

Final report on the support from Diabetes UK to Mozambique within the framework of the International Diabetes Federation Twinning Programme

2007-2009



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Introduction

This current report highlights the progress made during 2009 with regards to the different objectives established as part of Diabetes UK's Twinning project with Mozambique. This report details progress made in 2009, the completion of the objectives set as well as an overall summary of results from the three-year (2007-2009).

The final year of Diabetes UK's Twinning project with Mozambique built on the success of the two previous years with the following highlights:

- Continued development of AMODIA especially in Maputo
- Finalised education materials being used during education sessions at AMODIA and in the community by trained members of the Association
- Sharing at national, regional and international levels of Mozambique's experience with the development of its National Non Communicable Disease (NCD) Plan
- Reassessing to diabetes care in order to audit progress

The implementation of the National Plan for Non Communicable Diseases began in 2009 with direct support coming from Diabetes UK for the implementation of this National Strategy. The establishment of this National Plan as a government programme should help assure sustainability for care of diabetes and other Non Communicable Diseases in Mozambique.

Challenges remain especially in increasing the Diabetes Association's (AMODIA) autonomy in Maputo and its development in Beira and Quelimane, in addition to the need to develop a wider coalition of people involved in diabetes. Diabetes UK's support remains an important catalyst in improving the overall management of diabetes.

Next steps/future

The 3 year Twinning Partnership with Mozambique ended in December 2009. It is suggested that the Board of Diabetes UK might wish to consider an ongoing partnership with the Mozambique Ministry of Health and AMODIA to permit:

- Continuing education for health workers in diabetes care
- Further strengthening of the national Diabetes Association
- Further development of patient education materials
- Developing ongoing professional links between diabetes specialists and health planners with counterparts in the UK.
- Extending some of the activities to as yet underprovided areas of Mozambique

Challenges that remain

From the audit carried out in 2009 using the Rapid Assessment Protocol for Insulin Access¹ the following challenges were identified:

- Some problems with staffing mainly due to shortages of staff in different areas of the country
- No clear organisation of diabetes care between health centres and hospitals in some regions
- Need for employment of widely available patient files and clinical registers in decision making
- Problems with the availability of strips for glucometers
- Problems with supply of syringes
- Poor knowledge/understanding of diet acting as a major barrier to adherence
- Problems remain with management at all branches of AMODIA

Detailed results are included as Appendix 1.

Overall summary of results from 2007-2009

- The strengthening of AMODIA into a national Association with an 8-fold increase in membership
- The training of 265 health workers in diabetes specialist care in all of Mozambique's provinces
- The development of relevant patient education materials inspired by some Diabetes UK tools (see Appendix 2)
- The expansion of public awareness, particularly from events associated with World Diabetes Day
- Positive developments clearly shown in diabetes care in Mozambique, using the Rapid Assessment Protocol for Insulin Access, (detailed in the table below and Appendix 1)
- Development of the first comprehensive national Non Communicable Disease plan in sub-Saharan Africa

¹ The Rapid Assessment Protocol was carried out in 2003 to identify the barriers to access to diabetes care in Mozambique. Following this assessment different technical support was provided by the International Insulin Foundation and the Diabetes UK Twinning project used the findings of this assessment to develop its programme.

Changes in key indicators from 2003-2009

Indicator	2003	2009
<i>Insulin</i>		
Proportion of total amount of insulin in Maputo	77%	46%
Time for tender (maximum)	12 months	9 months
Average tender price per vial of insulin (18 months)	\$6.86	\$4.50
Insulin always present at %age of hospitals	20%	100%
Affordability (%age of GDP per capita PPP)	4%	1%
<i>Presence of diagnostic tools</i>		
Blood glucose machine	21%	87%
Are consumables available for the Blood glucose machine	6%	27%
Urine testing strips	18%	73%
Presence ketone strips	8%	73%
<i>Healthcare workers</i>		
Number of healthcare workers who have received training in diabetes (2003 basic, 2009 specialised)	52%	65%

Progress Report 2009

This section of the report is structured around the 9 points that form the basis of Diabetes UK's aims for Twinning in Mozambique and highlights the main progress made in the different periods of the first year's activities. More detailed progress from the first 3 interim reports as well as a description of the activities from September to December 2009 are detailed in Appendix 3.

1. **Support for the training of trainers programme initiated by the Ministry of Health**
 - Total of 265 healthcare workers trained in Mozambique from all Provinces
 - Special training of post graduate medical students in diabetes
2. **Further training of healthcare workers through different options e.g. sending them to Tanzania, training organised in Mozambique by someone external, specialised training.**
 - No new training being carried out, but the training in diabetes education received by two doctors in Tanzania was used in training their colleagues and members of AMODIA
3. **Invitation to Dr. Carla Silva-Matos to deliver a talk at the Annual Professional Conference in 2008 coupled with talks to voluntary and lay groups**
 - Completed in 2008
4. **Diabetes UK literature made available to AMODIA with appropriate adaptation and translation**
 - Use of these materials for education sessions at AMODIA and in the community
5. **Organisation of World Diabetes Day events**
 - World Diabetes Day was celebrated in Gaza, Maputo, Nampula, Beira and Quelimane in addition to 11 "Feira de Saude" (Health fairs) being organised throughout Mozambique, impacting approximately 20,000 people in 2009
6. **Advocacy and policy support to Dr. Carla Silva-Matos by David Beran**

- The National Plan has now been approved and published and is being distributed throughout Mozambique for implementation
 - The Plan has been publicised at a national, regional and international levels
 - Diabetes UK and the International Insulin Foundation's contribution to the plan are detailed in Appendix 4.
 - A reassessment using the RAPIA, which was part of the national plan, was carried out with the report and recommendations being presented to the Ministry of Health
- 7. Develop core group of people involved in diabetes**
- Each province now has an NCD focal point and they are working to improve the management of NCDs in their Province.
 - Many have been involved in improving diabetes and hypertension care in their provinces as well as organising health fairs as suggested by the Ministry of Health.
- 8. Development of AMODIA**
- AMODIA Maputo continues to grow. There are about 2,500 members (2,000 at the end of 2008) and there are regularly 20-40 participants in the weekly education sessions run by a Psychologist and trained members of the association. The association has also held information sessions within the community (churches and women's groups) using their training.
 - In Quelimane collaboration between the Hospital and Association has suffered due to personality clashes. There are currently 204 members, which is about the same as the past 2 years.
 - The situation in Beira was not as serious as previously thought. Following David Beran's visit there for the RAPIA assessment clear recommendations have been left for AMODIA Beira, the administration of the Hospital and Provincial authorities. The main issue as always remains management and defining a clear role for AMODIA in benefitting people with diabetes.
- 9. Long term research programmes in Mozambique in Health Services and Basic Science**
- David Beran met Professor Ayesha Motala and discussed future research links between Mozambique and the University of Kwa Zulu Natal
 - Professor Armindo Tiago, whose study visit to the University of Kwa Zulu Natal was supported by Diabetes UK, has passed his specialisation examination in Endocrinology.
 - The RAPIA has been completed as has a report which has been presented to the Minister of Health. Detailed results are included as Appendix 1.

