

# HYPERTENSION



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**Kenya Cardiac Society (KCS)**



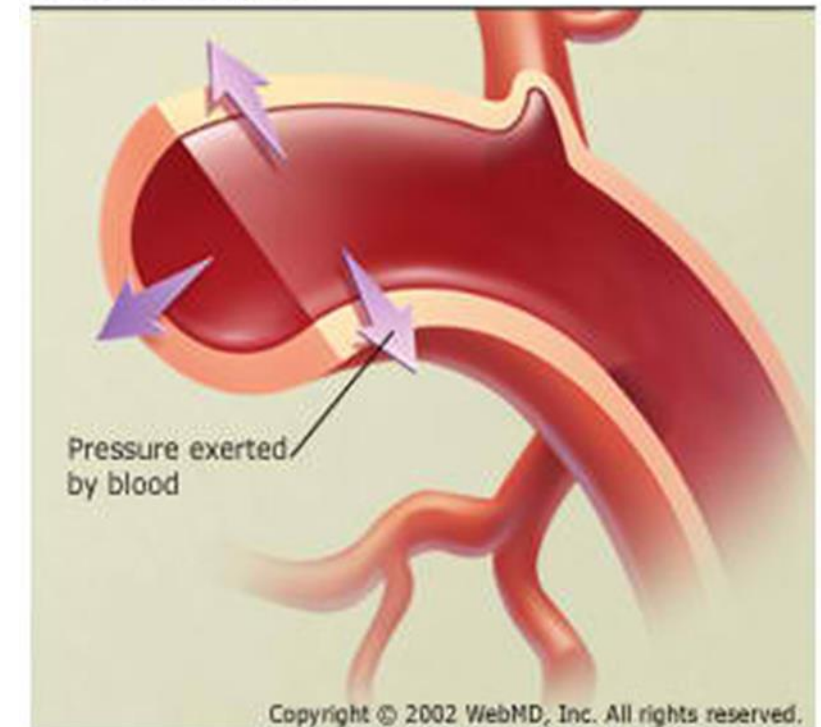
# Outline

1. Understand blood pressure
2. Hypertension diagnosis
3. What caused hypertension?
4. Complications of hypertension
5. Hypertension prevention
6. Signs and symptoms of hypertension
7. Management of hypertension
8. Key messages for people living with hypertension
9. Hypertension and COVID-19

# What is blood pressure?

- Blood pressure is a measure of the force of blood pushing against the walls of your blood vessels (arteries).
- It is measured in millimeters of mercury (mmHg) and is recorded as two figures.
- For example, 150/95 mm Hg which is said as 150 over 95.
- **The top (first) number is the systolic pressure.** This is the pressure in the arteries when the heart contracts.
- **The bottom (second) number is the diastolic pressure.** This is the pressure in the arteries when the heart rests between each heartbeat

Blood Pressure



# What is normal blood pressure?



Category	Systolic		Diastolic
Optimal	<120mmHg	and	<80mmHg
Normal	120 - 129mmHg	and/or	80 - 84mmHg
High Normal	130 - 139mmHg	and/or	85 - 89mmHg
Hypertension	> 140mmHg	and/or	>90mmHg



# Hypertension diagnosis

- Hypertension is diagnosed when the blood pressure is persistently elevated.
- Prevalence of hypertension is on the rise
- It is the main cause of Cardiovascular Diseases: Stroke, heart attack, heart failure
- Cardiovascular diseases are the most common Non-communicable disease

**IT IS A LIFE-LONG CONDITION WHICH REQUIRES REGULAR FOLLOW-UP**

# What has caused the rise in Non-Hypertension/Communicable Diseases?

Urbanization,  
Westernization,  
sociocultural factors

Aging, family  
history

## Behavioral Risk Factors

- \* Tobacco
- \* Alcohol
- \* Physical Inactivity
- \* Unhealthy diet
- \* Stress

## Physiological Risk Factors

- \* Overweight/  
Obesity
- \* ↑ Blood pressure
- \* ↑ Blood Glucose
- \* ↑ Cholesterol

