Mobile Integrated Community Health

Overview

A team approach to population health.

Joseph A Ciotola, Jr., MD

Mission Statement

To improve health outcomes among citizens of Queen Anne's County through integrated, multi-agency, and intervention-based healthcare.

Vision Statement

To provide mechanisms for citizens to have better access to healthcare and to enhance individual health outcomes.

Partnerships

QAC Dept. of Emergency Services

QAC Department of Health

MIEMSS

UMMS Shore Regional Health

QAC Commissioners

QAC Addictions and Prevention Services

QAC Dept. of Health and Mental Hygeine

QAC Area Agency on Aging

Anne Arundel Medical Center

Funding

UMMS Shore Regional Health

Anne Arundel Medical Center

Queen Anne's County Government

Queen Anne's County Dept. of Health

Carefirst Telehealth Grant

MICH Criteria

Inclusion	Exclusion
Adults 18 years and older.	
Five 911 calls in any 6 month interval	Refusal to participate in the program.
Resident of Queen Anne's County	

Referral Phases

First Phase - Frequent 911 Callers

Second Phase - EMS Referrals

Third Phase - ED Referrals and QA ER Referrals

Fourth Phase - Shore Regional Health Post D/C and AAMC Post D/C

Fifth Phase - Visiting Nurse Agencies/Home Health Referrals

MICH Team

Combination Field Team

Department of Health Nurse

Queen Anne's County Paramedic

Mental Health/Substance Abuse Counselor

Telehealth Component

Hospital Based Pharmicist

Management

Health Officer / EMS Medical Director
Joseph A Ciotola, Jr., M.D.

MICH Home Visit

QAC DES Paramedic

Program introductions and overview

Physical examination assessment of physical health

Health and home safety assessment

Discuss home safety issues with the patient and need to modify identified hazards

QAC DOH RN

Program introductions and overview

Assessment of health history, Rx inventory, review of systems and current status

Assessment of patient education and assessment of support system

Referrals to appropriate health and community services

Health and Home Safety

The EMS Provider utilizes four evidenced based scales to determine home and personal safety of each patient.

The four assessment scales that will be utilized are:

The Hendrich II Fall Risk Model

The Physical Environment Assessment Tool

Alcohol Use Disorder Identification Test

Drug Abuse Screening Test

Telehealth

Mobile WiFi secured through oMG Mobile Gateway by Sierra Wireless.

Verizon Hotspot used as a back-up

Panasonic Toughbook

Very durable. Will stand up to most rigorous environments

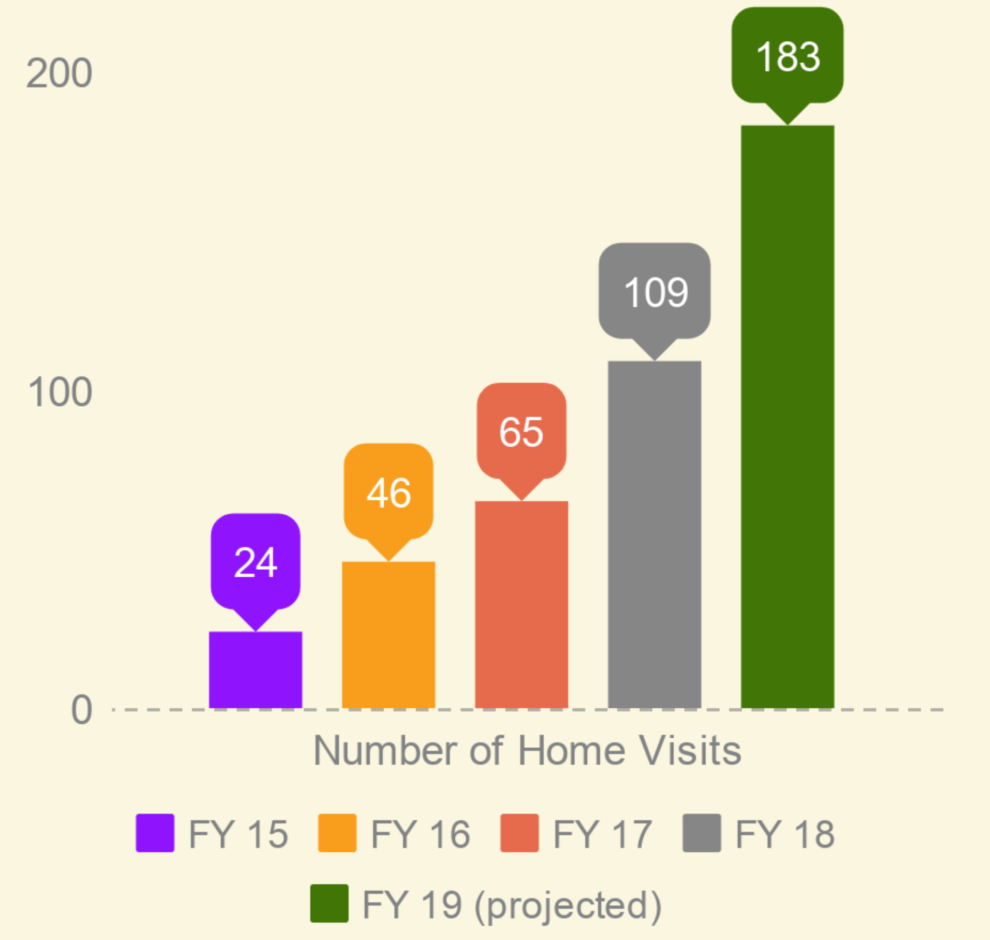
VIA3 Unity

- Provides several layers of end-to-end AES encryption
- Willing to sign a BAA to satisfy HIPAA HITECH Act
- Interoperablility and provides 720p HD video and file sharing

QA/QI

- **Quality Assurance (QA) and Quality Improvement (QI)**
- **Home visits are reviewed and critiqued on a monthly basis by a multidisciplinary team resulting in recommendations for improved processes and clinical practice.**
- **The QA/QI group consists of:**
  - **Community Health Nurses**
  - **AAMC Representatives**
  - **Paramedics**
  - **PharmD**
  - **UMMS Shore Health Representatives**
  - **Behavioral Health and Addictions**
  - **Case Management**
  - **Clinical Supervision**

