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Centers for Disease Control and Prevention
2015
Imagine
Hypertension

Prevent strokes

Regular checks

Low sodium diet

 réalisable

Attainable
The Call to Act is Global, the Time to Act is Now

WHO Global Monitoring Framework with targets and indicators

Set of 9 voluntary global NCD targets for 2025

- Premature mortality from NCDs 25% reduction
- Essential NCD medicines and technologies 80% coverage
- Drug therapy and counseling 50% coverage
- Diabetes/obesity 0% increase
- Raised blood pressure 25% reduction
- Tobacco use 30% reduction
- Salt/sodium intake 30% reduction
- Physical inactivity 10% reduction
- Harmful use of alcohol 10% reduction
Hypertension

- **Prevalence**
  - ~ 1/3 of adults
  - 1 billion people worldwide
  - 25,000 preventable deaths per day, 9.4 million per year
  - Higher in low and middle income countries

- **Leading remediable risk factor for cardiovascular disease**

More Deaths from Cardiovascular disease in low- and middle-income countries

Today, 8 of 10 CVD deaths occur in low- and middle-income countries
Hypertension is Too Expensive to Ignore

Blood Pressure Related Diseases account for 10% of Annual Direct Health Care Expenditures Globally

= 372 Billion US Dollars

3.6 Trillion US Dollars in Indirect Costs

1. Strong Public Health Primary Prevention Strategies
2. Improved Health Care and Self Management
3. Improved Monitoring
## Evidence-based Risk Factor Reduction Policy Interventions Are Cost Effective

| Reduce Salt Use | • Reduced salt content in processed foods  
<table>
<thead>
<tr>
<th></th>
<th>• Salt reduction through mass-media campaigns</th>
</tr>
</thead>
</table>
| Reduce Tobacco Use | • Excise tax increases  
|                  | • Smoke-free indoor workplaces and public places  
|                  | • Health Information and warnings about tobacco  
|                  | • Bans on advertising and promotion |
| Increase Physical Activity | • Public awareness programs about diet and physical activity  
|                       | • Making community design more conducive to walking, biking and exercise |
| Reduce Alcohol Use | • Excise tax increases on alcoholic beverages  
|                  | • Comprehensive restrictions and bans on alcohol marketing  
|                  | • Restrictions on the availability of retailed alcohol |

Modified Table from the WHO Global Brief on Hypertension, 2013: http://www.who.int/cardiovascular_diseases/publications/global_brief_hypertension/en/
Over 47% of people do not know they have high blood pressure.

- Hypertension: 1.1 Billion
- Aware: 583 Million (53%)
- Treated: 388 Million (35%)
- Controlled: 153 Million (14%)

JUST 1 in 7 HAVE IT UNDER CONTROL.
Barriers to Blood Pressure Control

- **Patient**
  - Limited access to treatment
  - Poor adherence to treatment
  - Limited engagement in lifestyle changes and self-management

- **Health Care Provider**
  - Raised blood pressure attributed to “white coat” hypertension
  - Reluctance to treat an asymptomatic condition
  - Lack of adequate time with patient
  - Therapeutic inertia
  - Lack of adherence to current treatment guidelines

- **Health Systems**
  - Failure to delegate responsibility to non-physicians
  - Inappropriate/inadequate follow-up
  - Absence of feedback to clinicians
  - Issues related to supply, distribution, and cost of medications
  - Complex medication regimens
Building on Lessons Learned from Tuberculosis

- **Structured approach**
  - High quality standardized care, including specific medications
  - Diagnosis and treatment
  - Management and support systems

- **Targets and indicators define further actions and additional indicators**
  - Expansion of services
  - Identifying and treating more patients
  - Reducing the burden of disease

Global Standardized Hypertension Treatment Project

Complements the U.S. Million Hearts Initiative

http://www.cdc.gov/globalhealth/ncd/hypertension-treatment.htm
Call to Action

- Effective treatment has potential to significantly improve global population health

- Development of a strategy and framework
  - for standardizing the pharmacologic treatment of hypertension that is both feasible and flexible to have worldwide applicability
  - that acknowledges and supports use of existing evidenced-based guidelines for diagnosis and treatment of hypertension

- The project is not purposed to replace existing and recognized hypertension guidelines.
Global Standardized Hypertension Treatment

- Began with a regional collaboration in the Americas
  - Centers for Disease Control and Prevention (CDC)
  - Pan American Health Organization (PAHO)
  - Key stakeholders and organizations across the Americas

- Also leveraging HIV care delivery systems in countries funded by the President’s Emergency Program for AIDS Relief (PEPFAR)
A Framework for the Pharmacologic Treatment of Hypertension

Standardize, Simplify.

