

# Telemedicine in Puerto Rico

The Ball is in your Court

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# Disclaimer

“I would like to make it clear that I do not have any financial relationship or vested interest with the vendors or companies mentioned in this presentation. The information and recommendations provided are based solely on my independent research and analysis. It is important to conduct your own due diligence and consider your specific needs before making any decisions or investments. I am committed to providing unbiased and objective information for the benefit of the audience. If you have any questions or concerns, please feel free to address them.”



# Agenda

- Two historical questions
- What is telemedicine?
- What has changed?
- Brief history and facts
- Examples of use cases
- The ball is on your court
- Questions and answers



# When was the fax invented?

- 1843: Alexander Bain's patent, dated May 27, 1843, was for "improvements in producing and regulating electric currents and improvements in timepieces, and in electric printing, and signal telegraphs."



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# When was the Telemedicine first used?



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# When was the Telemedicine first used?

- 1844: First telegraph message between D.C. Baltimore
- 1861-1865: USA Civil War
- 1876, Alexander Graham Bell patented the telephone
- 1879 article published in the *Lancet* journal. Researchers speculated that the telephone could reduce unnecessary visits to doctors' offices.
- 1957, a doctor constructed a teleradiology system in Montreal, Canada.
- NASA started researching in the late 1960's



# Telemedicine transport in a picture



Telegraph



Telephone



Radio



Television



Internet

**However, always remember that virtual care is much more than telemedicine**

# What is telemedicine?

The term telemedicine as accepted by World Health Organization is:

“The delivery of health care services, where distance is a critical factor, by all health care professionals using information and communication technologies for the exchange of valid information for diagnosis, treatment and prevention of disease and injuries, research and evaluation, and for the continuing education of health care providers, all in the interests of advancing the health of individuals and their communities”.





# What is telemedicine?

In “rice and beans”

Telemedicine provides the tools for connectivity when providers and patients could not be in the same place and time.



# What has changed?

## COVID-19

### TELEMEDICINE - WHAT DOES IT MEAN AND WHY SHOULD YOU CARE?

Accessible version: <https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/telemedicine.html>

#### WHAT IS TELEMEDICINE?

Telemedicine is the use of electronic information and telecommunication technology to get the health care you need while practicing social distancing. All you need is a phone or device with the internet to continue your medical care while protecting yourself and your healthcare provider from COVID-19. Speak with your doctor to determine whether telemedicine is appropriate for your health needs.



#### WHY TELEMEDICINE NOW?

To decrease your contact with healthcare facilities, other patients, and healthcare staff in order to reduce the risk of COVID-19 and keep you and your family healthy



# Kaiser Family Foundation, May 11, 2020

“In response to the novel coronavirus, demand for telemedicine is rapidly increasing. Telemedicine, what was once a niche model of health care delivery, is now breaking into the mainstream in response to the COVID-19 crisis. In China, telemedicine platform JD Health saw a tenfold increase in their services during the outbreak and is now providing nearly 2 million online visits per month. In the U.S., existing telemedicine platforms like Am well and UPMC’s virtual urgent care have reported rapid increases in their utilization. ”

Opportunities and Barriers for Telemedicine in the U.S. During the COVID-19 Emergency and Beyond | KFF



# History and Facts

- Law No. 139 of August 1, 2008, “Medical Licensing and Disciplinary Board Law,”
- Law no. 168 of August 1, 2018, “Law for the Use of Telemedicine in Puerto Rico”
- Law No. 38 of June 30, 2017, “Uniform Administrative Procedure Act of the Government of Puerto Rico”
- Law 40 of February 2, 2012, “Law for the Administration and Exchange of Health Information of Puerto Rico”
- Law No. 68 of July 16, 2020, “Law for the use of Telemedicine and Telehealth in Puerto Rico.”



