

Survey to estimate the proportion of households experiencing catastrophic costs due to TB

Philippines



- A target of the End TB Strategy is the reduction in the number or proportion of patients or their households facing “catastrophic cost” due to TB. The target is to attain this by year 2020.
- Financial protection through reduction of costs improves adherence to treatment.
- There is a need to have a baseline for the Philippines and to identify the drivers that can reduce financial barriers.
- A protocol is recommended by the WHO to assess the composition and magnitude of direct and indirect costs of TB. The protocol can also be used to regularly monitor costs faced by patients through periodic health facility-based surveys.

- ❑ To document the magnitude and main drivers of patient costs in order to guide policies on cost mitigation for the purpose of reducing financial barriers to access and adherence.

- ❑ To determine the baseline percentage of diagnosed TB patients currently treated in the NTP network (and their households), who incur direct and indirect costs beyond a defined threshold of annual income.

Methodology

- Approach 1
 - Calculate the percentage of TB-affected households with annual total cost (medical OOP, non-medical OOP and income loss, net of vouchers, enablers, support, and insurance reimbursements) above a certain threshold, i.e., 20 or 30 of annual HH income.

- Approach 2
 - Calculate the percentage of households experiencing “dissaving”, such as taking a loan or selling property or livestock to face health costs associated with TB illness.

The WHO prescribed a protocol for the data collection. However, certain steps were taken by the Philippine team to ensure data quality and reliability of results.

Professional survey firm for data collection

A professional survey firm was used in order to ensure standardization of the interview process.

Data collectors also were not allowed to make clinical judgement and relied only on information from the (a) TB forms and (b) providers

Randomization of patients using ITIS and updating of list

Facility clusters were randomly selected.

The cluster facilities updated their ITIS. Two weeks before the interview date, the survey firm got the names of newly enrolled patients. This was then used as the sampling frame to randomly draw respondents.

Allowing for home visits

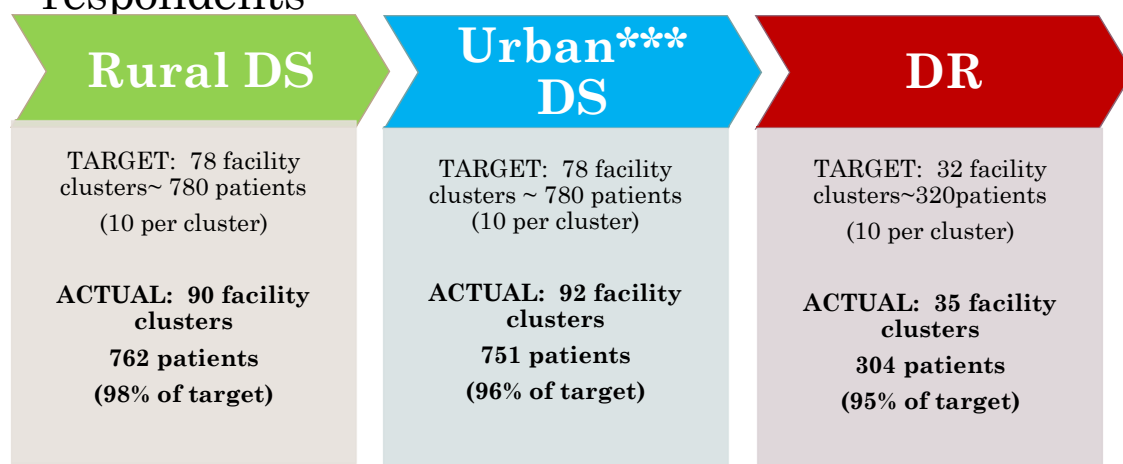
Initial plan was that interviews should be at the facility.

Home visits were allowed for patients who are working, too sick to travel, resides far from the facility. These patients might be the one facing catastrophic cost.