Data and Demographics



Growth Percentage

From FY 15 to FY 16: 91.7%

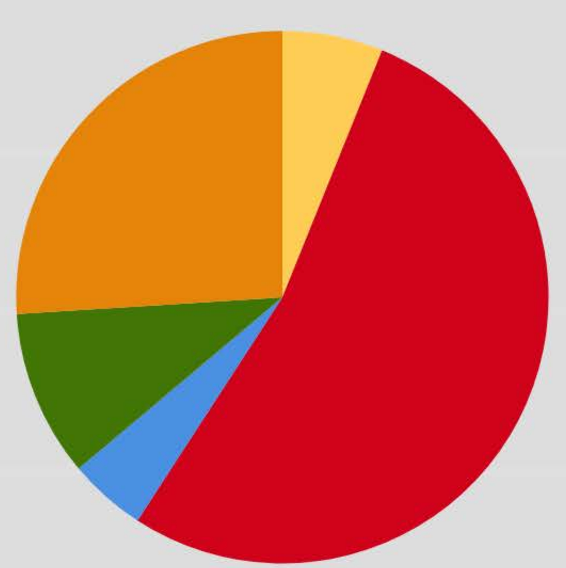
From FY 16 to FY 17: 41.3%

From FY 17 to FY 18: 67.7%

From FY 15 to FY 18: 354.2%

Data and Demographics

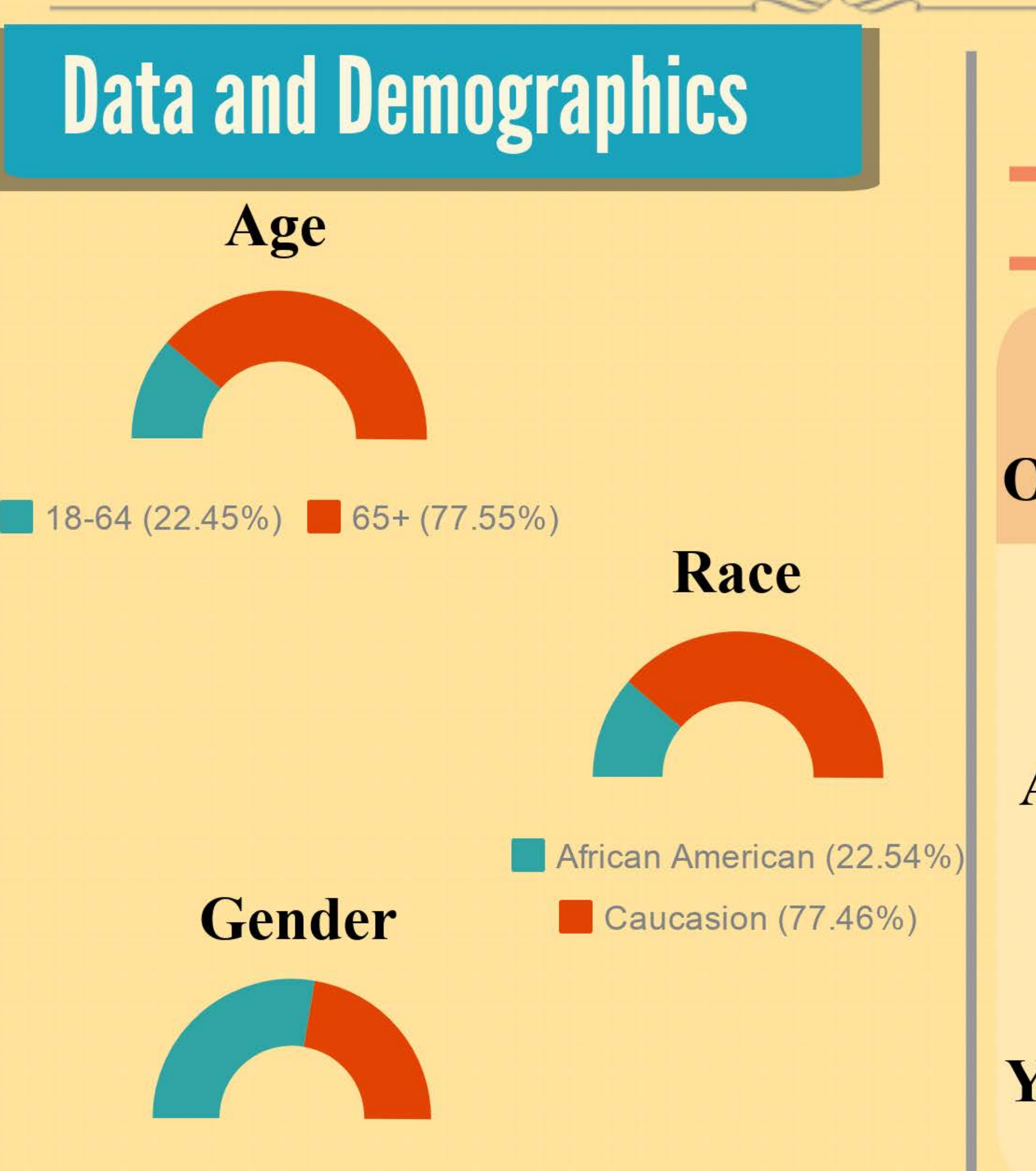
Referral Sources



911 CAD Data (6.11%) QA DES (53.05%)
QA ER (4.71%) AAMC D/C (10.12%)
Shore Health (26%)

Avg. time spent per home visit

80 minutes



Age Statistics

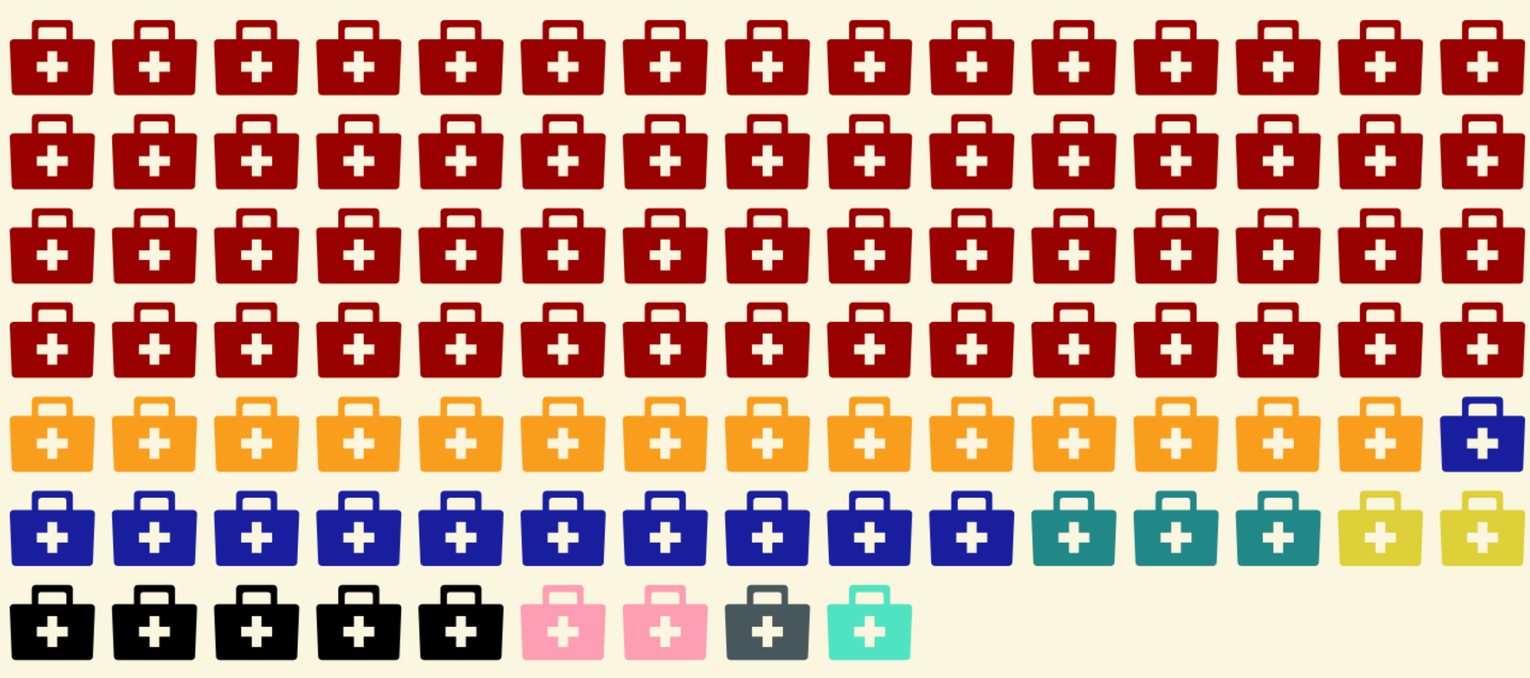
Oldest Patient: 99

Average Age: 70

Youngest Patient: 22

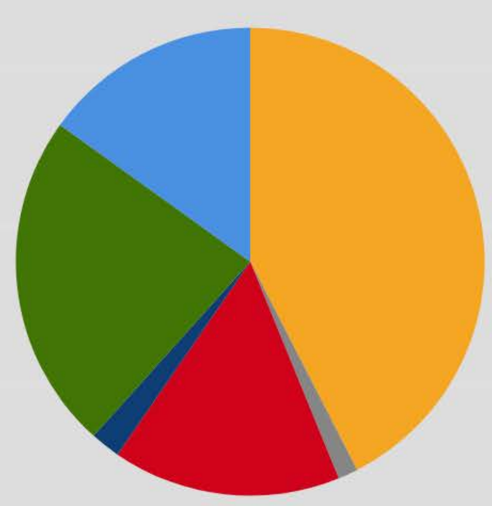
Data and Demographics

Insurance Breakdown



Data and Demographics