Achievement of the overall objectives

In looking at the Objectives established by Diabetes UK following Dr. Richard Holt and Jill Steaton's visit to Mozambique in October 2006, the following results can be observed:

1. Training of healthcare workers

- ***5 trained healthcare workers at each Central Hospital – 2007***
 - 720% based on numbers of healthcare workers trained
 - 66% based on training at 3 Central Hospitals (only Maputo and Beira healthcare workers trained)

- ***Organisation of training days at Provincial Hospitals with 1-3 healthcare workers trained – 2008***
 - 405% based on numbers of healthcare workers trained
 - 91% based on Provinces
 - ***Continuation and expansion of training days at Provincial Hospitals with 1-3 healthcare workers trained – 2009***
 - 500% based on numbers of healthcare workers trained
 - 100% based on Provinces
- 2. Further training of healthcare workers**
- ***Assessment of feasibility and what option would work best with local partners – 2007***
 - 100%
 - ***Start of training if viewed as necessary – 2008***
 - 0% - based on courses defined in 2007
 - 100% - Training course in diabetes education in Tanzania
 - ***Organise how this training would be cascaded and these “trainers” could train new trainees – 2008***
 - 100% - Training already cascaded to members of diabetes association
 - ***Continuation of training – 2009***
 - No activity in 2009 as no appropriate courses were identified
 - ***Continuation of cascading – 2009***
 - 100% - Cascading was done by including new aspects of diabetes education to healthcare worker training and also training of AMODIA
- 3. Invitation to Dr. Carla Silva-Matos to deliver a talk at the Annual Professional Conference in 2008**
- ***Invitation extended to Dr. Carla Silva-Matos – 2007***
 - 100%
 - ***Actual visit – 2008***
 - 100%
- 4. Diabetes UK literature made available to AMODIA with appropriate adaptation and translation**
- ***Selected Diabetes UK documents presented to local stakeholders and specific documents selected for adaptation and translation – 2007***
 - 100%
 - ***Adaptation and translation of documents – 2008***
 - 100%
 - ***Distribution and education around the documents - 2009***
 - 100%
- 5. Organisation of World Diabetes Day events**
- ***Production of posters, leaflets and t-shirts for World Diabetes Day and activities organised in the 3 existing branches of AMODIA – 2007***
 - 100%
 - ***World Diabetes Day events organised in the 3 existing branches of AMODIA – 2008***
 - 100%
 - ***World Diabetes Day events in 6 provincial hospitals in Mozambique – 2008***
 - 17%
 - 83% based on “health fairs”

- *World Diabetes Day events organised in the 3 existing branches of AMODIA – 2009*
 - 100%
 - *World Diabetes Day events in all regional hospitals in Mozambique - 2009*
 - 33%
 - 100% based on “health fairs”
- 6. Advocacy and policy support to Dr. Carla Silva-Matos by David Beran**
- 2007 – 90%
 - 2008 – 50%
 - 2009 – 80%
- 7. Develop core group of people involved in diabetes. This should include people from the Ministry of Health, Clinicians and people with diabetes.**
- *Identify 3 people for training/encouragement in the area of diabetes in Maputo – 2007*
 - 100%
 - *Identify 3 people for training/encouragement in the area of diabetes in Beira, Nampula and another province – 2008*
 - 0% - based on Beira and Nampula
 - 150% based on number of people
 - *Expand project to a further 5 provinces – 2009*
 - 200% based on number of focal points
- 8. Development of AMODIA**
- 2007 – 85%
 - 2008 – 60%
 - 2009 – 47%
- 9. Long term research programmes in Mozambique in Health Services and Basic Science**
- *Explore feasibility of different research project*
 - 100%
 - *Establish research links*
 - 200% - research project actually started and in the process of being reported on
 - *Establish research links and start of research projects*
 - 100%
- 10. Other:**
- *Over the course of the project there have been the following other outcomes:*
 - Publications: 6
 - Presentations at international meetings: 5
 - Posters at international meetings: 5

An overall objective for 2009 was the carrying out of an audit, which was done using the RAPIA. Detailed results are included as Appendix 1.

A more detailed description of the completion of the 2009 objectives can be found in Appendix 5.

Appendices

Appendix 1 – Executive summary and table of summarising key indicators from the RAPIA assessments in 2003 and 2009

Following the implementation of the Rapid Assessment Protocol for Insulin Access in 2003 many developments with regards to diabetes and Non Communicable Diseases took place in Mozambique. As part of the National Plan on Non Communicable Diseases a reassessment using the RAPIA was carried out in order to assess progress in the area of diabetes and provide a “lessons learnt” for the implementation of programmes and projects for other Non Communicable Diseases and also contribute to the ongoing projects with regards to diabetes.

What is clear from this assessment is that much progress has been made in Mozambique with regards to diabetes and Non Communicable Diseases in the period 2003-2009. In 2003 many issues were present including serious problems with access to medicines, training, patient education, etc. These problems have now been addressed and the foundations for a system to tackle the growing burden of diabetes are established. The recommendations presented in this report aim to build on these successes, reinforce and expand existing initiatives as well as develop new programmes to address new and continuing deficiencies.

The progress made in Mozambique in addressing the growing challenge of diabetes and Non Communicable Diseases should be applauded as the positive developments need to be put into context of a health system where the burden and attention remains linked to communicable diseases and only US\$ 3.00 is spent per person per year on providing healthcare.

With the foundations of proper management of diabetes having been created, the next phase should focus on fine-tuning and improving the measures implemented to date as well as integrating these with the National Non Communicable Disease Plan.

Key Findings

- Organisation of the Health System
 - o Development of chronic consultations at different levels of the Health System in Maputo
 - Some problems with staff originally trained for this role no longer present
 - o Close collaboration between Maputo Central Hospital and Mozambican Diabetes Association
 - o Mozambican Diabetes Association provides the main consultation for diabetes in Maputo
 - o Care for Type 1 diabetes based mainly at Maputo Central Hospital and AMODIA
 - o In Beira the main location for diabetes care is at Beira Central Hospital
 - Problems with staffing
 - o No clear management of diabetes in Lichinga
 - Some patients seen at Hospital others at Health Centre
 - o In Xai-Xai there is no real organisation of diabetes care at the hospital
 - o There was a chronic consultation at the Xai-Xai City Health Centre, but now people with diabetes mixed with all other patients

