

# Costs & Financing of a Revolving Drug Fund for chronic NCDs in Cambodia

for people with Diabetes, Hypertension and Associated  
Disorders

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# Revolving Drug Fund for chronic diseases

## **Objective:**

Public & Private Partnership of Ministry of Health & OD Offices & local NGO to organise sustainable access to routine prescription medication affordable for chronic NCD patients and the Cambodian government.

## **4 Main principles :**

- 1) Retail Revenue only used for cost recovery without profit.
- 2) Only contracted pharmacy (in future “Health Center”) can dispense RDF medicines and only to registered members.
- 3) Published fixed retail prices
- 4) Integrated part of a coherent Continuum of Care system

# How to **improve access** to chronic NCDs prescription medication?

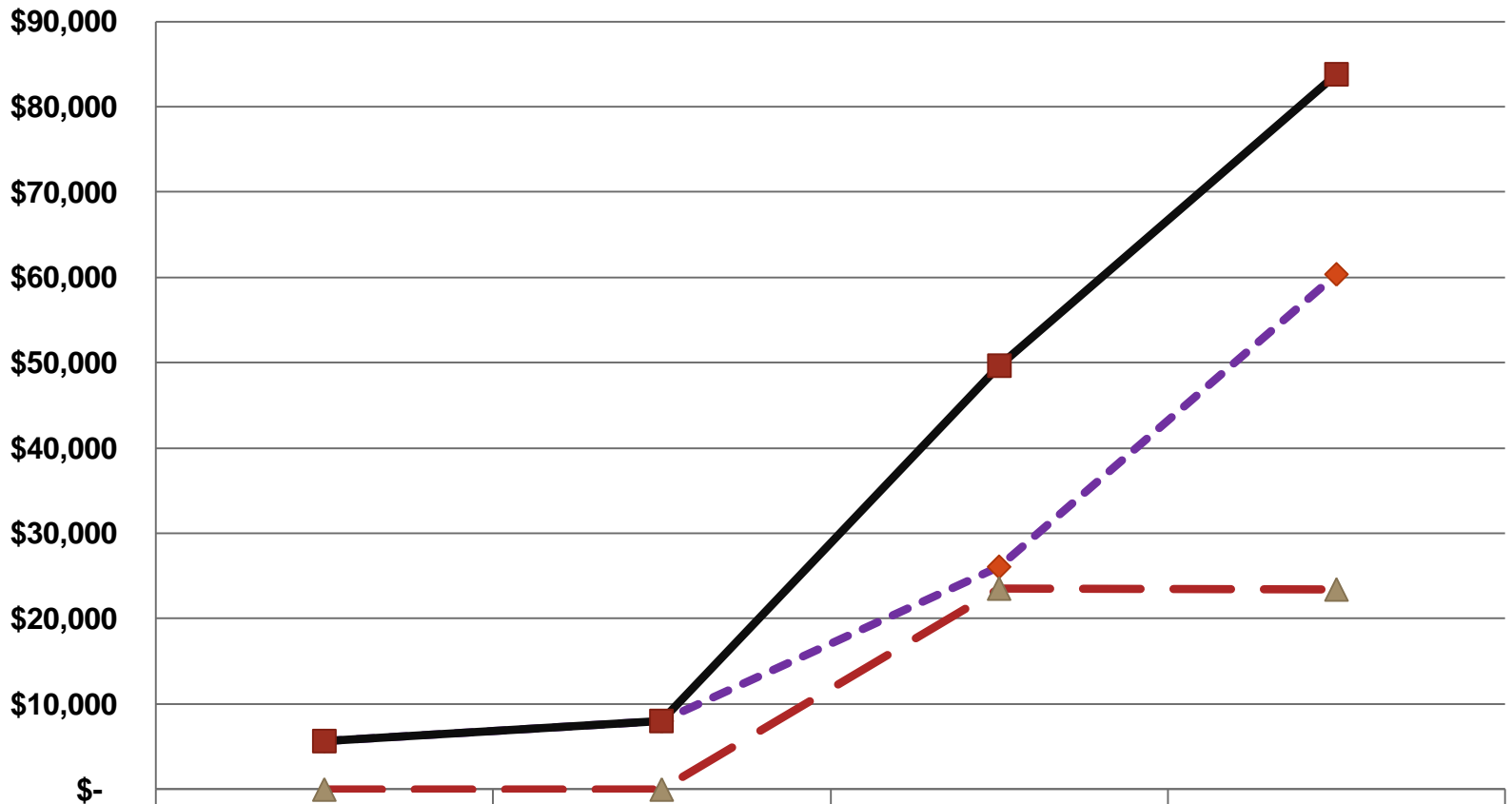
- 1) Training of Peer Educators must match with the RDF
- 2) Demand from members-patients must match with RDF
- 3) Doctors have to fully agree with the choice of drugs
- 4) Doctors have to trust the lab results prepare adaptations with a process...

