WDF and the global NCD agenda
Translating commitments into action

Caribbean NCD Forum
Kingston, Jamaica    April 2018
BACKGROUND

Based in Denmark
Established by pharmaceutical company ‘Novo Nordisk’ in 2002
Funding base confirmed until 2024 (with possible extension)
Annual budget approx. USD 15 million (with possible scale up)

Legal status: ‘..foundation combating diseases and serving a social and charitable purpose..’ (Supervisory jurisdiction: ‘Civil Affairs Agency of Denmark’)

Independent structure (defined by statutes; Board and Secretariat)
WDF
MISSION AND APPROACH

To alleviate human suffering related to diabetes and its complications among those least able to withstand the burden of the disease

Poverty focus: only support to LMICs (OECD-DAC)

Demand-driven (proposal based)
Ministry of Health/national authority ownership or support
Number of people with diabetes worldwide and per region in 2017 and 2045 (20-79 years) *

- **North America & Caribbean**
  - 2045: 62 million
  - Increase: 35%
  - 2017: 46 million

- **Middle East & North Africa**
  - 2045: 67 million
  - Increase: 72%
  - 2017: 39 million

- **Europe**
  - 2045: 67 million
  - Increase: 16%
  - 2017: 58 million

- **South & Central America**
  - 2045: 42 million
  - Increase: 62%
  - 2017: 26 million

- **Africa**
  - 2045: 41 million
  - Increase: 84%
  - 2017: 16 million

- **South East Asia**
  - 2045: 82 million
  - Increase: 15%
  - 2017: 151 million

- **Western Pacific**
  - 2045: 183 million
  - Increase: 15%
  - 2017: 159 million

*International Diabetes Federation. IDF Diabetes Atlas, 8th edn.*
WDF PROJECT PORTFOLIO 2002-2018

535 country projects  239 active
116 countries  80 active
Aggregated WDF funding  USD 137 million
Partners: MoHs, international organisations, civil society, a.o.

>30 partnerships directly with MoH/national health authorities
(national diabetes/NCD response frameworks)
WDF: PROGRAMME APPROACH AND EXTERNAL IMPULSES
ADAPTATION AND REFINEMENT 2002→2018→…

- Diabetes
- Integration of NCDs into health systems
- UHC?
- NCDs
COUNTRY CASE:
UNITED REPUBLIC OF TANZANIA

Moving from pilot projects to a national diabetes / NCD response
BACKGROUND
MULTI-SECTORAL PARTNERSHIP

Tanzania Diabetes Association

Ministry of Health

Donors

World Diabetes Foundation
Novo Nordisk Fund Raising
Dr Zolli – Venice, Italy
NN World Partnership Project
Handicap International / EU

Curriculum development
Training
Capacity building - tools
Establishment of Association Branches
Monitoring & Evaluation
Supply & logistics system

Human resources
Clinic space

“Seed” funding

SUSTAINABLE QUALITY DIABETES SERVICE
TDA HAS DEVELOPED SUCCESSFUL LONG-TERM RELATIONSHIPS WITH KEY STAKEHOLDERS.

National Stakeholders

International Stakeholders
TANZANIA DIABETES ASSOCIATION (TDA) WAS FORMED 31 YEARS AGO. TODAY, IT IS THE FOCAL POINT FOR DIABETES ACTIVITY IN TANZANIA.

Data collection on diabetes and risk

TDA established

World Partnership Project: grants funds for diabetes clinic at Muhimbili National Hospital and establishing diabetes services in three district hospitals in Dar es Salaam and Zanzibar (8).

