Kingdom of Cambodia
Nation - Religion - King

Ministry of Health
Department of International Cooperation
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MoPoTsyo
Patient Information Centre
#9E, Street 3C, Stung Meanchey
Phnom Penh, Cambodia
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ANNUAL REPORT 2016

ON

AGREEMENT

BETWEEN THE MINISTRY OF HEALTH AND

MoPoTsyo Patient Information Centre

FOR

Project:

Project A: Capacity building of OD's to manage Peer Educator Networks for chronic NCD (in Operational Districts)

Project B: Action Research related to project "A"

(2015 – 2017)

Contents

PROJECT DETAILS

Name of Organization: MoPoTsyo Patient Information Centre

Type of Organization: Local NGO
Address: #9E, Street 3C, Phum Trea 1, Stung Meanchey, Phnom Penh
P.O.Box.840 Phnom Penh.
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Name of Project:
A: Capacity Building of OD's to manage Peer Educator Networks for chronic NCD
B: Action Research related to project A

Project Number: **2015-2017**

Main Locations of Project:

Project A: Operational Districts as follows:

1. Phnom Penh Municipality
    a. West operational district
    b. Central operational district
    c. North operational district
2. Takeo Province
    a. Ang Roka operational district
    b. Daunkeo operational district
    c. Bati operational district
    d. Prey Kabas operational district
    e. Kirivong operational district
    f. Koh Andaet operational district
3. Banteay Meanchey Province
    a. Thmar Pouk operational district
4. Kampong Speu Province
    a. Kong Pisey operational district
    b. Kampong Speu operational district
    c. Oudong operational district
5. Kampong Thom Province
    a. Baray Santuk operational district
    b. Stoong operational district
6. Kampot Province
    a. Angkor Chey operational district
7. Kampong Cham Province
    a. Chamkar Leu operational district
8. Svay Rieng Province
    a. Romeas Hek operational district
    b. Chiphou operational district

Project B: Operational Districts as follows:

a) Phnom Penh Municipality
   i) West operational district
   ii) Central operational district
   iii) North operational district
b) Kampong Speu Province
   i) Kang Pisey operational district
   ii) Kampong Speu OD
   iii) Oudong OD
c) Kampong Thom Province
   i) Baray Santuk OD
   ii) Stoong OD
d) Kampong Cham Province
   i) Chamkarleu OD

Project Start Date: January 01, 2015
Project End Date: December 31, 2017

Sector of Cooperation and Assistance:
Chronic Non-Communicable Diseases: Early diagnosis and care for Diabetes, High Blood Pressure, Dyslipidemia's, Chronic Kidney Disease, Social Health Protection, Vouchers, Health Equity Fund, Health Financing, Community Based Health Insurance; Access to Essential Drugs and Medical Materials; Revolving Drug Fund, Public Private Partnership, Self-Management of Chronic Disease, Peer Educator Networks, Primary Health Care, Health Service Delivery, Training of Human Resources for Health, Health Promotion, Primary Prevention of chronic disease, Reduction of Out of Pocket Health Expenditure, Monitoring & evaluation, Health Information System, Planning, Action Research.

Staff in 2016:

Number of Expatriate Staff: 1 person

Number of Local Staff: 29 Staff and 172 volunteers (ODPM volunteer Peer Educator Network managers and volunteer Peer Educators

General Objective:

The general objective of MoPoTsyo is to expand social health protection mechanisms by integrating into the Operational District a sustainable, effective and affordable continuum of care for secondary prevention complications due to diabetes, high blood pressure and dyslipidemia and associated disorders and to contribute to primary prevention through better awareness and control of risk factors for chronic NCD.

Specific Objectives:

Project A: There are 4 specific objectives:
A1) to organise Risk Factor Awareness & Control (primary + secondary prevention) in the OD's (product 1 until 10);

A2) To facilitate for poor DM & HBP patients with high prescription costs their adherence to prescribed treatment (using vouchers financed by Health Equity Fund), product 11;

A3) To organise sustainable DM & HBP patient centered medical services for secondary prevention inside the OD's (product 12 to 14);

A4) To build capacity of PHD and ODO to co-manage the continuum of care (A, B, C) (product 15);

Project B: There are 2 specific objectives:
B1) implement action research led by ITM Antwerp on "Mobile Phone Diabetes Self – Management Support" funded by International Diabetes Federation (Bridges)

