ESSENTIAL DRUGS IN A FAMILY HEALTH BASKET

B.A. Marte[1], M. Valera[1], R. Delino[2], J. Baltazar[3], D. Schwefel[2]

1   Department of Health of the Philippines, Manila
2   German Agency for Technical Cooperation, Manila
3   College of Public Health of the University of the Philippines, Manila

Abstract

The concept of a "family health basket" is part of the economics of basic needs satisfaction. It contains at least five distinctive elements, namely: first aid and emergency, affordable drugs for common illnesses, medicinal plants and other community-managed self-help initiatives, understandable health information, safe motherhood and family planning. Our basket is a message in itself, too. It is made of recycled newspapers and abaca strings-- a symbol of ecologically sound craftsmanship.

Drug requirements by a household were calculated using data from a household survey on health-seeking behavior and expenditure. Fever, ARI, flu, diarrhea and pain were found to be the most prevalent household complaints, among others.

In order to manage the occurrence of such illnesses, a household must be equipped with drugs such as amoxicillin, cotrimoxazole, paracetamol, chlorpheniramine maleate and mebendazole; with supplements such as retinol, ferrous sulfate and oresol; and with wound remedies such as povidon-iodine, cotton, gauze and adhesive plaster. Contraceptives will also be added to the family health basket to meet the demand for family planning.

It is envisioned that cost of health care will be reduced considerably if the household avails of the family health basket. The optimal patterns of a community-based sale and distribution and use will be tested soon.

The concept of a "basket" is part of the economics of basic needs satisfaction. A balanced basket of "needed" and "basic" consumer goods is being taken for measuring poverty and price indices. A balanced food basket is being composed for safeguarding a balanced diet of calories, proteins, vitamins and the like. Such baskets incorporate the diverse ingredients basically needed for surviving. Not surprisingly, the concept of a basket is close to household economics: sourcing of goods and commodities for a healthy family life.

Before this background we conceptualize what we coin family health baskets. They contain the basic elements of health care in the hands of families. In modern(izing) societies it can not be conceptualized as a subsistence economy of health care that is just in the hands of the people. But it is very close to this concept. And it is trying to bring it back to the families. And to empower them to take the lead.

We assume that the family health basket will contain at least five distinctive elements:

F   First aid and emergency management: managing the care of common emergencies through prevention, wound dressing, basic forms of first aid, self-medication and self-treatment by family health workers is one of the mandates of health care for and by the urban poor.

A   Affordable drugs for common illnesses: treating the most common diseases that stem from poverty, overcrowding, and environmental hazards, e.g. by an informed use of antibiotics, antihelminthics and drugs against fever and pain (antipyretics and analgesic drugs).

M   Medicinal plants and other community-managed self-help: "health in the hands of the people" means that people should take health care into their own hands as well as the production of basic medicines in the form of herbal plants, and more generally in the form of income and food generating projects; it includes healthy lifestyles as well.

U   Understandable health information: information and understanding on how to improve health by giving health into the hands of the people, i.e. by health information, education, communication and motivation to improve health within the families proper.

S   Safe motherhood and family planning: reducing the risk of morbidity and mortality in the family by avoiding pregnancies that are too early, too often and too late, and advocating the family's right of choice.

The basket itself is a message, too. Our basket is produced with recycled newspapers and the strings are abaca. This is a symbol of ecologically sound self-production that can even lead to income generating activities - a backbone for health.

In this paper we will concentrate on the "A", the affordable drugs. How affordability can be achieved through community managed drug insurances is being presented in another conference paper [1]. The present paper addresses the question: what is the epidemiological background in terms of common illness episodes? Which drugs are needed most basically for addressing these episodes?

Illness episodes

The HAMIS household survey on health-seeking behavior and expenditure was conducted in 1992 in Quezon Province. Respondents were asked about any illness occurrence in the household. The responses were varied and ranged from mild to severe symptoms and diagnoses. The most common complaints are recorded in the following table.