- Data Collection
 - WHO STEPS Methodology and Rapid Assessment Protocol for Insulin Access enabled baseline data on diabetes to be collected
 - At all levels patient files and clinical registers could be found
 - Hard to use these as amalgamation of consultations versus patient numbers
 - Data not used in decision making
- Prevention
 - Organisation of World Diabetes Days and “Health Fairs”
 - Lack of tools for diagnosis and management of complications
- Diagnostic tools and infrastructure
 - Availability of diagnostic tools has improved since 2003
 - Problems remain with strips for glucometers
- Drug procurement and supply
 - No problems with cold chain
 - Unequal distribution of insulin and medicines
 - Irregular demand for mainly insulin, but also for oral medicines
 - Problems with supply of syringes
- Accessibility and affordability of medicines and care
 - Insulin available at 100% of hospitals visited
 - 73% of public facilities visited had Glibenclamide and 53% had Metformin
 - Implementation of 5 Mts (US\$ 0.20) prescription fee
- Healthcare workers
 - Since 2003 one particular aspect that the Ministry of Health has focused on is training
 - Involvement of Mozambique with International Diabetes Federation AFRO in a number of key regional initiatives
 - Healthcare workers in all Provinces in Mozambique have received training in diabetes and hypertension (total of 265)
- Adherence issues
 - Main problem with adherence is poor knowledge/understanding of diet
- Patient education and empowerment
 - 10 members of AMODIA have been trained as expert patients
 - Development of education materials
- Community involvement and diabetes association
 - Three branches of the Diabetes Association now exist
 - AMODIA Maputo has now become a “one stop clinic” for diabetes care
 - Problems with management exist at all branches
- Positive policy environment
 - Since 2003
 - Creation of the Non Communicable Disease Department within the Ministry of Health
 - Approval in 2008 of the National Strategic Plan for the Prevention and Control of Non Communicable Diseases

Appendix 2 – Examples of materials developed for patient education



These materials deal with treatment of Type 1 and Type 2 diabetes, diet, exercise, complications, etc. The patients who have received training have learnt how to use these. These are A4 sized cards with pictures and words and will be used interactively with a group of people receiving the education session in discussing healthy foods, symptoms of diabetes, how to inject insulin, etc.

A pilot of these materials was organised in 2009 and has been distributed to the AMODIA branches in Maputo and Beira.

Appendix 3 – Detailed activities for 2009

1. Support for the training of trainers programme initiated by the Ministry of Health

1.1. January – March 2009

- Training for nurses and doctors from all general hospitals in Maputo City with the aim of covering all the hospitals and health centres in Maputo City, to help organise a referral system from health centres to AMODIA and the Central Hospital and improve diagnosis and follow up capabilities in the peripheral areas
- Organisation of training in Nampula

1.2. April – June 2009

- From the beginning of 2009 until present 4 training courses have been organised 3 in Maputo and 1 in Nampula
 - Total participants: 158
- Training in Maputo included aspects of referrals and counter-referrals and overall organisation of diabetes care in Maputo Province and City
- As of now healthcare workers in all Provinces in Mozambique have received training in diabetes and hypertension
 - This training has led to the establishment of specialised chronic consultations in all 3 Central Hospitals, most health centres within Maputo City and the Provincial Hospitals in Gaza and Quelimane

1.3. July – September 2009

- Training of post graduate medical students in diabetes
 - Week long course included:
 - Diabetes in Mozambique
 - Epidemiology of diabetes
 - Type 1 diabetes
 - Type 2 diabetes
 - Pregnancy and diabetes
 - Diabetes and diet
 - Insulin therapy
 - Acute complication of diabetes
 - Diabetes and surgery
 - Chronic complications

1.4. October – December 2009

- Training in Nampula of 18 healthcare workers

2. Further training of healthcare workers through different options e.g. sending them to Tanzania, training organised in Mozambique by someone external, specialised training.

2.1. January – March 2009

- No specific activities with regards to this Objective.

2.2. April – June 2009

- No specific activities with regards to this Objective.

2.3. July – September 2009

- No specific activities with regards to this Objective.

2.4. October – December 2009

- No specific activities with regards to this Objective during this year with regards to new training being carried out, but the training in diabetes education received by two doctors in Tanzania was used in training their colleagues and members of AMODIA
- Two doctors involved in Objective 1 received specialised training in diabetes management in Brazil

3. Invitation to Dr. Carla Silva-Matos to deliver a talk at the Annual Professional Conference in 2008 coupled with talks to voluntary and lay groups

- Completed in 2008

4. Diabetes UK literature made available to AMODIA with appropriate adaptation and translation

4.1. January – March 2009

- These materials are being finalised and tested

4.2. April – June 2009

- The training materials have been finalised and cover the following themes:
 - What is diabetes
 - Type 1 diabetes
 - Type 2 diabetes
 - Low blood sugar (Hypoglycaemia)
 - High blood sugar (Hyperglycaemia)
 - Diet
 - Treatment
 - Monitoring and control
- A guidebook on how to use these materials for facilitators is now finalised and will be distributed shortly

4.3. July – September 2009

- The guidebook on how to use these materials for facilitators is now finalised and distributed
 - First course to train people on how to use these materials was held in Maputo with 20 participants (people with diabetes and family members)

4.4. October – December 2009

- Use of these materials for education sessions at AMODIA and in the community

5. Organisation of World Diabetes Day events

5.1. January – March 2009

- No activities to date

5.2. April – June 2009

5.3. As part of the National Plan disease specific days will no longer be promoted. Instead integrated “health fairs” events will be organised focusing

- Such an event was organised in Beira and opened by the Minister of Health
- 4 of these events have already been organised this year and it is planned to have one in each Province by the end of the year
- No activities to date with regards to World Diabetes Day, but Diabetes UK has been asked to support an event in Nampula to help raise the profile of diabetes and NCDs as well as act as a catalyst to start a branch of the diabetes association there

5.4. July – September 2009

- Initial planning is taking place for these activities

5.5. October – December 2009

- World Diabetes Day was commemorated in Gaza, Maputo, Nampula, Beira and Quelimane.
- A total of 11 health fairs were organised in 2009 reaching approximately 20,000 people

6. Advocacy and policy support to Dr. Carla Silva-Matos by David Beran

6.1. January – March 2009

- The national plan has been presented to the National Health Coordination Council

6.2. April – June 2009

- The national plan has now been approved and work is now focusing on its implementation
- Planning of the different activities is now taking place
- Dr. Silva-Matos participated in a regional workshop on National Non Communicable Disease Plans and shared the Mozambican experience with colleagues from other Ministries in sub-Saharan Africa
 - From this meeting it was suggested that Mozambique host a Pan African Meeting on National Non Communicable Disease Plans
- This objective will include the assessment of progress in Mozambique using the Rapid Assessment Protocol for Insulin Access, used in 2003 for the initial assessment of the situation with regards to diabetes in Mozambique
 - This assessment will be carried out in the initial three areas where this was done in 2003 (Maputo, Beira and Niassa) as well as Gaza to help improve aspects of diabetes and NCD management in this province and develop a local plan for the NCD focal point
- Preparation of different presentations and material for Dr. Silva-Matos to present to internal and external stakeholders about the National Plan
- Planning of a Round Table at the Ministry

6.3. July – September 2009

- The National Plan has now been published and is being distributed throughout Mozambique
- Different presentations will be held to publicise it
 - This will be done in parallel to presenting the results of the Rapid Assessment that was carried out in July and August

6.4. October – December 2009

- Presentation of the RAPIA report to the Minister of Health
 - Meeting to be held in February 2010 with different Departments within Ministry of Health to discuss recommendations
- Poster presentation on the Twinning Project and the management of diabetes and Non Communicable Diseases in Mozambique at a WHO Non Communicable Disease Meeting in Mauritius.