5th Pan African Diabetes Study Group Meeting provides seed funding for TDA

Diabetes / NCD clinics rolled out / strengthened to all zonal (4), regional (28) and district hospitals (187) Under National Diabetes/NCD program including integrated training - funded by WDF

Diabetes clinics established in district hospitals in Lake region – WDF Funding
BURDEN
## Burden of Type 2 Diabetes & Hypertension

<table>
<thead>
<tr>
<th></th>
<th>Diabetes</th>
<th>Hypertension</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Prevalence in 1980s</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rural population</td>
<td>&lt;1%</td>
<td>2-7%</td>
</tr>
<tr>
<td>Urban population</td>
<td>&lt;2%</td>
<td>7-15%</td>
</tr>
<tr>
<td>Special groups</td>
<td>5-6%</td>
<td>25-40%</td>
</tr>
<tr>
<td>Asian Indian groups</td>
<td>9-12%</td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence in 2000</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban population</td>
<td>~5%</td>
<td></td>
</tr>
<tr>
<td><strong>Prevalence in 2012</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>STEPS Survey (countrywide)</td>
<td>9%</td>
<td>27%</td>
</tr>
<tr>
<td>Previously diagnosed</td>
<td>~2%</td>
<td>1.8%</td>
</tr>
</tbody>
</table>
BURDEN – OTHER CVD RISK FACTORS & GDM

- Dyslipidaemia: 15-32%
- Obesity: 12-36% (in rural areas: 5% to 25%)
- Ischaemic Heart Disease: no data but clinic records reveal increasing trends
- Stroke: based on previous studies, incidence increasing
- Prevalence of Gestational Diabetes (GDM):
  - Rural 1.0%
  - Urban 8.4%
  - Average 5.9%
### PROPORTION OF PATIENTS SCREENED FOR COMPLICATIONS IN THE LAST ONE YEAR (N=411)

<table>
<thead>
<tr>
<th>Procedure</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dilated eye examination</td>
<td>18.3</td>
</tr>
<tr>
<td>Blood pressure</td>
<td>76.9</td>
</tr>
<tr>
<td>Weight measurement</td>
<td>73.5</td>
</tr>
<tr>
<td>Urinalysis</td>
<td>61.8</td>
</tr>
<tr>
<td>ECG</td>
<td>8.5</td>
</tr>
<tr>
<td>Serum creatinine</td>
<td>5.8</td>
</tr>
<tr>
<td>Lipid profile</td>
<td>4.9</td>
</tr>
<tr>
<td>Foot examination</td>
<td>10.0</td>
</tr>
<tr>
<td>Dental examination</td>
<td>5.6</td>
</tr>
<tr>
<td>Problem</td>
<td>%</td>
</tr>
<tr>
<td>------------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Clinics irregular/ inconvenient time</td>
<td>24.1</td>
</tr>
<tr>
<td>Can not afford transportation cost</td>
<td>61.3</td>
</tr>
<tr>
<td>Can not afford cost of medication</td>
<td>47.9</td>
</tr>
<tr>
<td>Can not afford cost of investigations</td>
<td>21.4</td>
</tr>
<tr>
<td>Lack of medications</td>
<td>41.4</td>
</tr>
<tr>
<td>Few health care providers</td>
<td>48.2</td>
</tr>
</tbody>
</table>
MEDICAL PAYMENT SOURCES AMONGST PEOPLE WITH DIABETES (N=2139)

<table>
<thead>
<tr>
<th>Source of payment</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paid from own income</td>
<td>79.2</td>
</tr>
<tr>
<td>Paid from social support fund</td>
<td>13.6</td>
</tr>
<tr>
<td>Paid from donations</td>
<td>1.3</td>
</tr>
<tr>
<td>Paid from money from family or friends</td>
<td>35.1</td>
</tr>
<tr>
<td>Paid from money borrowed</td>
<td>23.1</td>
</tr>
<tr>
<td>Paid by selling possessions</td>
<td>3.0</td>
</tr>
<tr>
<td>Paid by selling house or land</td>
<td>2.6</td>
</tr>
</tbody>
</table>
INTERVENTIONS
IMPORTANT MILESTONES

• 2003: Train and strengthen Diabetes Clinic at National Referral Hospital (MNH) and three other zonal referral hospitals (KCMC, Bugando, Mbeya).

