

NATIONAL HEALTH  
INSURANCE 2ND TRIANNUAL  
REPORT: APRIL 1ST 2019 –  
NOV. 30TH 2019



National Health Insurance

## Contents

Introduction.....	3
Macroscopic view of NHI activity .....	4
Graph 1 Primary Care Providers, Active Members by Region .....	4
Graph 2 Actual RAWA Registered Population at PCPs 2019 .....	4
Graph 3 Top Consultations by Visit Type for all Primary Care Providers .....	5
Table 1 Top Consultations by Visit Type.....	5
Graph 4 Top 10 Prescribed Pharmaceuticals.....	6
Graph 5 Top Pharmaceuticals Prescribe by their Expense .....	7
Graph 6 Top Diagnosis from Prescribed Medications .....	8
Graph 7 Top 10 Laboratory Items Prescribed .....	8
Graph 8 Top 10 Imaging Items .....	9
Graph 9 Overall Top 10 Diagnoses .....	9
Graph 10 Central Region Top 10 Diagnoses .....	10
Graph 11 Mercy Clinic Top 10 Diagnoses .....	10
Graph 12 Southern Region Top 10 Diagnoses .....	11
Graph 13 Corozal Top 10 Diagnoses.....	11
Productivity Reports of Full-Time Physician per Primary Care Provider (PCP) .....	12
Central Region Full-time Physician Consultation Data .....	12
Graph 14 BFLA Consultations by Full-time Physician .....	12
Graph 15 BMA SS Consultations by Full-time Physician.....	13
Graph 16 IHC Consultations by Full-time Physician .....	13
Graph 17 MC Consultation by Full-time Physician .....	14
Graph 18 MRPC Consultations by Full-time Physician .....	14
Graph 19 Overall Full-time Medical Officer Consults, Belize City .....	15
Corozal Full-time Physician Consultation Data.....	16
Graph 20 Corozal Polyclinic Consultations by Full-time Physician .....	16
Graph 21 Presbyterian Med. Clinic Consultations by Full-time Physician.....	16
Graph 22 San Narcisso Consultations by Full-time Physician.....	17
Graph 23 Overall Full-time Medical Officer Consults, Corozal.....	17
Southern Region Full-time Physician Consultation Data .....	18
Graph 24 Dangriga Polyclinic Consultations by Full-time Physician.....	18
Graph 25 Independence Polyclinic Consultations by Full-time Physician .....	18
Graph 26 Punta Gorda Polyclinic Consultations by Full-time Physician.....	19

Graph 27 San Antonio Polyclinic Consultations by Full-time Physician .....	19
Graph 28 Overall Full-time Medical Officer Consultations, Southern Region.....	20
Comparison of Primary Care Providers Full-time Physician Consultations .....	21
Graph 29 Central Region PCPs, Full-time Physician Consults.....	21
Graph 30 Coroza PCPs, Full-time Physician Consults .....	22
Graph 31 Southern Region PCPs, Full-time Physician Consults.....	23
Graph 32 Countrywide Comparison of PCPs, Full-time Physician Consults .....	24
Graph 33 Countrywide Comparison of PCPs, Full-time Physician Consults .....	25
Key Performance Indicator Current Status Updates .....	26
Graph 34 Atherosclerotic Cardiovascular Disease Risk Estimator Achieved Percentages .....	26
Graph 35 Glomerular Filtration Rate Achieved Percentages .....	27
Graph 36 Pap smear + VIA Achieved Percentages .....	27
Conclusions.....	28
Recommendations.....	28

## Introduction

The National Health Insurance Program was initially launched in 2001 as a Pilot Project funded by the Social Security Board. SSB continued to fund the project from 2001-2008 for a total investment of Bze \$54 million. This initiative was part and parcel of the Health Sector Reform program and was to address the issue of Financing health care in an efficient, effective and sustainable manner.

In 2008 the Government of Belize began to supplement the funds allocated by the SSB with transfers from the MOH budget and direct Government transfers. Since 2009 to present the program has been financed exclusively by GOB transfers from general revenue to the SSB. Total investment of \$158,544,764.00 from 2008 to 2018.

The NHIF was established as a financing mechanism for health care, which would incorporate all the fundamental principles for a system of Universal Health Coverage and Access. The NHI Unit is therefore tasked with purchasing health services from approved providers. It is a fundamental responsibility to ensure that each provider that is contracted delivers services efficiently, effectively, and of good quality, in a timely manner. The present report is an effort at sharing productivity information from all providers so each can measure itself, see how they compare with other providers, and thus make the necessary effort at improvement. It also seeks to share with other stakeholders the quantity and value of services being purchased through the NHI for purposes of transparency and accountability. Being this the first issue with the intent of publishing every 4 months, the National Health Insurance Department, a branch of the Social Security Board, is keen on receiving feedback with a view to improve future editions. Any suggestions or questions can be submitted via email to the following:

Dr. Ramon Figueroa, Executive Chairman NHI: [rfigueroa@socialsecurity.org.bz](mailto:rfigueroa@socialsecurity.org.bz)

Dr. Natalia Rodriguez, General Manager NHI: [nrodriguez@socialsecurity.org.bz](mailto:nrodriguez@socialsecurity.org.bz)

**The information being presented reflects data for April 1<sup>st</sup>, 2019 to Nov. 30<sup>th</sup>, 2019 (8 months) and is based on data extracted from RAWA, the official billing/monitoring software being used by NHI. KPI Graphs 34 to 36 reflect from April to December 2019, which represent 9 months.**

# Macroscopic view of NHI activity

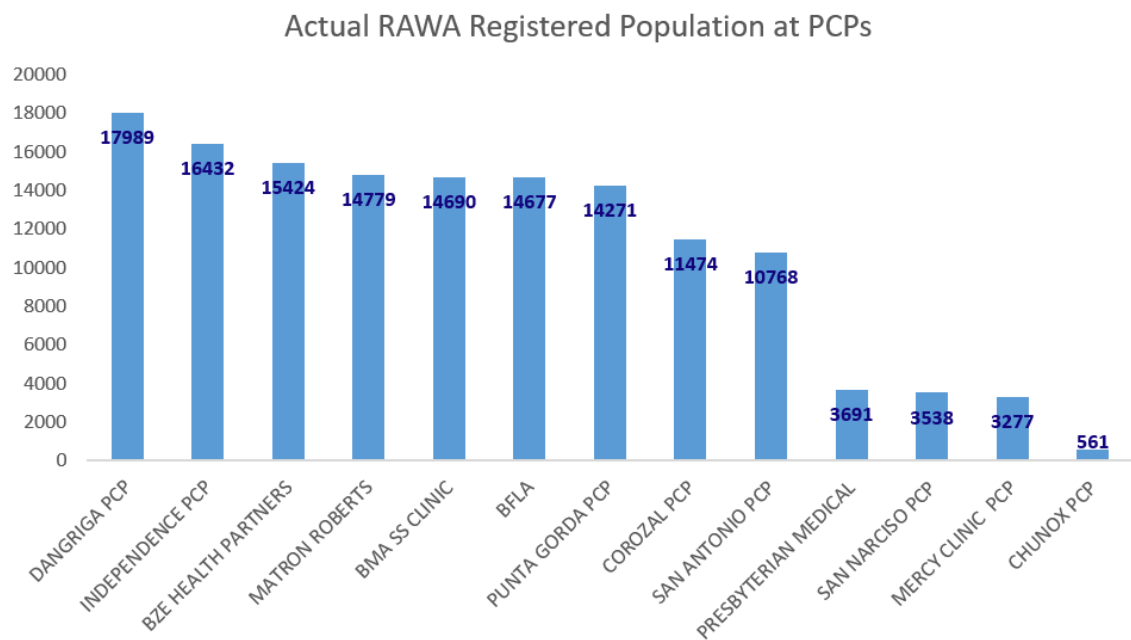
The information being presented reflects data for April 1<sup>st</sup>, 2019 to Nov. 30<sup>th</sup>, 2019 and is based on data extracted from RAWA.

Graph 1 Primary Care Providers, Active Members by Region



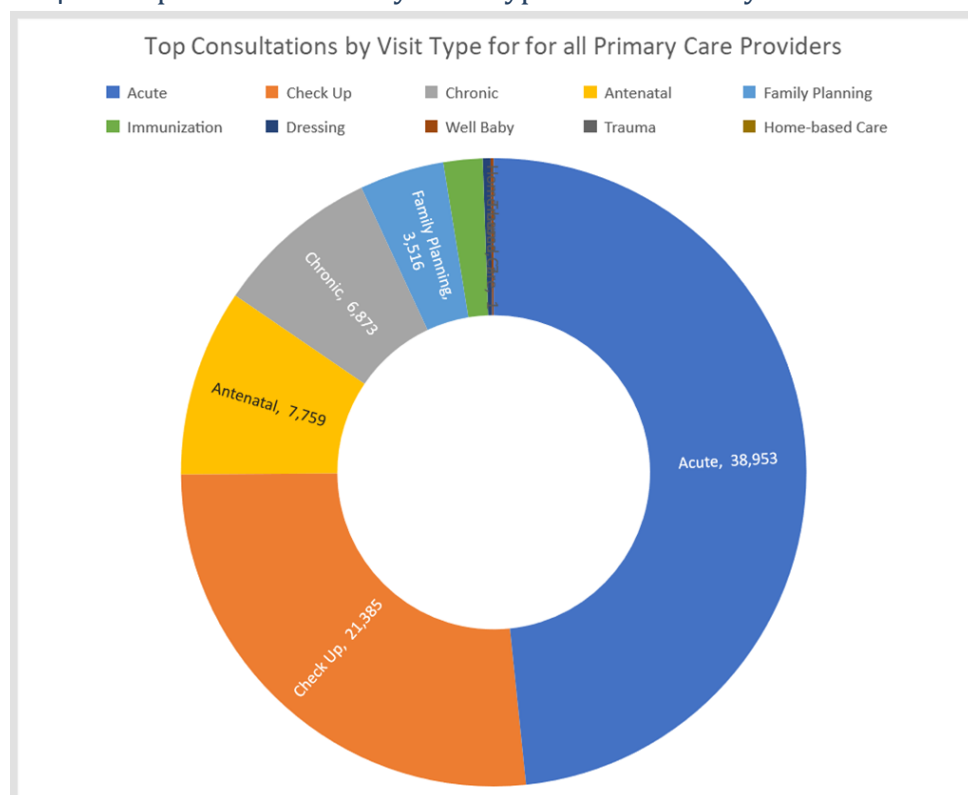
Presently NHI covers three Regions and contracts with Primary Care Providers (PCP) for the provision of services to the population living in these regions. The Southern Region (SR) has 44% of NHI's registered active members, Central Region (CR) has 41% and Corozal (CzI) has 15%.

