HEALTHY HEART AFRICA: THE KENYAN EXPERIENCE

Elijah N. Ogola
PASCAR Hypertension Task Force Meeting

London, 30th August 2015
Healthy Heart Africa

Professor Elijah Ogola

Company Restricted
International
Hypertension in Africa: History

In 1929, an article in *The Lancet* described blood pressure (BP) patterns in an Africa community living in “conditions which have probably undergone no appreciable change for many centuries,” Donnison wrote. “Over two years at a native hospital in the South of Kavirondo in Kenya, during which period approximately 1800 patients were admitted, no case of raised blood pressure was encountered, although abnormally low blood pressure was not uncommonly encountered. On no occasion was a diagnosis of arteriosclerosis or chronic interstitial nephritis made.” He pointed out that similar BP...
Hypertension in Mozambique

- Hypertensive: 33.1% (95% CI: 28.2 to 38.0) ≈ 5 million Mozambicans
- Not aware: 85.2%
- Aware: 14.8% (95% CI: 10.5 to 19.1) ≈ 700 thousand Mozambicans
  - Not treated: 48.1%
  - Treated: 51.9% (95% CI: 42.8 to 61.0)
    - among the aware: 7.7% (95% CI: 5.3 to 10.1)
    - among the hypertensive: ≈ 350 thousand Mozambicans
  - Not controlled: 60.1%
- Controlled: 39.9% (95% CI: 28.2 to 51.6)
  - among the treated: 3.1% (95% CI: 1.8 to 4.3)
  - among the hypertensive: ≈ 150 thousand Mozambicans

Hypertension in Mozambique
Awareness and control rates
Hendriks ME et al. Plos ONE 7(3): e32638
### Population awareness and control

<table>
<thead>
<tr>
<th>Study</th>
<th>Awareness %</th>
<th>Treatment %</th>
<th>Control %</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mathenge (Nakuru)</td>
<td></td>
<td>15 (17.3)</td>
<td>29</td>
</tr>
<tr>
<td>Van de Vijver</td>
<td>19.51</td>
<td>46.77</td>
<td>21.57</td>
</tr>
</tbody>
</table>
Summary of Challenges

• High, rising prevalence
• Low awareness rates
• Late diagnosis, hence complications
• Low rates of initiation of therapy
• Poor retention in therapy
• Hence poor control rates
• Vicious circle of morbidity and mortality
Healthy Heart Africa: tackling the challenges of hypertension

AstraZeneca’s HEALTHY HEART AFRICA is an innovative programme committed to tackling hypertension and the increasing burden of cardiovascular disease (CVD) across Africa.

HEALTHY HEART AFRICA aspires to reach 10 million hypertensive patients across Sub-Saharan Africa by 2025, supporting the World Health Organization’s global hypertension target (25% reduction by 2025).
A holistic approach to healthcare delivery

Building on existing health systems, this initiative supports 3 pillars of activities:

- **Education & Awareness**: Conducting prevention and disease awareness-raising activities that will encourage people to live healthier lifestyles and seek screening and diagnosis when needed.

- **Training & Guidelines**: Training healthcare workers to provide comprehensive and appropriate hypertension care, based on guidelines developed in collaboration with professional societies and the Kenyan Ministry of Health.

- **Access & Affordability**: Strengthening the supply chain and ensuring patients can access affordable, high-quality anti-hypertensive medicines.
AstraZeneca’s Approach to Combating Hypertension

With over a century of experience in developing products to treat heart disease, AstraZeneca launched Healthy Heart Africa (HHA) to support reducing the burden of hypertension, and by extension CVD, in Africa along three pillars:

- **Awareness and Education**: Conducting awareness-raising activities in communities (e.g., churches, marketplaces, workplaces) to encourage people to seek hypertension screening and diagnosis, and if needed, treatment.

- **Provider Training and Guideline Development**: Training health care workers to provide comprehensive and appropriate hypertension care, based on guidelines developed in collaboration with the Kenyayn MOH, HHA partners, and Kenyan cardiologists.