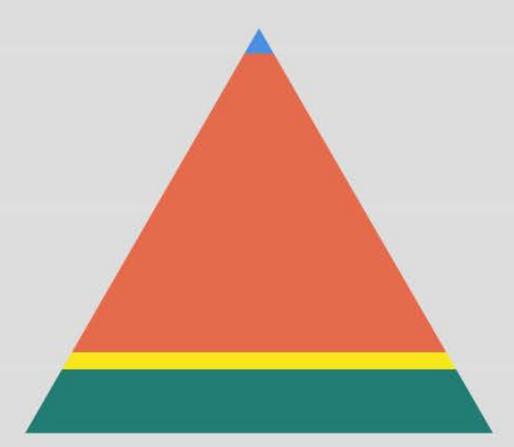
Education Status



Master's Degree (2.05%) Less Than HS (23.29%)

Some College, No Degree (15.07%)

Employment Status



Unable to Work (15.75%)

Unemployed (4.11%) Retired (73.97%)

Employed (6.16%)

Data and Demographics

Top 10 Existing Diagnosis

200

100

0

Diagnosis

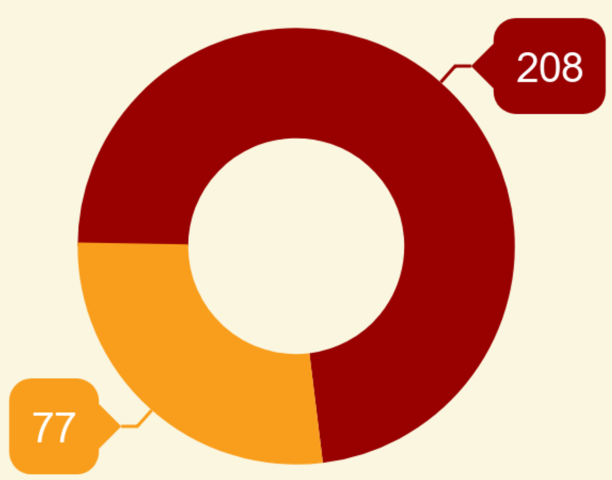
HTN, High Cholesterol, Injuries From Falls, Esophageal Reflux, Atrial Fibrillation, CHF, Diabetes, Anxiety, Depression, Chronic Pain

Avg. Number of Diagnoses/Patient

5.89

Data and Demographics

Results From Rx Inventories



No Problems Identified (72.98%)

Problems Identified (27.02%)