7. Develop core group of people involved in diabetes. This should include people from the Ministry of Health, Clinicians and people with diabetes.

7.1. January – March 2009

- No specific activities with regards to this Objective.

7.2. April – June 2009

- 6 Provincial NCD focal points have been nominated and are working to improve the management of NCDs in their Province.

7.3. July – September 2009

- 6 Provincial NCD focal points have been nominated and are working to improve the management of NCDs in their Province.
- Many have been involved in improving diabetes and hypertension care in their provinces as well as organising health fairs as suggested by the Ministry of Health.

7.4. September – December 2009

- All provinces now have their own NCD focal point.

8. Development of AMODIA

8.1. January – March 2009

- Start of education sessions by 10 trained members of diabetes association at AMODIA and in the community

8.2. April – June 2009

- AMODIA Maputo held its first general assembly and continues to improve its management of diabetes both from a clinical and community aspect. There are about 2,500 members (2,000 at the end of 2008) and there are regularly 20-40 participants in the weekly education sessions run by a Psychologist and trained members of the association. The association has also held information sessions within the community (churches and women's groups) using their training.
- Problems still exist in Beira as described previously. Dr. Silva-Matos visited Beira in early May and the new Director of the Central Hospital is aware of the situation and said he would act on it. It was suggested that David Beran visit Beira during his second visit in 2009 to assess progress using the RAPIA as an opportunity to do this.
- Dr. Silva-Matos and David Beran visited Quelimane. In Quelimane the Hospital now provides a chronic consultation once a week. Issues were raised especially about the clinical management of people with diabetes and hypertension. This consultation was shifted from the association and caused some problems as members no longer saw the benefit of paying their membership fees. Other activities, such as home visits and education sessions were organised, but in an unstructured manner. Collaboration between the Hospital and Association has suffered due to personality clashes. The Association held a General Assembly on the 16th of May to discuss the future of the Association. Another meeting will be held in a few weeks time. The outcome will be monitored. There are currently 204 members, which is about the same as the past 2 years. Following the visit an action plan was developed to help improve the situation. This will include additional training for healthcare workers as well as training of people from the association as was done in Maputo.

8.3. July – September 2009

- AMODIA Maputo continues to expand its work in the community and is assisting the Ministry of Health in various education and prevention activities. For example helping to organise an event at the National Telecommunications Company, assisting in screening activities for World Heart Day, etc.
- The situation in Beira was not as serious as previously thought. Following David Beran's visit there for the RAPIA assessment clear recommendations have been left for AMODIA Beira, the administration of the Hospital and Provincial authorities. The main issue as always remains management and defining a clear role for AMODIA in benefitting people with diabetes.

- During RAPIA in Lichinga the possibility of opening a branch of AMODIA was raised as a possibility

8.4. September – December 2009

9. Long term research programmes in Mozambique in Health Services and Basic Science

9.1. January – March 2009

- David Beran is planning to meet Professor Ayesha Motala to see if a formal research link can be established between Mozambique and the University of Kwa Zulu Natal following Professor Armindo Tiago's research project there.

9.2. April – June 2009

- David Beran is planning to meet Professor Ayesha Motala to see if a formal research link can be established between Mozambique and the University of Kwa Zulu Natal following Professor Armindo Tiago's research project there.
- The RAPIA, described under point 5. will also be part of this objective

9.3. July – September 2009

- David Beran met Professor Ayesha Motala and discussed future research links between Mozambique and the University of Kwa Zulu Natal
- Professor Armindo Tiago following his support for a study visit to the University of Kwa Zulu Natal supported by Diabetes UK has passed his specialisation examination in Endocrinology.
- The RAPIA, described under point 5. has been completed as has a report which is has been presented to the Minister of Health. Detailed results are included as Appendix 1.

9.4. September – December 2009

- No activities

Other:

- Publication of two articles about the Twinning Project in the Postgraduate Medical Journal and Balance. Included as Appendix 6 and Appendix 7.
- Novo Nordisk visited Mozambique to see what type of support they could provide to Mozambique
 - Initial idea was to support a specific programme for children with Type 1 diabetes (in line with the October 2008 "Life for a Child" meeting in London), but this has now been modified to be an overall diabetes project
 - Novo Nordisk will be launching a project supporting AMODIA and diabetes in Mozambique in 2010
- International Diabetes Federation Congress in Montreal:
 - Special session on the Diabetes UK Twinning Project, with two presentations and chaired by Douglas Smallwood, Chief Executive, Diabetes UK
 - Another presentation entitled "Access to insulin and diabetes care in developing countries – the experience of the International Insulin Foundation" given by David Beran that mentioned the Twinning Programme
 - Poster presented on Twinning Initiative entitled "The IDF Twinning Initiative – improving diabetes care and increasing awareness of diabetes and Non Communicable Diseases in Mozambique"
- Finalisation of an article on the results of the Twinning using the initial RAPIA assessment in 2003 and the reassessment in 2009

Appendix 4 – Inclusion of Diabetes UK and the International Insulin Foundation’s contributions in the National Strategic Plan

Coverpage



REPUBLIC OF MOZAMBIQUE

MINISTRY OF HEALTH
NATIONAL DIRECTORATE OF PUBLIC HEALTH
DEPARTMENT OF NON-COMMUNICABLE DISEASES



**NATIONAL STRATEGIC PLAN
FOR PREVENTION AND
CONTROL OF NON-
COMMUNICABLE DISEASES
FOR THE PERIOD 2008-2014**

Second page of report

This Plan belongs to the Ministry of Health of Mozambique and was elaborated by Dr. Carla Silva Matos, MD, MPH specialized in epidemiology, Head of Department of Non Communicable Diseases, with the support of the professionals mentioned hereafter, who contributed to the revision, the commentary on and the elaboration of the Monitoring and Evaluation Plan.

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Use of data from International Insulin Foundation's work

HT prevalence in Mozambique was estimated at 34,9% at a national level, being higher in the cities (40,6%) than in the countryside (29,8%), increasing with age (Study on cardiovascular risk factors, 2005), Annex 1.

On average 1,7 Stroke occur in the city of Maputo every day, and of the total of deaths by stroke 40% were haemorrhagic (STEPSTROKE study, 2005/06). The stroke incidence rate was 1,47/1000 (95%CI 1,27-1,68). Stroke was the first symptom of HT in 50% of patients who had never had their blood pressure measured (STEPSTROKE study, 2005/06). In various US, HT constitutes the first cause of external consultation in adults (review of consultation registries).