Graph 2 Actual RAWA Registered Population at PCPs 2019



This graph shows the actual RAWA registered population at contracted clinics as of Nov. 30th, 2019.

Graph 3 Top Consultations by Visit Type for all Primary Care Providers



In the second third of the fiscal year (April 1st to Nov. 30th, 2019) the majority of the consults made by patients were classified as Acute (38,953; 48%) followed by Check-ups (21,385; 27%) and thirdly, Antenatal consultations (7,759; 10%). Chronic consultations closely follow with 6,873 (9%) of visits.

Table 1 Top Consultations by Visit Type

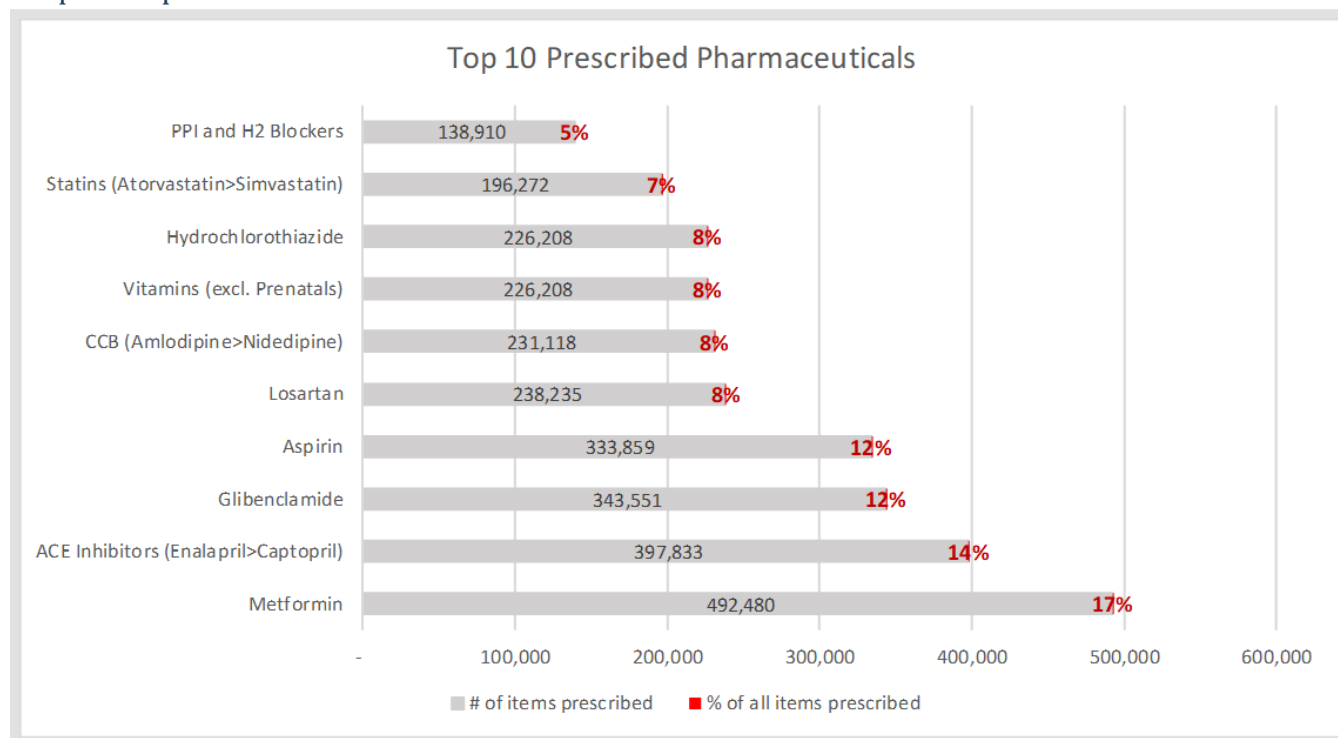
Start Date: 01-Apr-2019; End Date: 30-Nov-2019

### Top Consultations by visit type

Name	SR	CR	Czl	Total	%
<b>Acute</b>	15,143	23,802	8	<b>38,953</b>	<b>48%</b>
<b>Check Up</b>	2,568	15,681	3136	<b>21,385</b>	<b>27%</b>
<b>Chronic</b>	3,428	2,863	582	<b>6,873</b>	<b>9%</b>
Antenatal	3,359	4,051	349	7,759	10%
Family Planning	408	2,961	147	3,516	4%
Immunization	170	1,344	117	1,631	2%
Dressing		286	41	327	0%
Well Baby	47	72		119	0%
Trauma	3	3	1	7	0%
Home-based Care			1	1	0%
Totals:	25,126	51,063	4,382	80,571	100%

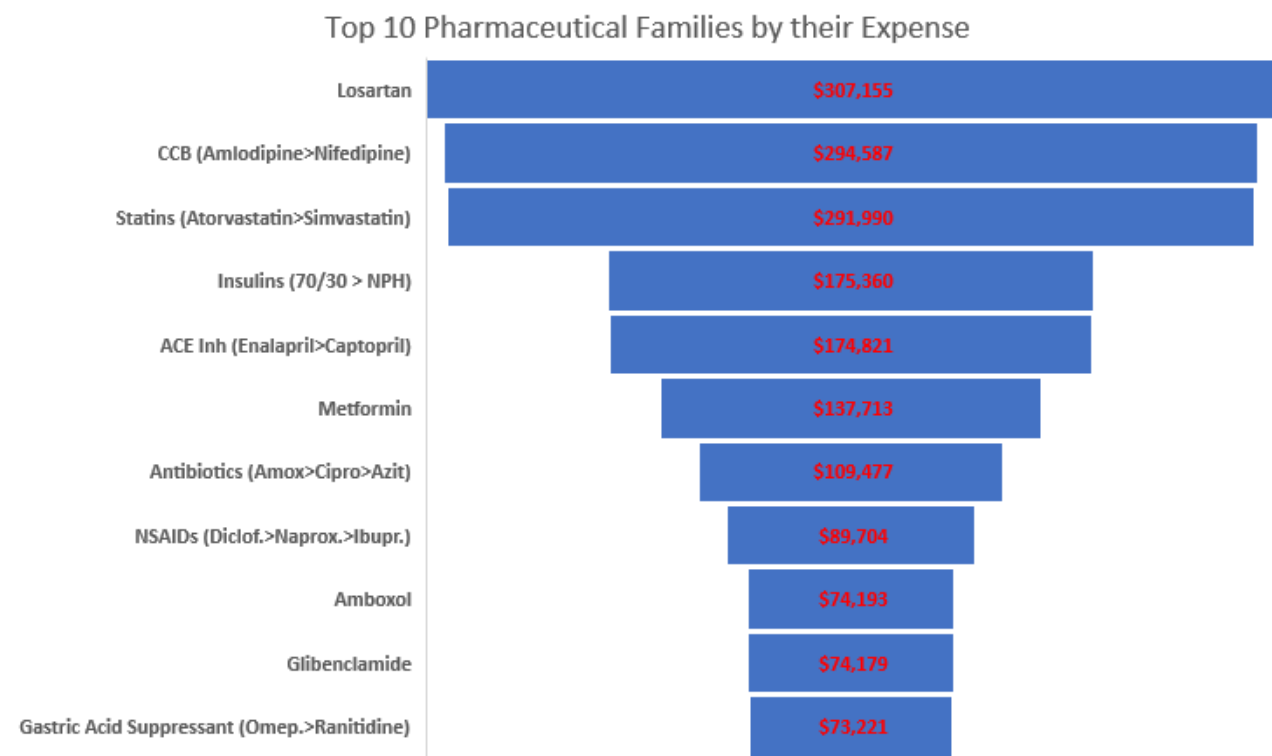
This chart exemplifies the overall activity of the clinics. The Central Region (CR; 51,063) had the most RAWA logged activity, followed by the Southern Region (SR, 25,126) and Corozal (Czl; 4,382 activities). This chart reflects the overall activity of the clinics.

Graph 4 Top 10 Prescribed Pharmaceuticals



Here can see the top 10 medications (some being grouped) prescribed by our clinicians. This list was made by curating the top 50 medications dispensed. These top 50 overall represent a total of 90% of NHIs dispensed medications. Anti-hypertensive medications are the most prescribed (total 35% items of our top 10), followed by the diabetic medications (total 32% of our top 10); both NCD's combined sum up 67% of our dispensed medications in the top 10 list.

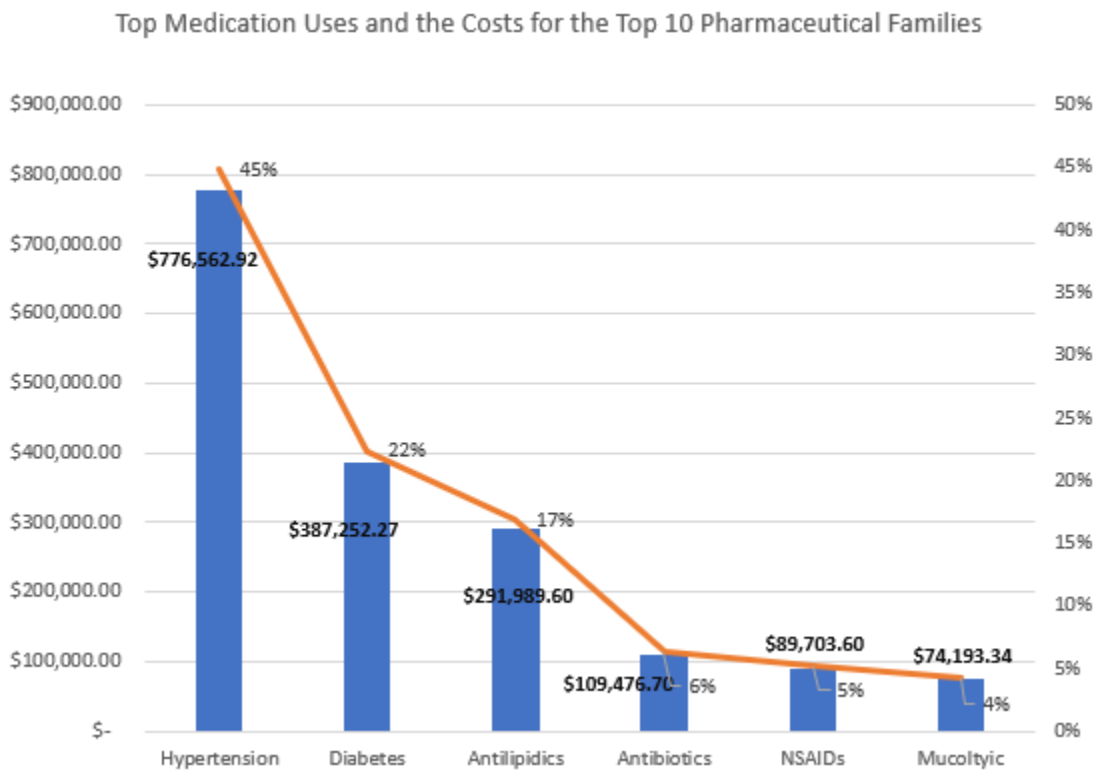
## Graph 5 Top Pharmaceuticals Prescribe by their Expense



The graph shows the overall cost of the medications prescribed, with the medications grouped into pharmaceutical families.