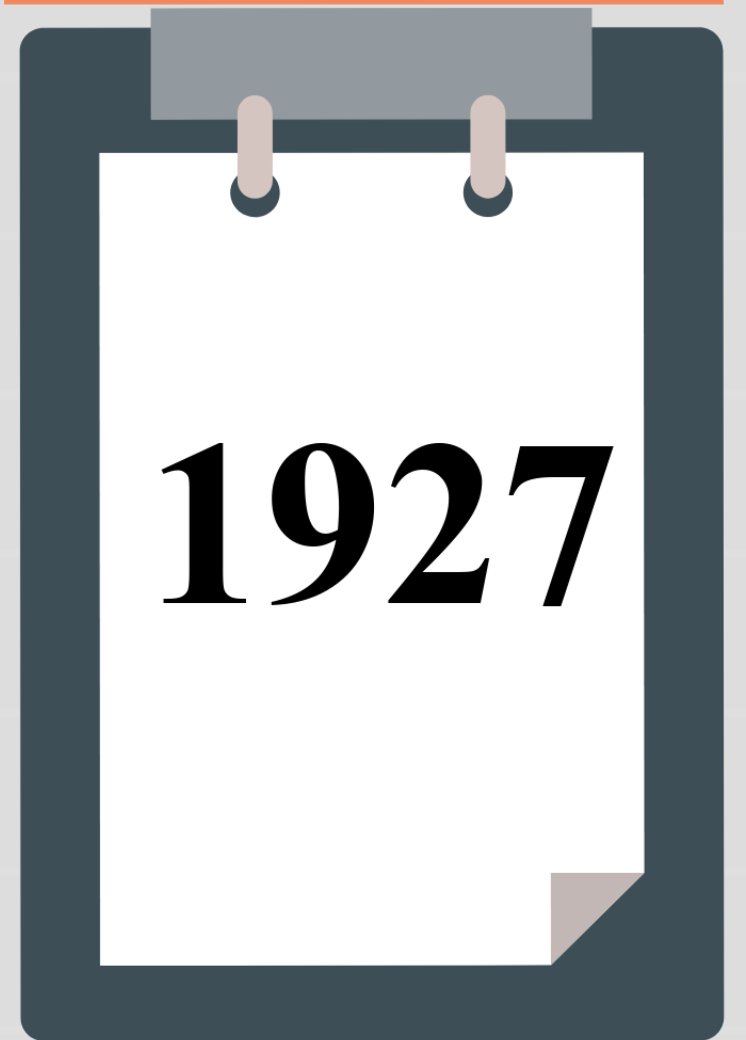
Avg. Number of Medications/Patient

Data and Demographics

Top 10 Linked Services

Service	Approx. value (chart)
Safety	
Health Education	
Case Mgmt Needs	
Home Care/Home Health	
Transportation	
Energy Assistance	
Substance Abuse	
Behavioral Health	
Nutrition Assistance	
Housing/Shelter Assistance	

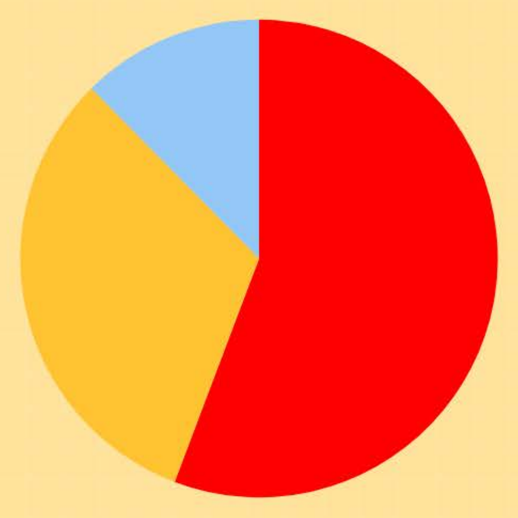
Total Services Linked to Patient



Avg. Linked Services/Patient: 6.55

Data and Demographics

PEAT Score Results



Healthy (55.75%) Less than Optimal (31.86%)
Referral Assistance (12.39%)

Safety Hazards

Unmarked prescription pill bottles

Space heaters next to curtains

Complete lack of smoke detectors

A light plugged into an outlet and dangling over the bath tub

Soft floors and sagging ceilings

Multiple layers of throw rugs

Extension cords running across rooms from wall to wall

Data and Demographics

911 Transport Data

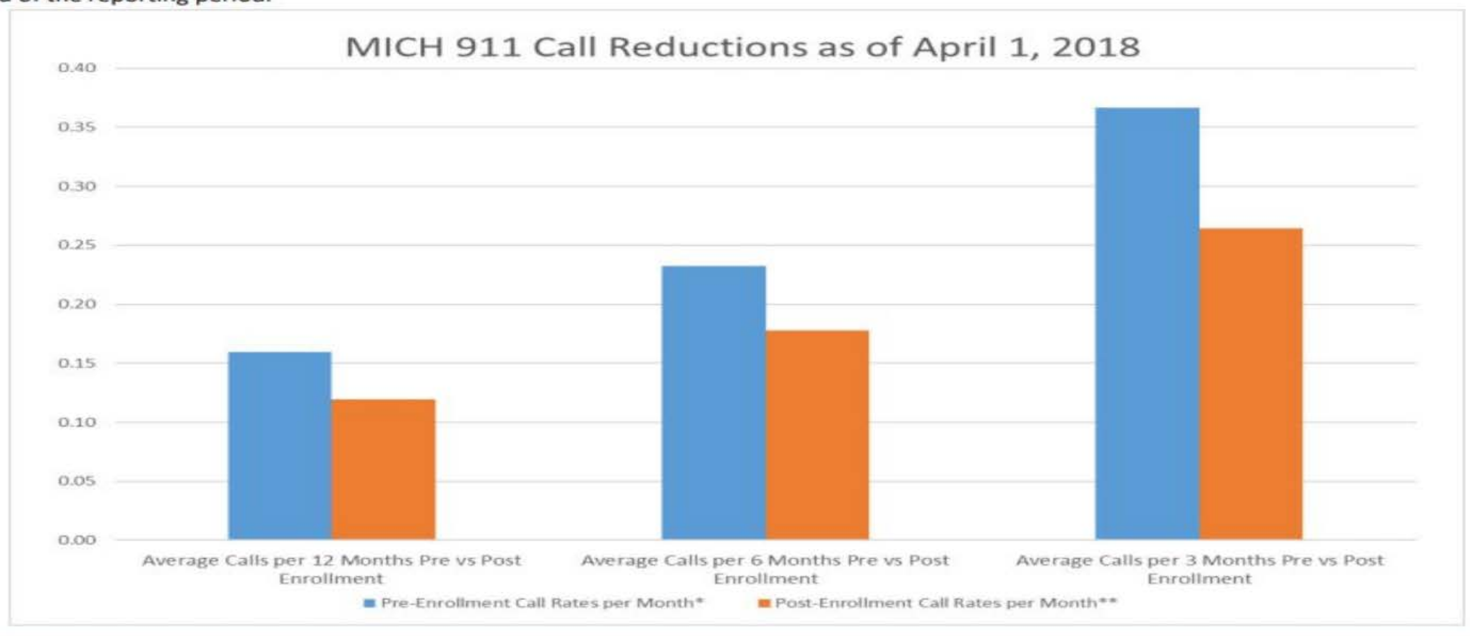
Mobile Integrated Community Health Program: 911 Call Reduction Analysis

The following data is based on the Queen Anne's County Mobile Integrated Community Health Program patient list as of April 20, 2018, and 911 call data from July 1, 2012-March 30,2018.

Pre-Enrollment Call Rates per Month*		Post-Enrollment Call Rates per Month**		% Reduction
*Average Calls per **12** Months Pre Enrollment*	0.16	*Average Calls per **12** Months Post Enrollment*	0.12	**25%**
*Average Calls per **6** Months Pre Enrollment*	0.23	*Average Calls per **6** Months Post Enrollment*	0.18	**23%**
*Average Calls per **3** Months Pre Enrollment*	0.37	*Average Calls per **3** Months Post Enrollment*	0.26	**28%**

*Pre-enrollment rates established as average number of 911 calls per month among all MICH participants with pre-enrollment call records.

**Post-enrollment rates established as average number of 911 calls per month among all MICH participants after enrollment. Patients were excluded if they died before the end of the reporting period.