- **Treatment Access and Affordability**: Equipping facilities to provide screening services and ensuring a consistent supply of antihypertensives at a significantly reduced price, in part through an innovative supply chain system for all HHA sites.

HHA’s aspiration is to reach 10 million hypertensive patients across Africa in the next ten years, supporting WHO’s global hypertension target of a 25% reduction in hypertension prevalence by 2025.
Protocol for the identification and management of hypertension in adults in primary care

**SBP >140 mmHg and/or DBP >90 mmHg (Table 1)**

- CV directed history & clinical evaluation (Table 2)
  - Family history
  - Age
  - Diabetes, dyslipidaemia
  - Previous CV disease, heart failure, stroke
  - Peripheral arterial disease
  - Renal disease
  - Medications (Table 4)
  - Body weight, height, BMI, waist circumference

- Baseline tests (Table 3)
  - Urine dipsticks (protein, blood, sugar)
  - Random blood sugar (finger prick)
  - Blood tests if indicated and available
  - ECG if indicated and available

- Indications for immediate referral (Table 5)

- All patients should receive education about lifestyle modification (Table 6)

**Mild hypertension**
- SBP 140-160 and/or DBP 90-100 mmHg

- >2 additional CV-risk factors or associated clinical condition (Table 2)

- Trial of lifestyle modification for up to 3 months

- Goal BP achieved?
  - <140/90 mmHg
    - (Age ≥80 years; <150/90 mmHg)

- Start antihypertensive therapy* with
  - Long-acting CCB or Thiazide diuretic

- Goal BP achieved?
  - <140/90 mmHg
    - (Age ≥80 years; <150/90 mmHg)

**Moderate to severe hypertension**
- SBP >160 and/or DBP >100 mmHg

- Consider combination antihypertensive therapy* with
  - CCB plus thiazide diuretic, or
  - ACEI or ARB, plus thiazide diuretic or CCB

- Goal BP achieved?
  - <140/90 mmHg
    - (Age ≥80 years; <150/90 mmHg)

- Increase dose of combination therapy

- Goal BP achieved?
  - <140/90 mmHg
    - (Age ≥80 years; <150/90 mmHg)

- Refer:

**Continue treatment and monitor**
- Patient should be reviewed at the clinic at least every 4-6 months
- Blood tests should be repeated annually (Table 8)

- At every visit:
  - Educate about healthy lifestyle modifications, alcohol use and dietary salt restriction
  - Ask about side effects (Table 8)
  - Reinforce the importance of compliance with treatment and address obstacles to achieving/exceeding BP goals (Table 9)
  - Make a follow-up appointment
Taking a Sustainable Approach

AstraZeneca partnered with Mission for Essential Drugs (MEDs) to establish a lean, low-cost, and secure supply chain to ensure that medicines are always available to patients served by each of the five HHA implementation partners and enable up to a 90% reduction in the cost of its medicines.

AstraZeneca approached the design of the HHA supply chain with the customer in mind, by conducting extensive work to identify patient characteristics and perceptions, including ability to pay.

By establishing a profitable drug delivery model that is affordable for patients AstraZeneca is:

1. Ensuring **patient access** to HHA treatment
2. Establishing **sustainable programme funding** by reinvesting profits into HHA operations
Baseline Surveys: In partnership with the Kenyan Ministry of Health, Abt Associates conducted household and facility surveys across 17 Kenyan counties to understand hypertension awareness, screening and treatment trends before the launch of HHA.

Endline Surveys: These data points will be re-measured at the conclusion of the 18-month demonstration project phase and compared to the baseline data to establish the impact of HHA on rates of hypertension awareness, screening and treatment.
Baseline Survey

The baseline survey was conducted from February - March 2015, and the data sample used for this analysis is as follows:

Households Surveyed: The survey interviewed 2,937 people 18 and older in 1,560 households across 17 counties.

The Facilities Surveyed: A total of 148 facilities were visited representing a mix of public, private and faith-based facilities.