• 2005: Train and establish diabetes services at all regional hospitals (21) and 3 district hospitals in Dar es Salaam

• 2006-8: Train and establish diabetes services at 25 district hospitals in the Lake Zone as a “pilot”

• 2009-2011: Monitor & evaluate

• 2012: Plan for a National Diabetes /NCD Program – 4 referral hospitals, 27 regional referral hospitals and 187 district hospitals. Review and develop training curriculum for diabetes & other NCDs for different levels of health care
CARE FOR CHILDREN WITH TYPE 1 DIABETES

Children up to 22 years:
- Enrolled if <=18 years at diagnosis,
- Supported till 22 years old
- Total 800 in 14 clinics
- Donated Insulin, syringes, blood glucose meters and test strips, and urine test strips
- Support by Novo Nordisk (CDiC) & Roche Diagnostics
- Received & Distributed by TDA
- Ended 2017, Government expected to take over

Adolescents 19-26 years:
- Total 1320 in 34 clinics
- Enrolled if 19-22 years
- Supported up to 26 years
- Donated insulin, syringes, blood glucose test strips
- Support by International Diabetes Federation
- Received & Distributed by TDA

Capacity building:
- Training on type 1 diabetes to 26 HCPs
- Paediatric Endocrinologists trained (0 in 2006 to 7 in 2017)
Tanzania Registry - age at diagnosis
# TYPE 1 DIABETES - TRENDS

<table>
<thead>
<tr>
<th>Year</th>
<th>HbA1C (5)</th>
<th>DKA (n)</th>
<th>Mortality (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td>&gt;14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2011</td>
<td>12.6</td>
<td>30</td>
<td>9</td>
</tr>
<tr>
<td>2012</td>
<td>12.1</td>
<td>23</td>
<td>4</td>
</tr>
<tr>
<td>2014</td>
<td>10.3</td>
<td>10</td>
<td>7</td>
</tr>
<tr>
<td>2016</td>
<td>9.6</td>
<td>9</td>
<td>5</td>
</tr>
</tbody>
</table>
TRAINING CURRICULUM FOR NCDS DEVELOPED & MANUALS PREPARED

Cardiovascular Disease, Type 2 Diabetes, Obesity, Cancer, Chronic Obstructive Pulmonary Disease and Hyperlipidaemia Care
Case Management Training Modules
April 2014

United Republic of Tanzania
Ministry of Health and Social Welfare

Cardiovascular Disease, Type 2 Diabetes, Cancer and COPD in adults
Case Management Desk Guide

LISHE NA ULAJI UNAOFAA KWA WATU WENYE MAGONJWA SUGU YASIYO YA KUAMBUKIZA
MAFUNZO KWA WATOA HUDUMA YA AFYA KITABU CHA REJEA CHA MSHIRIKI

JAMUHURI YA MUUNGANO WA TANZANIA
WIZARA YA AFYA NA USTAWI WA JAMII

MTINDO WA MAISHA NA MAGONJWA YASIYO YA KUAMBUKIZA
Dalili, Athari na Kinga
Elimu kwa Jamii
OTHER INFRASTRUCTURE SUPPORT

For all hospitals
• Height & Weight scales
• BP Machines
• Stethoscopes
• Glucose meters
• Snell’s Charts
• Direct Ophthalmoscopes
• Measuring tapes
• Monofilaments
• Tuning forks

For Zonal Referral hospitals
Diabetes Foot equipment:
• Vascular Doppler Recorder
• Neuropathy Analyzer
• Plantar Pressure Strides System Pedography

Diabetes Eye equipment:
• Fundus Camera
• Slit Lamp
• Indirect Ophthalmoscope
• Laser Photocoagulation
TANZANIA NATIONAL DIABETES/NCD PROGRAM

