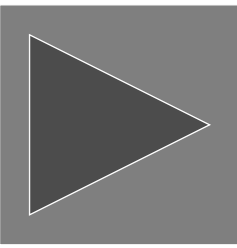




Healthcare Resource Disparities in Petén, Guatemala: Rural Access to Care

TAP TO GO BACK
TO KIOSK MENU



Barber, Joseph A. B.S., MPAS, PA-C, OMSII*; **Chaney, Stephanie D. B.A., MPH, OMSII*;** **Vijayakar, Roshny S. B.A., OMSII*;** **Campbell, Courtney M. B.S., OMSII*;** **Kennedy, Christina B.S., PhD***

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ABSTRACT

Guatemala is one of several Central American countries providing free healthcare for its citizens. The Program for Extended Coverage (Programa de Extensión de Cobertura, PEC), established in 1996 as a division of the Ministry of Public Health and Social Assistance (MSPAS), outsourced healthcare delivery to Non-Governmental Organizations (NGOs) through government contracts. NGOs provided the majority of care to the rural and uninsured population until 2013, when the PEC was dismantled due to alleged corruption, excessive expense, and lack of government oversight. This study utilized the latest public health data and direct observation to determine whether quality free healthcare services are adequately accessible in northern Petén under the current MSPAS structure.

The incidence of poverty, the percentage of uninsured patients, and the capacity and catchment of the public and private hospitals were determined through literature review. Description of facilities and environmental and societal barriers to accessing healthcare were evaluated through direct observation by one investigator on the ground. No direct interventions, surveys, or manipulations were utilized in this preliminary study. This study received IRB exempt status for the respective institution.

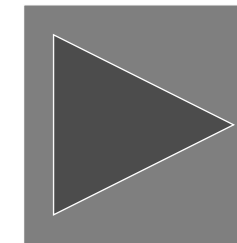
Sixty-five percent of Guatemalans live in poverty, including 15% living in extreme poverty (defined as less than \$2 or \$1 per day respectively), with 70% of Guatemalans uninsured. At its peak in 2012, the PEC provided healthcare to 4.3 million (54% of the population). Despite a steady population increase of 3.5% a year, healthcare infrastructure has failed to expand. San Benito Hospital, the single tertiary referral center for a population of 800,000, has operated at maximum capacity the past two years, serving 12,000 patients per year, while employing fewer than 70 physicians. Petén receives \$5.30 of total healthcare expenditure per capita, compared to \$230 in Guatemala City.

The current public healthcare system is ill-equipped to provide adequate healthcare to its predominantly uninsured population. While the PEC filled this gap for nearly 20 years, since its termination in 2013 the public healthcare system has failed to fill the gap with a suitable replacement. While the urban population can utilize the for-fee public transportation system, no such infrastructure exists for the larger rural population. Those who can navigate the long journey on rough roads to present to public hospitals or clinics find a significantly understaffed and under-resourced facility often unable to provide the necessary acute or preventative healthcare services. Further research is warranted to determine local confidence in the current healthcare system, the challenges healthcare personnel face in delivering such care, and existing or planned projects aimed at improving healthcare delivery in northern Petén.



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INTRODUCTION

- ❖ Guatemala is divided into 29 distinct ‘health areas,’ supervised by the Ministry of Public Health and Social Assistance (MSPAS)¹
- ❖ **The constitution guarantees free healthcare for all inhabitants¹**
- ❖ The system has three levels of care
 - Level I = Convergence centers and health posts
 - Level II = Municipality and mobile health clinics
 - Level III = Hospitals (Tiers 1-3)
 - Tier 1 has least ancillary resources; Tier 3 = regional referral
- ❖ Lacked necessary infrastructure to provide free healthcare; contracted NGOs through the Programa de Extensión de Cobertura (PEC)¹
- ❖ **By 1999, NGOs provided majority of healthcare services to over 54% of the total rural population²**