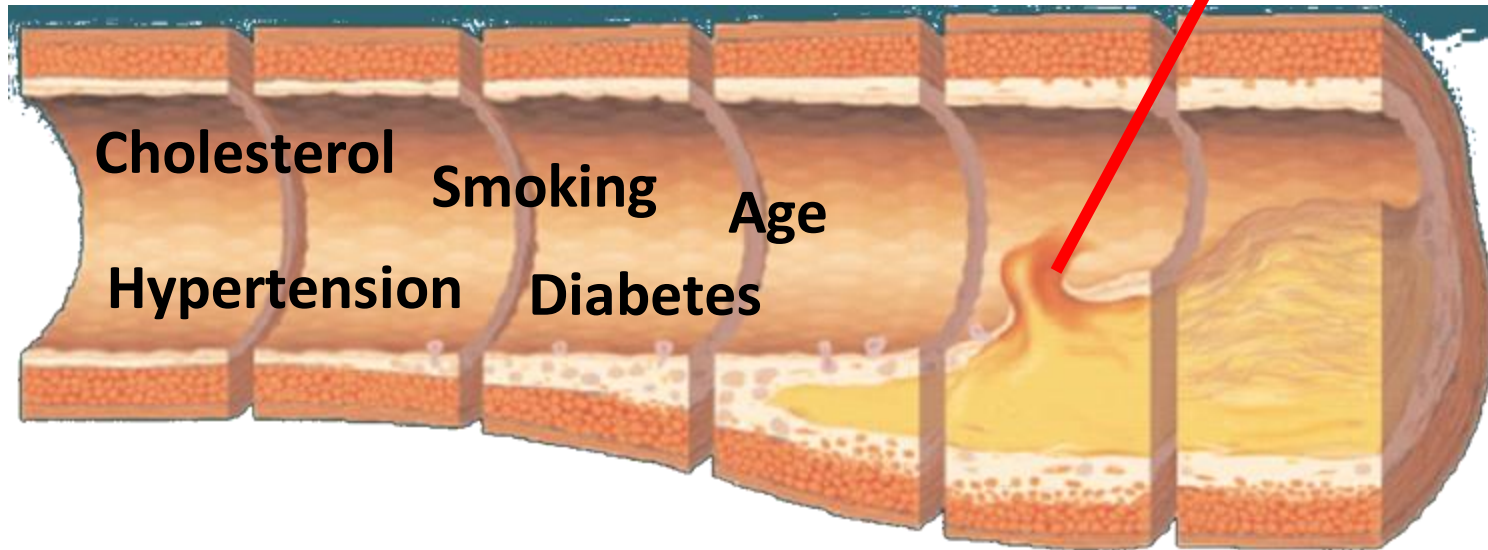
## Outcomes

- \* Cardiovascular diseases  
(Heart Attack, Stroke)
- \* Diabetes
- \* Cancer

# What effect does hypertension have on the body?

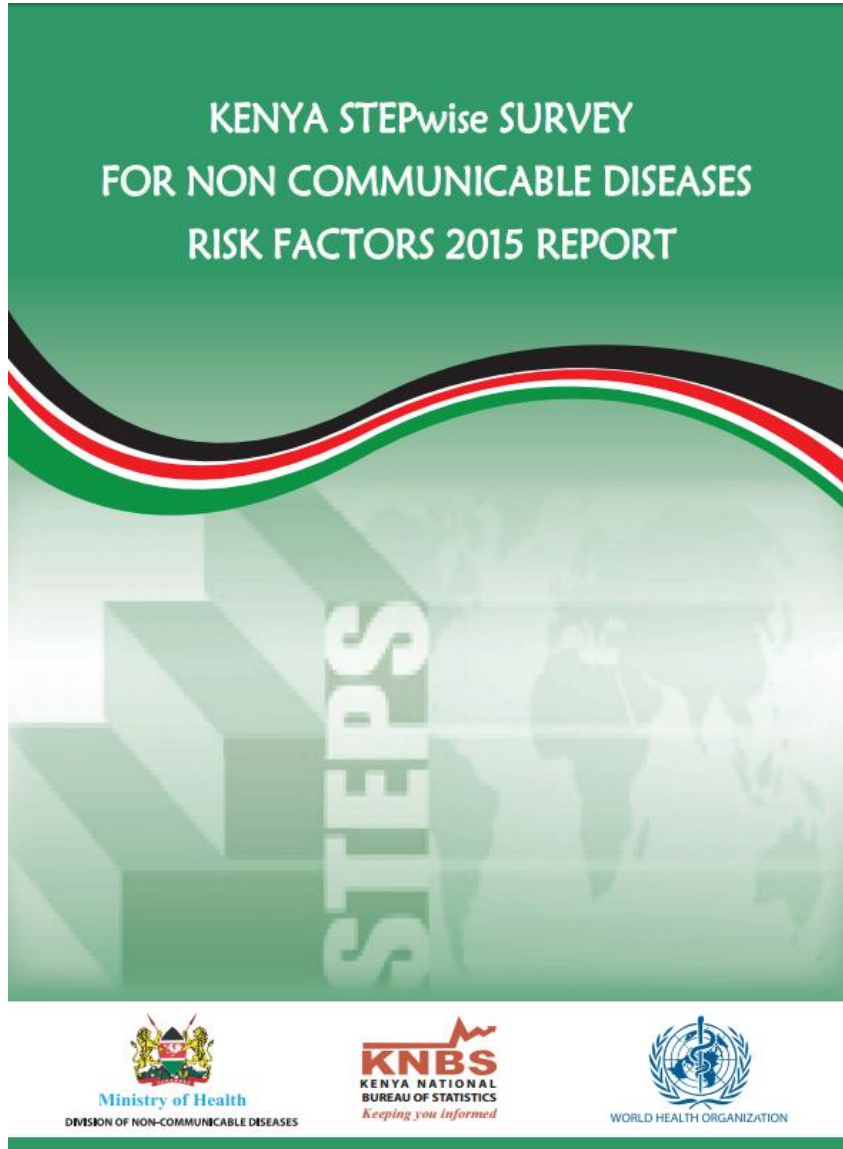