# History and Facts

- Aug 2000 – Department of Economic Development and Commerce (DED) DEC Publishes RFP for telemedicine pilot in Vieques
- Post Hurricane Maria (2018) Direct Relief provided telemedicine financial support to 16 FQHC
- Dec 2020 The Puerto Rico Public Health Trust announced the start of its Telemedicine Distance Education, consisting of virtual training and delivery of equipment to more than 30 clinics located in rural areas of the island.
- Post COVID-19 dramatic increase in mental health virtual visits



# PUERTO RICO PUBLIC HEALTH TRUST

## Access to Care Services: Three Years of Experience with Telemedicine

### Research Question

How can the telemedicine model of care provide continuity of services for residents in Puerto Rico archipelago impacted by the effects of natural disasters and the pandemic?

### METHODS

**Data Sources:** Medicaid and Medicare Claims data

**Timeframe:** January 2019 to December 2021

**Variables:** Municipality, claims type: gender, age, procedure codes, procedures.

**Analysis:** Descriptive

PRPHT: Wendy Matos-Negrón, PhD, MPHE; Gloria Santos-Romero, PhD, MBA; Litz Príncipe-Ramírez, MBA



# PUERTO RICO PUBLIC HEALTH TRUST

## Access to Care Services: Three Years of Experience with Telemedicine Findings

- The telemedicine model of care in Puerto Rico grew unexpectectly, from year (0.16%) in 2019 to (36.53%) in 2021 the virtual care presented 51% of total claims
- Telemedicine use by gender is higher for males under age 14; and significantly higher for females 15 and older. Traditionally, women seek medical services most frequently than men.
- Top Ten Conditions varies slightly by Model of Care: Virtual care provided opportunity to claim payment for non-traditional top services such as: prescription refills, encounters for other administrative exams, encounter under other circumstances.

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# PUERTO RICO PUBLIC HEALTH TRUST

## Access to Care Services: Three Years of Experience with Telemedicine Top 10 : All Claims and Telemedicine Claims

ALL CLAIMS – Top 10	TELEMEDICINE CLAIMS
Essential Primary Hipertension	Essential Primary Hipertension
Human Immune Deficiency Virus	Congestive Heart Failuere
Heart Disease (no heart failure)	Type 2 DM without complications
Hypothyrodism (unspecified)	Contact without exp to viral dis.
Low Back Pain	Prescription Refill
Major Depressive Disorder (mod)	Administrative examination
Major Depressive Disorder (severe)	Hypothyrodism
Persons Encounter Health Serv.	Type 2 DM Hyperlipidemia
Type 2 DM – with hyperglycemia	Unknown
Type 2 DM – without compliation	Encounter other circumstances

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# Examples of Projects and Use Cases in PR

- Hospital and Centro 330 (FQHC)
- Hospital and Health Care Plan
- Communication and Decision Engine
- Social Determinants of Health
- Remote Patient Monitoring and Care Coordination



# Hospital and Centro 330

- Use interoperability to exchange Admission, Discharge and Transfer (ADT) event notification.
- Send Laboratory, Radiology Notes and Continuous Care Documents (CCD's)
- It keeps all the providers that are responsible for a patient's care informed.
- A primary goal was ensuring that hospital providers could effectively coordinate with post-acute care management and care teams to maintain continuity of care.



# Hospitals & Healthcare Plan

- ADT Exchange, notifications and data
- Improve care coordination and patient outcomes
- Real-time ADT notifications help prevent medical errors by providing timely information
- Electronic ADT notifications facilitate faster referrals to specialists.
- Not only ensures compliance but also enhances patient care, reduces costs, and promotes efficient workflows in health care systems.
- Expanding to CCD's and Laboratory results in the future.