2.2. Diabetes Mellitus

The International Diabetes Federation (IDF) estimated in 2003 that around 171 million individuals suffer from diabetes worldwide, and that these numbers will more than double by 2030.²¹ About 3,2 million people die each year from diabetes and its complications.²² In developing countries, the number of people suffering from diabetes will increase about 150% in the next 25 years, with Type 2 diabetes being the most prevalent.²¹

Diabetes is one of the major causes of disease and premature death in various countries, while it also accounts for the increase in DCV risks and for 50% to 80% of the deaths in these individuals.¹¹ With the increase in the prevalence of diabetes in Africa, its morbidity, premature mortality and increasingly high health costs, prevention is of the utmost importance.²³

The main factors in the increase of the burden of diabetes are: ageing of the population and increased life expectancy, the growing tendency of obesity, poor dietary habits and an increasingly sedentary lifestyle. Foremost among these risk factors is obesity, the main factor for the increase of Type 2 diabetes incidence.²⁴

In Mozambique the prevalence of diabetes among the population aged over 20 years has been estimated at 3,1% in 2003²¹, with an increase projected to 3,6% by 2025.²¹ Also in 2003, the International Insulin Foundation (IF) estimated the presence of about 928 children with Type 1 diabetes²⁵, with a low life expectancy, estimated at 3,8 years for the city of Maputo and 7 months for the rural areas.

In the adult population between 25 to 64 years of age, the prevalence of diabetes in Mozambique is 3,8%, and that of excessive weight is 30,1% and 10,2% for the urban and rural environment respectively. Obesity, as the most important risk factor for Type 2 diabetes, already is significant, with a prevalence of 11,5% in the urban and of 2,6% in the rural environment (annex 1).

2.2.1 Recommended interventions for the prevention and control of CVD and diabetes

Taking into account that the risk factors are common, and that primary prevention recommended by the WHO consists in the promotion of activities that emphasize regular physical activity and the promotion of healthy dietary habits. Screening

Mention of Diabetes UK and International Insulin Foundation as partners in the National Response to Non Communicable Diseases

3. NATIONAL RESPONSE TO NON COMMUNICABLE DISEASES

The Department of Non Communicable Diseases (NCDD) was created in the Ministry of Health (MISAU), as part of the National Directorate of Public Health, consisting of two subsections: (i) the Chronic Degenerative Disease Branch and (ii) the Trauma and Violence Branch. The department has no representation at provincial level as yet.

In 2000, with support from the WHO, the epidemiological surveillance system (SVE) was established for Trauma in the SUR at the HCM⁶⁴, which was consolidated in 2004, and then expanded to the Central Hospital of the city of Beira a (HCB) and to the Central Hospital of the city of Nampula (HCN). Subsequently, registry and communication instruments for cases of trauma and for other NCDs were developed and adapted; the first module on risk factors for CVD and trauma was introduced (integrated in the IDS 2003); the Guide for the clinical practice of Type 2 diabetes in sub-Saharan Africa and the Manual on Diabetes Education was introduced; risk tables for CVD were elaborated; a Flow Chart for the follow-up of patients with HT and Diabetes was developed and the Diabetes Strategy for Africa (with support from IDF-WHO/AFRO) was adopted.

Until then the NCDD focused its activities, among other things, on aspects linked to prevention of and advocacy concerning HT and Diabetes as a point of departure, however, with a view to gradually integrating other priority NCDs within the plan that was being elaborated.

In the area of **human resources**, the Department works with One (1) senior technician (Masters in Public Health with a specialization in epidemiology) - head of the NCDD; One(1) senior technician (Biologist) – Responsible for Trauma and one (1) part-time cardiologist.

In the **financial area**, the Department counts with an OE and a Common Fund - PROSAÚDE. The interventions for the control of diabetes realized through the Mozambican Association of Diabetes (AMODIA) noted important progress due to the efforts of its members and the support offered by MISAU.

The WHO and the IDF for the AFRO Region (main partners), IF, Diabetes UK, as well as the World Diabetes Foundation and the World Heart Federation have contributed in the area of training, research, purchase of medical surgical and of clinical care equipment.

As far as **medicines** are concerned: The Medicine and Medical Equipment Centre (CMAM) improved the supply of medicine, especially with respect to oral anti-diabetics, insulin and antihypertensive. However, problems remain with access to medicines for asthma, to cytostatics and to radiotherapy.

Inclusion of Diabetes UK and International Insulin Foundation as partners in activities of the National Plan

3.1 Main activities developed per level of prevention

Areas of intervention	Developed activities	Main partners
Primary	<p>Celebration of.:</p> <ul style="list-style-type: none"> World Diabetes Day (4 years, Maputo, Beira and Quelimane) World Cancer Day (3 years) World Heart Day (6 years). 	<p>AMODIA, Diabetes UK, WDF, IDF-AFRO Association for Fight Against Cancer (ALCC) World Heart Federation</p>
Secondary	<p>Improvement of medical assistance in Maputo (pilot):</p> <ul style="list-style-type: none"> Training of 24 health professionals (doctors, general medicine technicians) in diagnosis, treatment and following of people with HT and diabetes, and health education in Diabetes (Annex 4) Reorganization and improvement of the assistance to the ill in 12 US and 3 areas of the city of Maputo Supply of a basic consultation kit (improvement of the conditions for diagnosis, treatment and following of the patient) Filing card for registry and evaluation of diabetic foot <p>Within the context of the implementation of the protocol of understanding with the Mozambican Association of Diabetics – 2004, aimed at improving the assistance to diabetics, the following activities were realized:</p> <ul style="list-style-type: none"> Strengthening of AMODIA in Maputo and expansion of AMODIA to Beira and Quelimane Creation of a consultation for diabetics once per week in the referral hospitals of the city of Maputo, Sofala e Zambézia <p>Translation of the following documents:</p> <ul style="list-style-type: none"> Clinical Practice Guide for Type 2 diabetes (IDF-AFRO) 	<p>AMODIA, OMS, IDF-AFRO Region (main partners), IF, Diabetes UK, as well as the World Diabetes Federation and the World Heart Federation</p>

Areas of intervention	Developed activities	Main partners
	<ul style="list-style-type: none"> • Standardized Diabetes Education Manual (IDF-AFRO) • Risk tables and flow charts for DCV treatment and referral (IDF-AFRO) • Production and distribution of educational material 	
Tertiary	Supply of equipment, surgical material and medicines to the referral hospitals.	
Research and Advocacy	<p>Research:</p> <ul style="list-style-type: none"> • IDS Trauma and cardiovascular risk factors (2003) • Evaluation of diabetics' access to health care and medicines in the national health system (RAPIA, 2003) • Cardiovascular risk factors (STEPwise and STEP-Stroke, 2005) <p>Advocacy:</p> <ul style="list-style-type: none"> • Participation in the elaboration of the Diabetes Strategy for Africa • Endorse the United Nations Resolution on Diabetes⁶⁵, approved in January 2007 • Translation and divulgation of the United Nations Resolution on Diabetes. 	INE, WHO, IIF