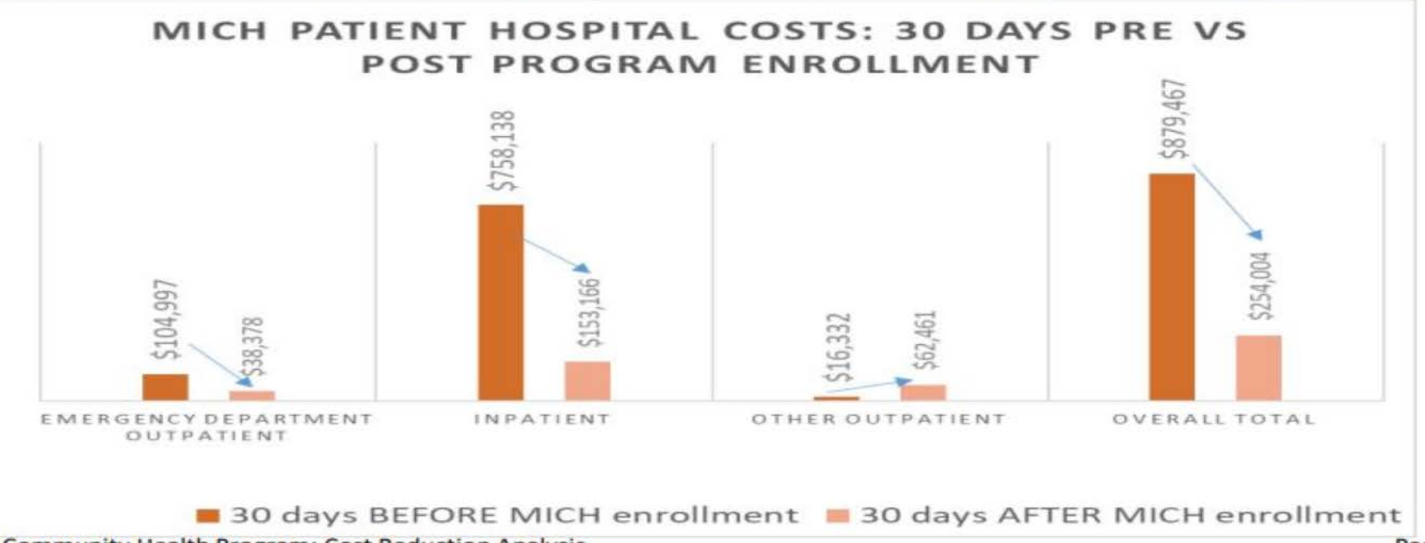
Data and Demographics

Mobile Integrated Community Health Program: Cost Reduction Analysis

NOTE: The following data is based on the Queen Anne's County Mobile Integrated Community Health Program patient list as of April 20, 2018, and patient cost data within the state of Maryland from July 1, 2012-March 30,2018.

MICH 30-Day Cost Reductions

	30 days BEFORE MICH enrollment		30 days AFTER MICH enrollment		30 Day % Reduction	
VisitType	Total Services	Total Cost	Total Services	Total Cost	Visit Reduction	Cost Reduction
Emergency Department Outpatient	83	$ 104,997	47	$ 38,378	43%	63%
Inpatient	70	$ 758,138	12	$ 153,166	83%	80%
Other Outpatient	21	$ 16,332	18	$ 62,461	14%	
Overall Total	***174***	***$ 879,467***	***77***	***$ 254,004***	***56%***	***71%***



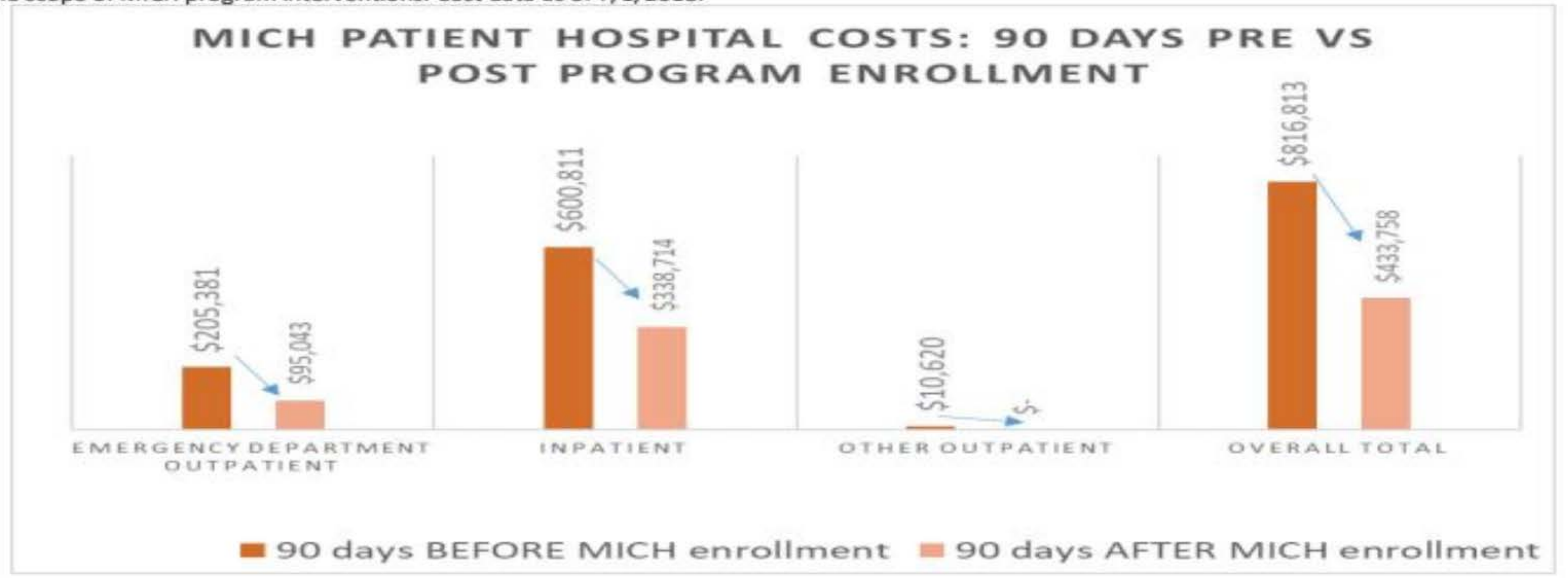
Created by Ty Turner (Research Statistician). For questions contact Ty.Turner1@Maryland.