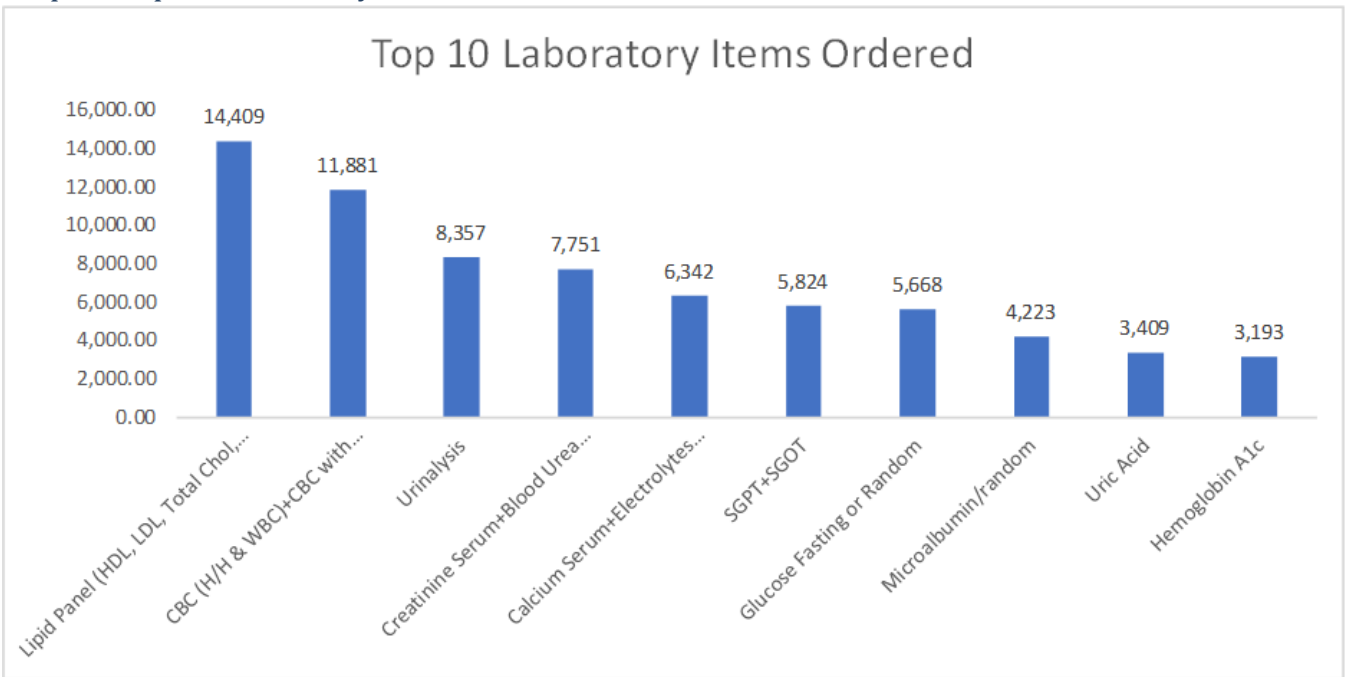


Graph 6 Top Diagnosis from Prescribed Medications



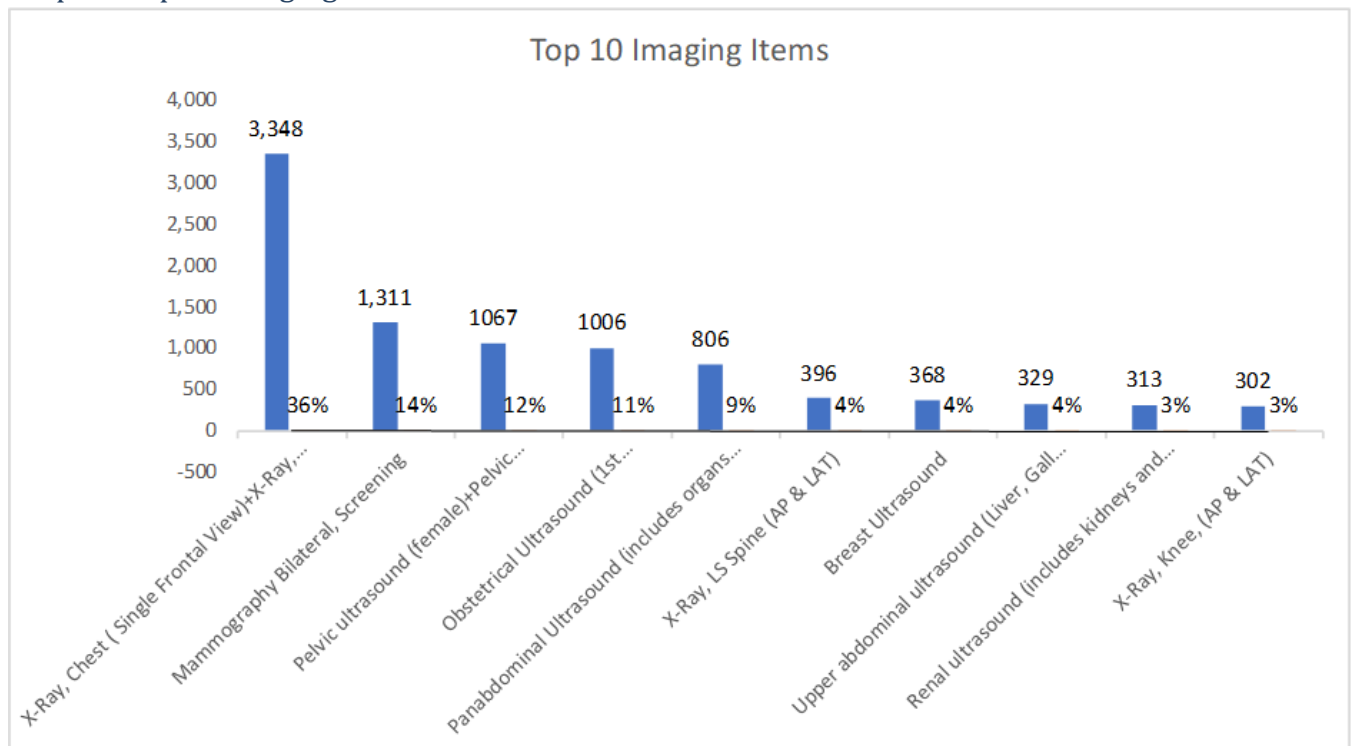
As we further group the medications that we prescribed in terms of the disease processes they are aimed at, we can see that the majority of our recurrent spending is on chronic illnesses: hypertension, diabetes, and dyslipidemia. Our spending on infectious diseases is only 6% of the top 10 medications used.

Graph 7 Top 10 Laboratory Items Prescribed



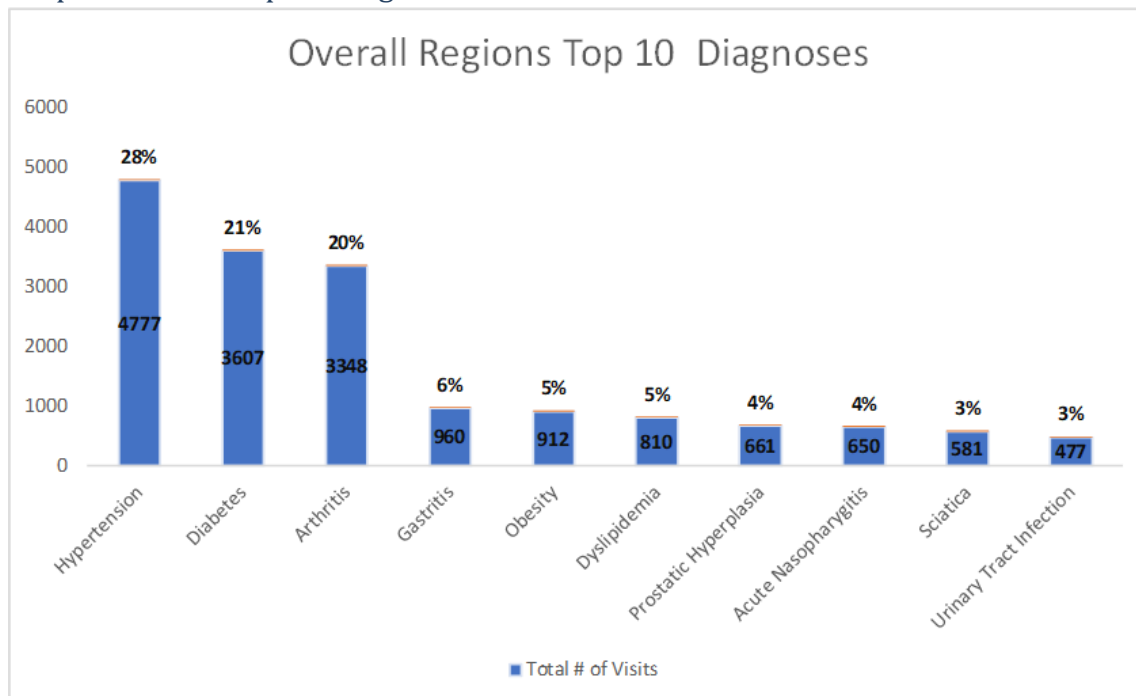
These are the top 10 laboratory studies requested by our clinical teams. Due to the lifestyles of our patients, we see that the most prevalent laboratory ordered is the study of our patients' cholesterol (14,409 requests) followed by diabetes laboratory requests (Total 8,861 requests = Glucose 5,668 + Hemoglobin A1C at 3,193).