# Trinexus & Endlink Use cases

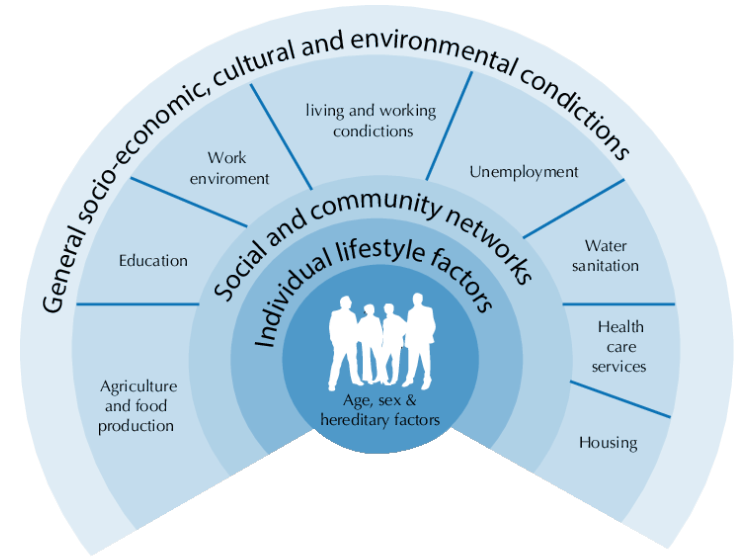
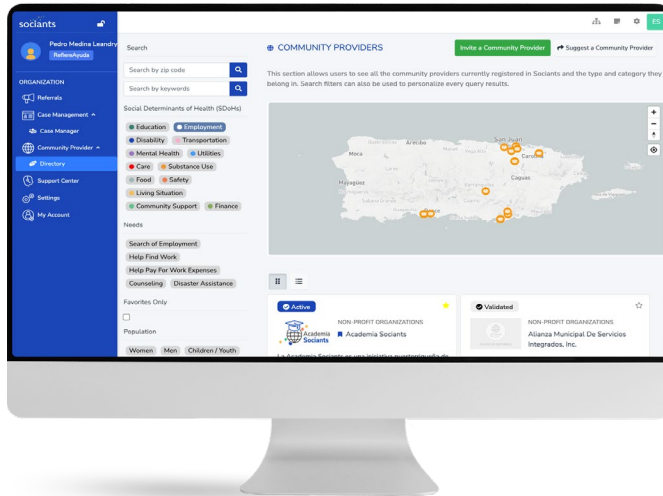
- Critical Value Results process will generate a message that will be sent to the ordering doctor and the patient's once a procedure, lab, rad, result are available electronically.
- Ability to ingest different sets of data to process it on a decision engine and make data actionable. Example, a potential patient Chronic Kidney Disease (CKD) whose eGFR has gone from 92 (stage 1) to 85 (Stage 2).
- Communication engine that can send messages to determine profile internal or external to a Hospital. Example, letting a doctor know one of patients was admitted, moved, or a test completed. Informing electronically family members that a patient entered the OR, or when the procedure was completed.



# Sociants: Social Determinants of Health

- The World Health Organization also suggests that SDOH account for **30–55 percent of health outcomes**.
- Platform/Tools for **screening, assessing and identify the needs per case** based on the 13 Social Determinants of Health (SDoH).
- Address patients needs by channeling these by referring the case/needs to the local referral network: **Smart close loop system**.
- Invite individuals to other organizations who can complement the assistance efforts when necessary
- **Foments and interconnects members to form strategic alliances** that supports individuals based on their SDoH factor, health conditions, populations or geography.