Table 1   One-month period prevalence (per 1000 persons), by age and place of residence, Quezon Province, 1992

	Total	Infant	Child	Adoles	Adult	Elderly	Urban	Rural
Age (yrs)		<1	1-9	10-23	24-64	65+		
n	1476620	47944	387471	446896	539071	55238	495663	980958
Fever	47.7	92.5	100.7	38.1	16.5	20.1	34.9	54.2
Ari	32.0	95.0	56.6	20.8	19.9	14.3	28.0	34.0
Flu	16.0		17.2	15.2	17.9	8.5	12.0	18.0
Diarrhea	15.8	30.3	26.1	6.5	15.1	12.7	12.1	17.7
Pain	10.2	1.1	7.7	4.6	14.4	40.8	10.5	10.1
Chickenpox	4.3		6.6	7.1	1.3		1.5	5.7
Measles	3.1	8.4	8.2	2.0	0.2		2.1	3.6
Tuberculosis	3.1	2.6	2.6	0.6	3.7	21.5	1.3	4.0
Asthma	2.9	1.3	6.1	0.7	25	4.2	2.8	3.0
Malaria	2.7		2.5	3.5	2.6	1.1	0.6	3.8
CV disease	2.2			0.6	3.8	17.9	2.0	2.4

	Total	Infant	Child	Adoles	Adult	Elderly	Urban	Rural
UTI	1.7		0.4	2.0	2.2	3.6	2.1	1.5
Skin disease	1.6	5.3	2.8	0.4	1.1	4.5	1.7	1.6
Wound	1.5	6.4	0.9	0.7	2.0	2.0	1.7	1.4
Dizziness	1.5			0.8	1.4	19.3	1.2	1.6
Hyperacidity	1.2		0.2		2.6	4.1	1.6	0.9
Anemia	1.1			0.4	2.7		0.3	1.5
Lump	0.9	1.2	0.4	0.9	1.2		0.7	1.0
Allergy	0.7	6.9	1.5			1.5	1.4	0.3
Mumps	0.5		0.6	0.8	0.3		0.5	0.3

Fever was the leading ailment. It was found prevalent in infants and children. Similarly, acute respiratory infection was common in the younger age groups but decreased with age. Flu ranked third and was predominant in children and adults. Diarrhea was the fourth leading illness, afflicting all age groups but was more prevalent among infants and children. Pain comprised complaints of headache, stomachache, back pain and muscle pain. This malady, along with tuberculosis, cardiovascular disease and dizziness, was found common among the elderly. Most of the illnesses reported were more prevalent in the rural areas. Urinary tract infection, hyperacidity and allergy were the ailments common in urban rather than in rural areas.

Illness episodes per urban household per year

Urban poor households will be the beneficiaries of family health baskets. Determination of drugs contained in the basket was based on the findings of the 1992 Household Health Expenditure Survey of Quezon Province. Participants in the survey were asked about all the illness episodes the household experienced since the first day of the previous month of interview. Assuming that the occurrence of illness is constant throughout the year, the number of illness episodes per household per year is estimated by the formula:

$$\frac{\text{No. of episodes}}{\text{Population at risk}} \times \frac{\text{No. of ill persons}}{\text{No. of ill households}} \times 12$$

Using the formula, the number of episodes per household per year for each type of illness is shown in Table 2.

Table 2. Number of illness episodes per urban household per year

Illness	Less than 1 year	1-11 years	12-16 years	17 years & over
Fever	3.722	5.141	4.934	2.540
ARI	5.477	4.650	0.911	2.017
Diarrhea	1.366	1.630	0.536	1.245
Influenza		0.693	2.929	2.053
Pain	0.182	0.693	0.797	1.844
Asthma	0.220	0.315		0.360
Skin disease		0.152	0.180	0.405
Measles	0.709	0.194	0.990	
UTI		0.086		0.418
Cardiovasc disease				0.508

Illness	Less than 1 year	1-11 years	12-16 years	17 years & over
Wound		0.092		0.312
Chickenpox		0.178	0.768	0.063
Hyperacidity				0.414
Allergy	0.857	0.158		0.043
Tuberculosis				0.319
Dizziness			0.261	0.260
Lump	0.193	0.066		0.084
Mumps		0.073		0.074
Malaria		0.026		0.114
Anemia				0.087

For further detail, Annexes 1-4 show the population distribution of urban households, and the number of episodes, the number of cases, the number of ill households according to the type of illness and age group, respectively. Age groupings were arbitrarily assigned to correspond with the target groups for medication purposes.