Study Population and Eligibility Criteria



3 subdomains, 188 facility clusters*, & 1,880 respondents**



Subdomains and target number of respondents

*Spare clusters were used if in case an original cluster has less than ten eligible patients

**Factoring already a ten percent refusal rate assumption

***Urban areas are NCR, Tri-city Cebu, and Davao City

INCLUDED

- Patients currently enrolled in DOTS facilities
- All TB patients currently on DS or DR TB treatment
- Patients in the intensive or continuation treatments phase
- Patients who finished at least two weeks of their current treatment phase

Note that no age-exclusion criteria is present for the study

Not included

- Patients treated in facilities not linked with the NTP
- Lost to follow-up cases
- Patients enrolled in jails, prisons, and other congregate facilities

Income profile of respondents

Prior to the TB illness, more than 90% of respondents mentioned that the household has a regular source of monthly income. At the time of the TB illness (current treatment phase), this drops to around 85%. More than 20% of the surveyed respondents experienced an income loss due to TB.

Among those with income loss, average loss on monthly income is more than PhP5,000. Income loss was observed to be highest among the urban DS and DR patients (more than PhP10,000 among those with income loss).

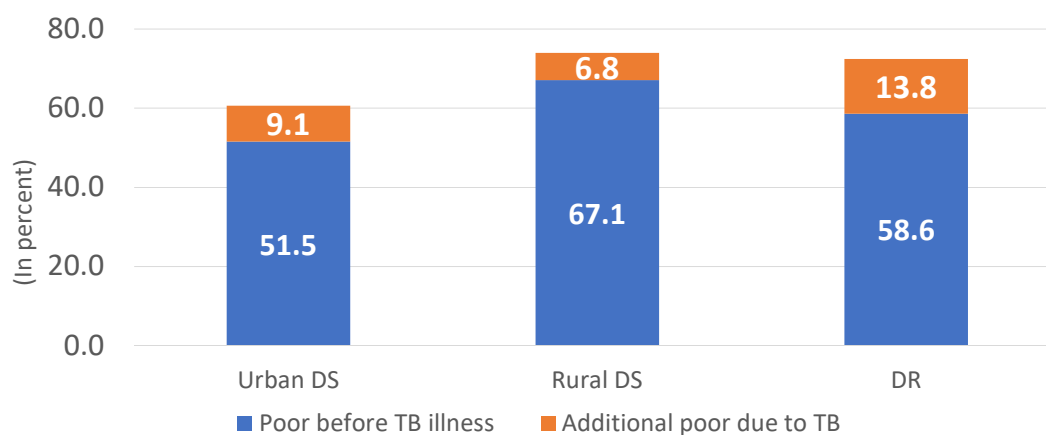
	N	Before illness		During illness		Income loss	
		with income (%)	Monthly family income (Php)*	with income (%)	Monthly family income (Php)*	with income loss (%)	Average amount of monthly Income loss (Php)**
Urban DS	751	92.94	15,385.33	86.95	14,250.90	18.25	10,901.03
Rural DS	762	94.49	11,296.59	88.45	10,719.82	21.52	6,290.42
DR	304	94.08	13,743.80	79.28	10,743.07	33.47	11,410.03

