

# Ethiopia LEOPARD Project

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Diabetic Eye Screening Programme



[www.retinalscreening.co.uk](http://www.retinalscreening.co.uk)





# LEOPARD

Helping  
Africa  
See

Lion's  
Ethiopian  
Ophthalmic  
Programme  
Against  
Retinal disease and  
Diabetes

[www.retinopathyscreening.co.uk](http://www.retinopathyscreening.co.uk)









# Ethiopia

“The horn of Africa”

Total Population of 96.51 million (2014)

The most populous landlocked country in the world

Surrounded by:

Sudan, Eritrea, Djibouti, Somalia, and Kenya

Second-most populous nation in Africa after Nigeria

The Ethiopian calendar is 7 yrs , 3 months behind  
(February 2008)



# Healthcare in Ethiopia

The main health problems are communicable (contagious) diseases (worsened by poor sanitation and malnutrition)

It is said 1 medical doctor per 100,000 people

119 hospitals (12 in Addis Ababa alone) and 412 health centres in Ethiopia

Avg life expectancy of 64 (under 60 out of City's)

Infant mortality rates are high, over 8% of infants die during or shortly after childbirth

As of 2012, Ethiopia's prevalence of HIV/AIDS for adults aged 15–49 was estimated at 1.30%

# Diabetes

Ethiopia is a developing nation, with diabetes becoming more common as it becomes more “Westernised”

2.1m people with diabetes

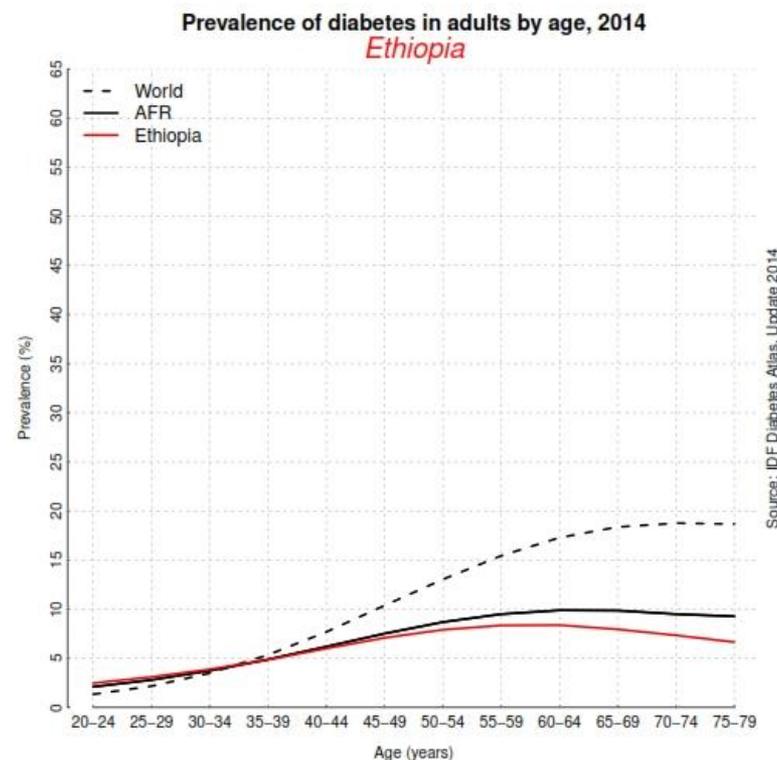
1.6m people undiagnosed

Prevalence of 4.8% in adults

Diabetes expenditure/per person with DM

\$29 in Ethiopia

£2,000 in UK



# 2007



# Training in Birmingham



# 1 Year Medical placement



# Sailing with Tedla





2008



# QA review of Grading

**493 completed screening**

**Gender:**

233/493 (47%) male  
250/493 (51%) female  
(10 x unspecified)

**Age:**

Mean = 47 years  
Range = 8 to 78 years

**Medications:**

204/493 (41%) patients' medications recorded  
113/204 (55%) were insulin treated

**Visual Acuity:**

60% of patients have a VA of 6/18 or worse

# QA review of Grading

## Unassessable:

12% images not gradable or possible

## Diabetic Retinopathy:

39% of patients with no DR (ROMO)

17% of patients with background DR only (R1)

7% of patients with pre-proliferative (R2)

4% of patients with proliferative (R3)

28% of patients with maculopathy (M1)

## Agreement between BLDC & BSBC DESP was:

92% for those returned to annual screening,

69% for those requiring urgent referral,

98 % for specifically identifying sight threatening DR for referral.

Data - Laurence Quant/HEFT (1998)

# Typical Cases



Proliferative diabetic retinopathy and maculopathy both eyes. VA: 6/6 both eyes!