**Monitoring & feedback  
from all actors,  
stakeholders including  
patients**

**Coherent services ( laboratory  
+ diagnosis + prescription )  
cost effective & attractive**

**Revolving Drug Fund  
(medicines selected + imported + tested +  
registered + stocked + distributed +  
accounted for etc.)**

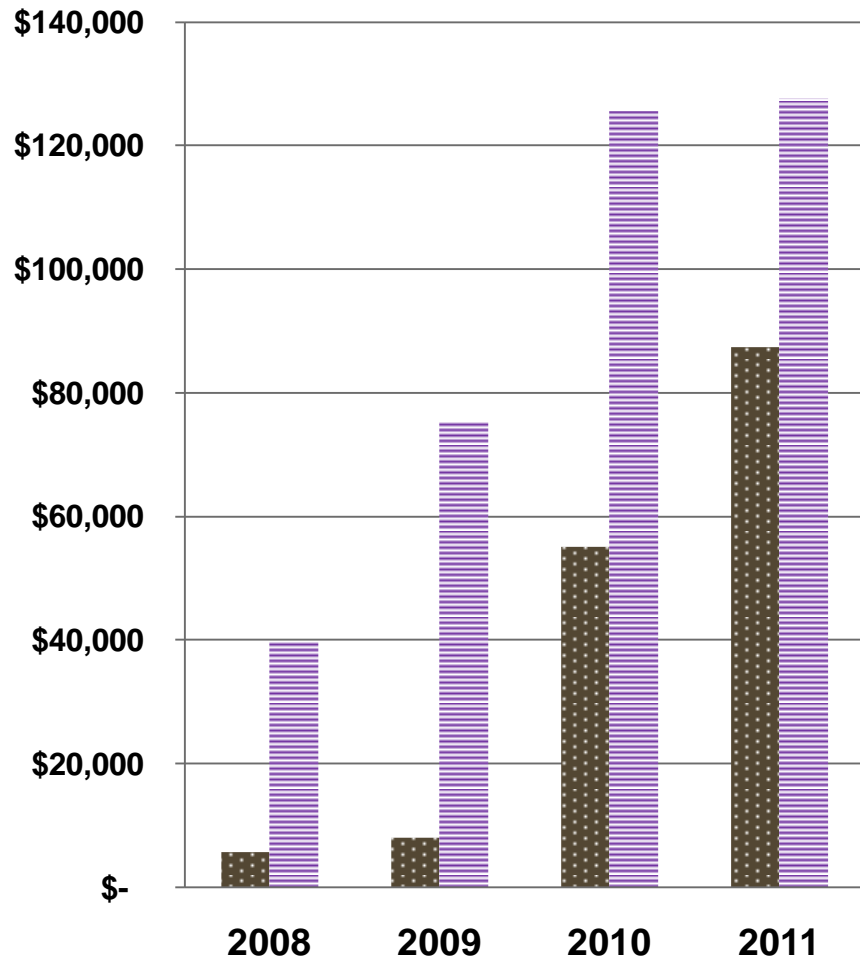
# RDF GROWTH: volume and revenue and credit