- ❖ In 2013, the **PEC was abruptly dismantled** and NGO contracts terminated due to alleged corruption, excessive expense, lack of accountability, and insufficient government oversight
- ❖ **MSPAS assumed responsibility for healthcare provision but has yet to fill the gap for the uninsured with a viable system**
- ❖ Many rural and poor citizens (still estimated at **60-70% of the population**) lack access to basic health care and community health resources; those living furthest away from urban centers are especially affected¹
- ❖ Northern Petén encompasses 6 of the 14 municipalities (260,000 inhabitants) in Petén Department,^{3,4} which is allotted the lowest healthcare expenditure per capita in the country (Fig.1)
- ❖ Approx. **62% live in poverty, with 13% living in extreme poverty⁵**
- ❖ Such poverty indicates the inability to afford out of pocket healthcare costs; substantial disease burden from lack of consistent waste, water, and education infrastructure; reliance on free public healthcare

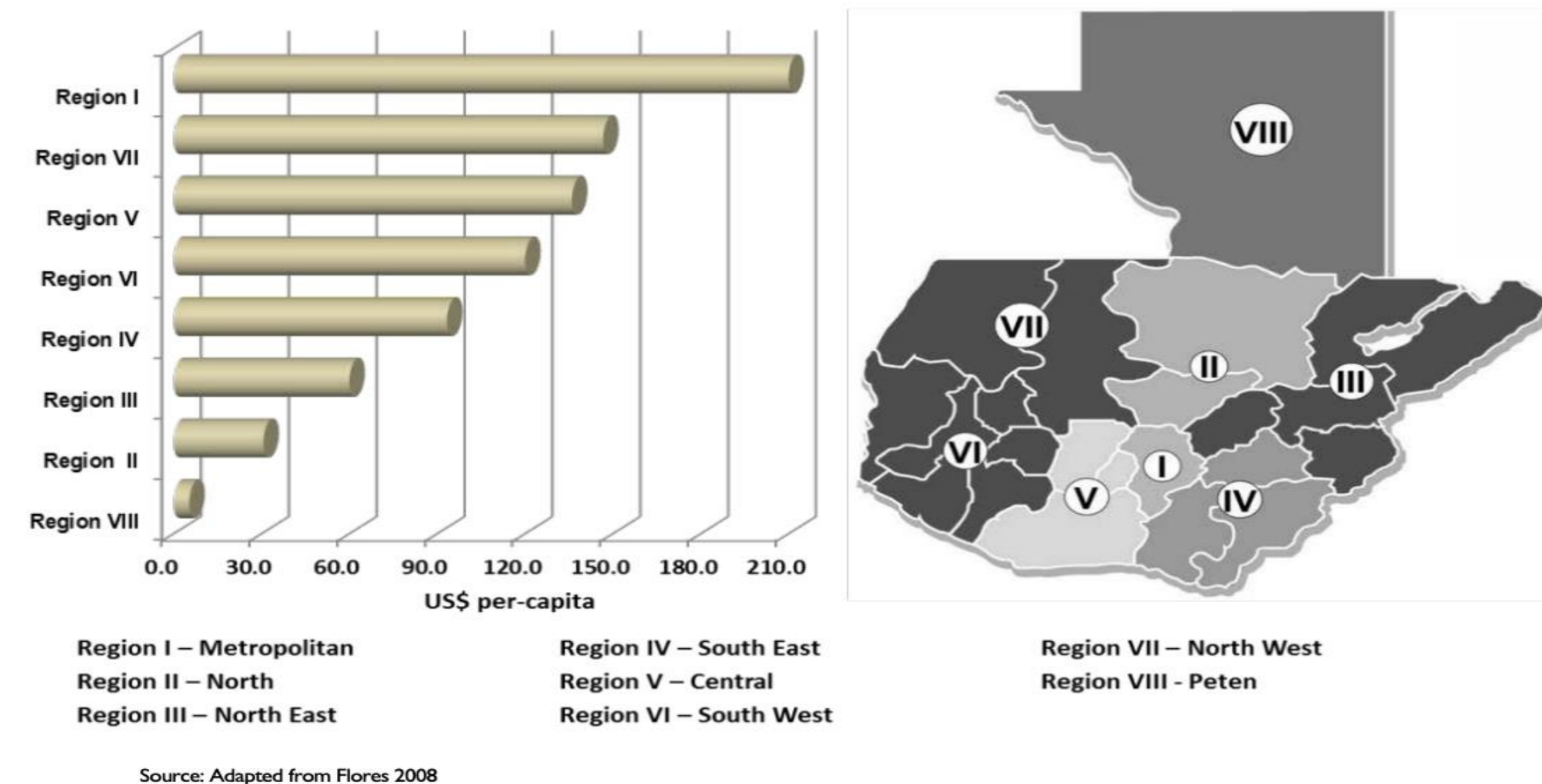


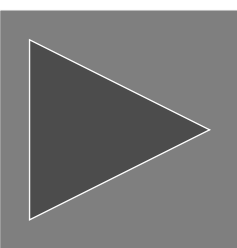
Figure 1. Total Healthcare Expenditure per Capita by Department. Of the 22 Departments in Guatemala, Petén is allotted the least. This allocation is not likely to have changed given a stagnant public health budget over the past decade (6).

Goal: To determine whether sufficient free healthcare services are available and accessible in northern Petén under the current MSPAS structure.



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- ❖ Incidence of poverty, the percentage of uninsured patients, and the capacity and catchment of the public hospital determined through **literature review**
- ❖ Description of facilities and environmental and societal barriers to accessing healthcare were evaluated through **direct observation** by one investigator on the ground
- ❖ No direct interventions, surveys, or manipulations were utilized