**Blockage of the blood vessel leading to complications**



Adapted from Pepine CJ. *Am J Cardiol.* 1998;82(suppl 10A):23S-27S. Schiffrin EL et al. *Am J Hypertens.* 2002;15:115s-122s.

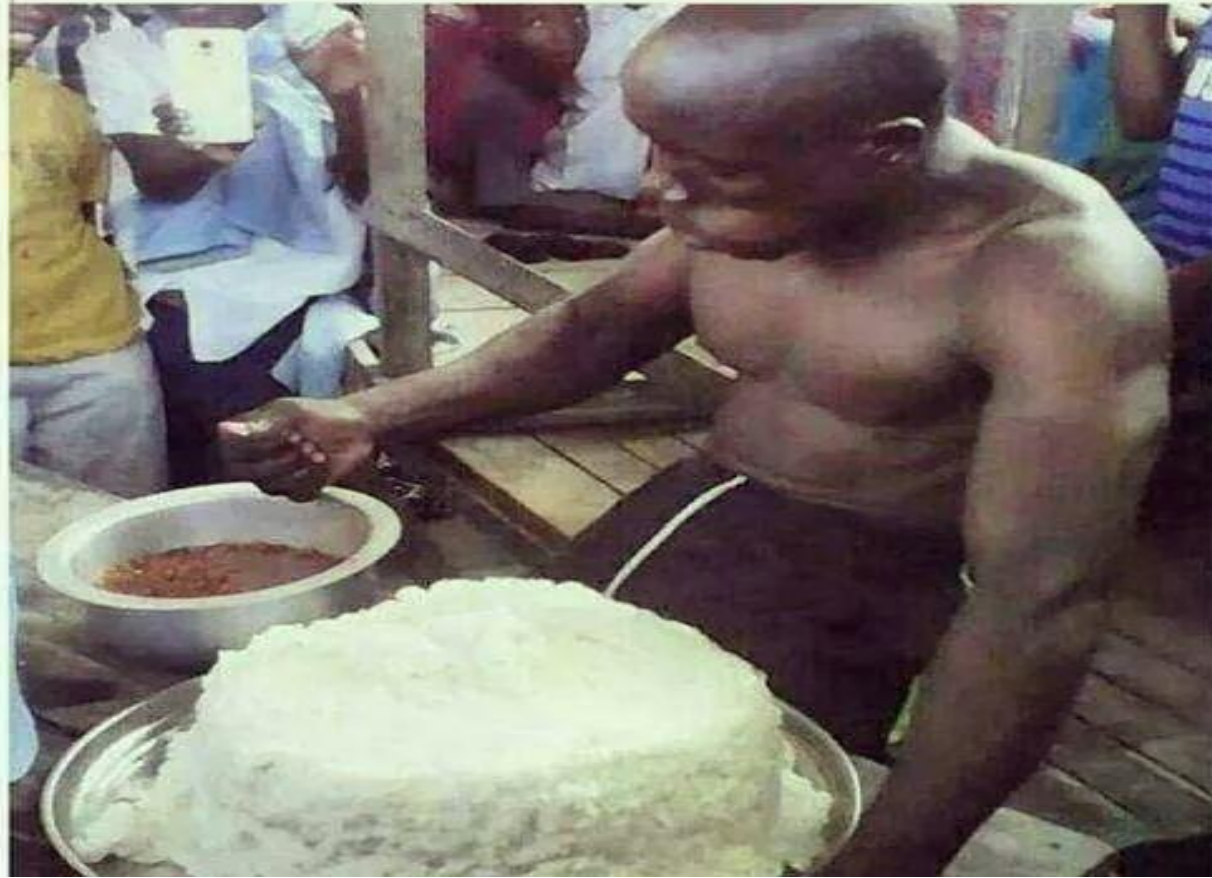
# Behavioural Risk Factors – Situation in Kenya