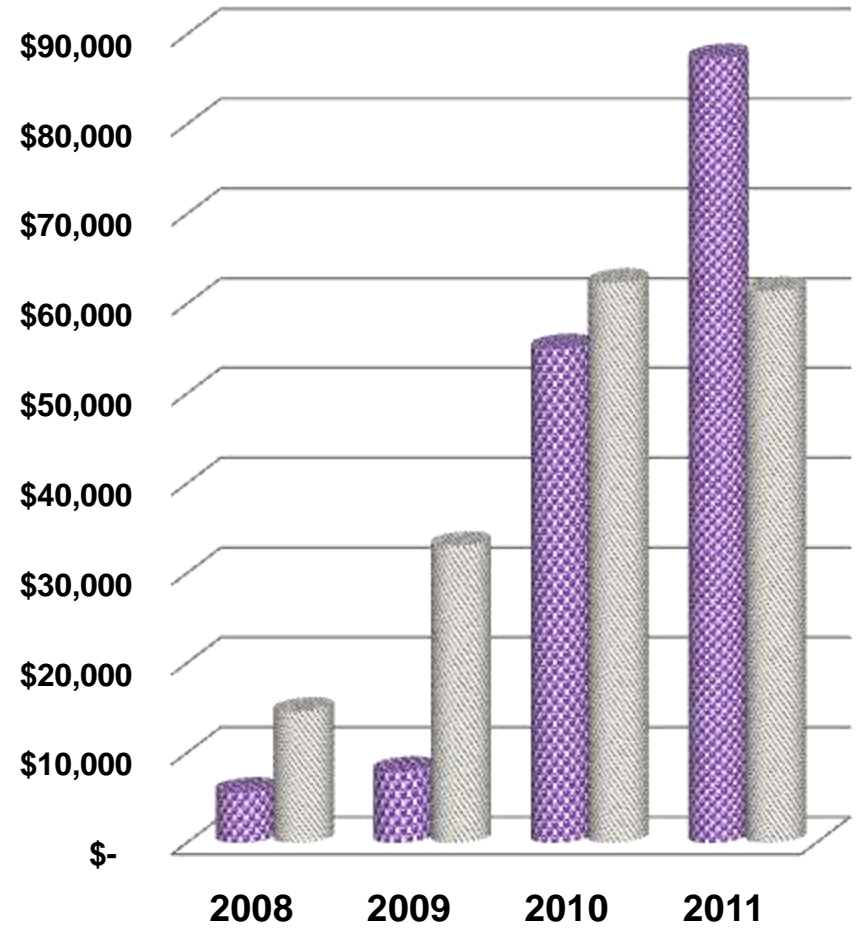
	2008	2009	2010	2011
◆ Revenue	\$5,676	\$8,007	\$26,082	\$60,333
■ Supply volume	\$5,676	\$8,007	\$49,620	\$83,767
▲ Credit	\$-	\$0	\$23,538	\$23,434