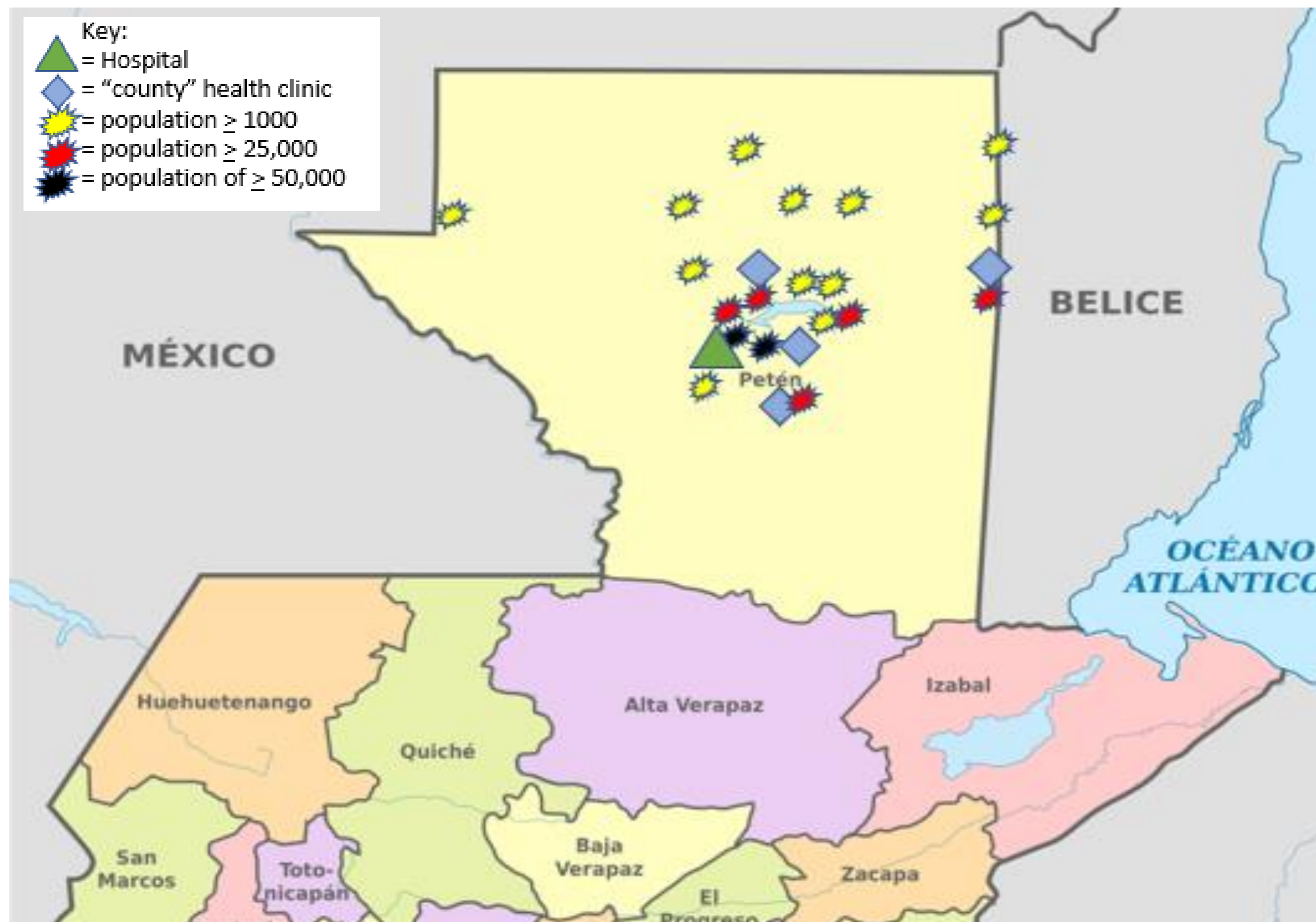


Figure 3. Community Health Facilities and Population Densities in northern Petén^{8,10}

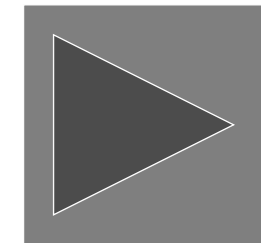


Figure 4: Convergence Center previously utilized by NGOs under the PEC.¹