Estimation of essential drug requirement

Amoxicillin or cotrimoxazole are the drugs of choice for acute respiratory and urinary tract infections. Fever and pain may be treated with paracetamol; allergy, with chlorpheniramine maleate. Costing of the said drugs was calculated on the basis of the drug specification, the susceptible age groups, the treatment regimen, and the frequency of illness episodes.

Mebendazole is an ideal therapy for parasitism. The recommended regimen is a dose of 100 mg for children and 500 mg for adults for three consecutive days. Disinfectants such as povidone-iodine, cotton, gauze and plaster should likewise be readily available in the household as a first aid remedy.

Retinol and ferrous sulfate are supplements for deficiencies in vitamin A and iron, respectively. These are usually given to the vulnerable sector of the population. Retinol (200,000 IU) is given to children where a single dose is sufficient throughout the year. With regard to ferrous sulfate, a two-month therapy is recommended among pregnant or lactating women, and children.

The retail prices of the cheapest brand of generic drugs by the country's leading drugstore were used to estimate the essential drug requirements (Table 3).

To reduce risks of infant and maternal mortality by properly timing and spacing pregnancies contraceptives will be added to that stock, for managed use through the family health worker and/or the community health worker and/or other professionals; low dosage pills, condoms, injectables and intra uterine devices will be made available.

Table 3 - Estimation of essential drugs per urban household per year in a family basket

Drug	Specification	Target Group	Daily dose	Number of days	Illness episode		Number of episodes	No of persons	Households	Persons per hh	Popu-lation	Episode per person per year	Dose demand per hh py	Unit cost per tab	Doses per bottle	Bottles per hh py	Unit cost per bottle	Total cost per hh py
					ARI	**UTI**												
Amoxicillin	500 mg tabs	17+	3	5	3436	820	4256	4146	3707	1.12	23542	2.2	36.39	7.60				276.60
	250 mg caps	12-16	3	5	345	0	345	345	345	1.00	4545	0.9	13.66	4.35				59.44
	250 mg/5 ml susp (60 ml)	1-11	3	5	8597	198	8795	8583	6953	1.23	27470	3.8	71.14	NA	12	5.93	64.75	383.86
	250 mg/5 ml susp (60 ml)	<1	3	5	1513	0	1513	1471	1398	1.05	3488	5.2	82.16	NA	12	6.85	64.75	443.30
Cotrimoxazole	800/160 mg tabs	17+	2	5	3436	820	4256	4146	3707	1.12	23542	2.2	24.26	15.20				368.80
	400/80 mg tabs	12-16	2	5	345	0	345	345	345	1.00	4545	0.9	9.11	9.65				87.90
	200/40 mg susp (60 ml)	1-11	2	5	8597	198	8795	8583	6953	1.23	27470	3.8	47.43	NA	20	2.37	101.00	239.51
	200/40 mg susp (60 ml)	<1	2	5	1513	0	1513	1471	1398	1.05	3488	5.2	54.77	NA	20	2.74	101.00	276.59
					FEVER	**PAIN**												
Paracetamol	500 mg tabs	17+	3	3	4501	3617	8118	7981	7545	1.06	23542	4.1	39.39	0.70				27.58
	200 mg/5 ml susp (60 ml)	1-16	3	3	11735	1525	13260	13035	10645	1.22	32015	5.0	54.77	NA	12	4.56	46.40	211.80
	120 mg/5 ml susp (60 ml)	<1	3	3	1082	53	1135	1135	1135	1.00	3488	3.9	35.14	NA	12	2.93	16.85	49.35
					ALLERGY													
Chlorpheniramine maleate	4 mg tabs	17+	3	3	85		85	85	85	1.00	23542	0.04	0.39	10.40				4.06
	2 mg/5 ml susp (60 ml)	1-16	3	3	362		362	324	324	1.00	32015	0.14	1.22	NA	12	0.10	41.50	4.22
	2 mg/5 ml susp (60 ml)	<1	3	3	249		249	249	249	1.00	3488	0.86	7.71	NA	12	0.64	41.50	26.66
					PARA SITISM													
Mebendazole	100 mg tabs	1-12	1	3				160440	91735	1.75		1.0	5.25	9.95				52.21
	100 mg tabs	13+	5	3				323398	91735	3.53		1.0	52.88	9.95				526.16
					FIRST AID													
Povidone-iodine	10% solution (60 ml)															1	57.40	57.40
Cotton	roll															1	15.75	15.75
Gauze	roll															1	5.90	5.90
Plaster	roll															1	22.20	22.20
					MICRO NUTRIENTS													
Retinol	200000 IU caps	1-12	1	1				160440	91735	1.75		1.0	1.75	4.10				7.17
Ferroussulfate	200 mg tabs	preg/ lact	2	60				21644	91735	0.24		1.0	28.31	0.45				12.74
	200 mg tabs	7-12	2	60				79601	91735	0.87		1.0	104.13	0.45				46.86
	100 mg susp (60 ml)	5-6	2	60				30154	91735	0.33		2.0	78.89	NA	12	6.57	68.75	451.97
	100 mgsusp (60 ml)	1-4	1	60				50685	91735	0.55		2.0	66.30	NA	12	5.56	68.75	379.85
																	TOTAL COST PER HOUSEHOLD in PESOS	4037.87