*Among those with declared HH income

** Among those with income loss

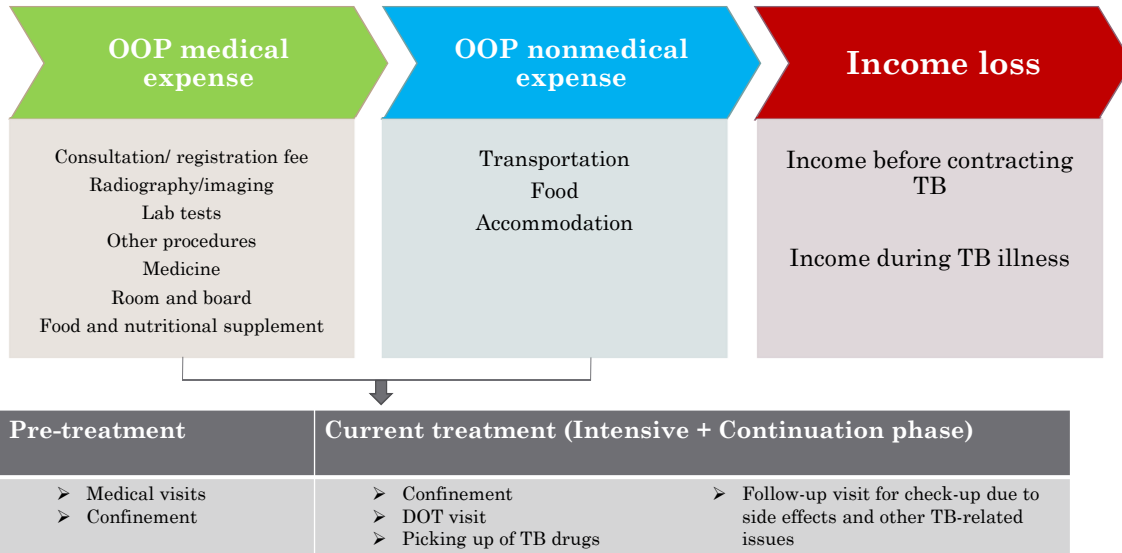
Average monthly family income before and during TB treatment

At least 50% of respondents were already poor even before the TB illness. With the illness, the proportion of poor increased, from 51 to 60 percent among urban DS, 67 to 74 percent among rural DS, and 58 to 71 percent among DR patients.



Proportion of poor before and after TB treatment

COLLECTED DATA: Total cost of TB illness includes out-of-pocket (OOP) payment for TB care (medical) and OOP payments non-medical, plus reported household income loss.



DOT visit

At least 80% of respondents mentioned that they have a treatment partner. The proportion is highest among DR patients (96%) and rural DS patient (86%).

	N	Self-administered (% to total)		W/ treatment partner (% to total)	
Urban DS	751	153	(20.4)	598	(79.6)
<i>Intensive</i>	145	27	(18.6)	118	(81.4)
<i>Continuation</i>	606	126	(20.8)	480	(79.2)
Rural DS	762	100	(13.1)	656	(86.1)
<i>Intensive</i>	88	9	(10.2)	79	(89.8)
<i>Continuation</i>	674	91	(13.5)	577	(85.6)
DR	304	12	(3.9)	292	(96.1)
<i>Intensive</i>	109	3	(2.8)	106	(97.2)
<i>Continuation</i>	195	9	(4.6)	186	(95.4)

No. of respondents with treatment partner for the current phase

Among those with treatment partners, the role of treatment partners is played by the health facility staff. This is observed among the urban DS and the DR patients. Among rural DS patients, CHWs and family members are cited as treatment partners. Interestingly, the role of CHWs is higher for the urban DS and the DR patients in the continuation phase.

	N	Proportion of respondents with TP who cited the following as TP* (in %)				
		Health facility staff	Community health worker/volunteer	Workplace	Family member	Others
Urban DS	598	73.91	25.59	0.17	35.95	2.01
<i>Intensive</i>	118	70.34	19.49	0.00	41.53	0.00
<i>Continuation</i>	480	74.79	27.08	0.21	34.58	2.50
Rural DS	656	46.04	35.67	0.00	55.79	3.20
<i>Intensive</i>	79	53.16	40.51	0.00	46.84	3.80
<i>Continuation</i>	577	45.06	35.01	0.00	57.02	3.12
DR	292	90.75	15.75	0.00	17.81	7.19
<i>Intensive</i>	106	93.40	8.49	0.00	18.87	6.60
<i>Continuation</i>	186	89.25	19.89	0.00	17.20	7.53

*categories not mutually exclusive; among patients who indicated that they have a treatment partner

Type of treatment partner for DOT

Transportation and food expense is highest among the DR and the rural DS patients. This might be explained by the location of patients relative to their typical treatment partner (health facility). On the other hand, health facilities might be nearer for the urban DS patients. Interestingly, transport and food expense are lower for patients in the continuation phase. This can be explained by the presence of CHWs as treatment partners.