(Photo taken by author)



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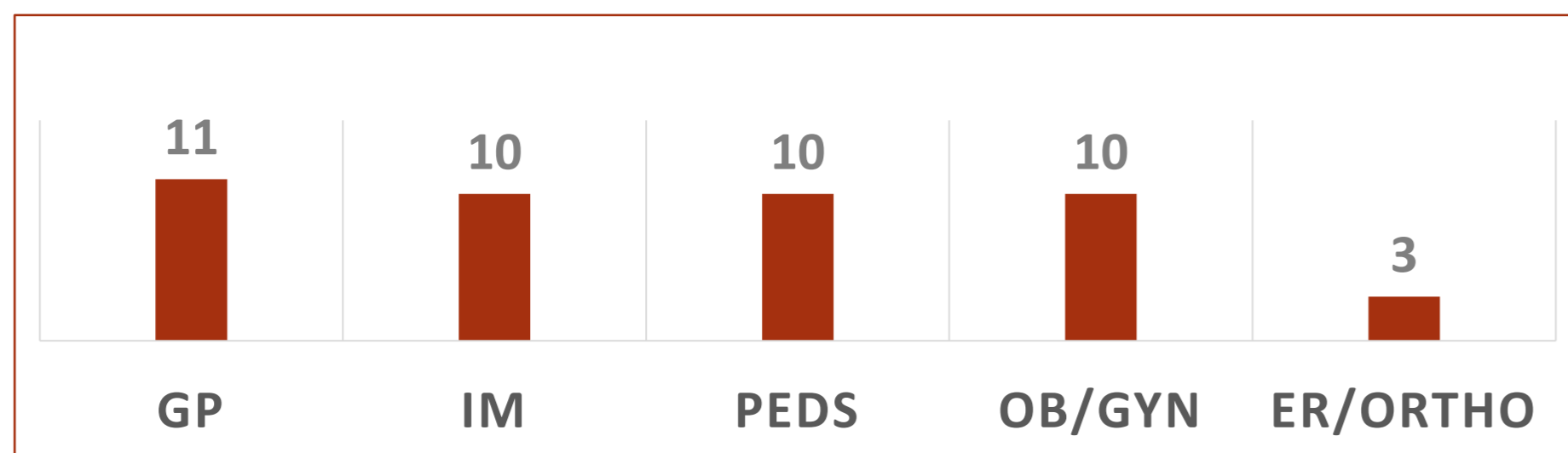
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Community Health Clinics

