daily Angiotensin converting enzyme inhibitor (ACE-I) (e.g., lisinopril 20 mg, ramipril 5 mg, perindopril 4 mg). **ACE-I and ARB should NOT be given to women who are or who may become pregnant.** Before initiating and several weeks after starting ACE-Is or ARBs check serum creatinine and potassium if possible.
2 Amlodipine can be replaced with another once-daily dihydropyridine calcium channel blockers. Alternatively, amlodipine can be replaced with chlorthalidone 12.5, indapamide 1.25 mg, or indapamide SR 1.5 mg. If neither chlorthalidone nor indapamide is available, hydrochlorothiazide 25 mg can be used. If a diuretic is used instead of amlodipine, check serum potassium if possible and see 6 below.
3 Medications can be used as individual agents if single-pill combinations are not available.
4 If BP ≥160 or ≥100, start same day. If 140-159 or 90-99, check on a different day, and if still elevated, start.
5 If systolic BP repeatedly <110, consider going to prior, less intensive regimen.
6 If a diuretic is used initially instead of amlodipine, then amlodipine or another once-daily dihydropyridine calcium channel blocker would be used at this step.
7 Consider increase to full-dose diuretic (chlorthalidone 25 mg or indapamide 2.5 mg; indapamide SR 1.5 mg is both the start and the full dose). Hypokalemia is more common using full-dose diuretic – consider regular lab monitoring. If a diuretic is used instead of amlodipine in the initial treatment, this consideration would apply earlier in the protocol.

Kaiser Permanente Hypertension Program *vs.* United States Hypertension Control



KPNC Hypertension Drug Treatment Algorithm

http://kpcmi.org/how-we-work/hypertension-control



Medication access is essential

- Improvements in procurement, supply, and distribution systems needed
- Adequate budget (although costs may be as low as $2-10/patient/year)
- Efficient procurement – procurement prices range 30-fold for the same medications, even from the same company, in different countries
- Many standards of care not yet applied in low- and middle-income countries, including measurement of blood pressure in all adult outpatients, prompt treatment of all with hypertension, and use of high-quality medicines
- ~75% of people with hypertension require ≥2 drugs to achieve BP control
- All core anti-hypertensives are generic, inexpensive, safe, effective, and have been used in high-income countries routinely for half a century
  - Combination medications improve blood pressure control with no increase in withdrawals from adverse events, recommended by WHO, ESC/ESH, ACC/AHA & others

The time for action is now.

200 people have died from hypertension since I started this talk.

FDCs could help 80 million more people control hypertension.

That's hundreds of thousands of lives saved.