# Typical Cases



M1 RE and Occlusion LE

RE: 6/18 LE: HM

# 2009 – My first trip



# 2009 – My first trip



# 2011 – Training



# 2011 – Training



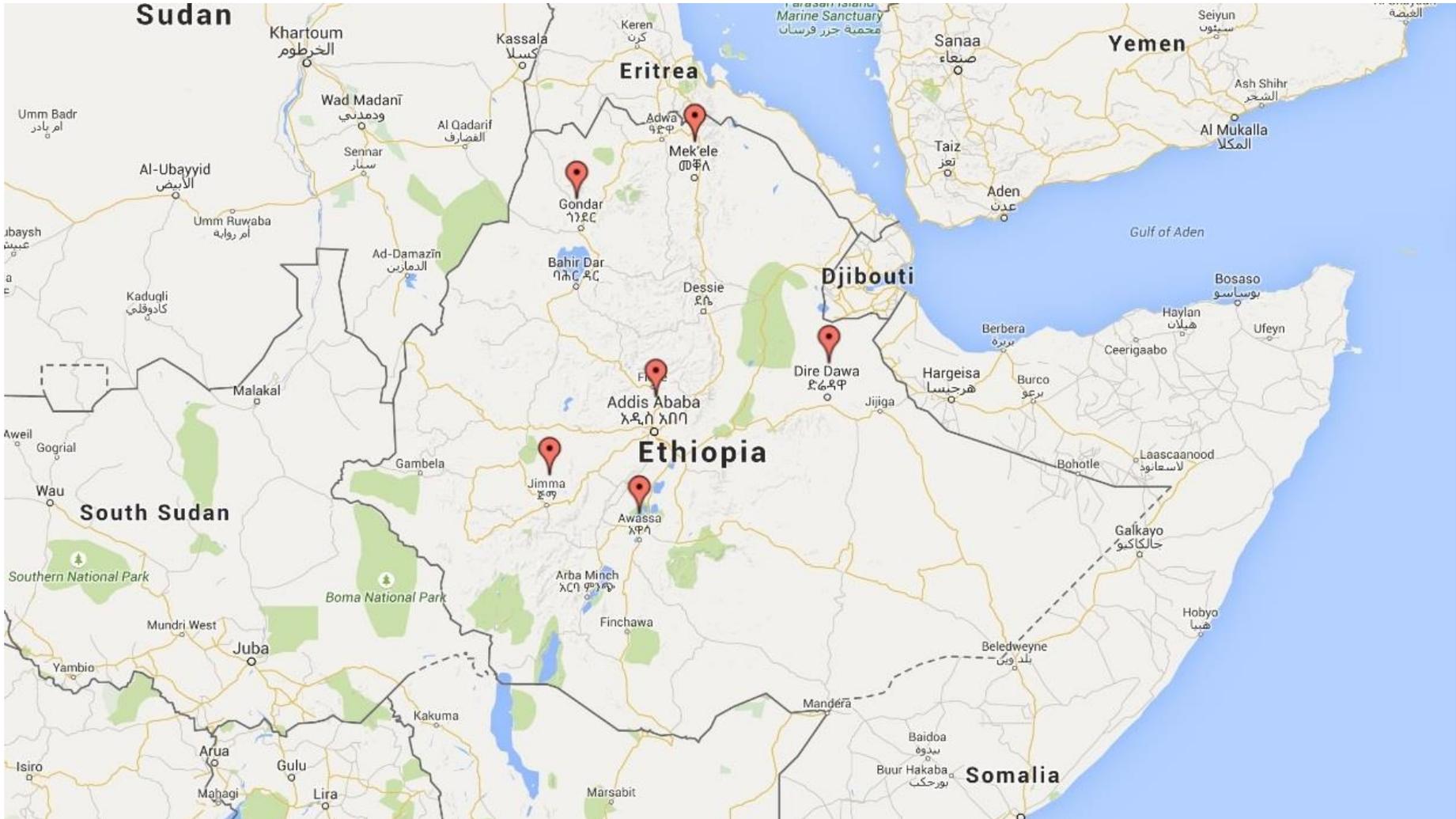
# 2011 – New Equipment



5x Cameras – 10 Laptops  
3x Slit lamps  
2x PASCAL Lasers



# 2011 – Additional screening sites







# Project Summary

A total of 11,956 people have had their eyes screened & 2,650 people have had laser

Addis - 9763

Hawassa – 750

Gondar – 1434

Mekelle – 100

Jimma – Unknown

Dire Dawa – Not operation yet

Alongside eye screening the EDA have also raised the profile of eye health via patient Education/Awareness - 10,000 copies of DR Article and 5,000 DR leaflets were distributed to EDA branches