Data and Demographics

MICH 90-Day Cost Reductions*

	90 days BEFORE MICH enrollment		90 days AFTER MICH enrollment		90 Day % Reduction	
VisitType	Total Services	Total Cost	Total Services	Total Cost	Visit Reduction	Cost Reduction
Emergency Department Outpatient	166	$ 205,381	85	$ 95,043	49%	54%
Inpatient	58	$ 600,811	20	$ 338,714	66%	44%
Other Outpatient	3	$ 10,620	0	$ -	100%	100%
Overall Total	***227***	***$ 816,813***	***105***	***$ 433,758***	***54%***	***47%***

*90-day pre and post enrollment statistics established as ALL emergency department services, and EMERGENCY-ONLY inpatient and other outpatient services. Non-emergency inpatient and other outpatient services are defined as routine/planned doctor visits and procedures in a hospital setting; these services are beyond the scope of MICH program interventions. Cost data as of 7/1/2018.

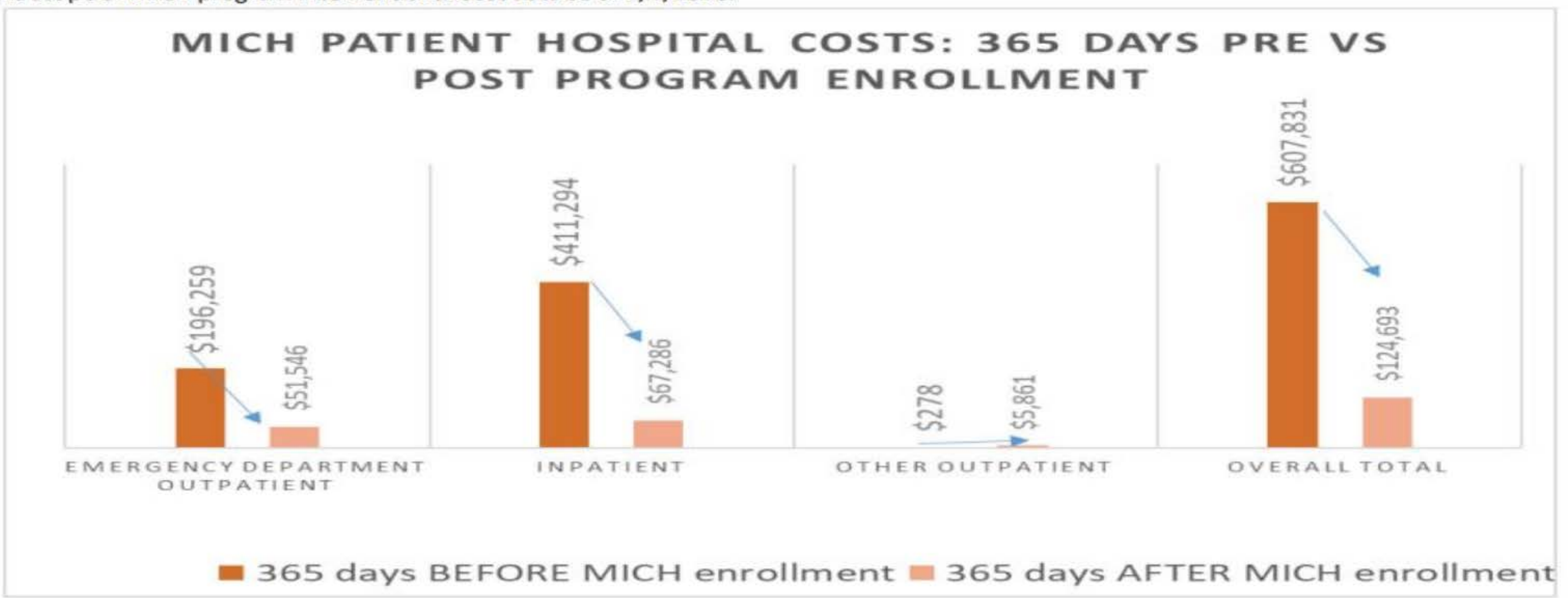


Data and Demographics

MICH 365-Day (1 Year) Cost Reductions*

	365 days BEFORE MICH enrollment		365 days AFTER MICH enrollment		365 Day % Reduction	
VisitType	**Total Services**	**Total Cost**	**Total Services**	**Total Cost**	**Visit Reduction**	**Cost Reduction**
Emergency Department Outpatient	186	$ 196,259	33	$ 51,546	82%	74%
Inpatient	45	$ 411,294	7	$ 67,286	84%	84%
Other Outpatient	1	$ 278	2	$ 5,861		
Overall Total	***232***	***$ 607,831***	***42***	***$ 124,693***	***82%***	***79%***

*365-day pre and post enrollment statistics established as ALL emergency department services, and EMERGENCY-ONLY inpatient and other outpatient services. Non-emergency inpatient and other outpatient services are defined as routine/planned doctor visits and procedures in a hospital setting; these services are beyond the scope of MICH program interventions. Cost data as of 7/1/2018.