Graph 8 Top 10 Imaging Items



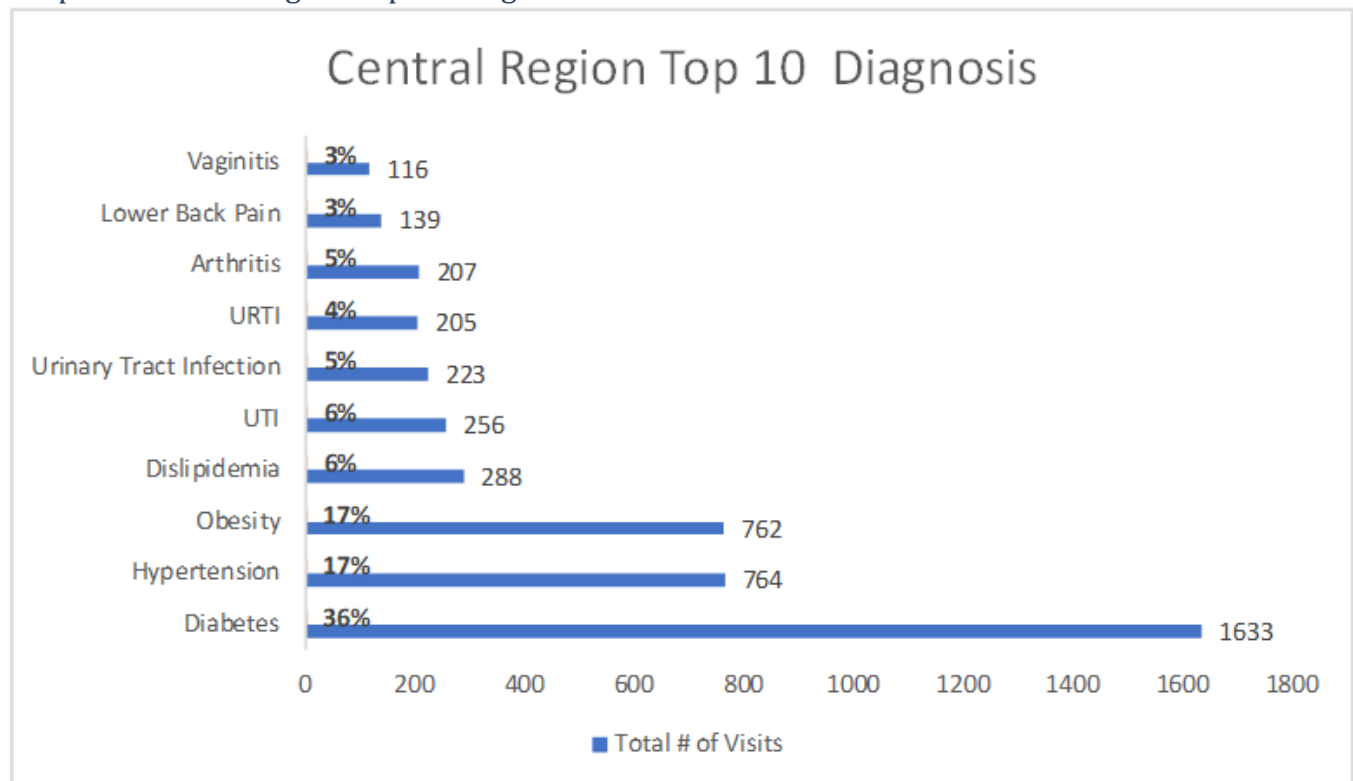
In terms of our top imaging items, Chest X-rays are our most prescribed individual item, followed by the mammogram. If we are to conglomerate ultrasounds, we see that they are NHI's overall requested imaging type with 42% of requests being ultrasounds.

Graph 9 Overall Top 10 Diagnoses



As we look at the top 10 diagnoses registered by our clinicians we can see the chronic diseases are the majority: hypertension (28%), diabetes (21%).

Graph 10 Central Region Top 10 Diagnoses

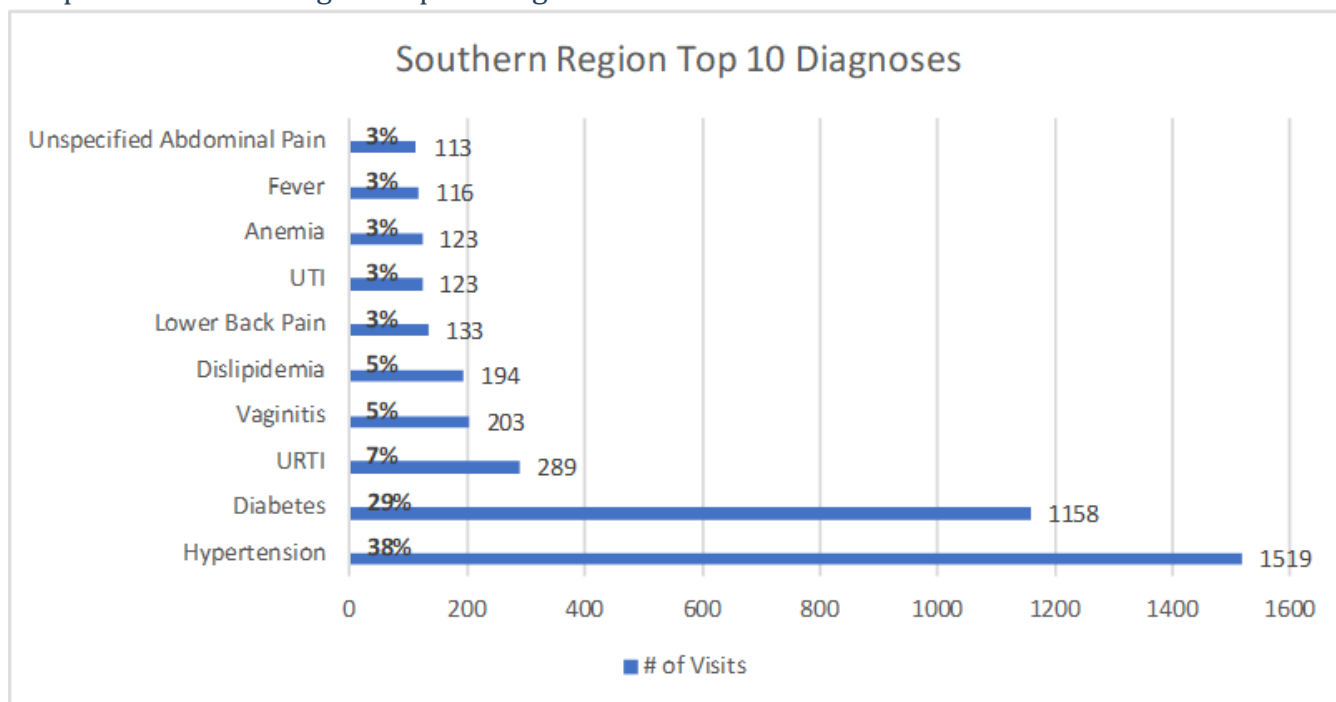


As we look at the top 10 diagnoses registered by our clinicians in this time period we can see the chronic diseases are the majority: diabetes (36%), obesity (17%), hypertension (17%), and dyslipidemias (6%).

Graph 11 Mercy Clinic Top 10 Diagnoses

Mercy Clinic's population is the elderly (>60 years old). Their disease processes vary from the general population. We see that arthritic disorders (34%) are at the forefront of our elderly patient's diagnoses, followed by hypertension (23%) and gastric diseases (8%). We note that there is a noted issue with medication noncompliance (6%). This points to the need to increase patient behavioral change to decrease non-compliance. We also note some target organ damage diseases such as ischemic heart disease (5%) and chronic renal failure (2%) being in the top 10 diagnoses.

Graph 12 Southern Region Top 10 Diagnoses



The morbidity profile of the Southern Region, show hypertension (38%) and diabetes (29%) as the top 2 diagnoses.

Graph 13 Corozal Top 10 Diagnoses

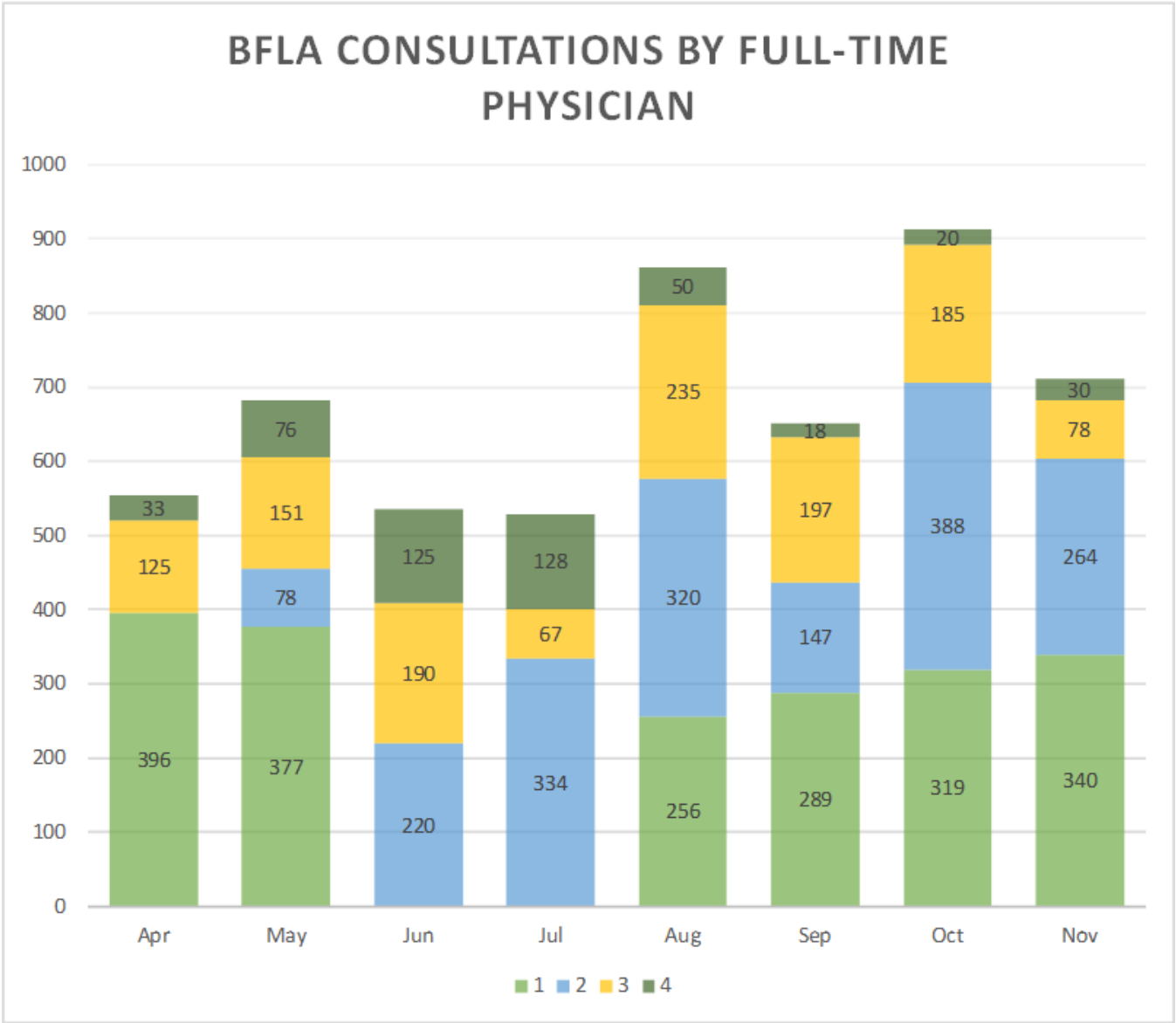
We note in Corozal there is a decreased number of registered diagnoses in RAWA. The morbidity shows in the top 3 diagnoses: hypertension (33%), Diabetes 16%), and obesity (8%).