- ❖ 4 “county” health clinics, 18 “town” health clinics
- ❖ Half of town clinics only have part-time health workers
- ❖ 7 physicians among county health clinics combined; only GPs (Table 1)
- ❖ No lab, diagnostic, or specialty care in health clinics
- ❖ No ambulance or transportation services^{8,9}



Healthcare Facilities and Services Provided

San Benito Hospital, San Benito, Guatemala

- ❖ 1 hospital for ~260,000; referral center for ~570,000⁷
- ❖ 66 physicians total (41 primary care)⁷
- ❖ 144 beds, no increase since 1988, despite consistent annual population increase of 3.5%^{7,5}
- ❖ At or above 99% capacity in 2017 and 2018; WHO recommends a threshold of 80% capacity⁷ (Table 2)
- ❖ No CT or MRI⁷

Figure 2. Number and Type of Physicians at San Benito Hospital. There are 11 General Practitioners; 10 each in Internal Medicine, Pediatrics, and OB/GYN; 3 Orthopedic Surgeons; 1 of each of the following: Neurosurgeon, Plastic Surgeon, ENT, Psychiatrist, Neurologist, Radiologist, Urologist, Cardiologist, Ophthalmologist, Nephrologist, Infectious Disease Specialist⁷

Table 1. Community Health Clinics.				2017	2018
MUNICIPALITY	Total Capturement	Distance to Hospital ²	# of Physicians ²	# of Patients ³	# of Patients ³
Flores	132,547	1 miles (4 miles) ¹	3 GPs ²	45,319 (54,798) ³	29,208 (158,226) ³
San José	99,494	12 miles (20 miles) ¹	2 GPs ²	9,673 (40,717) ³	67,625 (123,523) ³
San Francisco	22,046	8 miles (15 miles) ¹	1 GP ²	7,826 (11,113) ³	24,863 (67,623) ³
Melchor de Mencos	6,444	58 miles (70 miles) ¹	1 GP ²	2,559 (20,754) ³	31,599 (50,043) ³
Total	260,530				

1 = distance from county health clinic and furthest population density from the hospital within the municipality
 2 = # and type of physicians at county health clinics (none are located outside of these facilities)
 3 = # of patients served by the county health clinic and combined county + town clinics within the municipality¹⁰

Table 2. San Benito Hospital – Utilization.*

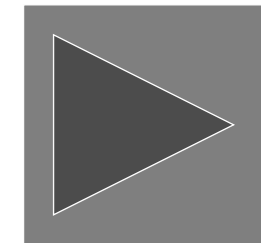
	# of Beds	2017 % Occupation	2018 % Occupation
SERVICE			
Medicine - Women	12	96.28	123.1
Medicine – Men	12	87.34	97.21
Psychiatry	1	57.30	247.16
General Surgery - Women	7	120.54	94.42
General Surgery - Men	14	109.23	77.39
Neurosurgery - Women	1	0.09	96.11
Neurosurgery - Men	2	34.00	95.29
Plastic Surgery - Women	1	117.03	102.24
Plastic Surgery - Men	2	151.22	101.79
Orthopedic Surgery - Women	5	96.22	130.17
Orthopedic Surgery - Men	10	99.35	137.65
Obstetrics	23	113.67	114.84
Gynecology	3	63.51	132.09
Pediatrics	10	128.84	97.18
Neonatology	14	88.73	90.99
General Surgery - Pediatrics	4	85.20	81.52
Neurosurgery - Pediatrics	1	5.95	93.63
Orthopedics Surgery - Peds	6	89.19	112.99
Plastic Surgery - Pediatrics	1	51.89	91.74
ICU - Adults	6	76.04	106
ICU - Pediatrics	9	97.60	129.51
Total	144	99.19	130.66

* Percentages in bold reflect departments that exceed the World Health Organization’s (WHO) maximum capacity recommendations for healthcare facilities.