B2) implement action research with PATH (USA) on "Values and implications of alternative Diabetes Screening Tools" funded by PATH (USA)

B3) new action research activities that are relevant for developing a chronic care system in primary care

FINANCIAL DETAILS

Budgeted Income for our activities during 3 years from start of 2015 until end of 2017:

	INCOME DETAILS					
Donor	**Amount**	**In 2015**	**In 2016**	**Core**	**Grant**	**Year**
MoH/HSSP2	$67,520	$6,752	35,080		x	6+2=8 months in 2015
LD	$458,614	$41,325	105,823		x	2015 & 2016
GIZ-LD	$43,743	$42,631	43,430		x	2015 & 2016
MoPoTsyo	$1,830,067	$625,443	689,152	x		3 years
Total	$2,399,944	$716,151	873,485	x	x	3 years

GIZ has stopped to fund MoPoTsyo in 2014.

LD has stopped to fund MoPoTsyo at the end of 2016.

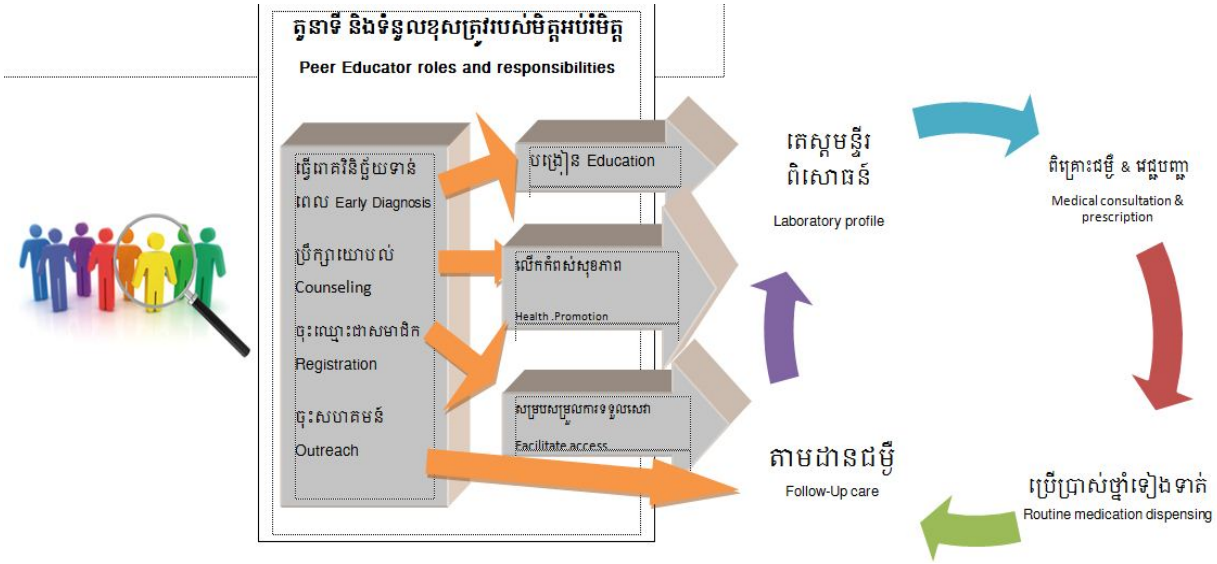
Budget for Project: 2015 - 2017

Total planned budget for duration of this period: $ 2,399,944

FINANCIAL DETAILS					
Budget for Project: 2015 - 2017					
	Total Amount 2015-2017	2015 Expenditure	2016 Expenditure	Balance 2017	%
1. Local Staff Costs	$529,347	$101,763	191143	$236,441	*22%*
2. Expatriate Staff Costs	$42,366	$17,845	15319	$9,202	*2%*
3. Overheads	$183,767	$72,654	30779	$80,334	*8%*
4. Support to MoH	-				-
5. Training	$54,566	$4,136	21627	$28,803	*2%*
6. Aid (Emergency/Commodity)	-				-
7. Construction/Renovation	-				-
8. Equipment (/Drugs/medicals)	$723,674	$139,805	207824	$376,045	*30%*
9. Equipment (Other)	$46,560	$32,419	8154	$5,987	*2%*
10. Transport	$81,101	$13,743	20962	$46,396	*3%*
11. Operating Cost	$646,005	$169,499	230762	$245,744	*27%*
12. Monitoring	$43,710	$5,544	13067	$25,099	*2%*
13. Promotion	$48,848	$39,094	2690	$7,064	*2%*
14. Reserve Funds	-				-
Total	$2,399,944	$596,502	742,327.00	$1,061,115	*100%*

PROGRESS IN 2016

MoPoTsyo has been contributing to the implementation of the MoH National Strategic Plan for the Prevention and Control of Noncommunicable Diseases 2013-2020 by continuing Peer Educator Networks for diabetes and associated disorders in Operational Districts in Cambodia and expanding to Oudong OD in Kampong Speu and Chiphou OD in Svay Rieng.