- 1,480 Community Programs
- 261,500 Cases
- 46% Successful Referrals

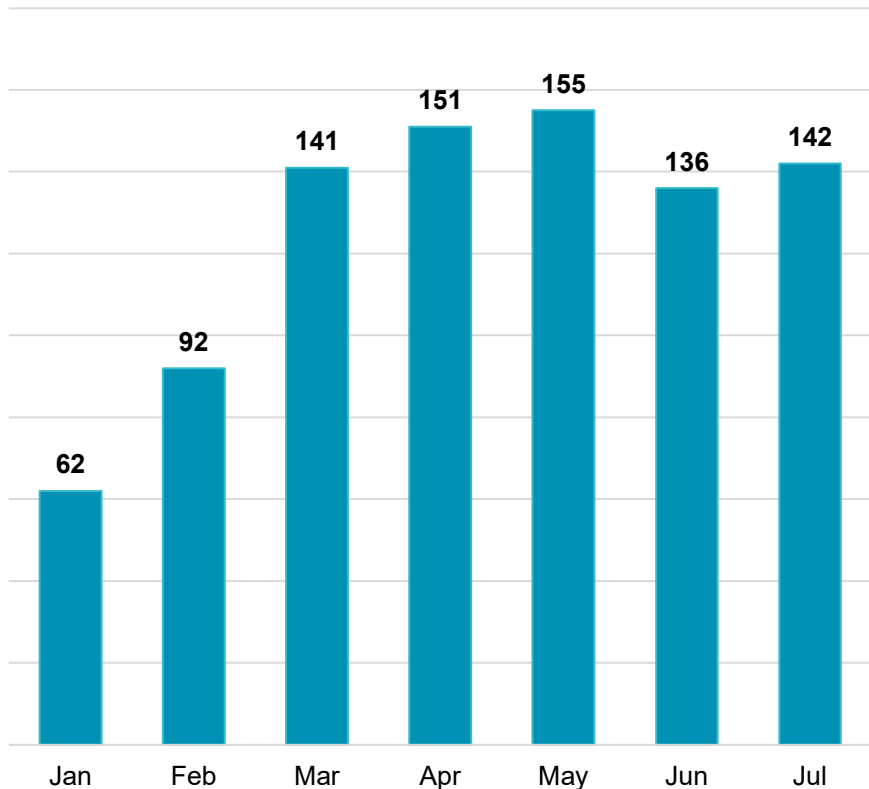
# Digiimed: Remote Patient Monitoring (RPM)

- Objective: Continuous real time monitoring of patient biometrics and periodical clinical interventions between visits.
- Components: Digital health devices, Care Managers, Software.
- Benefits:
  - Real Time Data: Effective triaging
  - Early detection: Leading indicators for opportune interventions
  - Chronic Disease Management: Educate, engage, and empower patients
- 70% of participating patients who demonstrated very high adherence to RPM for at least 4 consecutive months saw stable or improved blood.
- In Puerto Rico the solution is been used by cardiologist, endocrinologist and primary care providers.