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Observed Barriers to Care

Transportation

- ❖ City roads and the single road around the lake are paved, well-maintained
- ❖ Roads beyond San Benito/Lake Petén Itza, are unfinished, rocky, and difficult to navigate
 - 12 miles took 2 hours in a 4x4 Jeep
 - Most families do not have vehicles; pay 3-4 USD for bus fare and taxi to the hospital

Facilities

- ❖ Hospital “operating hours” are posted as 7am-5pm, but facilities often close by 1pm
- ❖ After business hours, ED is staffed by one provider, with only 4/20 beds utilized
- ❖ No evidence of consistent dental hygiene practice or preventative dental care services
- ❖ No evidence of emergency medical services outside of San Benito hospital

Community Health

- ❖ Most towns have some type of medical facility, but lack consistent health workers; towns with consistent health workers lack adequate supplies
- ❖ Most towns lack consistent access to potable water or waste management services
- ❖ Schools are under-resourced – lack supplies, ventilation, potable water, sanitation
- ❖ Families seem to burn their own trash and bury solid waste in close proximity to homes
- ❖ Families cohabitate with feral dogs, pigs, chickens, and other animals without barriers
- ❖ Only towns directly on the lake have fruit and vegetable markets or yard gardens⁸

Documented Barriers to Care

Transportation

- ❖ 46% travel to healthcare facilities by foot
- ❖ 28% travel to healthcare facilities via for-fee bus
- ❖ 70,000 registered vehicles in 2013 (for a population of over 680,000 in that year)^{11,4}

Finances

- ❖ Of those not accessing healthcare, 36% in 2013 report a lack of funds as the cause, up from 26% in 2000⁴
- ❖ 68% in poverty: 53% in general poverty (\$2.00 per day), 15% in extreme poverty (less than \$1.00 per day)^{12,4}
 - These figures have increased since 2011, 57% and 14% for general poverty and extreme poverty respectively⁴