# Productivity Reports of Full-Time Physician per Primary Care Provider (PCP)

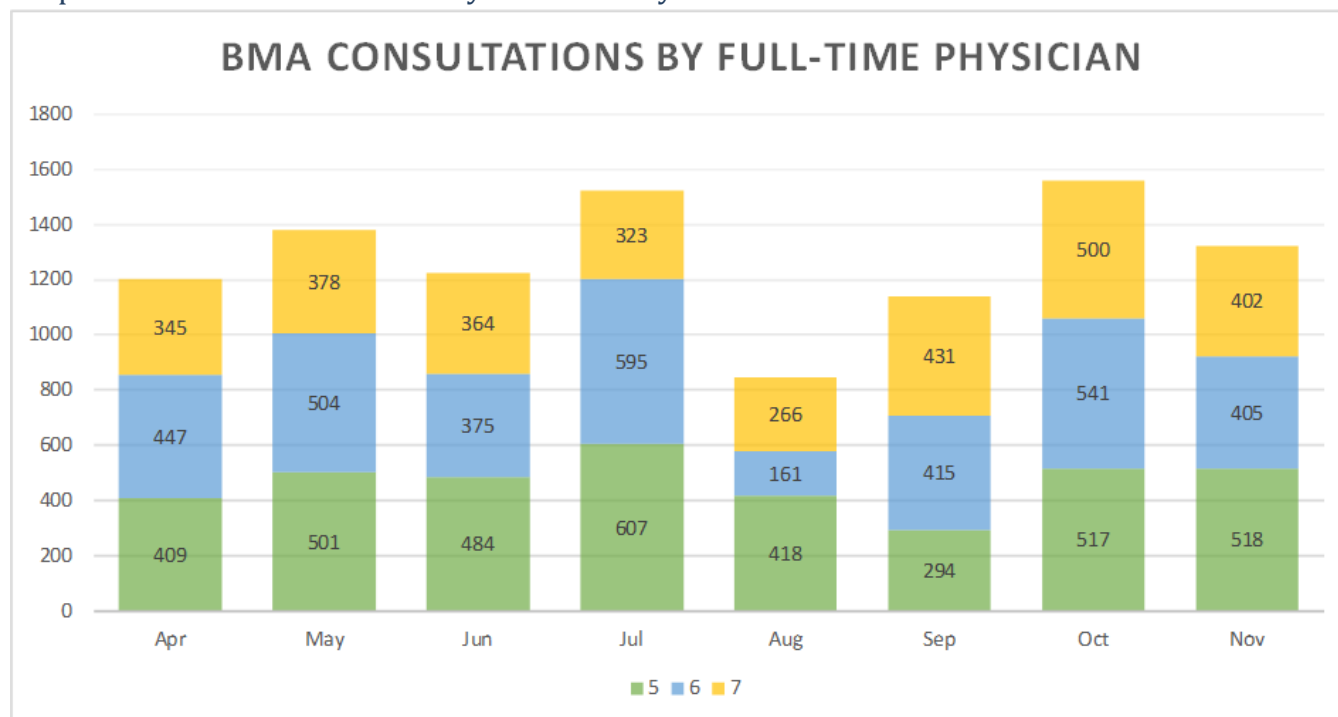
The following graphs show the productivity of **full-time (FT)** medical officers/clinicians (MO) at their respective clinics. We can see the monthly number of patients that they are seeing, as well as the total number of patients seen by the individual clinician from April to Nov. 2019. It is interesting to note the different number of physicians on the roster by clinics. This is important as it may have an impact on the quality of care that can be delivered (quality time spent with each patient). Clinicians are given a series number per clinic for their privacy.

## Central Region Full-time Physician Consultation Data

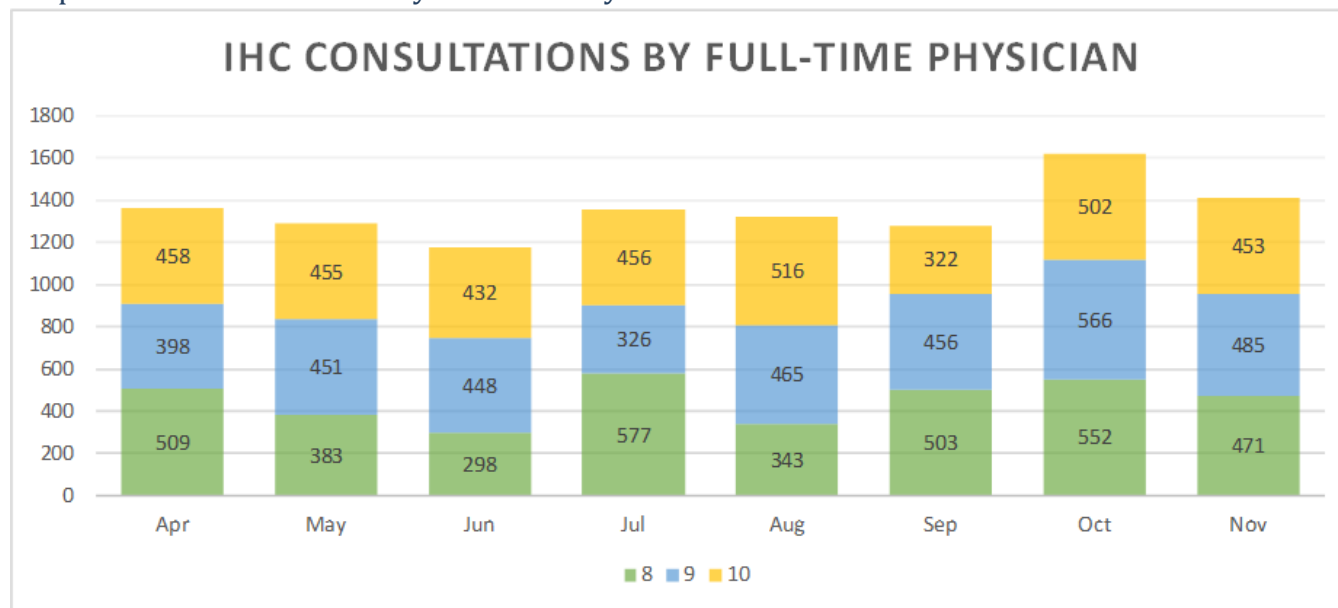
Graph 14 BFLA Consultations by Full-time Physician



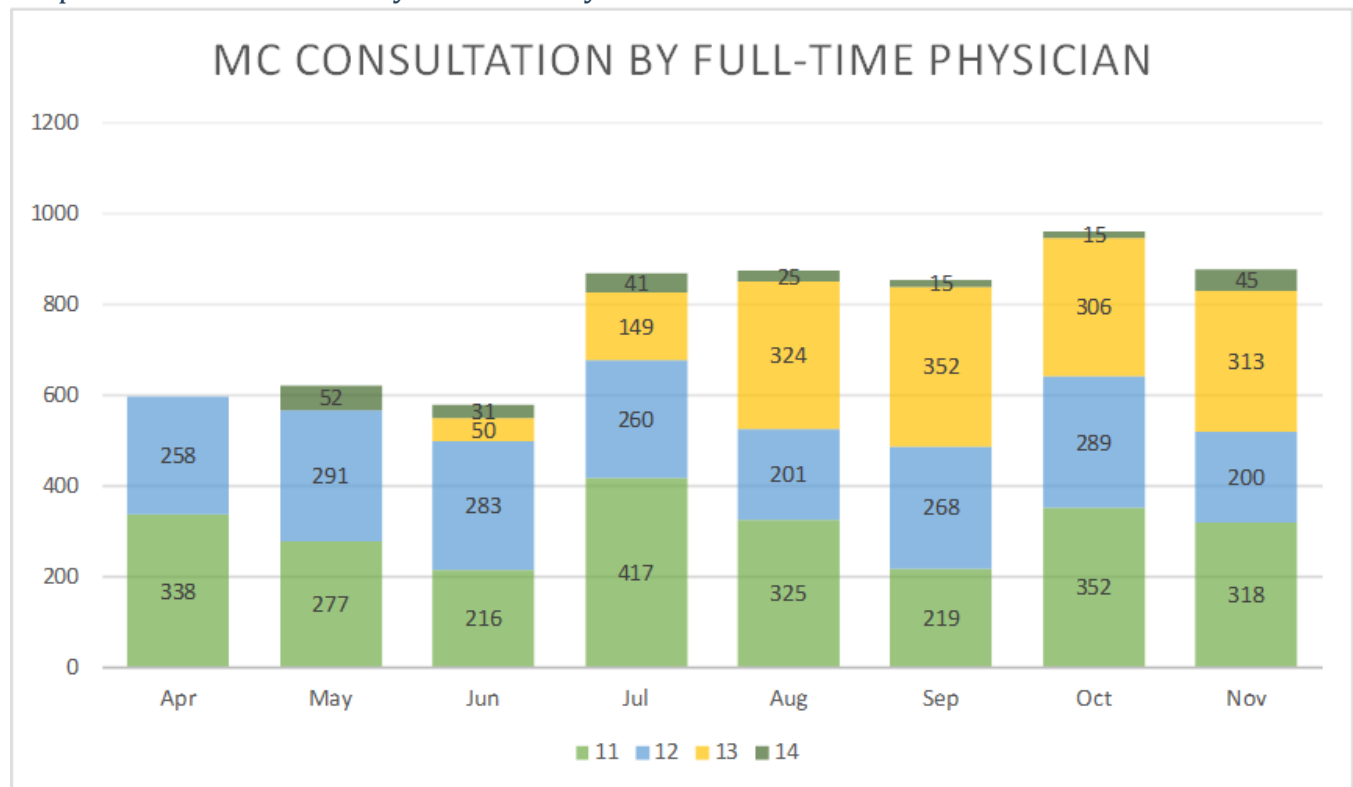
Graph 15 BMA SS Consultations by Full-time Physician