Appendix 5 – Details of objectives for 2009 and completion

Project	Objectives Year 3	Results	Completion
Support for the training of trainers programme initiated by the Ministry of Health	<ul style="list-style-type: none"> - Continuation and expansion of training days at Provincial Hospitals with 1-3 healthcare workers trained - Audit 	<ul style="list-style-type: none"> - 3 training courses in Maputo - 1 Training course in Nampula - Training of post graduate medical students - RAPIA 	<ul style="list-style-type: none"> - 500% based on numbers of healthcare workers trained - 20% based on Provinces - 100%
Further training of healthcare workers through different options e.g. sending them to Tanzania, training organised in Mozambique by someone external, specialised training.	<ul style="list-style-type: none"> - Continuation of training - Continuation of cascading - Audit 	<ul style="list-style-type: none"> - No activity in 2009 as no appropriate courses were identified - Cascading was done by including new aspects of diabetes education to healthcare worker training and also training of AMODIA - RAPIA 	<ul style="list-style-type: none"> - 0% - 100% - 100%
Invitation to Dr. Carla Silva-Matos to deliver a talk at the Annual Professional Conference in 2008 coupled with talks to voluntary and lay groups	<ul style="list-style-type: none"> - Visit completed 	<ul style="list-style-type: none"> - Completed in 2008 	<ul style="list-style-type: none"> - 100%
Diabetes UK literature made available to AMODIA with appropriate adaptation and translation	<ul style="list-style-type: none"> - Distribution and education around the documents 	<ul style="list-style-type: none"> - First course to train people on how to use these materials was held in Maputo with 20 participants (people with diabetes and family members) - Use of these materials for education sessions at AMODIA and in the community (included as Appendix 2) 	<ul style="list-style-type: none"> - 100%

Project	Objectives Year 3	Results	Completion
Organisation of World Diabetes Day events	<ul style="list-style-type: none"> - World Diabetes Day events organised in the 3 existing branches of AMODIA - World Diabetes Day events in all regional hospitals in Mozambique 	<ul style="list-style-type: none"> - World Diabetes Day was commemorated in Gaza, Maputo, Nampula, Beira and Quelimane 	<ul style="list-style-type: none"> - 100% - 33%
Advocacy and policy support to Dr. Carla Silva-Matos by David Beran	<ul style="list-style-type: none"> - Necessary equipment available at Regional Hospitals - A few pilot Regional Hospitals have registries - Finalisation of document - Publication - Audit 	<ul style="list-style-type: none"> - 100% of facilities visited during audit have insulin, testing equipment available: blood glucose machine (87%), consumables for these machines (27%), urine strips (73%), ketone strips (73%) - Registries available in 6 Provinces - Document is finalised and has been approved by the Minister of Health - National Plan has been published and publicised nationally, regionally and internationally - RAPIA 	<ul style="list-style-type: none"> - 80% based on these 5 objectives

Project	Objectives Year 3	Results	Completion
Develop core group of people involved in diabetes. This should include people from the Ministry of Health, Clinicians and people with diabetes.	<ul style="list-style-type: none"> - Expand project to a further 5 provinces - Closely link with objective described below - Audit 	<ul style="list-style-type: none"> - Focal points have been established in all provinces - Involvement in improving diabetes and hypertension care in their provinces as well as organising health fairs as suggested by the Ministry of Health. - RAPIA 	<ul style="list-style-type: none"> - 200% based on focal points - 100% - 100%
Development of AMODIA	<ul style="list-style-type: none"> - Increase in number of trained members and development of a core group of members - Increase in membership - Increase in income from fundraising with the aim of having some self-financed projects - Opening of new branches - Organisation of activities for World Diabetes Day 	<ul style="list-style-type: none"> - 20 members trained in how to use new education materials - Increase in membership only in Maputo - Fundraising activities have not taken place due to lack of capacity - Investigation of opening branches in Gaza, Nampula and Lichinga - See above 	<ul style="list-style-type: none"> - 47% based on these 5 objectives

Project	Objectives Year 3	Results	Completion
Long term research programmes in Mozambique in Health Services and Basic Science	<ul style="list-style-type: none"> - Establish research links - Start of research projects 	<ul style="list-style-type: none"> - Research links established - Two projects undertaken RAPIA and follow-up of a cohort of patients from AMODIA 	<ul style="list-style-type: none"> - 100%

Twinning for better diabetes care: a model for improving healthcare for non-communicable diseases in resource-poor countries

John S Yudkin,¹ Richard I G Holt,² Carla Silva-Matos,³ David Beran⁴

To many people, the major health problem for sub-Saharan Africa is infectious disease. The avoidability of deaths from AIDS, tuberculosis and malaria are a valid justification for the major drives to fundraising to tackle these. But there is another spectre waiting in the wings: non-communicable diseases (NCDs) are now the major cause of death in every continent other than Africa. Even in Africa, absolute death rates from NCD exceed those in industrialised countries¹—it is only the fact that infection mortality is still higher in Africa that prevents NCD deaths from heading the list.

The extraction of insulin and its purification in Canada in 1922 was followed, within months, by a transformation in the prospects for a newly diagnosed child with diabetes in North America and Europe. Yet over 80 years later, across much of Africa, the life expectancy for such a child is less than 1 year,² with the unreliable availability of diagnostic tools, insulin and the healthcare needed for its safe use being largely to blame. The world's poorest countries, as defined by the World Bank, are mostly in sub-Saharan Africa, where 10% of the world's population live, surviving on an average of around US\$2 per day. When national healthcare priorities, and donor support, are focused on infectious diseases and on the targets set as the Millennium Development Goals, services and drugs for NCDs are sometimes neglected by

health ministries. So when insulin is not in stock at the local hospital, patients and their families may have to find the US\$10–20 needed to buy a month's supply of insulin from a private pharmacy, quite aside from other costs, such as syringes, testing strips, transport to health facilities, or consultation fees.

Until recently, much of the evidence needed to document patterns of diabetes care in resource-poor countries has been anecdotal. In 2001, however, a small UK-registered charity, the International Insulin Foundation (IIF), was established to explore approaches to improving care and access to insulin for people with diabetes in resource-poor countries. The IIF has developed and implemented a rapid assessment tool to evaluate diabetes care in different settings, using multiple interviews and documents.³ This has garnered valuable data on patterns of diabetes and its management in Mozambique, Zambia⁴ and Mali, and Nicaragua. These studies have proven invaluable in drawing up proposals to develop viable national diabetes programmes in these settings.