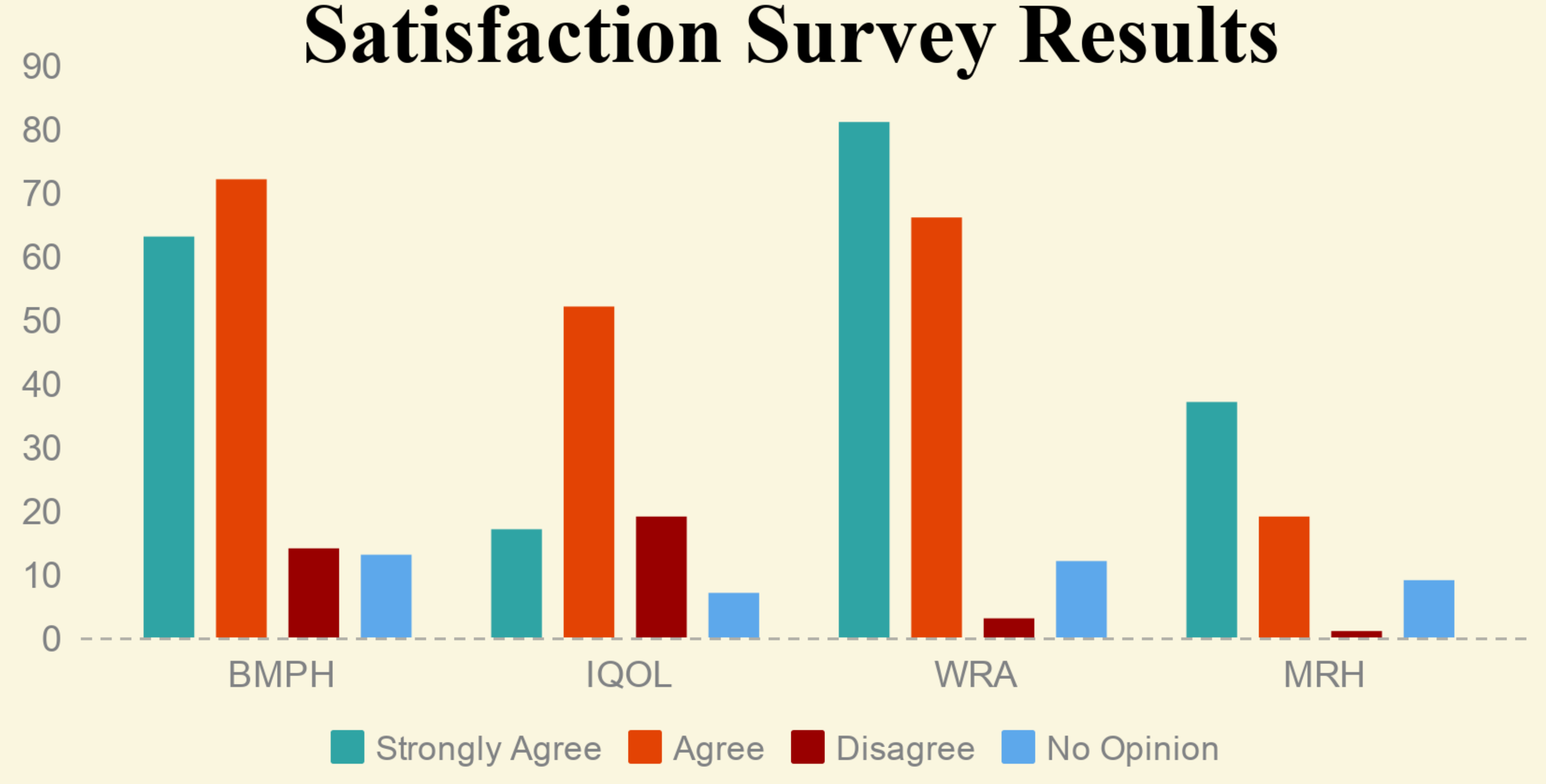
Data and Demographics

Bottom Line: MICH Program Cost Savings*

VisitType	**30 Day Cost Savings**	**90 Day Cost Savings***	**365 Day Cost Savings***	**Total Cost Savings**
Emergency Department Outpatient	$ 66,619	$ 110,338	$ 144,713	**$ 321,670**
Inpatient	$ 604,972	$ 262,097	$ 344,008	**$ 1,211,077**
Other Outpatient	$ (46,128)	$ 10,620	$ (5,583)	**$ (41,091)**
Total Cost Savings	**$ 625,463**	**$ 383,055**	**$ 483,138**	**$ 1,491,656**

*90 and 365-day pre and post enrollment statistics established as ALL emergency department services, and EMERGENCY-ONLY inpatient and other outpatient services. Non-emergency inpatient and other outpatient services are defined as routine/planned doctor visits and procedures in a hospital setting; these services are beyond the scope of MICH program interventions. Cost data as of 7/1/2018.

Data and Demographics



BMPH - Better able to manage your personal health

IQOL- Improved Quality of Life

WRA - Were referrals appropriate/useful

MRH - Medication review was helpful

Challenges Faced

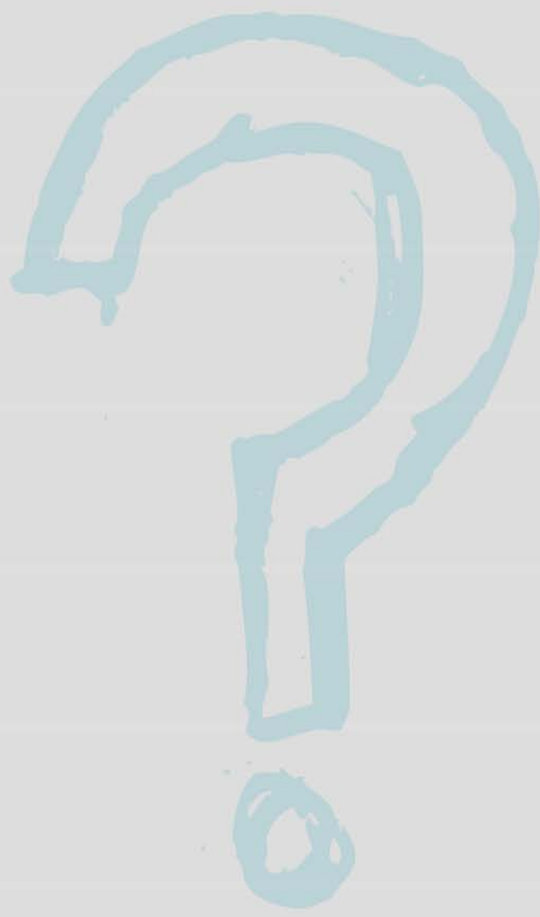
- Data Collection

- Dealing with Declinations
- Social Isolation and Mental Health
- Financial Sustainability
- Medically Complex Patients

What Does the Future Hold?

- Broadening referral sources
- Closing the loop with PCPs
- Search for financial sustainability
- Continue to investigate uses for telehealth

Questions?



MCNIC^3

Montgomery County Non-Emergency Intervention & Community Care Coordination

Captain Jamie Baltrotsky, BS, NRP
Captain Ashley Robinson, MS, MBA, NRP
Montgomery County Fire & Rescue Services

The Problem

EMS DISPATCHES BY TYPE AND RESULTING TRANSPORT

100000
90000
80000
70000
60000
50000
40000
30000
20000
10000
0

CY2013 CY2014 CY2015 CY2016 CY2017

ALS1 ALS2 BLS Total Number Patients Transported

The Problem

The Problem

The Solution?

- Sharing data
- Forming partnerships with other community stakeholders
- Follow-up

Break Down The Silos!!

Trying to Avoid

The Data

- FY15 – 14 enrollees – 55% drop in 911 usage (90 days)
- FY16 – 33 enrollees – 55% drop in 911 usage (6 months)
- FY17 – 115 enrollees – 47% drop in 911 usage (6 months)
- FY18 – 353 enrollees – data not yet available