# Whole Cost and Service cost vs Revenue (USD)

## REVENUE vs COST from product 1 to 14



## REVENUE vs cost from product 11 to 14



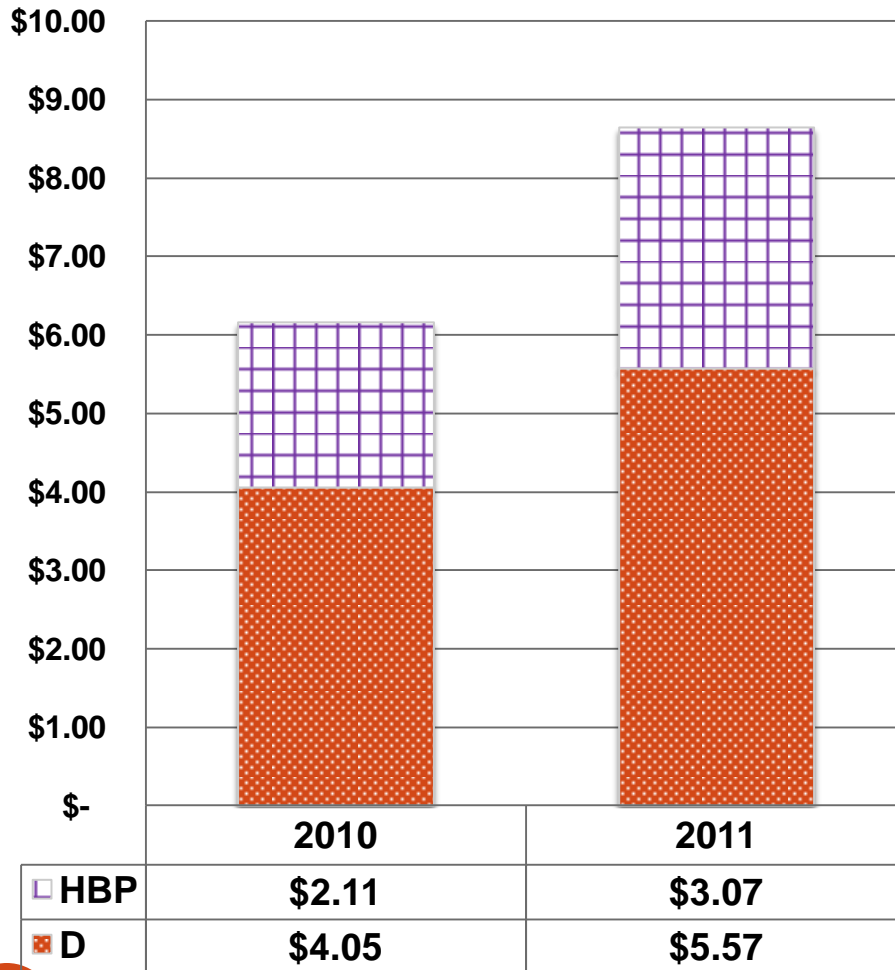
## RDF Specific issues

- Selected Peer Educators are involved in monthly distribution, monitoring and actual revenue collection.
- 17 contracted private pharmacies in 8 ODs retain profit 15% of sales volume;
- New: contracted Health Centers, max 3 HC per OD, payment NOT related to volume but performance (similar amounts made available)
- New: use “POS dispensing software” (bar codes)

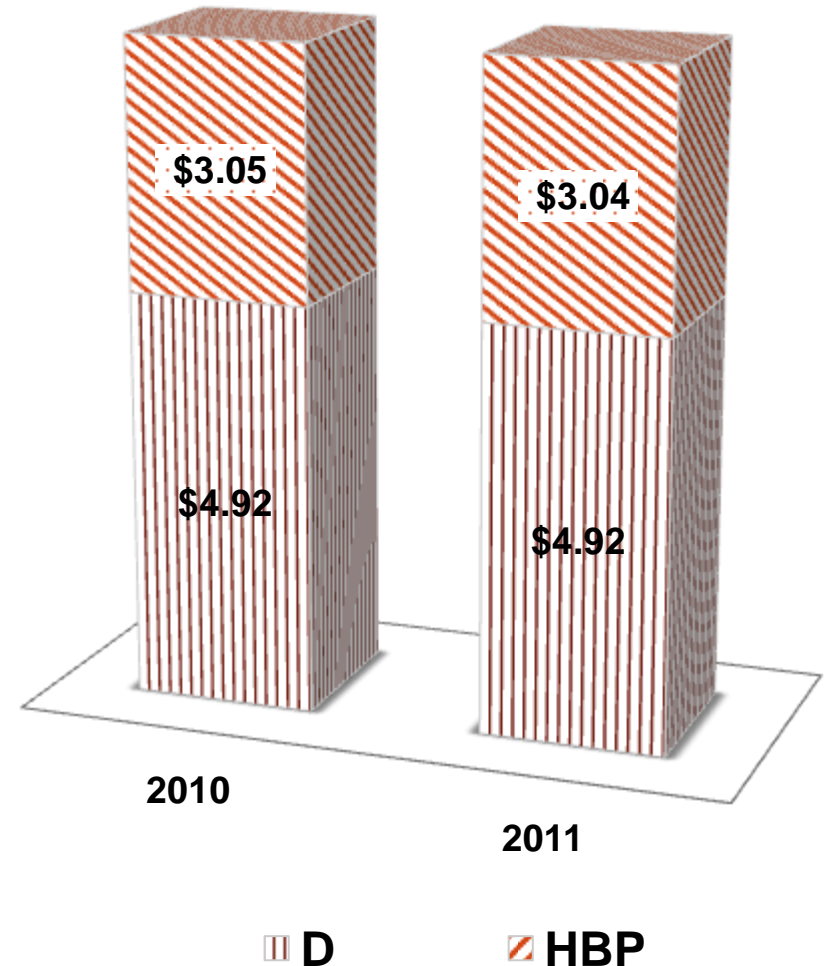
Nr	Description	Dosage	Percentage of prescribed in 2011 (N=2,514)	MoPoTsyo pays to buy in US\$	Pharmacy pays to buy in US\$	Patient pays to buy in US\$
01	Insulin NPH (medium)	10 ml	10 %	4.99	7.0125	8.25
02	Insulin Lantus (24-hour)	3 ml	5 %	1.66	2.3375	2.75
03	Insulin Actrapid (short)	10 ml	21 %	4.99	7.0125	8.25
04	Insulin Mixtard 30/70 (short + medium)	10 ml	3 %	4.99	7.0125	8.25
05	Metformin (biguanide anti-DM)	500 mg	45 %	0.00998	0.02125	0.0250
06	Glibenclamide (sulfonylureum anti-DM)	5 mg	49 %	0.00351	0.010625	0.0125
07	Hydrochlorothiazide (Diuretic anti-hbp)	25 mg	43 %	0.00427	0.010625	0.0125
08	Furosemide (Lis Diuretic anti hbp)	40 mg	5 %	0.00581	0.010625	0.0125
09	Atenolol (Betablocker anti hbp)	50 mg	24 %	0.00572	0.02125	0.0250
10	Propranolol (Betablocker anti hbp)	40 mg	6 %	0.00566	0.02125	0.0250
11	Aspirin	300 mg	24 %	0.00409	0.010625	0.0125
12	Captopril (ACE anti hbp)	25 mg	28 %	0.00965	0.031875	0.0375
13	Enalapril (ACE anti hbp)	10 mg	16 %	0.00873	0.031875	0.0375
14	Losartan Potassium (ARB anti hbp)	50 mg	N.A.	0.0453	0.07875	0.0875
15	Amitriptyline (psych-nerv)	25 mg	20 %	0.00567	0.02125	0.0250
16	Amlodipine (calcium antagonist anti hbp)	10 mg	31 %	0.00560	0.031875	0.0375
17	Simvastatin (cholesterol)	20 mg	7 %	0.034	0.055	0.0625
18	Gemfibrozil (triglicerides)	600 mg	8 %	0.195	0.2375	0.2500
11	Thiamine (VitB1) (deficiency)	50 mg	2 %	0.00658	0.010625	0.0125
	Multivitamin (deficiency)		28 %	0.00332	0.006375	0.0075