Inadequate consumption of fruits and vegetables	94%
Inadequate physical activity	6.5%
Current tobacco use	Overall – 13% Men – 23% Women – 4% Daily - 8% Second hand – 20%
Alcohol drinkers	Overall – 19% Men – 35% Women – 7% Daily – 13%
Always add salt to food	23%



"Leo najiskia mgonjwa, wacha nikule tu kasnack. Sina appetite."

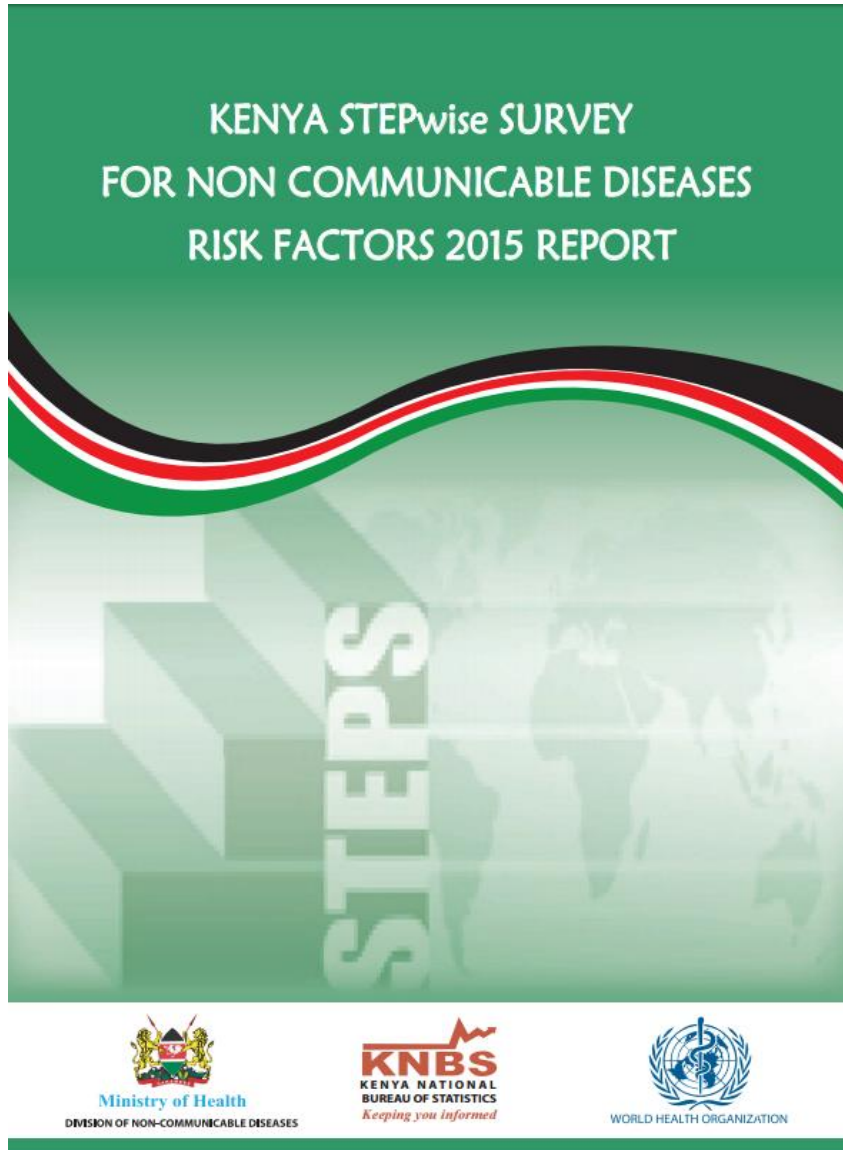




# Fast food vs traditional foods



# Physiological Risk Factors – Situation in Kenya



Overweight and Obesity	<p>Women – 39%</p> <p>Men – 18%</p> <p>Overall - 27%</p> <p>Higher in urban areas</p>
High blood pressure	<p>23.8% of Kenyans</p> <p>56% - never been screened</p> <p>92% - not on medication</p> <p>22% - On treatment</p>
Raised blood glucose	<p>3% of Kenyans</p> <p>87.8% - never been measured</p> <p>40% - on treatment</p>
High cholesterol	<p>10%</p>



# Sociocultural Factors

## Attitudes undermining healthy lifestyles

- Perception of western lifestyle (fast foods, using vehicles) as fashionable - Internet/media a powerful tool
- Obesity as prosperous and successful image
- Exercise not appealing for the middle aged and old
- Diabetes and hypertension are disease of the rich

## Economic Factors

- Minimal choice in what to eat (cost of food – high carbohydrate foods cheaper than fruits and vegetables)





# Two categories of hypertension

## Primary (95%)

- Chronic high blood pressure without a specific cause
- Associated with behavioral risk factors
- Develops with age

## Secondary (5%)

- The cause of hypertension can be identified and sometimes treated.
- Examples includes hypertension caused by kidney disease or contraception use

# Risk Factors for Hypertension



## Modifiable factors

- Physical inactivity
- Alcohol
- Tobacco use
- Unhealthy diet – high salt
- Stress
- Overweight & Obesity

## Non-Modifiable

- Age (>45 years)
- Family history of hypertension (parents and close relatives)
- Race (Blacks)
- Sex (Age <55yrs higher in males, >55yrs higher in females)