- Implementation under the National Strategy for Non Communicable Diseases.
- Coordination under the Ministry of Health, Community Development, Gender, Elderly & Children
- Tanzania Diabetes Association (TDA) as project implementer.
- Funded by World Diabetes Foundation (WDF)
- Goal - Reduction of morbidity & mortality due to Diabetes/NCDs in Tanzania through development of a comprehensive system of care for people with NCDs and public awareness creation.
<table>
<thead>
<tr>
<th>Facility Level</th>
<th>NCD Clinics</th>
<th>Specialty Clinics</th>
<th>Nutrition</th>
<th>Sensitization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zonal Referral Hospitals</td>
<td>2 MO/AMO/CO 2 Nurses</td>
<td>2 HCP RCH 2 HCP TB/Leprosy 2 HCP Eye/Dental 2 HCP HIV/AIDS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Regional Referral Hospitals</td>
<td>2 MO/AMO/CO 2 Nurses</td>
<td>2 HCP RCH 2 HCP TB/Leprosy 2 HCP Eye/Dental 2 HCP HIV/AIDS</td>
<td>1 Regional Nutritionist</td>
<td>2 RHMTs</td>
</tr>
<tr>
<td>District Hospitals</td>
<td>2 MO/AMO/CO 2 Nurses</td>
<td>1 HCP RCH 1 HCP TB/Leprosy 1 HCP Eye/Dental 1 HCP HIV/AIDS</td>
<td>1 District Nutritionist</td>
<td>1 CHMT</td>
</tr>
<tr>
<td>Health Centers</td>
<td>1 MO/AMO/CO 1 Nurse</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dispensaries: Provided 5 copies of IEC Manual to each public dispensary
PROGRAM LEVEL MONITORING TOOLS

• Five Tools
  1. Community level awareness of NCDs
  2. Patient characteristics and utilization
  3. Health Care Providers: service delivery
  4. Healthcare Facility Capacity
  5. Diabetes Clinic Services Monthly reports
Power imbalance
Financial disparity
Historical difference
Centralised HIV vs. decentralised NCD treatment services
Separate M and E

NCD/NDP
- National level
  - National Referral, Zonal
- Intermediate level
  - Regional Referral District

NCD clinic
NCD services

NACP
- National level
  - National Referral, Zonal
- Intermediate level
  - Regional Referral District

ART clinic
HIV services

Primary care services
Community based services

NCD and HIV programmes
## PWANI REGION: HEALTH FACILITIES REPORTED AVAILABILITY OF SPECIALIZED HEALTH SERVICES IN THE LAST ONE MONTH BY LEVEL/STATUS

<table>
<thead>
<tr>
<th>Service</th>
<th>Total, n (%)</th>
<th>Hospitals</th>
<th>Health Centres</th>
<th>Dispensaries</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total number of Facilities</strong></td>
<td>31 (100)</td>
<td>6</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Antenatal care / PMTCT</td>
<td>31 (100)</td>
<td>6</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Delivery</td>
<td>28 (90.3)</td>
<td>6</td>
<td>15</td>
<td>7</td>
</tr>
<tr>
<td>Immunization/Growth monitoring</td>
<td>31 (100)</td>
<td>6</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>Family planning</td>
<td>29 (93.5)</td>
<td>6</td>
<td>15</td>
<td>8</td>
</tr>
<tr>
<td>HIV</td>
<td>30 (96.8)</td>
<td>6</td>
<td>15</td>
<td>9</td>
</tr>
<tr>
<td>TB/Leprosy</td>
<td>27 (87.1)</td>
<td>6</td>
<td>15</td>
<td>6</td>
</tr>
<tr>
<td><strong>Diabetes/other NCDs</strong></td>
<td>6 (19.4)</td>
<td>3</td>
<td>2</td>
<td>1</td>
</tr>
</tbody>
</table>
## PWANI REGION: HEALTH EDUCATION/COUNSELLING SERVICES OFFERED ONE MONTH BEFORE THIS SURVEY BY HEALTH FACILITY LEVEL: MEAN AND RANGE OF NUMBER OF SESSIONS