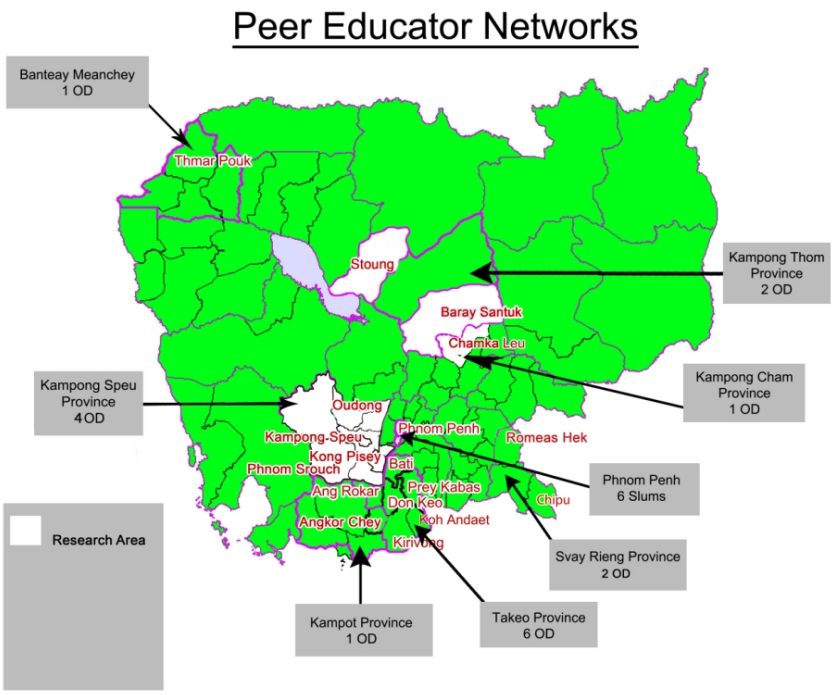


Over a period of more than 11 years, accumulating since 2005, per 31-12-2016 a total of 31,309 chronic NCD patients have become member of the networks in the OD's:

- 19,704 with Diabetes Mellitus
- 11,605 with Hypertension but not diabetic

During 2016, a total of 16,356 patients were active users of the chronic care systems in the OD's. "Active users" means that these 16,356 different cases have been recorded in the database as making use at least once and at least one time one of the key-services provided by the chronic care system during 2016.

The chronic care system was designed to meet the convenience and the medical needs of the chronic patients. They do not need always to consult their doctor before getting access to their routine prescription medication. However, the system still needs to be able to spot cases that are not sufficiently under control to encourage them to consult their doctor for a change in their prescription.



During 2016, we expanded to Chiphou OD in Svay Rieng province and Oudong OD in Kampong SPeu province.

The priorities for 2015 till 2017 are

1. Strengthening the capacity of the OD Offices to manage and supervise peer educator network activities and reporting.
2. Continuation and expansion of Peer Educator Networks to more OD's to educate, inform and empower the demand side.
3. Develop Standard Operating Procedures that specify the role and tasks of peer educators as lay health workers and the role of professional health workers with regards to chronic disease.
4. Train OD Office staff to organise health service delivery using the peer educator networks and based on the demand for services from the chronic patients voiced by the peer educators.
5. Integrate Peer Educator Networks into the public health care system without unnecessary medicalisation of the chronic care system itself, allowing strong patient involvement in their own care.

Specific objectives:

Project A:

A1) To organise Risk Factor Awareness & Control (primary + secondary prevention) in the OD's (product 1 until 10);

A2) To facilitate for poor DM & HBP patients with high prescription costs their adherence to prescribed treatment (using vouchers financed by Health Equity Fund): product 11;

A3) To organise sustainable DM & HBP patient centred medical services for secondary prevention inside the OD's (product 12 to 14);

A4) To build capacity of PHD and ODO to co-manage the continuum of care (A, B and C) (product 15);

Project B:

The Objective of Project B is to do research that can be relevant for the National Strategic Plan for the Prevention and Control of Non-communicable Diseases 2013-2020.