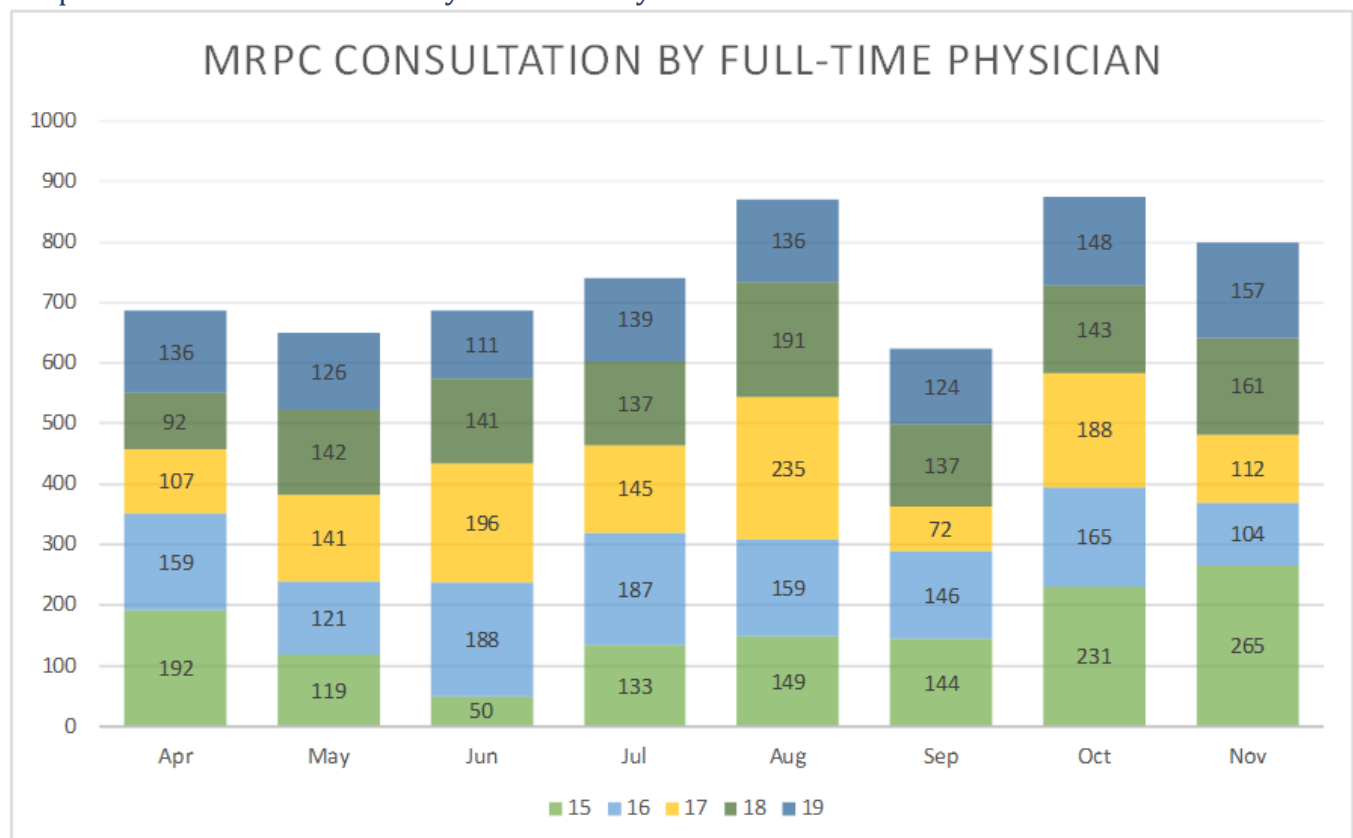
Graph 16 IHC Consultations by Full-time Physician



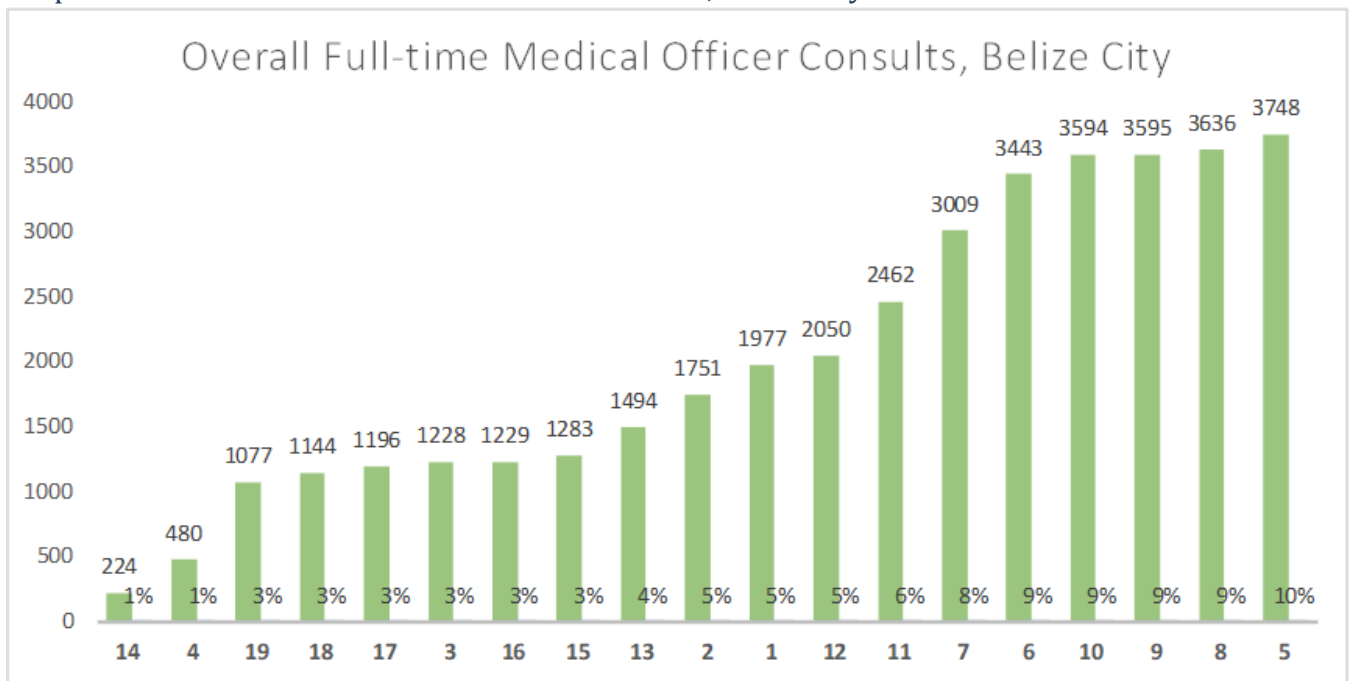
Graph 17 MC Consultation by Full-time Physician



Graph 18 MRPC Consultations by Full-time Physician



Graph 19 Overall Full-time Medical Officer Consults, Belize City



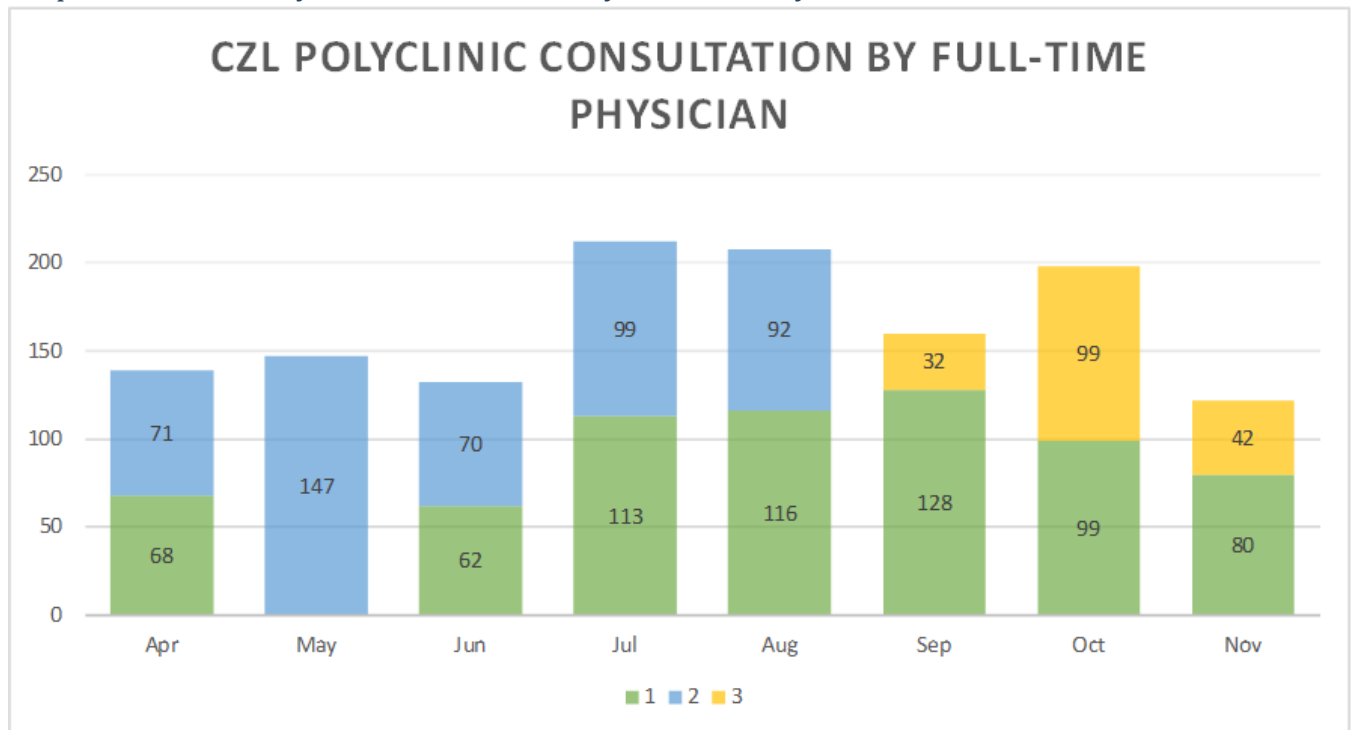
In the first 8 months, a total of 38,620 patient encounters were registered in RAWA by full-time clinicians. Clinician #5 registered the most encounters with 3,748, 10% of all encounters.