Drug costs

Our household survey shows that it is customary for households to use over-the-counter drugs even before being seen by a health worker. Aout three-fourths (74.5%) of the illness episodes were treated with over-the-counter drugs. In addition, more than half of the households (53.7%) had at least one illness occurrence. Of these households, 38.9% had episodes that were treated with drugs.

The distribution of households as to where drugs are obtained are shown in Table 4. The drugstore and clinic were the most common sources of drugs. The category "Other" referred to specific localities in the province where information on the type of source was not elaborated in detail. Had interviewers probed deeper, the proportion of pharmacy and clinic use might have increased.

Table 4   Distribution of households by drug source for treating illness episodes, Quezon Province, 1992

DRUG SOURCE	Number.	%
Cooperative	**296**	**0.5**
Pharmacy	**22943**	**41.5**
Doctor's Clinic	**17408**	**31.5**
Sari-sari Store	**5339**	**9.6**
Other	**14353**	**25.9**
No. of ill households with drug expense	**55339**	

The drugstore and clinic were the most common sources of drugs. The category "Other" referred to specific localities in the province where information on the type of source was not elaborated in detail. Had interviewers probed deeper, the proportion of pharmacy and clinic use might have increased.

In terms of health care expenditure, the survey revealed that drugs and medicines including home remedies comprise the largest cost item, covering more than 75% of the total expenses. Collateral to this finding is that most midwives in the barangays perceive lack of medicines as the most pressing health care need. This is clearly demonstrated in the results of the HAMIS Barangay Socio-Economic Profile.

To alleviate this situation and to address therefore one of the most pressing needs of family health management, drugs should be made more affordable. One choice is to build up drug store cooperatives or public pharmacies. Table 3 illustrates the prices of drugs according to the common retail prices in drug stores. Usually, these prices contain 50% private profit for the drug store owner and 50% real prices for the drug store owner. This profit margin could be saved for the benefit of the urban poor

Strategy and summary

This essential drug basket for a family will be available to the families either directly or indirectly. The optimal patterns of a community based distribution and use will be tested by us in the near future. Antibiotics use requires strict supervision and good knowledge and understanding to avoid the development of new or resistant strains of microorganisms. Nevertheless, even Barangay Health Workers might be given some responsibility for a proper application of this essential drug basket of a family. Ultimately, families themselves should have a stock of the most essential drugs and one family member - i.e. the Family Health Worker - will get special instruction for storing and using it under the supervision of a Community Health Worker who is responsible for the community based distribution and guided use and restocking or for a proper referral. Pilottesting alternative patterns of direct and indirect availability of such a basket to the target families will be guided by the principle of appropriate deregulation and debureaucratization to benefit the poor.