# Trends in adherence to Prescribed Medication:

**Average monthly prescription cost**



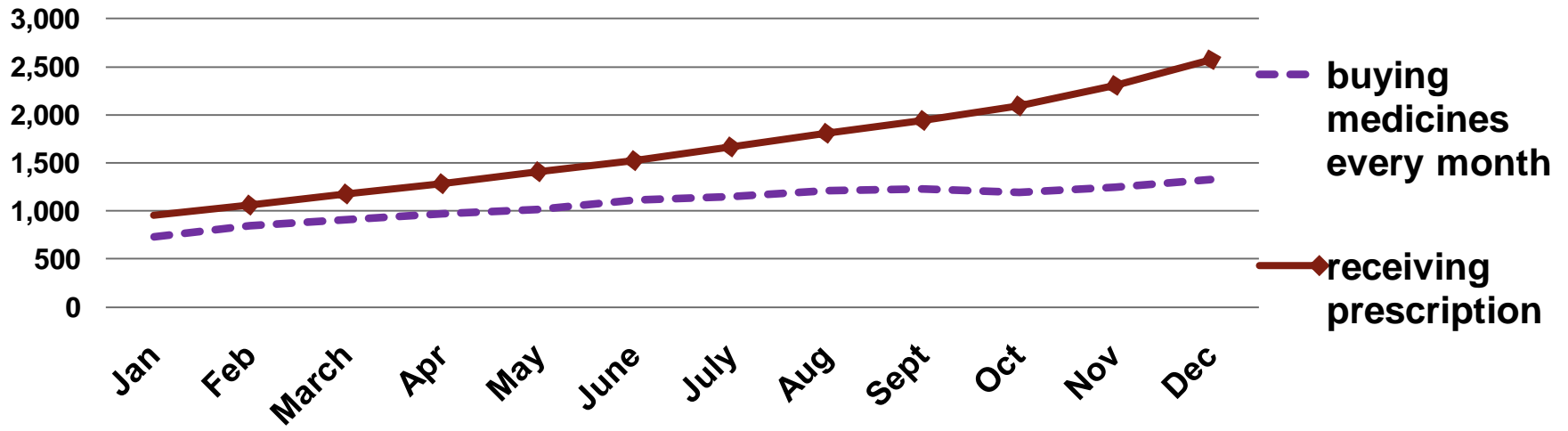
**Average price of monthly invoice sold by contracted pharmacy**