## Corozal Full-time Physician Consultation Data

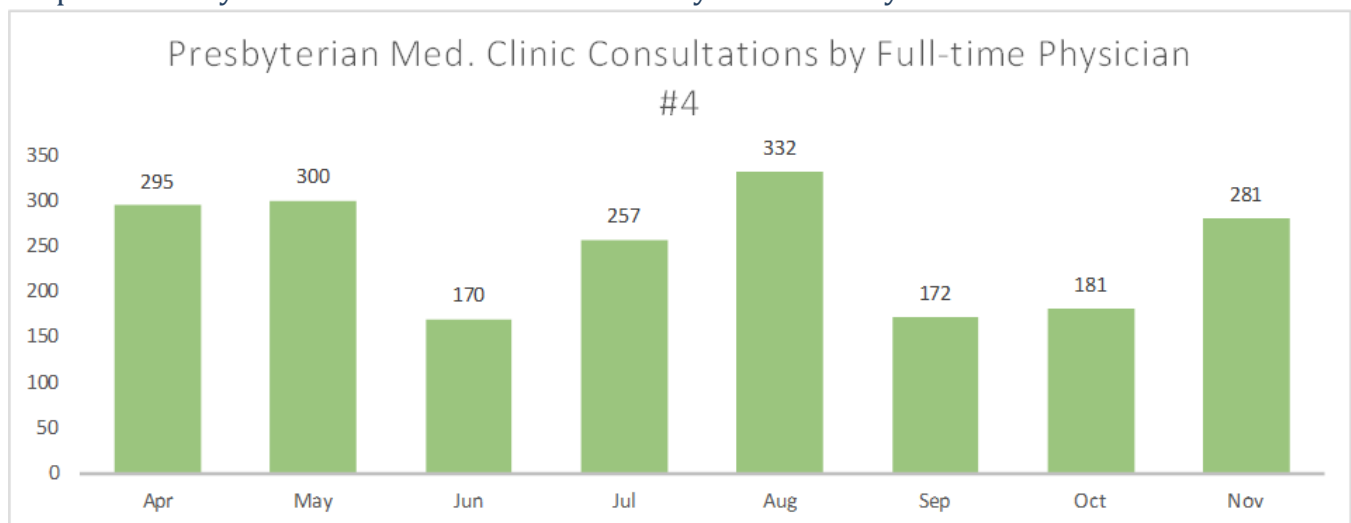
The following graphs show the productivity of full-time clinicians at their respective clinics; doctors are numbered in series, and by the clinic. We can see the monthly number of patients that our physicians are caring for per month in the first 8 months of the year in the Corozal district:

Graph 20 Corozal Polyclinic Consultations by Full-time Physician



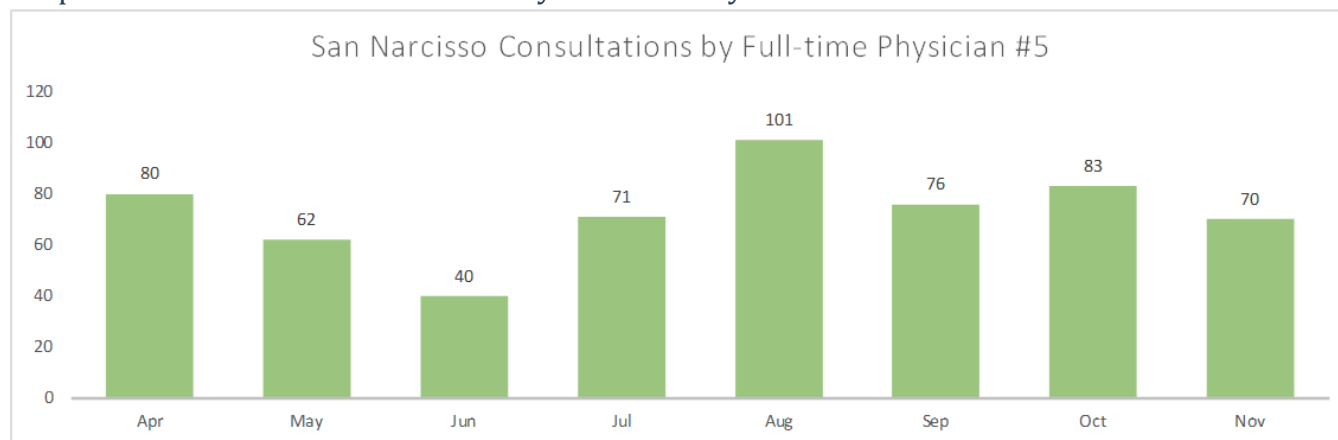
We note that the body of work being registered in RAWA at the Corozal clinic, 1318 patients, in the first 8 months of the fiscal year. Of the 3 full-time clinicians, we note that there was no entry into RAWA from clinician #2 from Sept. to Nov. 2019. The patient registered activity needs improvement to gain traction in numbers in comparison to the other clinics countrywide.

Graph 21 Presbyterian Med. Clinic Consultations by Full-time Physician



The fulltime clinician at Presbyterian medical clinic registered 1988 patient encounters in the first 8 months of the fiscal year.

Graph 22 San Narcisso Consultations by Full-time Physician



We note that the body of work being registered in RAWA at the San Narcisso clinic is 583 patients in the first 8 months of the fiscal year.

Graph 23 Overall Full-time Medical Officer Consults, Corozal



In the first 8 months, a total of 3,889 patient encounters were registered in RAWA by full-time clinicians. Clinician #4 of Corozal registered the most encounters with 1,988, 51% of all encounters.

Southern Region Full-time Physician Consultation Data

Graph 24 Dangriga Polyclinic Consultations by Full-time Physician



Graph 25 Independence Polyclinic Consultations by Full-time Physician



## Graph 26 Punta Gorda Polyclinic Consultations by Full-time Physician

RAWA

## Graph 27 San Antonio Polyclinic Consultations by Full-time Physician

RAWA

The San Antonio Polyclinic has documented internet capability issues, that have hampered their data entry into RAWA during 2019. These issues have been fixed and we should see increased entry in 2020.

## Graph 28 Overall Full-time Medical Officer Consultations, Southern Region

In the first 8 months, a total of 22,148 patient encounters were registered in RAWA by souther region full-time clinicians. Clinician #12 registered the most encounters with 1,710, 12% of all encounters.

# Comparison of Primary Care Providers Full-time Physician Consultations

Graph 29 Central Region PCPs, Full-time Physician Consults



## Graph 30 Corozal PCPs, Full-time Physician Consults

### Graph 31 Southern Region PCPs, Full-time Physician Consults

Note: San Antonio has a backlog of reports due to the lack of internet connectivity.