What has become apparent is that, outside the cities, type 1 diabetes is indeed a lethal condition.^{4,5} In rural Mozambique, for example, life expectancy of a child with type 1 diabetes is 7 months, in large part because of death before diagnosis. The cost of insulin is only one of the barriers to patients accessing diabetes care, because, even in countries where the provision of insulin to people with diabetes is heavily or fully subsidised, its availability in healthcare facilities is erratic. Syringes and needles likewise are often unavailable in the public sector, and it is rare to find any way of testing urine glucose, let alone ketones or blood glucose. Furthermore,

the small numbers of people with type 1 diabetes mean that familiarity with its diagnosis and management is lacking: a child in a coma is about 100 times more likely to be suffering from cerebral malaria than ketoacidosis. Moreover, the human resource crisis facing most resource-poor countries and the demands generated by acute illness undermine any priority being placed on developing systems of regular follow-up in chronic disease management.

Clearly the major issues are poverty and lack of equity in access to healthcare. Global pressure to cancel the debt to the global financial organisations and to individual nations has led to substantially increased spending on healthcare and education in many sub-Saharan countries. This investment, however, has been largely disease-focused towards the management of AIDS, tuberculosis and malaria, with little gain in terms of improving facilities for patients with other conditions. Indeed this very investment has led to the perverse and yet well-documented problem of what has been termed the "internal brain drain", whereby qualified staff leave government healthcare facilities to work for non-government organisations (NGOs), which are able to offer substantially better salaries and conditions with the additional donor funding.

The question of what possible solutions there are for people with diabetes, and in particular for those needing insulin, has been a major concern for the International Diabetes Federation and its Insulin Task Force. They have worked with insulin manufacturers to reduce the price of insulin to ministries of health in some of the poorest countries in the world, although this "equity pricing" has not been applied to insulin supplied to, and sold in, private pharmacies. Another initiative of the Task Force, under its then Chair Jean-Claude Mbanya, was to propose a twinning programme, whereby member diabetes associations in industrialised countries were encouraged to create partnerships with associations in resource-poor countries. The idea was that these partnerships would develop and implement sustainable solutions to improve the regular supply of insulin and other essential diabetes supplies, as well as the delivery of healthcare in the twinned country.

To its eternal credit, the first diabetes association to take on such a twinning partnership was Diabetes UK, formerly the British Diabetic Association. In December 2006, the board agreed to provide significant financial and educational support

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over a 12-month period to establish a pilot scheme to work together with the Mozambique Diabetes Association (AMODIA) to implement improvements in delivery of diabetes care. Moreover, the successful progress during that time has led to the support being extended for a further 2 years. So why should Diabetes UK feel they should want to do this? Why Mozambique? Who are the partners? And what are the plans?

Diabetes UK has as one of its mission statements "A world without diabetes", a clear demonstration that its objectives have been designated as being wider than its UK base alone. Once the decision had been made to participate in the twinning initiative, the Association had a list of 14 countries proposed by the International Diabetes Federation as possible partners. Mozambique was chosen because it was one of the countries in which the IIF had worked, was a member of the Commonwealth, and had several key individuals in the Ministry of Health, in clinical care and in education, with whom contact had already been established. The Ministry of Health has made major inroads into developing national NCD plans, training and supporting health workers in the development of protocols and registers and recall systems, and providing the resources for equipment and for regular and reliable drug supply essential for chronic disease management. This progress is being achieved despite major hurdles, both geographic and economic. Maputo, Mozambique's capital and administrative hub, is in the far south of a country which is over 2000 km in length, with transport links vulnerable to floods. Although primary care is delivered through health posts and health centres, virtually all of the country's 750 government doctors work in the three regional, 12 provincial and 25 district hospitals, with around half based in Maputo.

The plans for developing diabetes services in Mozambique, with the support of the twinning programme, rely heavily on the findings of the rapid assessment completed by the IIF and a further feasibility study undertaken collaboratively by the IIF and Diabetes UK. In the

past 5 years, the regular supply of insulin, syringes and other drugs and supplies to provincial and district hospitals has substantially improved. The activities and coverage of the Mozambique Diabetes Association have been expanded, with branches in three cities and both clinical care and education being provided. The Ministry of Health and the Diabetes Association have developed workshops to train health workers in the principles and management of diabetes, with these health workers in turn acting as trainers to roll out knowledge about diabetes care across Mozambique. In these activities, strong links have been developed with Tanzania and other neighbouring countries which provide culturally appropriate educational resources and knowledge. Diabetes UK has provided resources to enable workshops to be conducted, links with and visits to neighbouring countries to be made, and computers and educational material to be obtained and developed. Provincial diabetes teams have been developed, and each supplied with a glucose meter with strips, a sphygmomanometer, a tape measure and a tendon hammer. World Diabetes Day has been marked by promotional events in three cities, during which health promotional messages have been propagated, and opportunistic screening for diabetes risk factors undertaken. The Mozambique-based author has visited diabetes centres in the UK and has spoken at the Annual Professional Conference of Diabetes UK. In addition, the Diabetes UK twinning has permitted ongoing support from the IIF project coordinator, who performed the original needs assessment and assisted in developing the national diabetes plan.

It seems iniquitous that, nearly 90 years after insulin was first used in patient care, people should be dying because they are unable to afford it. But donations of insulin, either by individuals and charities or by pharmaceutical companies, are not the answer alone because, without the knowledge and skills to use it, these can never be used effectively. A programme seemingly aimed at improving care for the approximately 500 people with type 1 diabetes in Mozambique may at first

appear futile when there are around 2 million people in the country living with HIV/AIDS. Yet one of the main constraints to improving health in many sub-Saharan countries is the lack of an effectively functioning healthcare system capable of delivering care to people with chronic disease. And in that sense, the prerequisites for improving care for people living with AIDS and those living with type 1 diabetes are very similar: trained and knowledgeable health workers, a regular drug supply, monitoring facilities, and education. In these regards, the improvements that have been achieved in healthcare have benefited a much broader range of people than only those with type 1 diabetes.

The donor focus on the major infectious diseases has left the status of NCDs in resource-poor countries in the Cinderella role. There is pressure to introduce a 9th Millennium Development Goal in order to recognise the major burden of NCD in these countries. But in the meantime, as well as resources, what is also needed is the intellectual support provided to the ministries, health workers and patients by the sort of twinning programme in which Diabetes UK has led the way.

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Mission: Mozambique

Diabetes is a growing epidemic around the world. But for people with the condition in developing countries – where access to healthcare and medication is limited – their quality of life is poor and life expectancy extremely low. One country facing such a challenge is Mozambique. However, since the launch of the Diabetes UK twinning project in 2007, there have been some improvements. **David Beran**, Project Coordinator of the International Insulin Foundation and key worker in the scheme, reports

Many people were surprised that I was working on diabetes in sub-Saharan Africa and Mozambique because when one thinks of the health challenges here, communicable diseases – such as HIV, tuberculosis and malaria – come to mind. But there are also non-communicable diseases – like diabetes – posing a huge risk, too. The International Diabetes Federation (IDF) estimates that the number of people with Type 2 diabetes will have more than doubled between 2003 and 2025 among the estimated 770 million people living in sub-Saharan Africa.