- Identification of a Core Set of Medications
- Widespread Medication Availability
- Improved Care Delivery and Medication Use

Improved Hypertension Control
## Core Set of Medications

<table>
<thead>
<tr>
<th>Medication Class</th>
<th>Primary</th>
<th>Backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>DIURETIC</td>
<td>Chlorthalidone</td>
<td>Hydrochlorothiazide (HCTZ)</td>
</tr>
<tr>
<td>ACE INHIBITOR</td>
<td>Lisinopril</td>
<td>Enalapril</td>
</tr>
<tr>
<td>ARB</td>
<td>Losartan</td>
<td>Valsartan</td>
</tr>
<tr>
<td>CCB</td>
<td>Amlodipine</td>
<td>None</td>
</tr>
<tr>
<td>BB</td>
<td>Bisoprolol</td>
<td>Metoprolol SR</td>
</tr>
<tr>
<td>OTHER</td>
<td>Spironolactone</td>
<td>None</td>
</tr>
</tbody>
</table>

*Fixed Dose Combinations (Single Pill)*

<table>
<thead>
<tr>
<th>Combination</th>
<th>Primary</th>
<th>Backup</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARB + CCB</td>
<td>Losartan + Amlodipine OR Valsartan + Amlodipine</td>
<td>N/A</td>
</tr>
<tr>
<td>ACE INHIBITOR + CCB</td>
<td>Benazepril + Amlodipine</td>
<td>N/A</td>
</tr>
<tr>
<td>ACE INHIBITOR + DIURETIC</td>
<td>Lisinopril + HCTZ</td>
<td>N/A</td>
</tr>
<tr>
<td>ARB + DIURETIC</td>
<td>Losartan + HCTZ</td>
<td>N/A</td>
</tr>
<tr>
<td>ARB + DIURETIC + CCB</td>
<td>Valsartan + HCTZ + Amlodipine</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Ideal Fixed Dose Combinations (Single Pill)**

<table>
<thead>
<tr>
<th>Combination</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ARB + CHLORTHALIDONE + CCB</td>
<td>ARB + Chlorthalidone + CCB</td>
<td>N/A</td>
</tr>
<tr>
<td>ACE INHIBITOR + CCB</td>
<td>Lisinopril + Amlodopine</td>
<td>N/A</td>
</tr>
<tr>
<td>ACE INHIBITOR + DIURETIC</td>
<td>Lisinopril + Chlorthalidone</td>
<td>N/A</td>
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Enhancing Availability of Core Medications in Latin America and the Caribbean: The PAHO Strategic Fund

- PAHO Strategic Fund procures quality medications at low cost for the Latin American region.

- Countries in the region may opt to use this mechanism for medication purchase.

- PAHO Strategic Fund reviewed and updated their Medicine List (drugs available for procurement). Workshop identified core medications were considered.

- Currently five of the core primary medications, and three of the core back-up medications are on their Medicine List.

- Prices obtained by the Strategic Fund or others such as the Eastern Caribbean system can also serve as references or comparators.

www.paho.org\strategicfund
Key Elements of a Care Delivery to Support Hypertension Treatment And Control

- **Strategy**
- **Guidelines/ algorithms for care**
- **Registries/Information Systems**
  - For cohort monitoring and accountability
- **Medications**
  - Standardized, broadly available, affordable integrated into treatment protocols
- **Patient-Centeredness (including self-management interventions)**
- **Care System (organizational management to implement and integrate with a primary health care-led system)**
- **Community**
Leadership
Clinical Toolkit

- Developed toolkit for healthcare providers and administrators
- Includes:
  - Overview of hypertension
  - Webinar on using registries to manage panels of patients and track indicators
  - Webinar on using standardized treatment protocols to improve hypertension treatment and control in clinical settings
  - Educational materials for patients and providers
  - Clinical tools for hypertension management
  - Tools to improve medication adherence
  - Pertinent literature

Available at: http://www.cdc.gov/globalhealth/ncd/hypertension-toolkit.htm
The Vision of Hypertension Control Globally
Moving Forward Together

- Strong partnerships between Ministries of Health, CDC, PAHO, and other government health care entities
- Active partnership and engagement from relevant professional associations and NGOs, civil society
- Interest, commitment, and will to increase hypertension awareness, treatment and control rates and decrease related morbidity and mortality
- Resources – staff, funding, treatment protocols, procurement mechanisms for medications
- Collaboration, information sharing, creativity, flexibility and optimism
We have the Tools, Knowledge, and People To Prevent, Treat, and Control Hypertension

Let’s Do It
Thank you!

For more information, please contact:

globalncds@cdc.gov