	N	Average expense (in Php)	
		Transport	Food
Urban DS	598	10.84	7.78
<i>Intensive</i>	118	14.72	7.71
<i>Continuation</i>	480	9.87	7.80
Rural DS	656	30.57	18.81
<i>Intensive</i>	79	56.94	28.20
<i>Continuation</i>	577	26.97	17.53
DR	292	77.38	40.01
<i>Intensive</i>	106	91.94	48.13
<i>Continuation</i>	186	69.08	35.39

Average transport and food expense during last DOT visit

Costs related with check-ups due to side-effects and other TB-related issues

Average medical expense for the last check up was low (<PhP200) across types of respondents. Less than ten percent of the respondents reported an expense for registration and consultation. The same was observed for radiography, with less than 15 percent of respondents reporting an expense for these items.

	N	Average medical expense (Php)	Registration/Consultation			Radiography (X-rays, CT-scan, ultrasound)		
			with expense (n,%)	mean	(median)**	with expense (n, %)	mean	(median)**
Urban DS	683	148.8	29 (4.24)	361	(60)	88 (12.88)	375.8	(200)
Intensive	134	194.7	10	166	(40)	26	302.9	(200)
Continuation	549	137.6	19	464	(60)	62	406.4	(250)
Rural DS	737	156.2	31 (8.31)	331	(250)	49 (6.65)	380.8	(250)
Intensive	81	174.1	5	158	(100)	9	345.6	(250)
Continuation	656	154.0	26	364	(300)	40	388.8	(255)
DR	289	50.0	3 (1.04)	152	(65)	9 (3.11)	221.9	(187)
Intensive	102	93.4	0	n.a.	n.a.	3	135.7	(170)
Continuation	187	26.4	3	152	(65)	6	265.0	(235)

**among those with positive expense

Average medical expense for the last follow-up visit (1)

Less than 10% reported a positive expense for TB tests and medicines. However, among those who reported a positive expense, the expense incurred during the last visit was high. For the TB tests, the average expense is more than PhP200, reaching more than PhP500 for the rural DS. Average expense for TB meds (bought inside or outside the facility) was more than PhP300.

	N	Average medical expense (Php)	TB tests and other related tests			TB medicines (including prescriptions bought outside the facility)		
			with expense (n,%)	mean	(median)**	with expense (n,%)	mean	(median)*
Urban DS	683	148.8	32 (4.69)	246.6	(110)	68 (10.0)	723.5	(450)
Intensive	134	194.7	6	126.7	(95)	24	658.6	(500)
Continuation	549	137.6	26	274.3	(110)	44	759.0	(375)
Rural DS	737	156.2	46 (6.24)	542.7	(223.5)	74 (10.04)	769.6	(495)
Intensive	81	174.1	5	520.0	(200)	10	759.9	(400)
Continuation	656	154.0	41	545.5	(250)	64	771.1	(495)
DR	289	50.0	2 (0.69)	250.0	(250)	18 (6.23)	639.2	(325)
Intensive	102	93.4	1	250.0	(250)	9	985.6	(380)
Continuation	187	26.4	1	250.0	(250)	9	292.8	(145)

**among those with positive expense

Average medical expense for the last follow-up visit (2)

Transportation expense was also asked during the last visit for check-up. The study team though recognizes that check-ups might overlap with DOT visits. Similar with what was observed for DOT visits, transportation expense was also higher among the rural DS and the DR patients

	N	Average transport expense (Php)
Urban DS	683	29.86
<i>Intensive</i>	134	39.38
<i>Continuation</i>	549	27.54
Rural DS	737	93.50
<i>Intensive</i>	81	109.25
<i>Continuation</i>	656	91.55
DR	289	98.20
<i>Intensive</i>	102	115.76
<i>Continuation</i>	187	88.62

Average transportation expense for the last follow-up visit

Food and nutritional supplement

More than 75% of respondents mentioned that they buy nutritional and food supplements, due to TB as per recommendation of a health provider ,apart from the regular diet. Among those who buy, the average expense was greater than PhP1,000. From consultations with health providers for explanation on the cost, a family might be buying additional food not only for the sick, but for other family members as well.