Activities Project A :

A1) Assist OD to Train new Peer Educators;

- During 2016, MoPoTsyo trained 28 new Peer Educators to work in the OD's.

A2) Assist OD to organize Early Diagnosis / Adult screening for DM;

- During 2016, MoPoTsyo contracted and paid the peer educators to organize 2-stage screening among 146,093 adults in the OD's, using first a urine glucose strip which they distributed in each village, and then offering a blood glucose confirmation test for those adults who have a change in color of their urine glucose strip.

A3) Assist OD to organize Early Diagnosis / Adult screening for HBP;

- During 2016, Peer Educators have screened adults for High Blood Pressure resulting in 1064 new registrations of non-diabetic HBP patients.

A4) Assist OD to organize primary prevention for Commune leaders;

- During 2016, peer educators did not receive funding for primary prevention activities for commune leaders.

A5) Assist OD to organize primary prevention for school teachers;

- In 2016, MoPoTsyo worked with the OD Office and also the Departments of Education in districts Svay Chek and in Thmar Pouk in Banteay Meanchey on Primary Prevention in schools. 104 schools were visited and 734 school teachers participated by Primary Prevention program for the schoolchildren in order to raise awareness of chronic NCD and how to prevent these through healthy lifestyle. They organized a drawing competition in which 12,051 school children participated with drawings on 3 themes: healthy nutrition, physical activity and no smoking. The 45 winners received prizes during a special event organized together with the 2 district departments of Education (Svay Chek and Thmar Pouk) and provincial department of Education in Banteay Meanchey, during which the health authority of the OD Thmar Pouk were also present.

A6) Assist OD to create Village High Blood Pressure Groups (VHBPG)

- In 2016, Peer Educators did not set up VHBPG's.

A7) Assist OD to register New DM Patients and organize counseling;

- In 2016, a total 3,003 new DM were registered and counseled by the PE.

A8) Assist OD to organize training in self-management and follow up of OLD & NEW DM patients;

- In 2016, in all OD's with a peer educator network the 172 Peer Educators provided self-management training and follow up to DM patients 50,378 times, wrote down the results, which were transmitted to ODPM(network leader) and then to OD data entry staff for entry into the database. However in some OD's there was no data entry staff available, so MoPoTsyo continued to enter the data at its office in Phnom Penh.

A9) Assist OD to organize registration of New HBP Patient and their counseling;

- In 2016, 1064 new HBP patients were registered and received counseling from their PE. For data recording and data entry, see A8 above.

A10) Assist OD to organize training in self-management and follow up of OLD & NEW HBP patients;

- In 2016, HBP patients got follow up and training in self-management 9,838 times. For recording and data entry, see A8.

A11) Assist OD to provide HEF support for poor patients (Lab + Medicine);

- We do not have data on how many times poor patients received HEF financial assistance to pay for the routine medication that they buy from the Revolving Drug Fund because we do not longer operate HEF ourselves, and do not receive donor funding to finance this activity.
- We paid the cost of a special 66.67% discount for laboratory profiles for 112 patients in Bantey Meanchey.

A12) Assist OD to organize access to good quality Lab tests profile (biochemistry of blood & urine) per patient who is registered;

- During 2016, MoPoTsyo worked with one team of PE in each OD to organize regular blood collection sessions at the local Health Center with the government Nurse to prepare serum and urine samples for the laboratory profile.

A13) Assist OD in organizing and supervising the Medical Consultations;

- During 2016, MoPoTsyo helped OD and Referral Hospitals to work with PE as representatives of chronic patient networks for the organization of orderly and efficient Medical Consultation sessions in the public services in all OD's with a peer educator network

A14) Assist OD in supervising the access and adherence to Medication (from the Revolving Drug Fund prescribed to the members where applicable);

- During 2016, MoPoTsyo calculated the levels of adherence by DM patients and HBP patients to the routine medication prescribed by their Doctor over the 12 preceding months and measured patient satisfaction, and shared the results with the health authorities and stakeholders 1 time per year at the Referral Hospital.