# Signs and symptoms

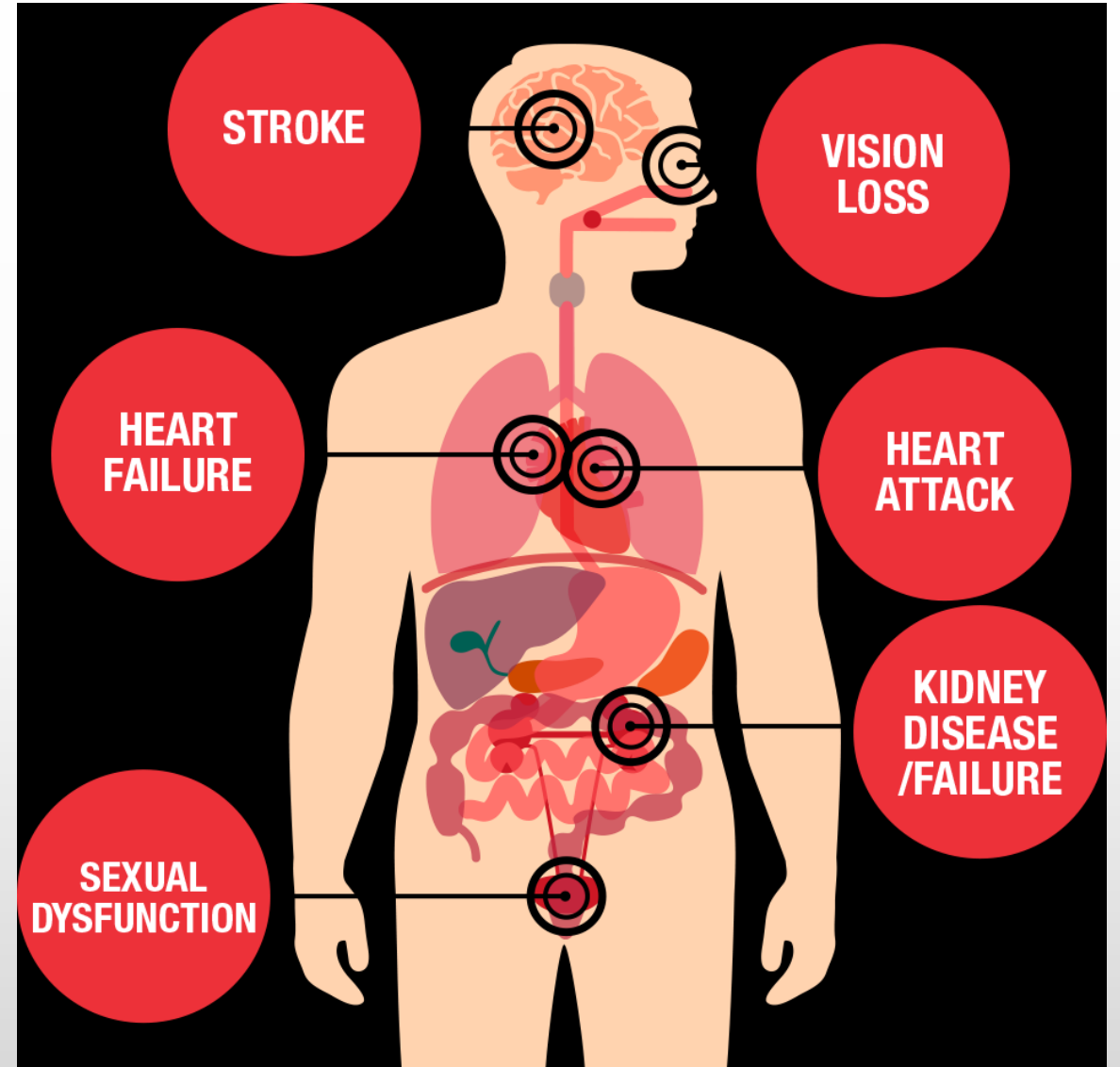
**OFTEN HAS NO SYMPTOMS (THAT'S WHY IT IS CALLED A SILENT KILLER)**

Common symptoms include:

- **Headache**
- Anxiety or nervousness.
- **Palpitations** (strong, fast, or obviously irregular heartbeat)
- Ringing or buzzing in ears.
- Impotence.
- Dizziness.
- **Tiredness**
- Confusion
- Nausea or upset stomach.
- **Vision problems or trouble seeing.**
- Nosebleeds.
- More than normal sweating
- Skin that is flushed or red, or skin that is pale or white.

# Complications

- Thickening of the heart muscle
- Increased workload of the heart
- Other conditions:
  - Heart attack
  - Stroke
  - Kidney failure
  - Blindness
  - Can increase risk for other conditions such as diabetes



**ANNUAL BLOOD PRESSURE  
SCREENING!**

# Advise given based on blood pressure reading

Category	First Number	Second Number	Results/Advise
Optimal and normal	Less than 120 120 - 129	Less than 80	Good for you! <b>Give lifestyle advise on prevention of hypertension</b> Repeat every year
High Normal	130 - 139	81 - 89	<b>You are at risk!</b> Make some changes: eat less salt, do more physical activity, drink less alcohol, stop smoking
	Equal of more than 140	Equal or more than 90	<b>You have high blood pressure</b> See a health provider if you are not already on treatment <b>Take your medicine and make lifestyle changes</b>

# Prevention of hypertension

- Eat a heart-healthy diet
- Be physically active