# Problems encountered

- Target was 31,000 patients to be screened by July 2015
- 4 of the 6 camera sites are operational – Jimma – problems with camera  
Dire Dawa awaiting replacement DSLR
- 2 of the 3 sites with laser are operational - Hawassa the laser is broken
- High staff turnover of trained screeners and ophthalmologists, of 22 nurses trained in 2011 only 10 returned for refresher training in 2014
- Lack of bio-medical engineers to maintain equipment
- EDA/WDF would like Ethiopian Ministry of Health to take ownership of the project

# New technologies or Alternative screening methods....

# Welch Allyn iExaminer





PanOptic Ophthalmoscope with adapter  
for the iPhone 4 or 4S

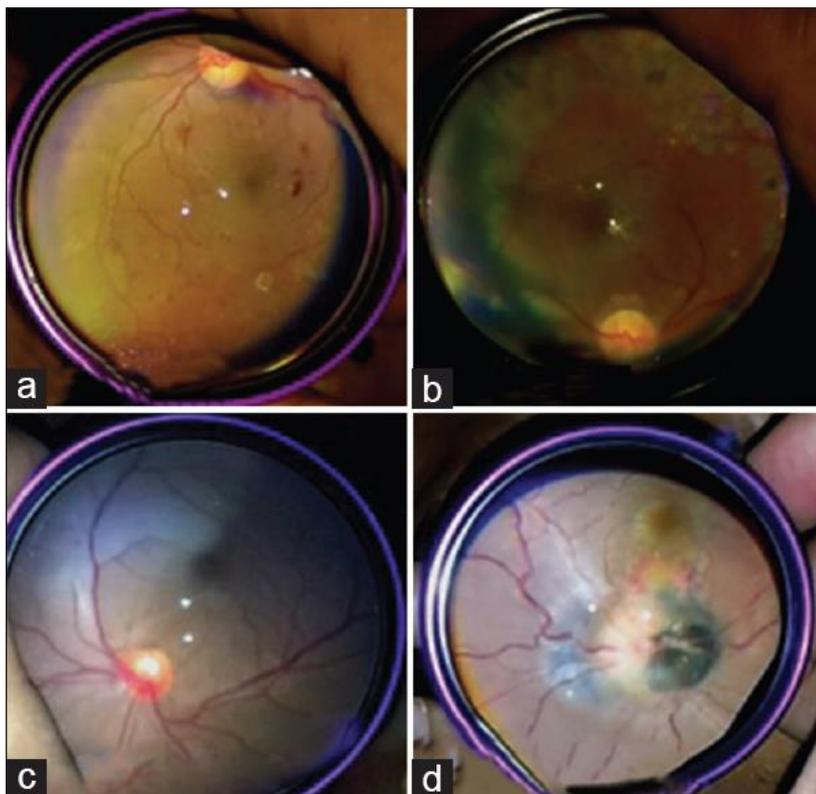
5 or 8 megapixel images

5X larger view of the fundus vs. standard  
ophthalmoscopes

25 degree view of retina

£700 plus phone cost

# Phone & Volk lens



# Thank You

Ethiopia:

Dr Ahmed Reja

Dr Tedla Kebede

Dr Emmanuel

Sister Wubit

Nurse Tsion

All the Drs, Nurses who attended both Training events

Misrak – Ethiopian Diabetes Association

Word Diabetes Foundation

UK:

Dr Margaret Clarke - Diabetologist

Dr Alex Wright - Diabetologist

Dr Rachel Garrat – Previous HEFT screener/grader

Andrew Mills – BSBC DESP IT Manager

Laurance Quant – BSBC DESP Deputy IT Manager

David Roy – BSBC DESP IG Manager + screener/grader

Raphel Sofair – Screener/grader – Medical Imaging

Karen Whitehouse – BSBC Training Lead

Hayley Chambers – BSBC Screener/grader

Neil Wilkinson – BSBC Screener/grader + IT Technician

Prof Paul Dodson

Additional Support:

Jon Hildred – Donation of 2<sup>nd</sup> camera

John Speakman – Palliative Care

Trish Castenor – St Marys Hospice

Debbie Brewer – HEFT DSN

Lynn Dodson – Oncology

Alison Page - Oncology

Lee + Richard – Topcon

Dr Simon Smith – Vascular Surgeon

Dr David Gurevitch – Oncology Surgeon

Dr Grace Smith – Consultant Microbiologist

Novartis Pharmaceuticals

Topcon – Donation of first camera

Digital Healthcare (Classic Software)

All who have purchased a book!