<table>
<thead>
<tr>
<th>Health education/counselling</th>
<th>Hospital</th>
<th>N=6(100)</th>
<th>Mean (Range)</th>
<th>Health Centre</th>
<th>N=16(100)</th>
<th>Mean (Range)</th>
<th>Dispensary</th>
<th>N=9(100)</th>
<th>Mean (Range)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Total</strong></td>
<td>N=6(100)</td>
<td>Mean (Range)</td>
<td>N=16(100)</td>
<td>Mean (Range)</td>
<td>N=9(100)</td>
<td>Mean (Range)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Healthy Diet and Nutrition</td>
<td>6</td>
<td>15.5(4,28)</td>
<td>14</td>
<td>9.6(2,30)</td>
<td>6</td>
<td>8.8(4,20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physical Activity</td>
<td>3</td>
<td>15(5,20)</td>
<td>6</td>
<td>8(1,20)</td>
<td>5</td>
<td>3(1,6)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Breast Feeding</td>
<td>6</td>
<td>10.2(4,20)</td>
<td>15</td>
<td>10.2(2,28)</td>
<td>9</td>
<td>11(2,20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HIV /AIDS</td>
<td>6</td>
<td>15(5,20)</td>
<td>15</td>
<td>11.3(2,30)</td>
<td>8</td>
<td>10.1(2,20)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>TB/Leprosy</td>
<td>4</td>
<td>12.3(4,20)</td>
<td>12</td>
<td>9.8(1,20)</td>
<td>7</td>
<td>3.6(1,8)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diabetes</td>
<td>2</td>
<td>12(4,20)</td>
<td>3</td>
<td>8.3(1,20)</td>
<td>2</td>
<td>2.5(1,4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hypertension</td>
<td>2</td>
<td>12(4,20)</td>
<td>7</td>
<td>5.9(1,28)</td>
<td>4</td>
<td>6.3(1,10)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancer</td>
<td>4</td>
<td>12.5(4,20)</td>
<td>7</td>
<td>8.6(1,20)</td>
<td>3</td>
<td>1(1,1)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asthma</td>
<td>2</td>
<td>11(2,20)</td>
<td>7</td>
<td>4(1,15)</td>
<td>4</td>
<td>2.3(1,4)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Family planning</td>
<td>6</td>
<td>13.3(3,20)</td>
<td>15</td>
<td>10.9(1,20)</td>
<td>9</td>
<td>10.6(3,20)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Community

Mass Media Education

Screening Camps
Education & Screening
World Health Days

School Health
Education & Screening

Workplaces
Education & Screening

Health Education

Community Health Workers
Education
Screening
Treatment Adherence

Community

All Facility Attendees

All New

Disease Specific Services
RCH
CTC
Diabetes/NCDs
TB/Leprosy
General OPD

Regional & District Level Services
Specialty Clinics
OutReach Clinics
New & Yearly Checks

General Disease Screening & Individual Health Education
Body Mass Index
Blood Pressure
Blood Glucose
Provider Initiated HIV Counselling & Testing
TB Screening

Re-Attending OR Emergency
BENEFITS OF APPROACH

• Sharing of Human Resources Approach to Care:
  – All key silent diseases attended

• Sharing physical space:
  – Clinics for chronic diseases on different days in rotation

• Sharing of blood samples and laboratory personnel:
  – Malaria test and Blood glucose
  – PMTCT and blood glucose
  – VCT and blood glucose
  – Screening for complications: renal, lipids, liver, heart
  – RCH: GDM, HT, EPH Gestosis

• TB & HIV and diabetes: co-existence & mutual screening

• Community Health Workers (CHWs):
  – for community awareness and screening (all diseases of public importance)
  – CHWs are now part of the establishment of MoH

• One centre in primary health facilities for health education and key diseases screening
Tanzania NCD Alliance

Cardiovascular (HFT)
Diabetes (TDA)
Cancer (TCS)
Respiratory (TARD)
Other partners:
Mental Health
Trauma
SCD
Risk Factors
Complications

Ministry of Health,
Community Development,
Gender, Elderly & Children

Danish NCD Alliance
Tanzania Diabetes Association
Corporate Donors

Positive Policy Environment

1st Multi-sectoral NCD stake-holders meeting
July, 2015

National NCD Strategy & Action Plan
2016-2020

“Seed” funding

To prevent the occurrence and improve the welfare of people with Non Communicable Diseases
WAY FORWARD

• Tertiary and Secondary Care Health Facilities: training, tools, protocols in place and integrated care has been implemented – awaiting evaluation

• Primary care (health centres and dispensaries ) to be piloted in one region before scaling up.

• Community Health workers and Peer educators will be the key drivers of prevention and advocacy at Primary Care level.

• Primary prevention program at School level in partnership with MoHCDGEC, MoE, PORALG and APHFTA
THANK YOU