- Limit alcohol consumption
- Stop tobacco use
- Manage stress
- Maintain a healthy weight
- Have regular medical check-ups

# Dietary advise

- Eat whole grain products
- Consume fruits and vegetables
- Limit the amount of sodium (salt) you eat i.e. eat no more than 5 g/teaspoon a day
- Avoid sugar and processed foods



# Advise on how to control salt intake

- Eat fewer canned and processed foods that are high in sodium (e.g. sausage, hotdogs, crisps, chips).
- Eat fresh fruits and vegetables instead of salty snacks.
- Season food with herbs and spices instead of salt.
- Avoid using salt at the table.

# Physical activity

- To gain health benefits you should do **at least 30 minutes of moderate physical activity, on most days (at least five days per week).**
- Moderate physical activity means that you get warm, mildly out of breath, and mildly sweaty. For example, brisk walking, jogging, dancing, farming, cycling



# Hypertension management

- Hypertension can be managed by lifestyle modification and medication
- If blood pressure is mildly elevated the health provider may recommend lifestyle modifications alone:
  - Diet and exercise
  - Limit alcohol and tobacco use
  - Reduce stress factors
- If blood pressure is not controlled, medications are initiated

# Hypertension management

- For those with higher blood pressure levels, medication is initiated immediately
- More medications are added until blood pressure is controlled.
- Goal is 140/90