	N	Nutritional & food supplement* for the past month	
		% with nutritional supplement*	Average expense (Php)**
Urban DS	751	74.97	1167.28
<i>Intensive</i>	145	78.62	1514.41
<i>Continuation</i>	606	74.09	1079.14
Rural DS	762	83.07	1001.72
<i>Intensive</i>	88	87.50	1000.26
<i>Continuation</i>	674	82.49	1001.93
DR	304	89.14	1437.02
<i>Intensive</i>	109	88.07	1468.70
<i>Continuation</i>	195	89.74	1419.54

*vitamins, energy drinks, fruits and meat as recommended by health staff

** Among those with positive expense

Average monthly expense for nutritional and food supp

Enablers and other support for patients

DR patients are the usual recipients of enablers and other support. Seventy percent of the surveyed DR patient received support to cope with the TB illness. This is currently being verified. The average amount of monthly voucher is more than PhP3,500.

	N	Patients w/ enablers & support (%)		Average amount of enablers & support (Php)
Urban DS	751	7	(0.93)	885.71
Intensive	145	2	(1.38)	950.00
Continuation	606	5	(0.83)	860.00
Rural DS	762	12	(1.57)	1266.67
Intensive	88	1	(1.14)	1500.00
Continuation	674	11	(1.63)	1245.46
DR	304	213	(70.07)	3782.19
Intensive	109	80	(73.39)	4017.68
Continuation	195	133	(68.21)	3640.55

No. of recipients and ave. amount of enablers and vouchers

Proportion of TB-affected households facing catastrophic cost

35% of TB- affected households face catastrophic cost using a 20% income threshold (WHO protocol on threshold)

	Medical		Medical + nonmed (e.g travel, accom, food dur visit)	Med+ nonmed+ income loss	Med+ nonmed+ income loss- (enablers, support)
	w/o nutritional supp	w/ nutritional supp			
20% threshold	2.29	9.51	20.46	36.56	35.44
Urban DS	1.80	5.39	7.46	24.03	23.90
Rural DS	2.41	10.03	22.19	38.24	37.30
DR	1.33	28.00	75.00	88.33	66.67

% of HH facing catastrophic cost

Income loss and transportation cost and other non-med items account for a large share on the expense faced by TB-affected households facing catastrophic cost. On the average, these items combine account for more than 60% of total cost among households facing catastrophic cost.

Average share of cost item among those with catastrophic cost* on total expense

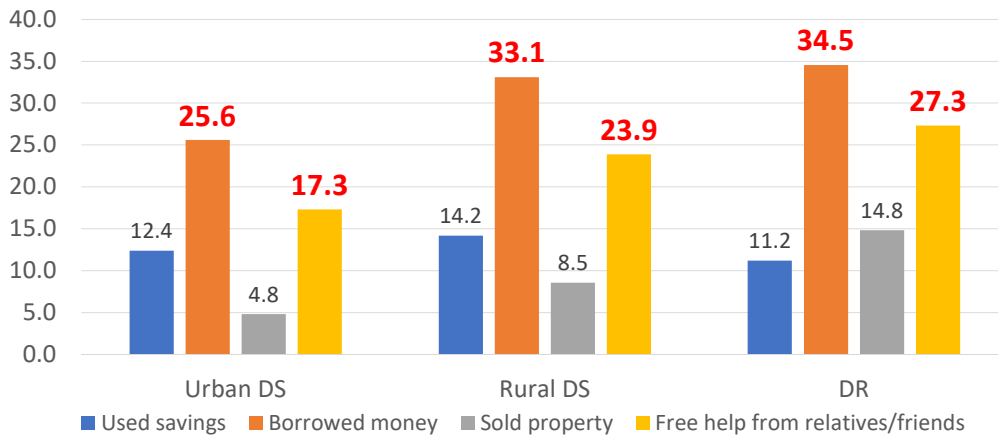
	Urban DS	Rural DS	DR
Medical (not inc nutritional supplements)	9.62	6.78	2.08
Nutritional supplements	18.06	20.00	16.68
Transportation costs and other non-med items	8.61	32.07	45.99
Income loss	63.70	41.15	35.25