Stats at a Glance

161

People who called 911 (4) times or more in 2018

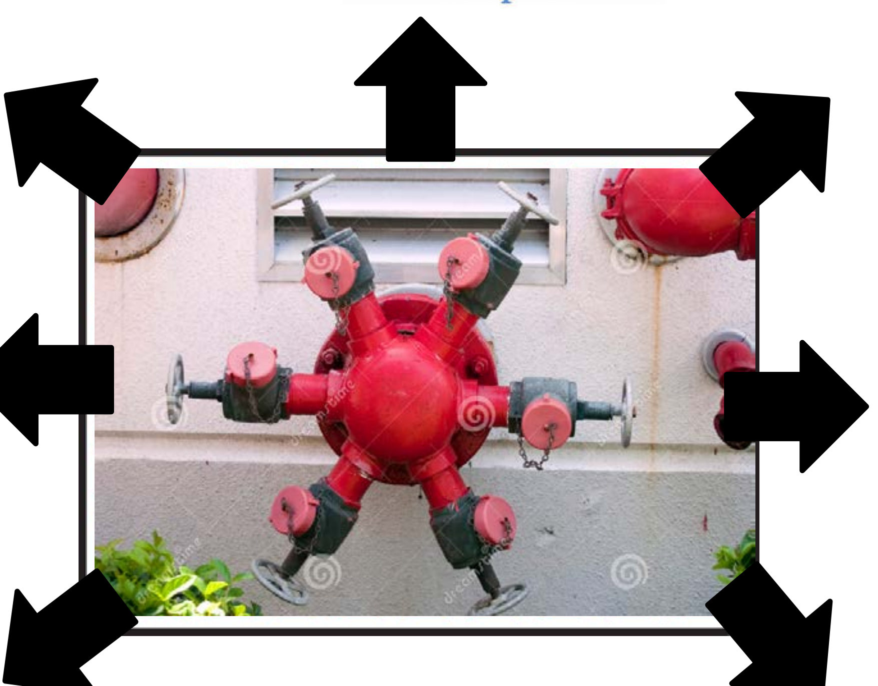
Stats at a Glance

1591

Calls to 911 from the 161 people in previous slide

Relationship Building

Adventist HealthCare
Shady Grove Medical Center



Who Do We Share Data With?

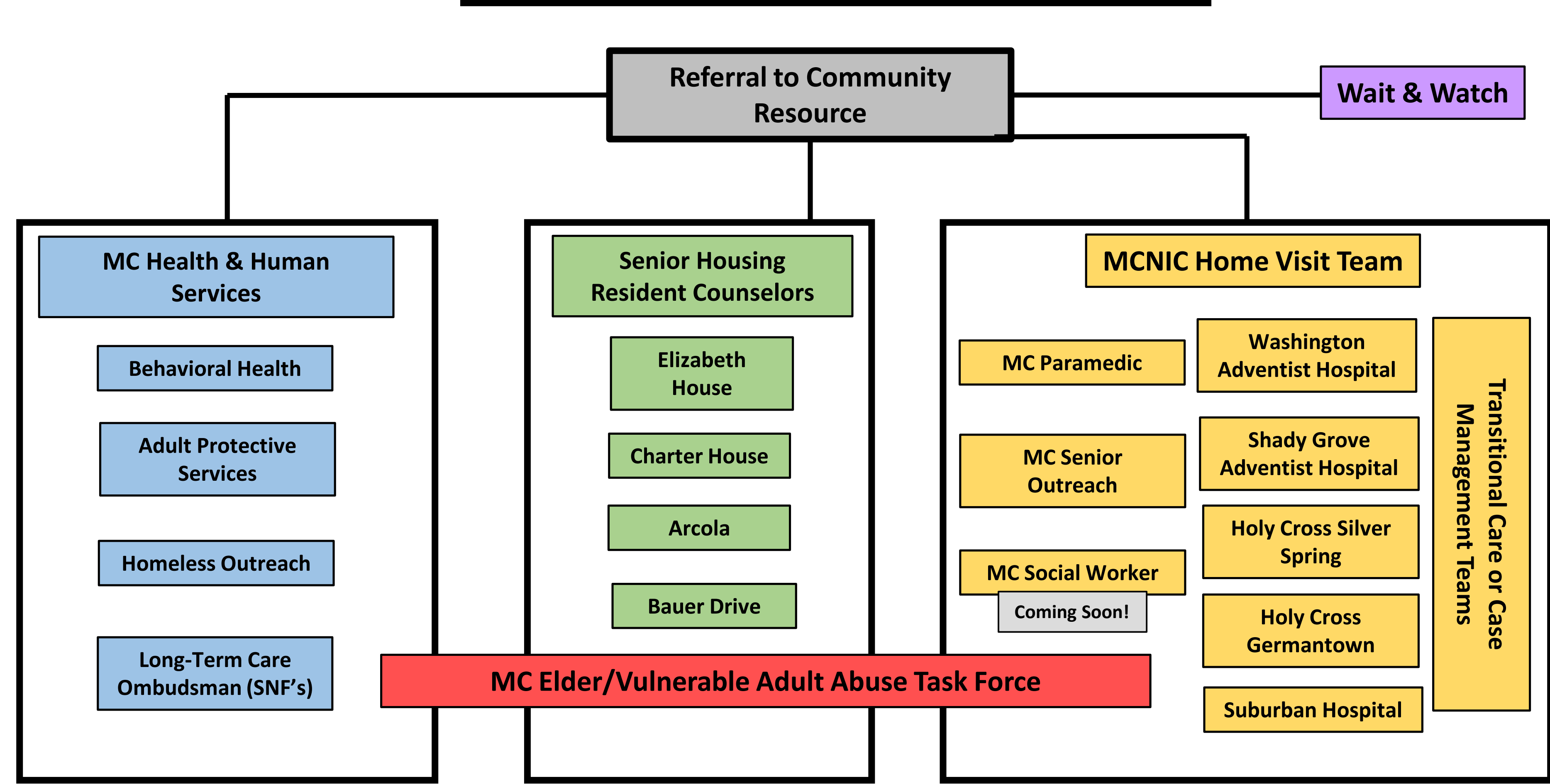
- Health & Human Services
- All of our county hospitals
  - Transitional Care/Population Health
- NEXUS Montgomery
- HEALTH Partners
- WISH
- Opioid Intervention Taskforce

Where Do We Refer?

Referral destinations

Destination	Share
Behavioral Health	46%
APS	31%
WISH	10%
Homeless Outreach	6%
LTC Ombudsman	5%
Housing	2%

MCNIC3 Program Referral Flow Chart



How do we enroll?

- Provider referrals via eMEDs/RMS
- Firstwatch Superuser Surveillance
  - Email alerts
- Hospital Transition Care Referrals

Patient Home Visit Team

- Varies Depending on Patient Need
  - MCFRS Paramedic/CHW
  - Nurse (from hospital pt is most transported to)
  - APS Social Worker
  - Community Health Nurse (coming soon!)

Why Us?

- Public trust
- 911 is often the only contact with healthcare environment
- No loyalties to a particular organization or insurance type
- We have a unique view into a persons living environment

Barriers to Success

- Getting the patient to answer the phone
- Underlying behavioral health issues
- Resources

Lessons Learned

- Start information sharing agreements immediately!
- Sometimes you have to just go knock on their door
- Some people just don't want help and that is okay

Why is this so important?

- Allowing outside agencies to get a view into a patient issue they don't necessarily know about

The End