# Key messages for hypertension patients

- Take your medicine every day, not only on the days when you don't feel well
- Don't stop taking your medicine if your blood pressure is okay. Having normal blood pressure means the medicine is working and you must continue.
- Take your medications at the same time every day (get a reminder)
- Keep a back-up supply of medications
- Keep all your medical appointments.
- Tell your healthcare professional the names of all other medicines, herbs, or supplements you take.
- Get help for managing stress and depression



# Key Messages

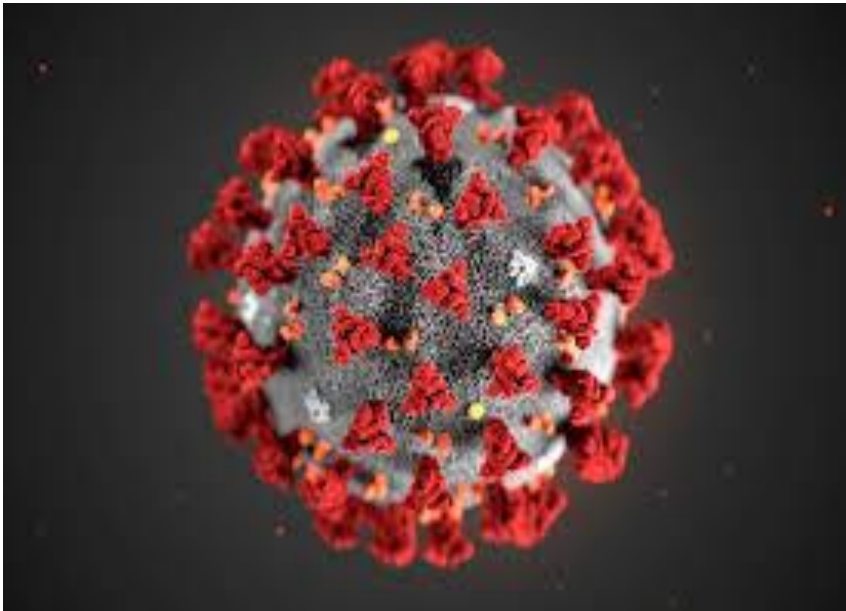
1. Hypertension prevalence in Kenya is high (approximately 1 in 4 Kenyans). Majority are not aware and not on treatment
2. Hypertension is a silent killer. **Regular screening is key!**
3. Development of hypertension can be prevented or delayed through lifestyle modification
  - a) Physical activity
  - b) Healthy diet
  - c) Cessation of tobacco use and alcohol intake



# Key Messages

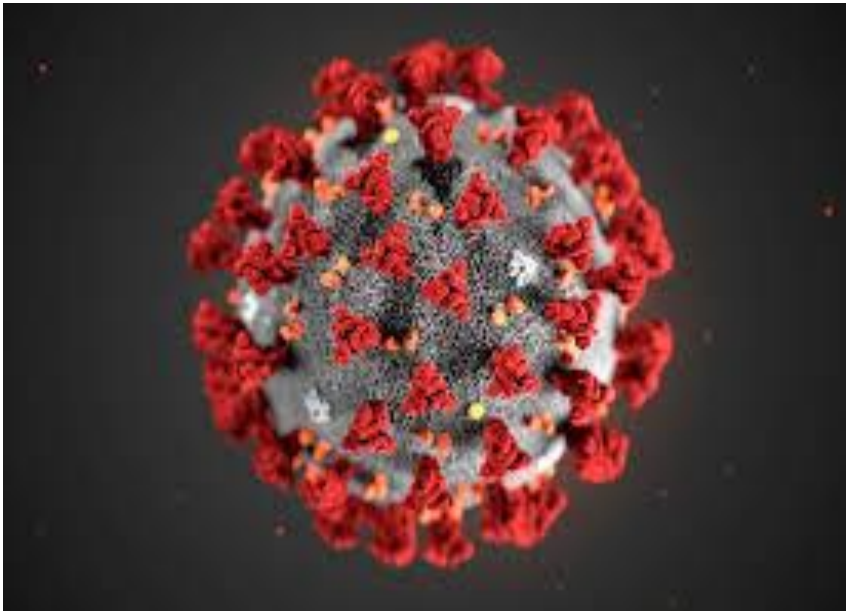
6. Hypertension is a life-long condition, which once diagnosed must be managed and monitored for life
7. Hypertension management includes combination of lifestyle modifications and drug therapy
8. High blood pressure will put you at high risk for heart attack, heart failure, and stroke