Education

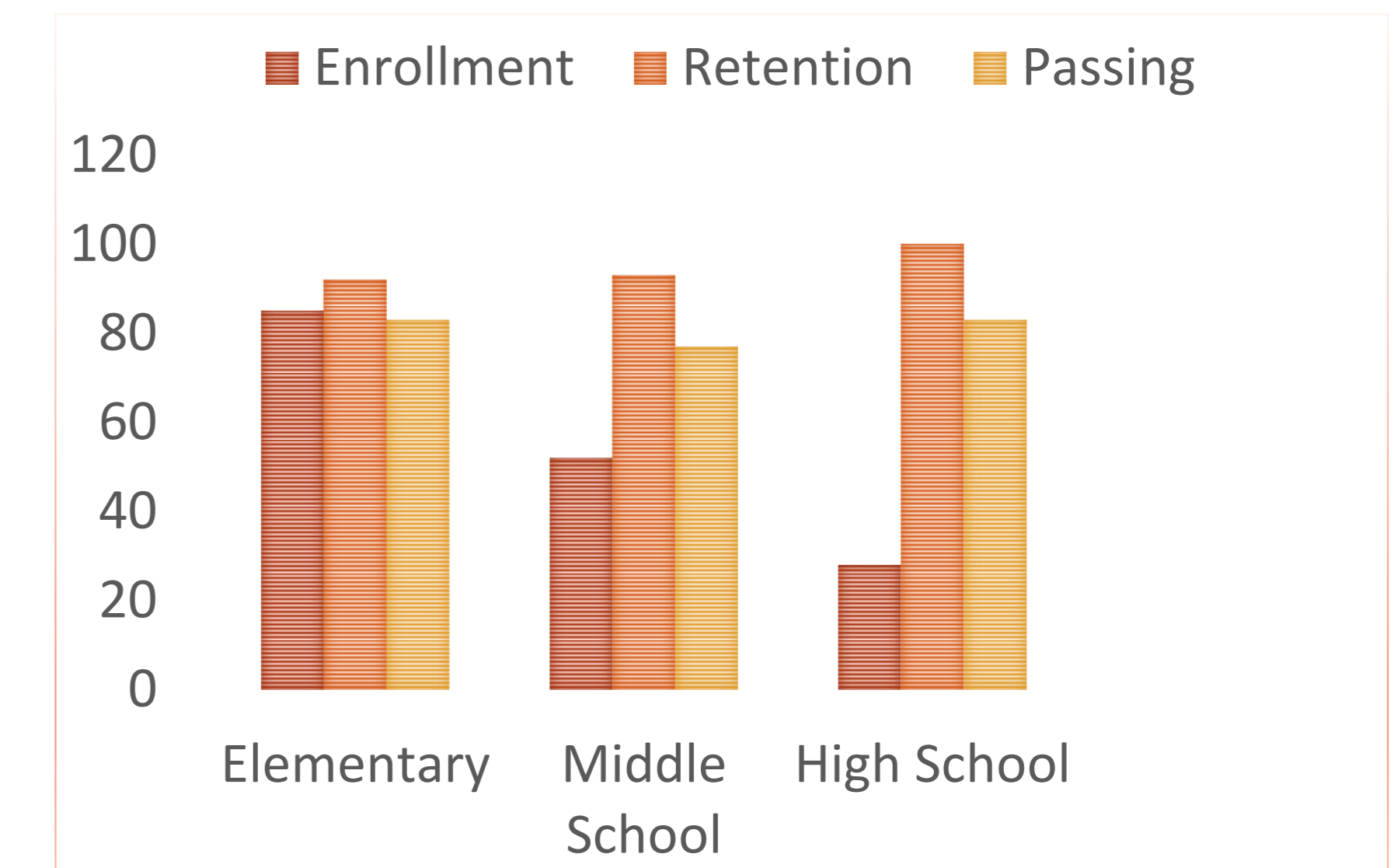
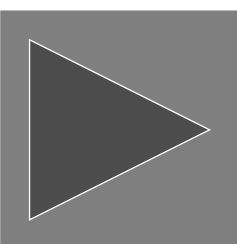


Figure 4. Schooling Rates (% of age group) in 2013. Illiteracy rate remains over 10% as of 2013.⁴



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CONCLUSIONS

- ❖ Guatemala provides free healthcare to its citizens, but services are not distributed equally across the nation, leaving vulnerable populations without access to care
- ❖ Petén, Guatemala is allocated the lowest total healthcare expenditure per capita and has fewer than the recommended number of physicians per WHO standards
- ❖ Inadequate supplies, equipment, facilities, as well as understaffing, significantly decrease the quality of basic healthcare services (MSPAS reports admit that under-budgeting fuels underutilization in a vicious cycle)
- ❖ External factors also impact access; hospitals and clinics tend to be centralized in Petén's major city and larger towns (Fig. 3), and socioeconomic factors, physical barriers prevent many from seeking care
- ❖ Similar resource and health disparities can likely be found, yet masked within country-wide data, in many other low- to middle-income countries

LIMITATIONS AND FUTURE WORK

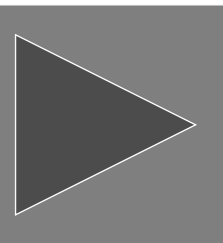
- ❖ This study reflects the most current publicly available data, which are not all up to date for this region
- ❖ Government records also may not be the most reliable source for all desired indicators
- ❖ Further investigation will include patient and provider surveys to gauge attitudes and awareness regarding the state of healthcare in Northern Petén today

Long-term Goal: To help decrease healthcare disparities in northern Petén by increasing international awareness and introducing appropriate Osteopathic education and treatment through future research.



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View from our front door
(Photo taken by author)



Emergency Room of El Remate Puesto de Salud
(Photo taken by author)

ACKNOWLEDGEMENTS

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