*20% income threshold

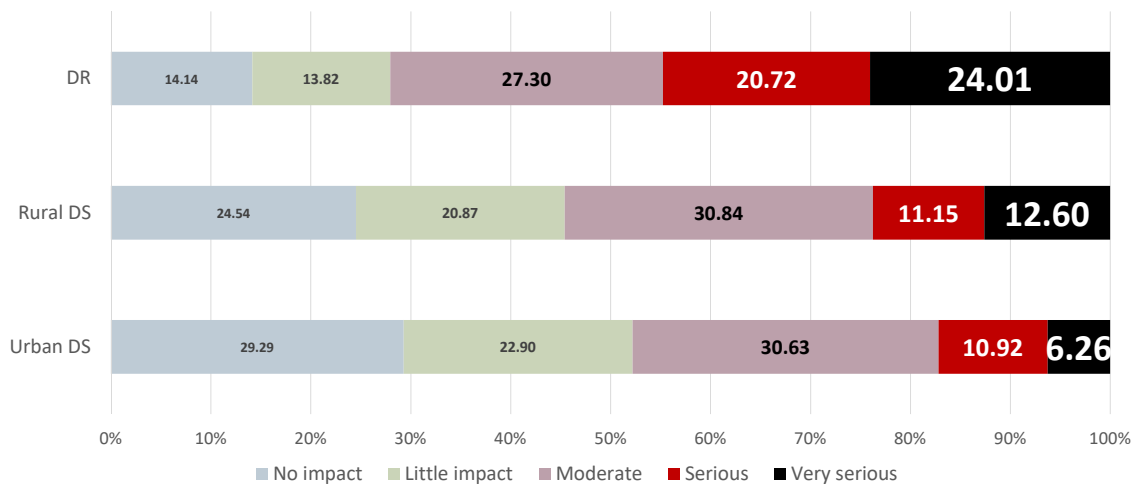
Drivers of cost among those facing catastrophic cost

Coping mechanisms for TB

Respondents were asked if their households took specific actions to cope with the TB illness. Borrowing money was the typical coping action, with at least 25% of the respondents saying that borrowing money was done. Getting free help from relatives and friends was another common coping action.

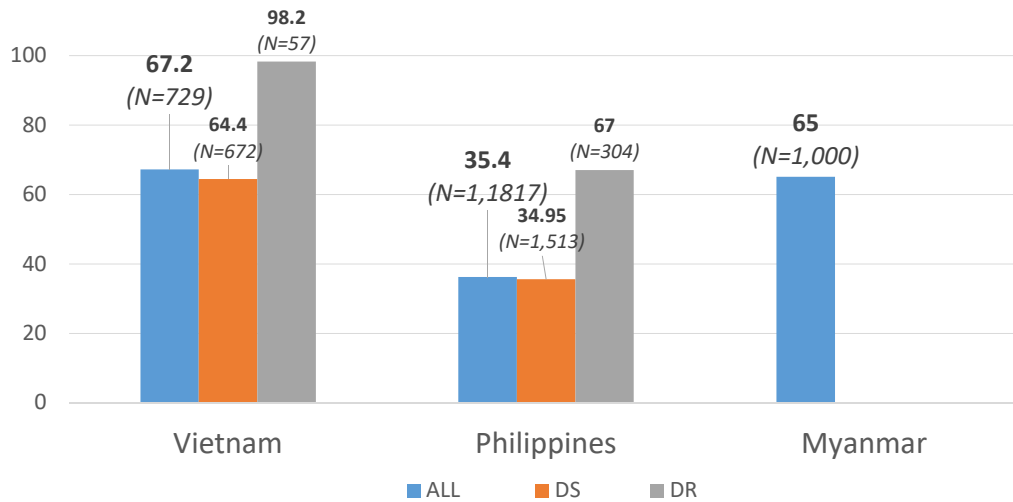


Respondents were asked to rate the financial impact of the current TB illness for the household. For the urban DS and rural DS patients, at least 20% of patients mentioned that the illness has serious impact. For the DR patients, more than 40% of respondents mentioned that the illness has serious impact.