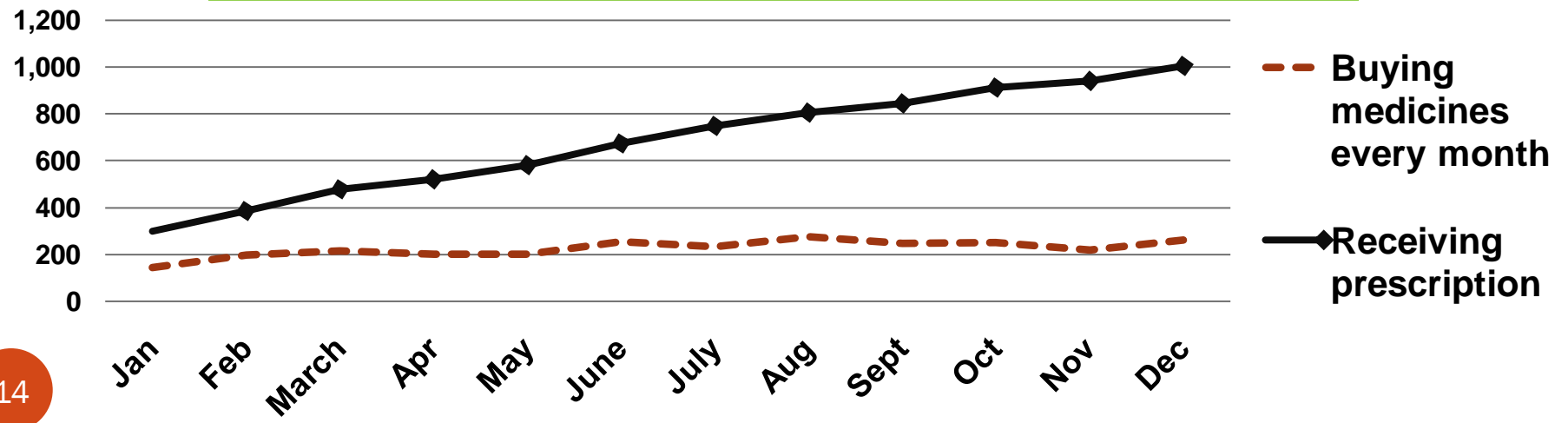


# Trends in adherence to Prescribed Medication:

## DM Patients receiving prescription vs buying medicines in 2011



## HBP patients receiving prescription vs buying medicines in 2011



# ANNUAL COST TO DM PATIENT (ADHERENT RURAL)

Nr	Description of item	Annual frequency	Price per item	Opportunity cost	Total Annual Cost
1	Buy prescription medication	12	\$ 4.32	\$ 0.50	\$ 57.84
2	See the Doctor	2	\$ 1.00	\$ 1.00	\$ 4.00
3	Do the laboratory tests	2	\$ 5.50		\$ 11.00
4	Adapt diet		\$ -	\$ -	\$ -
5	Do more exercise		\$ -	\$ -	\$ -
6	Get training from peer educator		\$ -	\$ -	\$ -
7	Get follow up from Peer Educator	12	\$ 0.33	\$ 0.50	\$ 9.96
8	Go to measure at the VHBP group	12	\$ 0.05		\$ 0.60
9	Costs for travel to pharmacy	12	\$ 1.00	\$ -	\$ 12.00
10	Costs for travel to lab	2	\$ 1.00		\$ 2.00
11	Costs for travel to see Doctor	2	\$ 2.00	\$ 2.00	\$ 8.00
<b>Total</b>					<b>\$ 105.40</b>

## Issues for discussion :

- How to improve adherence by HBP patients? The answer is **not** “*Just by giving free medicines*”.
- How to reward the Health Center optimally for dispensing and for assuming more tasks? *Keep both systems side-by-side?*
- How to fit RDF optimally with public system?
- Cambodia needs a Cost Effective Treatment Protocol Committee based on WHO PEN recommendations with a focus on PRIMARY CARE and affordability
- Cambodia needs more action research by inter-sectoral teams of Cambodian researchers (health, sociology, economics etc.)