# Hypertension and COVID-19



- The link between COVID-19 and hypertension is unclear
- Data from other countries including Kenya indicate that there are higher rates of hypertension among severely ill, hospitalized COVID-19 patients.
- However those with severe disease are also elderly and have other conditions such as obesity, diabetes and kidney disease.
- Studies are in progress to determine if hypertension by itself increases risk of severe infection

# Messages for patients on COVID-19



- Continue with hospital appointments as scheduled
- Keep a supply of at least 2 months medication
- Monitor blood pressure at home (target 140mmHg/90 mmHg)
- Contact health provider as soon as they develop unusual symptoms such as difficulty in breathing, swelling, chest pain, dizziness etc
- Strictly adhere to prevention regulations – social distancing, hand washing etc

## COVID-19 AND NON-COMMUNICABLE DISEASES (NCDs)

Coronavirus disease (COVID-19) is a respiratory disease that is fast spreading across the world. COVID-19 is spread through droplets when an infected person coughs or sneezes. It can also be spread through being in contact with contaminated hands, surfaces and objects.

### How do I stay healthy during the COVID-19 pandemic?

- Eating healthy diets, with plenty of fruit and vegetables,
- Drink Plenty of water to keep you hydrated
- Keep physically active – undertake regular exercises, walk around and stretch at home
- Reduce screen time
- Quit smoking,
- Avoiding or limiting alcohol intake, Get enough sleep
- Keep in touch with family and friends by telephone
- Avoid unnecessary visits
- Send others to shop for your food, medicines and other requirements
- Do not attend public gatherings



PEOPLE LIVING WITH NCDs (SUCH AS RESPIRATORY CONDITIONS AND CANCER) OLDER PERSONS ARE MORE LIKELY TO BE CORONA



### Guidelines for older persons

- a. Check daily for symptoms such as fever, cough, difficulty breathing or shortness of breath.
- b. If you experience the above symptoms or any illness, contact the COVID-19 hotline or health care facility or health care provider immediately.
- c. Regularly clean and disinfect surfaces frequently touched by other people
- d. Keep active by doing regular exercises and stretch at home
- e. Establish a routine to keep you active and positive.
- f. Remain engaged e.g. by reading, playing in-house games, knitting etc
- g. Keep in touch with family and friends by phone.
- h. Keep emergency contacts at hand
- i. Continue to take your medication/treatment and follow medical advice
- j. Care givers should take precautionary measures to protect the older persons, including use of face masks and gloves

### Guidelines for people living with Cancer

If currently undergoing active treatment:

- a. Stay at home in between sessions; if you need to go out strictly adhere to infection prevention guidelines
- b. Monitor your temperature (keep a thermometer at home). If you detect a fever above 38.0C call your oncologist, don't rush to the hospital.
- c. If you need to re-fill your drugs, ask a family member to collect your medications
- d. Consider self-injection of your immune booster or have a family member or health worker carry out the injection at home

If you are on long-term follow-up, liaise with the oncologist to reschedule your routing appointment, by at least 1 month or more and ensure adherence to your medication.

Cancel all non-urgent visits to the clinic and arrange for telephone consultations

### Guidelines for people living with heart diseases

- a. Measure your BP regularly at home, contact your health care provider in case of elevated blood pressure. Ideal BP is less than 140/90
- b. Continue with your medication and ensure you have enough drugs to last for one month or more
- c. In case you experience difficulty in breathing, headache, swelling of the legs, face puffiness, dizziness, increased heartbeat, chest pain, altered speech and general weakness, call your facility or the health care provider
- d. Avoid foods high in salt and eat a healthy diet

### Guidelines for people living with diabetes

- a. Monitor your blood sugar regularly at home and ensure you have enough blood glucose strips and other supplies. Ideal blood sugar levels should be between 4-10mmol
- b. Mind your food portions, drink plenty of water to avoid dehydration
- c. Seek urgent help if:
  - a. Vomiting
  - b. Rapid breathing with fruity-smelling breath
  - c. Abdominal pain
  - d. Reduced level of consciousness (drowsiness)
  - e. Blood sugar of more than 15mmol/l
- d. Take extra care of your feet to prevent injuries and ulcers

In case of any queries on symptomatic changes, clients are advised to call 719 or text \*719# immediately.

NEED HELP? CALL TOLL-FREE \*ABOUT COVID-19:



# Informercial for patients on COVID-19

- Kiswahili

<https://vimeo.com/428603802/c90b52114a>

- English

<https://vimeo.com/428603454/50a300b614>

# Questions