Many challenges exist for the management of diabetes in sub-Saharan Africa, including accessibility and affordability of insulin and medicines, and access to health facilities and healthcare workers who have been



David (bottom right) in Quelimane on a home visit to a person with diabetes

trained in diabetes management. Because of this, there are high levels of complications and premature death for people with Type 2 diabetes, and life expectancy as low as one year in some areas for children with Type 1 diabetes.

I first visited Mozambique in 2003 as project coordinator for the International Insulin Foundation (IIF), a charitable



Mozambique

- Mozambique, located on the East coast of Africa, is a former Portuguese colony and a member of the Commonwealth
- the average annual income is approximately £175
- life expectancy is 41 years, compared to more than 78 in the UK
- there are 3.4 doctors per 100,000 people in Mozambique, compared to 164 in the UK
- Mozambique's Ministry of Health estimates that 3.4 per cent of the population have diabetes, and there are increasing problems with people being overweight or obese.

organisation set up to tackle the issues of diabetes management in resource-poor countries. Research carried out by the IIF in 2003 found that life expectancy for a child with Type 1 diabetes was about 3.8 years in the capital Maputo, and seven months in rural areas.

Needless to say that these statistics were shocking in comparison to those in the UK and other developed countries. That said, I had the unique opportunity to meet Carlos Humbelino, a journalist who'd had Type 1 diabetes for almost 20 years, who became my friend.

Firm friend

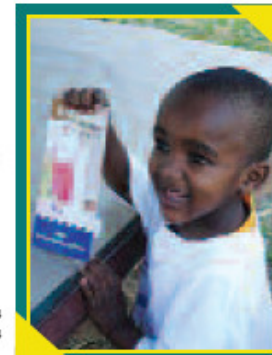
Carlos told me he developed diabetes in his late teens. Doctors in his area initially thought he had contracted malaria but, after attending the Central Hospital in Maputo, he was properly diagnosed.

Carlos was the first and only person I met in sub-Saharan Africa to actually modify insulin dosage based on food and activities. Because he'd had diabetes for more than 20 years he felt he was able to do this without a blood glucose meter. I saw his story as hope that Type 1 diabetes didn't need to be a death

sentence in sub-Saharan Africa. After I asked him questions, he asked if he could interview me. I was happy to have my

first interview for a newspaper but I was shocked to see the headline: *'The Mozambican Government is ignoring people with diabetes'*. Needless to say, I was worried that my colleagues in the Mozambican Government would view my interview and the article as criticism. But no one did and this became a joke between Carlos, my colleagues in Mozambique and myself.

Carlos rarely attended the diabetes clinic and doctors often referred to him as "undisciplined", but his last HbA1c was 6.7 mmol/l. When I asked what helped him manage his diabetes he always told me discipline and knowledge. However, due to his line of work, Carlos had an advantage with regards to knowledge and had access to information that >



A young boy in Maputo holds a diabetes pamphlet on World Diabetes Day (WWD) 2007



Lots of events took place on WDD 2007... Far left and middle: In Quelimane, locals take part in an organised walk and queue to have their blood glucose tested. Right: In Beira, government officials take part in a group exercise event

many didn't and, when insulin needed to be paid for, Carlos had the money to do so.

The challenge, then, was how to ensure that everyone with diabetes in Mozambique had the same opportunities as Carlos.

Twinning project

In 2004, the IDF (International Diabetes Federation) called on diabetes associations in developed countries to partner or 'twin' with those in developing countries. Diabetes UK was the first to respond and, in 2006, sent a delegation to Mozambique to see how the charity could support the improvement of diabetes care – not a simple task – and build on the experience of the IDF. Diabetes UK addressed the many different aspects that needed work by setting nine objectives (see box, below).

To date, healthcare workers from Mozambique's 11 provinces have

received diabetes training. In addition, special courses have taken place in Maputo and one province, whereby healthcare workers in the community have also received education in how to become diabetes trainers. Specialised training is also being explored in different areas of diabetes care, in close collaboration with Tanzania.

Dr Silva-Matos, Head of the Non-Communicable Diseases Department at Mozambique's Ministry of Health, attended Diabetes UK's 2008 Annual Professional Conference and gave a presentation on the management of non-communicable diseases and diabetes in Mozambique. She also visited Diabetes UK to discuss the different activities that the charity carries out, visited the Department of Health, diabetes clinics at hospitals and GP practices, and met with a group of Diabetes UK volunteers. One aspect of this visit was to see what types of patient education materials

Diabetes UK develops. Consequently, education materials are being designed in Mozambique using models from Diabetes UK, as well as models from diabetes associations in Mali, Brazil and Portugal.

Education

In 2007, the three branches of the Mozambican Diabetes Association – Maputo, Quelimane and Beira – organised a week of events to commemorate World Diabetes Day. These included education sessions in the community, and a day-long event where people could be screened for diabetes, have their weight measured and take part in physical activities. There were also articles and interviews on national television and in local newspapers.

Besides creating awareness in the community and building up the local capacity of the Mozambican Diabetes Association, these events acted as a catalyst in helping the association work closely with health authorities and healthcare workers, and helped to build a group that involved them all in diabetes in Maputo, Quelimane and Beira.

In early 2008, with the support of Diabetes UK, Mozambique's Minister of Health approved the Mozambican national plan for non-communicable diseases, which now sets a framework for action with regards to diabetes and other non-communicable diseases within the country. As part of this work, a

research project that will follow-up people with diabetes in Maputo has been funded by Diabetes UK, and it is hoped that the findings from this will help improve diabetes management among people with the condition throughout Mozambique.

The success of the first year of the twinning project was overshadowed by the death of Carlos in early 2008. He had a bad episode of malaria and was unable to get to hospital in time.

But since my first visit to Mozambique, the most rewarding aspect of my work has been to see the improvements in care that people with diabetes are receiving and the ever-increasing numbers of healthy children with Type 1 diabetes. Hopefully many of them will be able to lead lives similar to Carlos – with a job, family and more than 20 years as a healthy person with diabetes in Mozambique. Diabetes UK's objectives for Mozambique are helping to achieve this – helping to improve care, increase awareness and promote prevention of diabetes.

One of the charity's aims is a world without diabetes – and its visionary work in Mozambique is contributing to this ambitious goal. □

Further information

Find out more about the International Insulin Foundation at www.access2insulin.org

Diabetes UK's objectives for Mozambique

1. Support the 'training of trainers' programme, initiated by Mozambique's Ministry of Health.
2. Support specialised diabetes training.
3. Invite the Head of the Non-Communicable Diseases Department at Mozambique's Ministry of Health, Dr Carla Silva-Matos, to the 2008 Diabetes UK Annual Professional Conference, and to Diabetes UK to meet and discuss diabetes and its management in the UK.
4. Support the development of patient education materials.
5. Help to organise World Diabetes Day events in Mozambique.
6. Provide advocacy and policy support for Mozambique's Ministry of Health.
7. Help the development of the core group of people involved in diabetes in Mozambique.
8. Help the development of the Mozambican Diabetes Association.
9. Support long-term research programmes in health services and basic science, in Mozambique.