To summarize: we conceptualize and distribute family health baskets to satisfy the most pressing health needs of poor Filipinos. We call it FAMUS:

F   first aid is being trained by volunteer health workers to the families

A   affordable drugs are being allocated through community drug insurances, mother clubs, patients associations or any other suitable community managed organization that avoids the dole out mentality.

M   medicinal plants are planted in community managed ways by trained communities that will turn it into income generating projects, to gain sustainability.

U   understandable information is given by the Department of Health and its sponsors.

S   safe motherhood and family planning devices are being added as a back up by the national family planing program.

Literature

(1)   E. Palazo, D. Schwefel: Community Drug Insurances. Paper presented at the GTZ Regional Conference, Villa Escudero, 26 February - 2 March 1995.

Annexes

Annex 1. Population distribution of urban households

AGE (years)	NUMBER
less than 1	3488
1-11	27470
12-16	4545
17 & over	23542
TOTAL	59045

Annex 2. Number of illness episodes by age group in urban households

Illness	Less than 1 yr	1-11 yrs	12-16 yrs	17 yrs & over	Total
Fever	1082	9947	1788	4501	17318
ARI	1513	8597	345	3436	13891
Diarrhea	397	3397	203	1981	5978
Influenza		1295	1087	3552	5934
Pain	53	1223	302	3617	5195
Asthma	64	622		706	1392
Skin disease		347	68	418	833
Measles	206	445	375		1026
UTI		198		820	1018
Cardiovasc dis				996	996
Wound		210		613	823
Chickenpox		337	291	123	751
Hyperacidity				813	813
Allergy	249	362		85	696
Tuberculosis				626	626
Dizziness			99	510	609
Lump	56	152		118	326
Mumps		110		145	255
Malaria		59		223	282
Anemia				171	171

Annex 3. Number of cases by age group in urban housholds

ILLNESS	LESS THAN 1 YR	1-11 YRS	12-16 YRS	17 YRS & OVER	TOTAL
Fever	1082	9947	1761	4501	17291
ARI	1471	8471	345	3326	13613
Diarrhea	397	3397	203	1981	5978
Influenza		1295	1087	3552	5934
Pain	53	1136	239	3591	5019
Asthma	64	622		668	1354
Skin disease		347	68	418	833
Measles	206	445	375		1026
UTI		198		820	1018
Cardiovasc dis				885	885
Wound		210		613	823
Chickenpox		337	291	123	751
Hyperacidity				634	634
Allergy	249	324		85	658
Tuberculosis				626	626
Dizziness			99	510	609
Lump	56	129		118	303
Mumps		110		145	255
Malaria		59		223	282
Anemia				118	118

Annex 4. Number of ill urban households by age group

	LESS THAN 1 YR	1-11 YRS	12-16 YRS	17 YRS & OVER	TOTAL
Fever	1082	8407	1685	4065	15239
ARI	1398	6841	345	2888	11472
Diarrhea	397	3092	203	1607	5299
Influenza		1057	1065	3133	5255
Pain	53	876	239	3591	4759
Asthma	64	536		668	1268
Skin disease		347	68	220	635
Measles	206	445	375		1026
UTI		198		820	1018
Cardiovasc dis				885	885
Wound		210		613	823
Chickenpox		278	291	123	692
Hyperacidity				634	634
Allergy	249	324		85	358
Tuberculosis				626	626
Dizziness			99	510	609
Lump	56	129		84	269
Mumps		72		145	217
Malaria		59		223	282
Anemia				118	118