A15) Assist the OD to manage the Peer Educator Network in each OD;

- During 2016, MoPoTsyo cooperated with OD's by training OD staff in data entry and by installing hardware and software, sharing peer educator standard report and a 1-page DASHBOARD per OD.

Activities project B:

B1) “Implement the Standard Operating Procedures of the Study Mobile Phone Diabetes Self – Management Support”

- MoPoTsyo completed the study, anonymized the data and co-authored articles for peer reviewed publications;

B2) “Implement the Standard Operating Procedures of the Study Values and implications of alternative Diabetes Screening Tools”

- MoPoTsyo completed the study and helped PATH USA write 1 article for peer reviewed publication.

B3) Other action research:

- Cooperation with Dr Dawn Taniguchi who has analyzed Takeo (2007 – 2013) data to write an article for publication in a peer reviewed scientific journal.

- Prepare a new study on mHealth, together with the University of Washington, proposed the study to the National Ethical Committee for Health Research and obtained permissions from Ministry of Interior and from the Ministry of Posts & Telecommunication to send voice messages to our members with diabetes/high blood pressure and pilot the use of “Tablets” (not for swallowing but Chinese electronic tablets to work with) by the peer educators.

- Start analysis of our database to determine the prevalence of dyslipidemia among our diabetic and hypertensive patients;

- Start analysis of prevalence of depression and general anxiety disorder among patients with diabetes and hypertension in one Operational District, based on screening using PHQ9 and GAD7. These 2 are among the most widely used screening tools in the world and validated for many countries and contexts already.

PROJECT A OUTPUTS:

A1) New Peer Educator (5 weeks) trained according to targets;

- 28 diabetic candidates were trained and 26 passed exam.

A2) Early diagnosis / Adults screened for DM;

- 146,093 adults received urine glucose strip for use 2-3 hours after lunch

Nr	*OD Name*	*Nr of adults screened in 2016*
1	Oudong	8,891
2	Baray-Santuk	8,070
3	Stong	19,549
4	Angkor Chey	13,690
5	Chamkar Leu	41,012
6	Chi Phou	2,736
7	Romeas Hek	52,145
Total		**146,093**

A3) Early diagnosis / Adults screened for HBP;

- Unknown numbers of adults use automated BP machine at VHBP Group or from PE to check blood pressure;

A4) Commune leaders exposed to primary prevention;

- No primary prevention activities undertaken with commune leaders.

A5) School teachers exposed to primary prevention;

- In Thmar Pouk OD, 12,051 schoolchildren made drawings to compete for the best drawing on how to prevent NonCommunicable Diseases, coached on this by their 734 School teachers who had received training on primary prevention of NCD from the Peer Educator Network in their operational district in the previous year.

A6) Village High Blood Pressure Groups (VHBPG) created;

- MoPoTsyo replaced broken automated blood pressure machines wherever the group requested replacement of cuff or the machine itself.

A7) New DM Patients registered + counseled;

- 3,003 new DM patients registered, received patient ID and patient book with barcode, plastic bag, urine color chart, poster A4 with lifestyle advice, urine container and borax, and instructions how to self-measure urine glucose;

A8) OLD & NEW DM patients trained in self-management & in follow up;

- In 2016, DM patients received self-management training and were followed up by their peer educator 50,378 times.

A9) New HBP Patients registered and counseled:

- 1064 new HBP Patients registered + counseled;

A10) OLD & NEW HBP patients trained in self-management & in follow up;

- During 2016, HBP patients received self management training and were followed up by their peer educator 9,838 times.

A11) HEF support 1 year per poor patient (Lab + Medicine) is provided;

- Poor patients who are member of the networks did not have to pay for medical consultation.
- The HEF benefit package does yet not include payment for one month of routine medication from the Revolving Drug Fund. Nor does the HEF benefit package yet include a payment for the yearly laboratory profile.

A12) Lab tests profiles (biochemistry of blood & urine) per patient are reliable and available in hard copy and in database;

- A total of 4,958 laboratory profiles (17 test results per complete profile) were made and provided to the patients who are member of the networks.

A13) Medical Consultation of registered patients was done 20,817 times and prescription data are available in database inside the OD;

- During 2016, a total number of 5,712 Diabetic patients consulted their doctor 16,966 times, and another 1,529 non-diabetic HBP patients consulted the doctor 3,851 times. The resulting prescriptions were recorded by the Doctor in patient book and entered into the database by other staff paid by MoPoTsyo.