Self-reported financial impact of TB illness

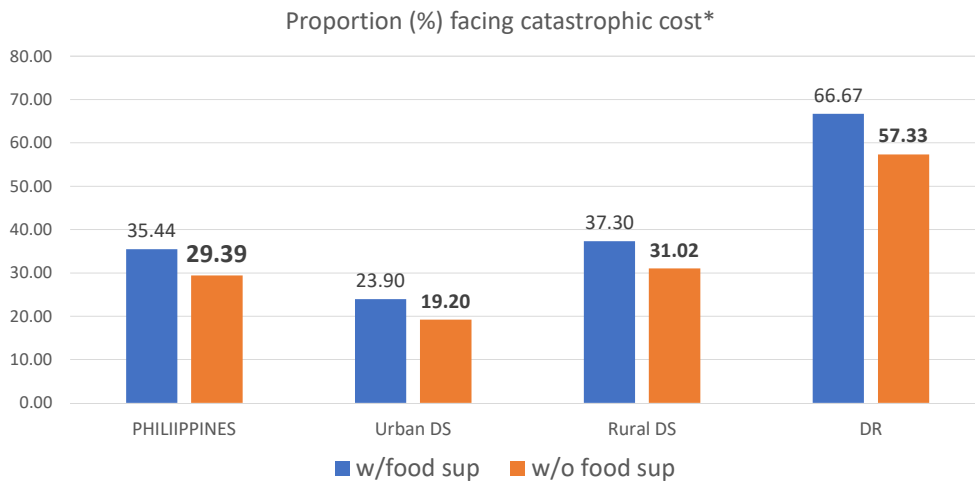
Compared with other countries that conducted the same survey, the Phil survey has a larger sample size and can estimate by specific domain. The computed proportion is also lower compared with other countries.



of HH facing catastrophic cost:
Philippines and other countries

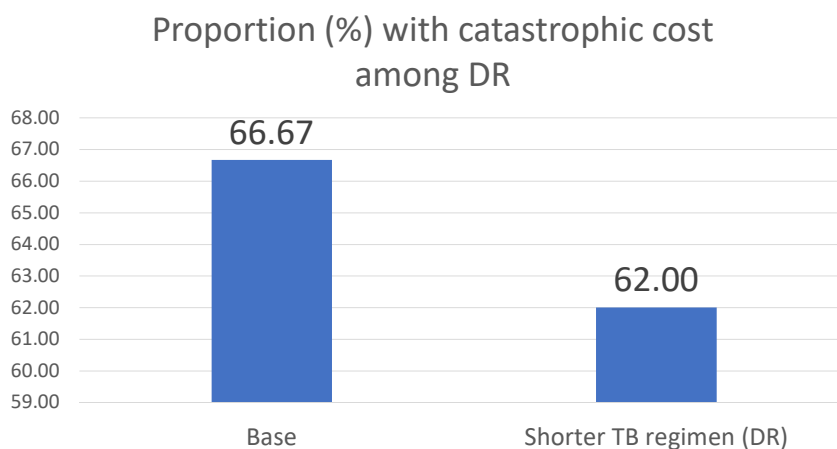
Recommendations

Guidance on nutrition for TB patients might be needed. This can cut the proportion of TB-affected households facing catastrophic costs by five percentage points, from 35 percent to 29 percent.



1. Review issue on nutrition

Consider the application of a shorter TB regimen for DR patients. It appears in the computation that on an annual basis, the drop on catastrophic cost is low. However looking at the entire DR duration, total expense and income loss becomes shorter, from more than 12 months to 9 months



2. Shorter DR regimen

Given the result of the TB catastrophic cost survey, further studies on the ff:

- ✓ Causes of lost to follow-up
- ✓ On composition of food and nutritional supplements
- ✓ Decentralization of DOTS to minimize transportation cost
- ✓ Improvement of the current TB Catastrophic cost survey protocol

THANK YOU