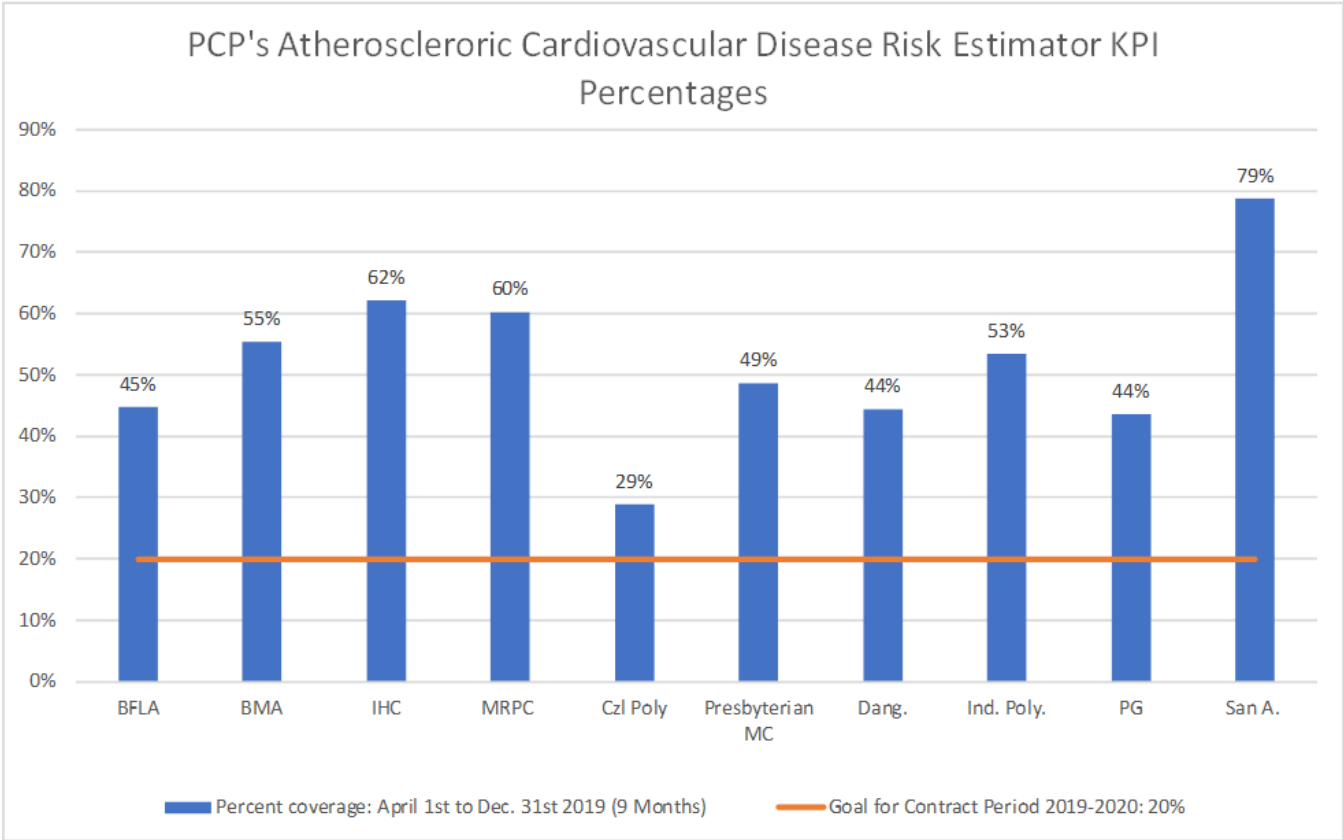


## Graph 32 Countrywide Comparison of PCPs, Full-time Physician Consults

### Graph 33 Countrywide Comparison of PCPs, Full-time Physician Consults

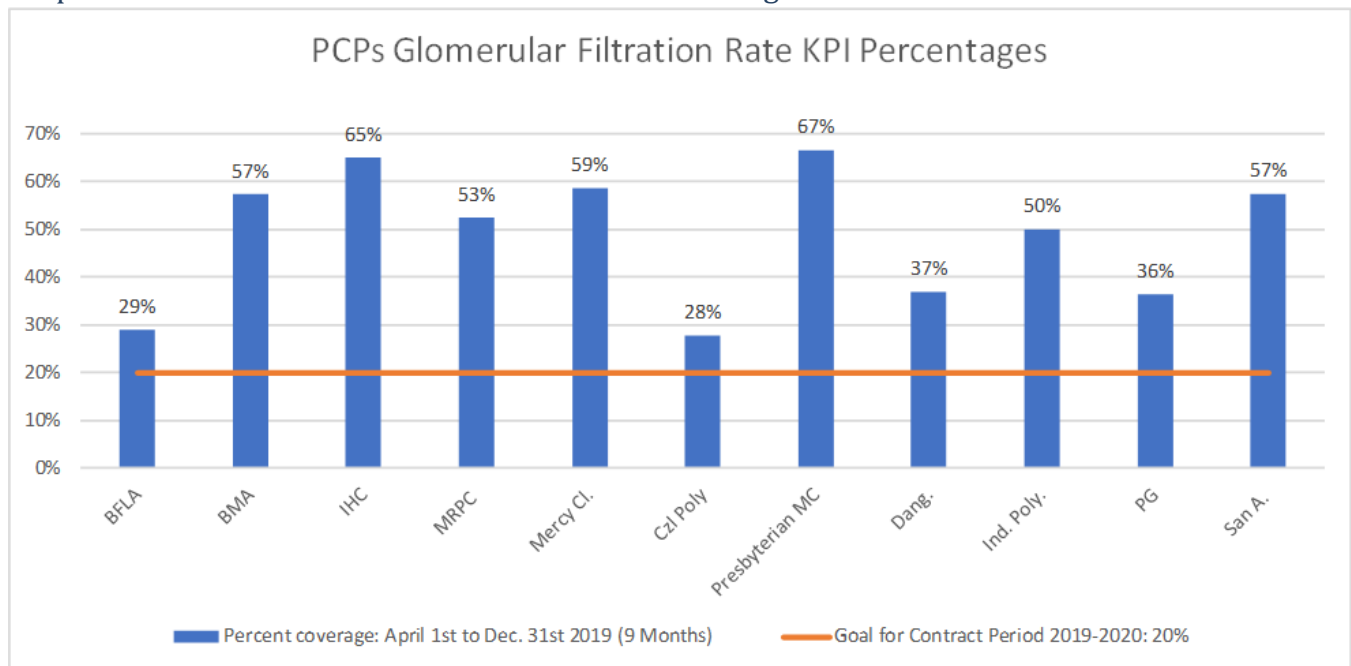
# Key Performance Indicator Current Status Updates:

Graph 34 Atherosclerotic Cardiovascular Disease Risk Estimator Achieved Percentages



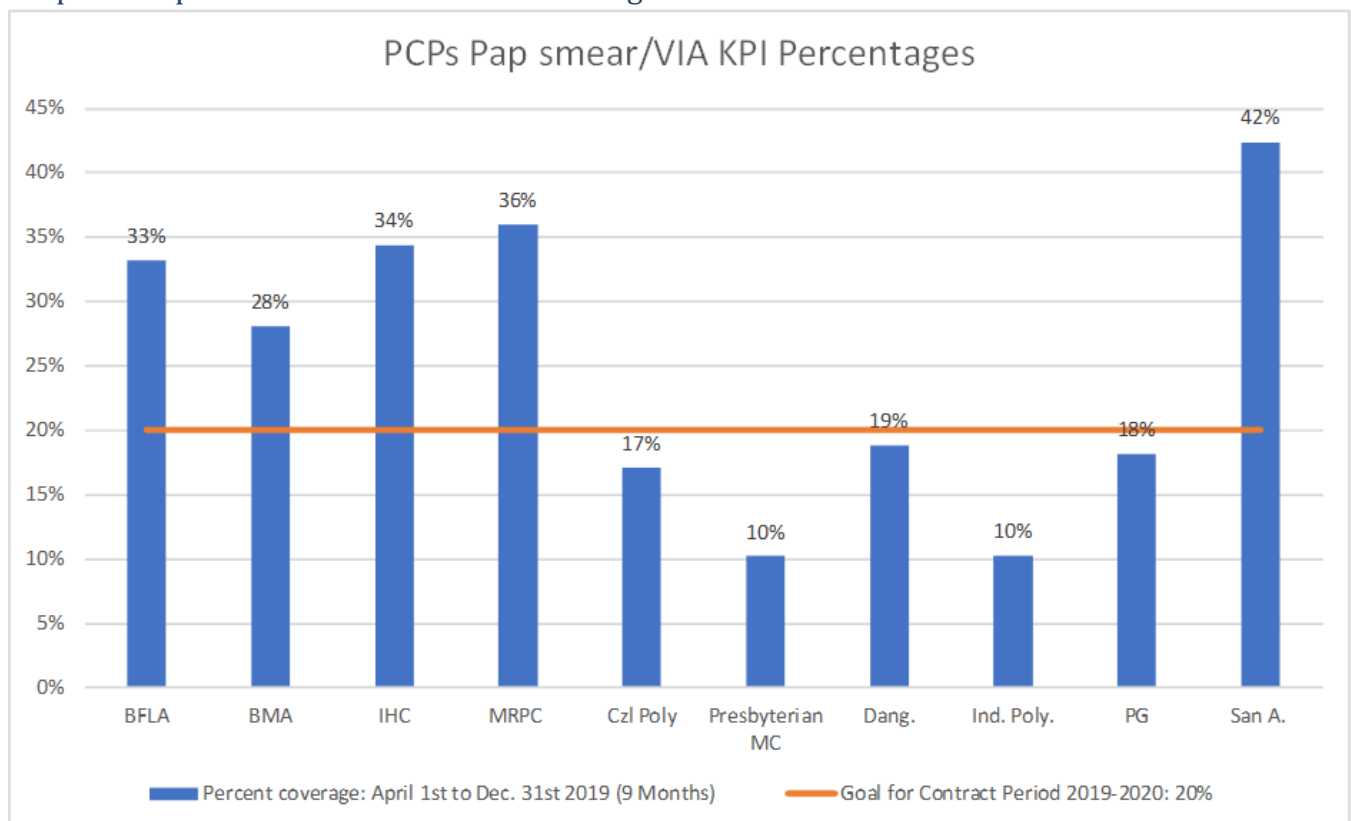
The Atherosclerotic Cardiovascular Disease (ASCVD)<sup>1</sup> Risk Estimator assesses a person’s 10-yr risk developing ASCVD and acts to establish an initial reference point. NHI has endeavored to apply it to our diabetic and/or hypertensive patients that are between 40 to 59 yrs. old. The primary care providers have agreed to screen 20% or more of the eligible population. The overall average of the population screened is 52%.

Graph 35 Glomerular Filtration Rate Achieved Percentages



The glomerular filtration rate acts to establish an initial reference for kidney disease in out NHI's diabetic was hypertensive patients of any age. The primary care providers have agreed to screen 20% or more of the eligible population. The overall average of the population screened is 52%.

Graph 36 Pap smear + VIA Achieved Percentages



The KPI goal for the combination of Pap smears and VIAs is 20% of women 25-49 years who have never had a Pap Smear or VIA. The overall average achieved thus far is 25%.

## Conclusions

1. There are continued gaps in data entry into RAWA, noticeably in the Corozal Polyclinic.
2. Morbidity reports are consistent across all clinics: Chronic Non-Communicable Diseases predominate.
3. Pharmacological dispensation and laboratory tests mirror the morbidity profile consistently.
4. Corozal Polyclinic and San Narciso's overall productivity in RAWA continues low compared to the other PCPs.
  - a. Note KPI assessment is dependent on productivity and data entry in RAWA; assessment of KPI's for Corozal will be based on amount of data entered into the system (at least 60% of registered patients).
5. Mercy Clinic's (elderly) top morbidity are: arthritis, hypertension and gastric disease (GERD, Dyspepsia), and diabetes.
6. Unstable and sometimes unavailable internet connectivity continued to be a detriment to San Antonio's clinic data entry, but this problem has been corrected and we hope to see increased RAWA data entry.
7. The ASCVD and GFR KPI's are being well covered by our PCPs. The Pap smear/VIA patient numbers would need improving in Corozal Polyclinic (17%), Presbyterian Medical Clinic (10%), Dangriga (19%) and Punta Gorda (18%) to reach the 20% goal.

## Recommendations

1. Based on our morbidity, NCD's are what our clinics should aim to improve preventive strategies.
2. NHI and PCPs should continue to share best practices at PCP meetings for improved outcomes for the population.
3. Corozal clinics need to either report the data in BHIS or begin to comprehensively enter data into RAWA as they seem to have very low productivity and low performance in terms of KPI's.