A14) Medication bought during 1 year at Dispensing outlet per patient is conform prescription;

- During 2016, a total of 8,706 Diabetic cases bought routine medication 43,697 times
- During 2016, a total of 2,502 Hypertensive cases bought routine medication 9,497 times
- The dispensing invoice was recorded in the database. For diabetic cases the median amount that they must pay at the pharmacy is 20,000 Riels, for Hypertensive cases the median amount is 11,250 riels.

A15) Peer Educator Networks are managed by OD in each OD;

- During 2016, a total of 16,356 patients were actively using the chronic care organized by the Peer Educator Networks in close cooperation with the public health services in their OD. Among them 12,184 Diabetics and 4,172 non-diabetic Hypertension patients. Not all active registered patients who use the medical consultations, the laboratory services, the revolving drug fund, are also using the “follow-up” services provided by the Peer Educators.

PROJECT B OUTPUTS:

B1) completed in 2015.

B2) study was completed in 2015. The paper is under review for publication.

B3) Other action research:

- Dr Dawn Taniguchi submitted an article for publication, but it was rejected and since then it was resubmitted to another journal;

- mHealth Research with University of Washington: Government permissions obtained. Focus Group Discussions with patients conducted;

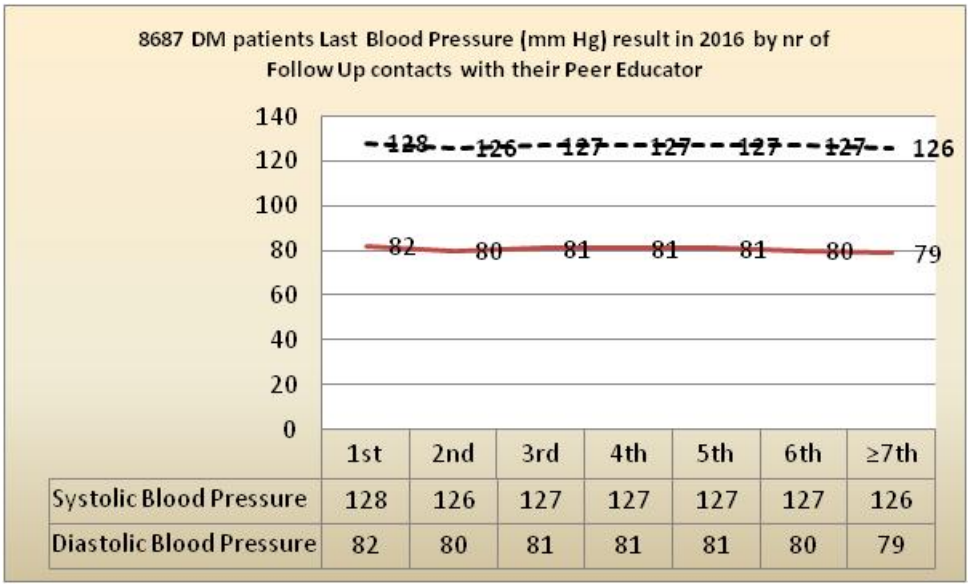
- Dyslipidemia: Analysis ongoing;

- Depression and Diabetes: Data collection takes place as part of routine Peer Educator work

HEALTH OUTCOMES 2016

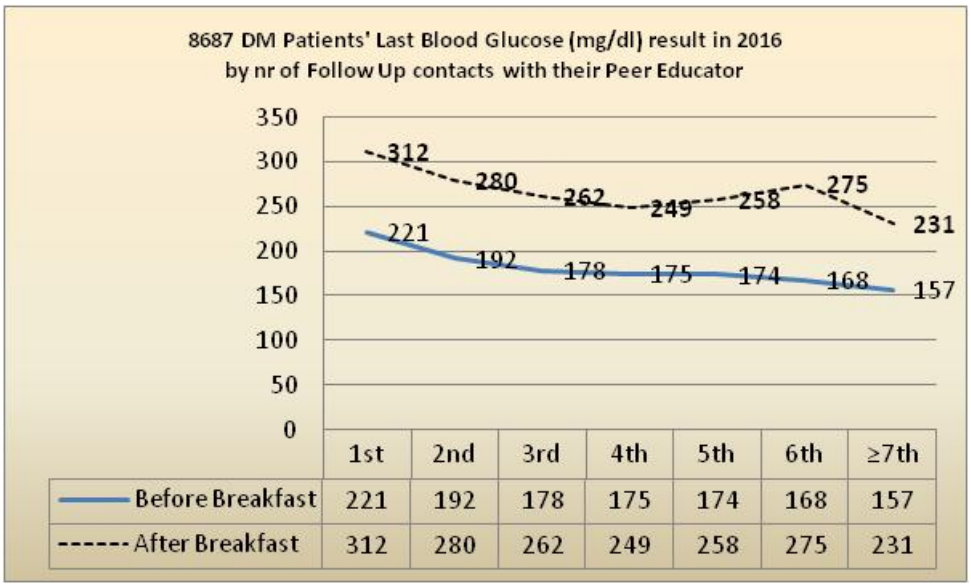
Diabetes Patients:

Blood pressure and Blood Sugar of 8,687 Diabetic patients (cases) measured by the Peer Educator at their last Follow Up visit of the year 2016. Figure 1 shows their Systolic and Diastolic blood pressure measured at that last visit of the year.



	1st	2nd	3rd	4th	5th	6th	≥7th
Systolic Blood Pressure	128	126	127	127	127	127	126
Diastolic Blood Pressure	82	80	81	81	81	80	79

Blood Glucose shows a similar trend in the figure 2 below.

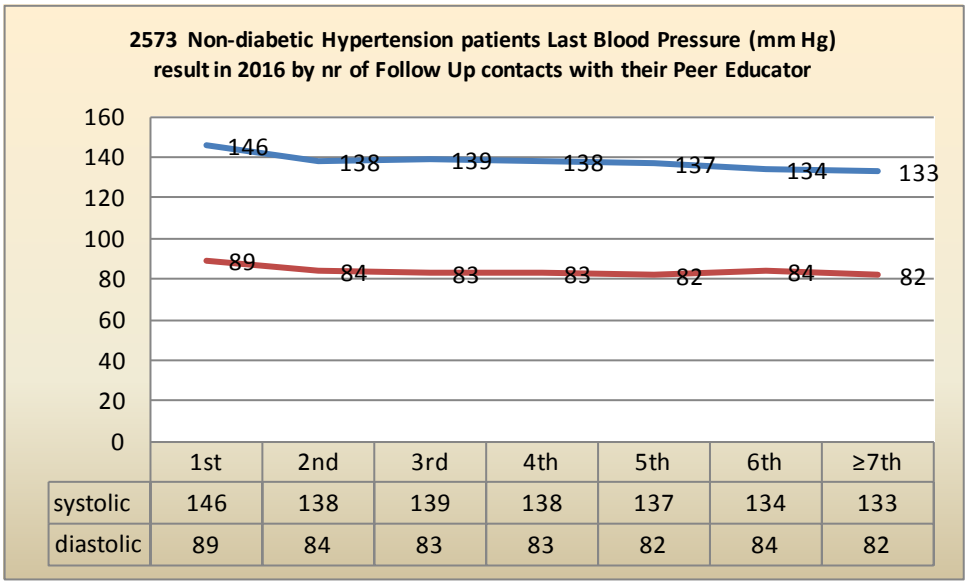


	1st	2nd	3rd	4th	5th	6th	≥7th
Before Breakfast	221	192	178	175	174	168	157
After Breakfast	312	280	262	249	258	275	231

Both blood pressure and blood glucose become lower over time the more often the patients meet with their peer educator.

(Non-Diabetic) Hypertension patients

Blood pressure measured by the Peer Educator at their last Follow Up visit of the year 2016. These 2573 (cases).hypertension patients had their Systolic and Diastolic blood pressure measured at that last visit of the year, figure 3.



	1st	2nd	3rd	4th	5th	6th	≥7th
systolic	146	138	139	138	137	134	133
diastolic	89	84	83	83	82	84	82

Not all 16,356 active registered patients who are using the medical services are also using the follow-up services provided by the Peer Educators. The health outcome graphs above reflect only the outcomes of those who did use them in 2016.

CONCLUSION

As in previous 11 years, the health outcomes of 2016 also show that the more often chronic patients meet with their peer educator - in particular the first 7 times - the better becomes their control of blood sugar and blood pressure. This applies to Diabetic patients and to non-diabetic hypertension patients. We cannot compare health outcomes between patients who use the peer educator services and the patients who do not use the peer educator services but only use the services of the doctor and the lab and the pharmacies.