A Tale of Two Cities:

Comparison of Rural Versus Urban Honduran Pharmaceutical Needs

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INTRODUCTION

- Shoulder-to-Shoulder is a private, not-for-profit, nongovernmental organization founded in 1990 which is based on a community-oriented primary care model.
- An interdisciplinary team consisting of physicians, pharmacists, and medical students travels to Honduras regularly to provide medical care and to assist the community with sustainable healthcare services.
- Two pharmacists were responsible for the medication delivery system in an urban health clinic in Santa Lucia, Honduras in February, 2008.
- Other pharmacy responsibilities included development of a diabetes management clinic.
- A previous study of pharmacotherapy needs in a rural health clinic was conducted in Colomarigua, Honduras in September, 2007.

OBJECTIVES

 To compare medication use patterns in two different international health clinics in rural and urban Honduras.

METHODS

STUDY DESIGN

• Prospective, descriptive study

PATIENTS

- All patients were residents of the Honduran villages
- where medical and pharmaceutical services were provided

 All patients seen in the pharmacy over a six day period
 were included

Inclusion criteria

Patients seen in clinic who received at least one medication

Exclusion criteria

Patients seen in clinic who did not receive any medications

DATA COLLECTION

- Information collected included the following:
- . Demographic data: gender and age
- Diagnosis
 Mediantian
- Medications prescribed
- Medication availability
- Therapeutic substitution availability
- Medication supply deficiencies

RESULTS

Above: Parents often sent their

children to clinic alone to receive

multivitamins, anthelmintics, and

dental varnishing.

Left: The children are

very curious and

request to have heir pictures taken

Right:

Patients eagerly wait to see a doctor in Santa

Lucia

DEMOGRAPHICS

	SANTA LUCIA N = 292	COLOMARIGUA N = 429	
GENDER	N (%)	N (%)	
Male	79 (27.1)	186 (43.4)	
Female	213 (72.9)	243 (56.6)	
AGE	N (%)	N (%)	
Range (years)	6 months - 87	2 months – 88	
Mean (years)	34.8 +/- 23.7	24.9 +/- 20.5	
0-14	76 (27.3)	195 (45.2)	
15-64	161 (57.9)	215 (49.9)	
≥65	41 (14.8)	21 (4.9)	





MEDICATION INVENTORY

MEDICATION CATEGORIES	SANTA LUCIA N (%)			MARIGUA N (%)
	N = 6		N = 7	
Antibiotic	33	(5.1)	36	(4.9)
Topical Agent	33	(5.1)	78	(10.5)
Anthelmintic	77	(11.9)	122	(16.5)
Antiparasitic	8	(1.2)	13	(1.8)
Antipsychotic	1	(0.2)	1	(0.1)
Antidepressant	5	(0.8)	1	(0.1)
Analgesic	136	(21.0)	165	(22.3)
Oral Inhaler	8	(1.2)	8	(1.1)
Oral Steroid	2	(0.3)	2	(0.3)
Acid Relief	44	(6.8)	30	(4.0)
Vitamins	120	(18.5)	186	(25.1)
Other	182	(28)	99	(13.4)
Antihypertensives	57	(31.3)	*	
Diabetes Medications	40	(22.0)	*	
Aspirin	33	(18.1)	*	

MEDICATION AVAILABILE	TY			* = Unknow
In Stock	608	(93.7)	702	(94.7)
Out of Stock Substitution available No substitution available	41 39 2	(6.3) (95.1) (4.9)	39 25 14	(5.3) (64.1) (35.9)

DIAGNOSES ENCOUNTERED

DIAGNOSED	SANTA LUCIA N (%)	COLOMARIGUA N (%)
Respiratory Dermatologic Parasite Helminth GERD Neuro/Psychotic Pain Acute Injury	N (%) N = 461 17 (3.7) 20 (4.3) 8 (1.7) 67 (14.5) 39 (8.5) 10 (2.2) 125 (27.1) 2 (0.4)	N = 597 36 (6.0) 66 (11.1) 26 (4.4) 118 (19.8) 27 (4.5) 4 (0.7) 181 (30.3) 3 (0.5)
Other Hypertension Diabetes Prenatal Visits Malnutrition	173 (37.5) 33 (19.1) 28 (16.2) 28 (16.2) 15 (8.7)	136 (22.8) * * * *

* Haliaani



MEDICATION DEFICIENCIES	SANTA LUCIA N (%)	COLOMARIGUA N (%)
Supply Depleted Different Dose Administered Therapeutic Substitution Administered Never in Stock	N = 41 2 (4.9) 24 (58.5) 15 (36.6) 0 (0.0)	N = 39 7 (17.9) * * 32 (82.1)

* – Hnkr



Above: The well-established Santa Lucia health clinic pharmacy

CONCLUSIONS

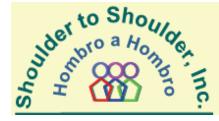
- Although the two cities differ in size and the availability of an established health clinic, most patients received anthelmintics, analgesics, and vitamins.
- · More older adults were seen in Santa Lucia.
- More chronic disease states, such as diabetes and hypertension, were encountered in Santa Lucia.
- The supply of children's vitamins with iron was depleted at both sites.

FUTURE IMPACT

- Recommendations about what medications to stock for both rural and urban brigades based upon medication use patterns are being developed.
- A diabetes treatment algorithm that is specific to the needs of Hondurans and readily available treatments is being daysland.
- Diabetes management classes will continue to be provided at the Santa Lucia health clinic by future brigades.



Above: Pharmacist-taught diabetes education class at the Santa Lucia health clinic



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