Breakdown by Facility Level:
- Hospitals (level 4): 55%
- Health centers and clinics (level 3): 27%
- Dispensaries (level 2): 18%
Hypertension Awareness

Knowledge around risk factors and health risks associated with hypertension is low, particularly among rural and lower income populations

*Awareness of the health risks associated with elevated blood pressure is low*
- While the majority of respondents – 58% – mentioned death as a potential health risk of hypertension, only 30% and 29% of the population surveyed knew that heart attacks and strokes are health risks associated with high blood pressure, respectively

*Despite the very low knowledge around risk factors among the population surveyed, activities to address hypertension awareness and education seem limited*
- Availability of point of service communication materials for hypertension at the facilities was very low, as only 10% had posters about hypertension and only 20% of the facilities conduct hypertension outreach services
- Perhaps because of the reality that other diseases have received greater attention by health care providers and front line healthcare workers, while over 70% of respondents said they had heard of hypertension from friends and family, fewer than 10% of respondents had heard about hypertension from a community health worker or a community event
Provider Training

Poor provider knowledge around hypertension risk factors and diagnostic procedures contribute to inconsistent quality of hypertension care, particularly at lower levels of the health system.

Providers showed poor knowledge around hypertension risk factors
- Awareness of hypertension risk factors and among health care providers is low, particularly at dispensaries where only family history and high stress were cited by more than half of providers, while lack of physical activity, alcohol and tobacco consumption and age were much less frequently cited.
- Providers surveyed often did not understand the full extent of health related consequences of hypertension, frequently failing to make the link between hypertension and heart attacks or renal disease.

Providers are generally not aware of diagnostic protocols
- Fewer than 50% of providers surveyed were able to correctly identify the BP threshold which indicates that a patient is hypertensive.
- Provider knowledge of severe blood pressure thresholds is low at all levels of the health system; fewer than 15% of providers knew the correct threshold for severe hypertension.
- Fewer than 40% of providers correctly identified the need to take a BP reading on more than one occasion (i.e., not during the same visit) to accurately diagnose a patient.
Hypertension Treatment

Availability of anti-hypertensives varies quite considerably across the different levels of the health system, and not all appropriate treatments are consistently available.

HCTZ was one of the more consistently available anti-hypertensives, but at level 2 facilities HCTZ was in stock at less than half the facilities surveyed.

- CCB availability was very inconsistent. Lower levels of care showed significant variability in stock, particularly for Amlodipine, where it was observed that over 70% of level 2 and level 3 facilities did not have the drug in stock; additionally, individuals at higher wealth quintiles appeared to have greater access to CCBs compared to lower wealth quintiles.

- Treatments for more advanced stages of hypertension were also generally available less frequently – beta blockers and ACE inhibitors were not stocked in more than 50% of level 2 facilities and nearly half of level 3 facilities.

Patient perception of the availability of these medicines was relatively low.

- Nearly 40% of those survey respondents who were prescribed hypertension medication noted that drugs were either only sometimes available or almost never available.
Expected Findings from HHA

Abt Associates is leading an external evaluation of the five demonstration projects over the 18-month implementation period, after which AstraZeneca expects to answer the following questions:

As HHA is scaled both within and outside of Kenya, AstraZeneca expects to answer the following questions over the long-term:

• **Integration**: Is integrating hypertension care into existing healthcare service infrastructure feasible?

• **Lessons Learned**: Of the various models being implemented, which elements are most effective at addressing HHA’s three-pillars?

• **Cost of Care**: What is the facility cost to integrate hypertension programming into existing service delivery infrastructure?

• **Health Impact**: What is the impact of HHA programme activities on hypertension related cardiovascular disease mortality?

• **Cost-Benefit**: What is the cost-benefit of investing in hypertension control (i.e., cost difference to a healthcare system between uncontrolled and controlled hypertension)?

Baseline report due early September 2015
AstraZeneca’s Long-Term Vision

AstraZeneca intends to share findings from the 18-month demonstration projects with key stakeholders to help inform HHA scale up in the coming decade, as well as contribute to the public health dialogue around reducing rates of hypertension, raising awareness around CVD, and improving chronic care more broadly in resource-limited settings.