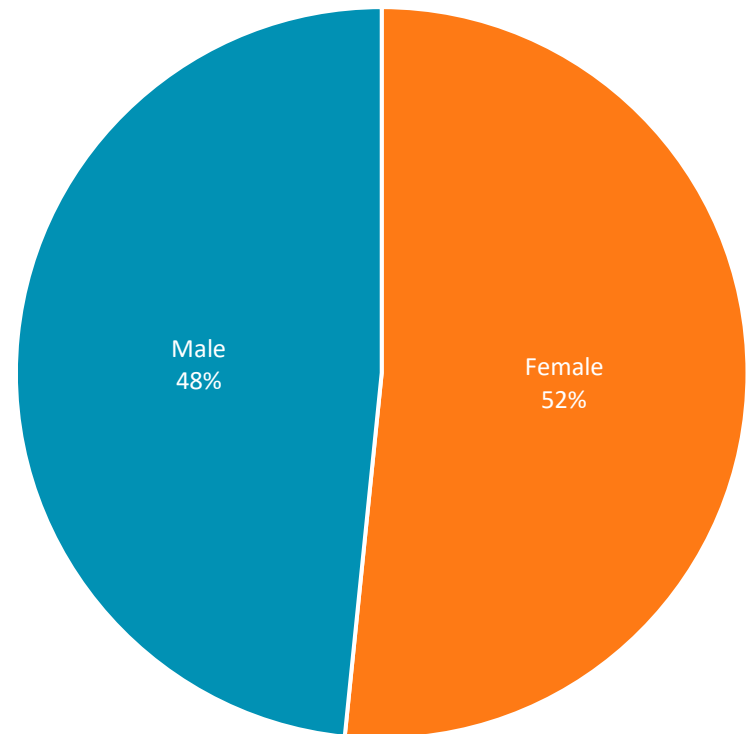


# USVI Remote Patient Monitoring Study from January 1, 2022 - July 31, 2022

Number of patients participating in RPM



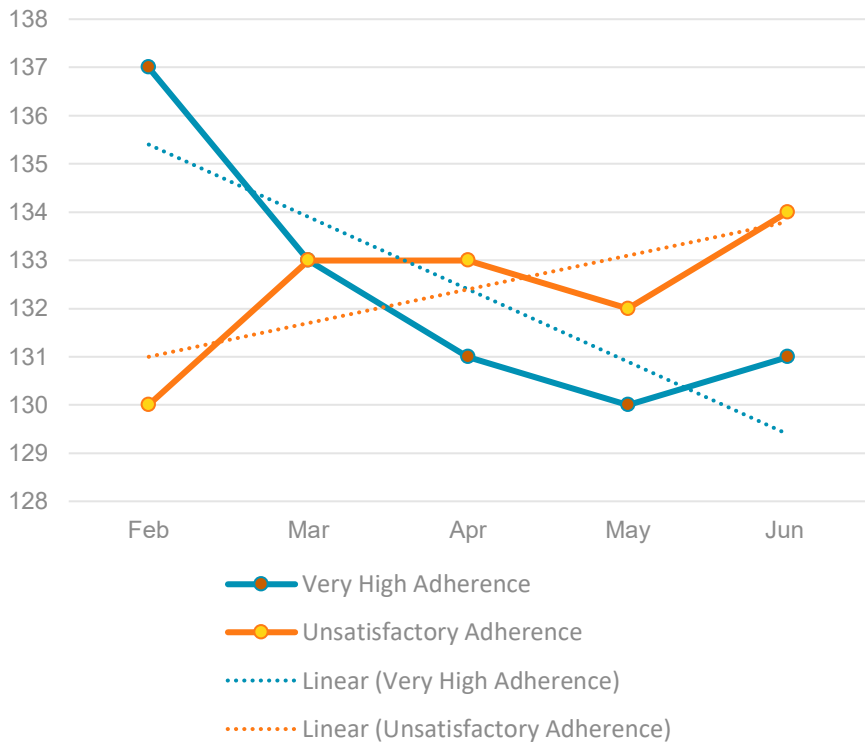
Gender distribution of patients participating in RPM



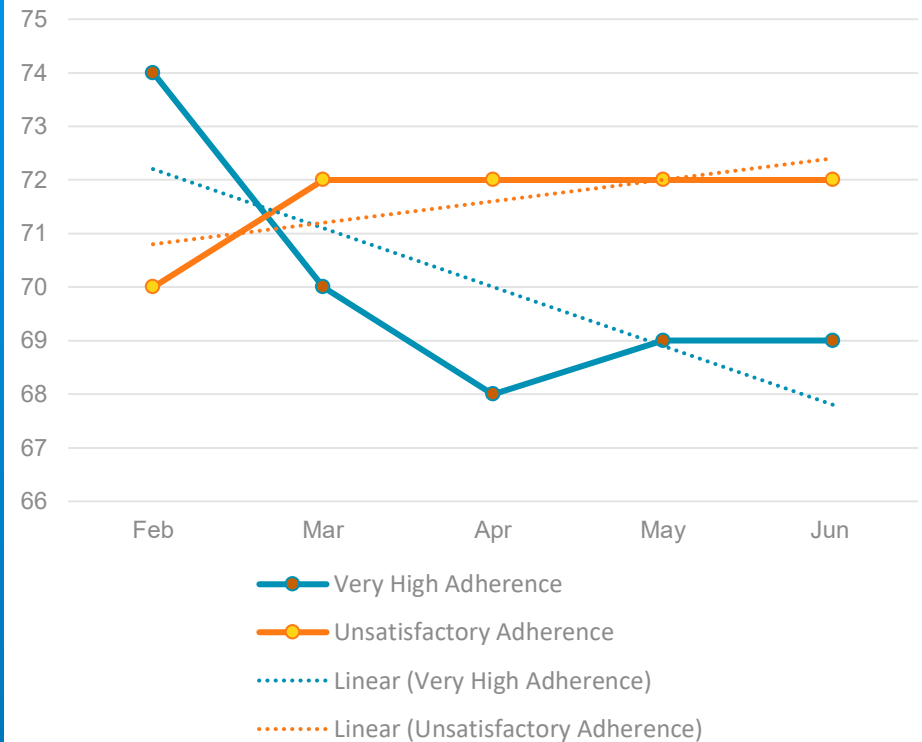


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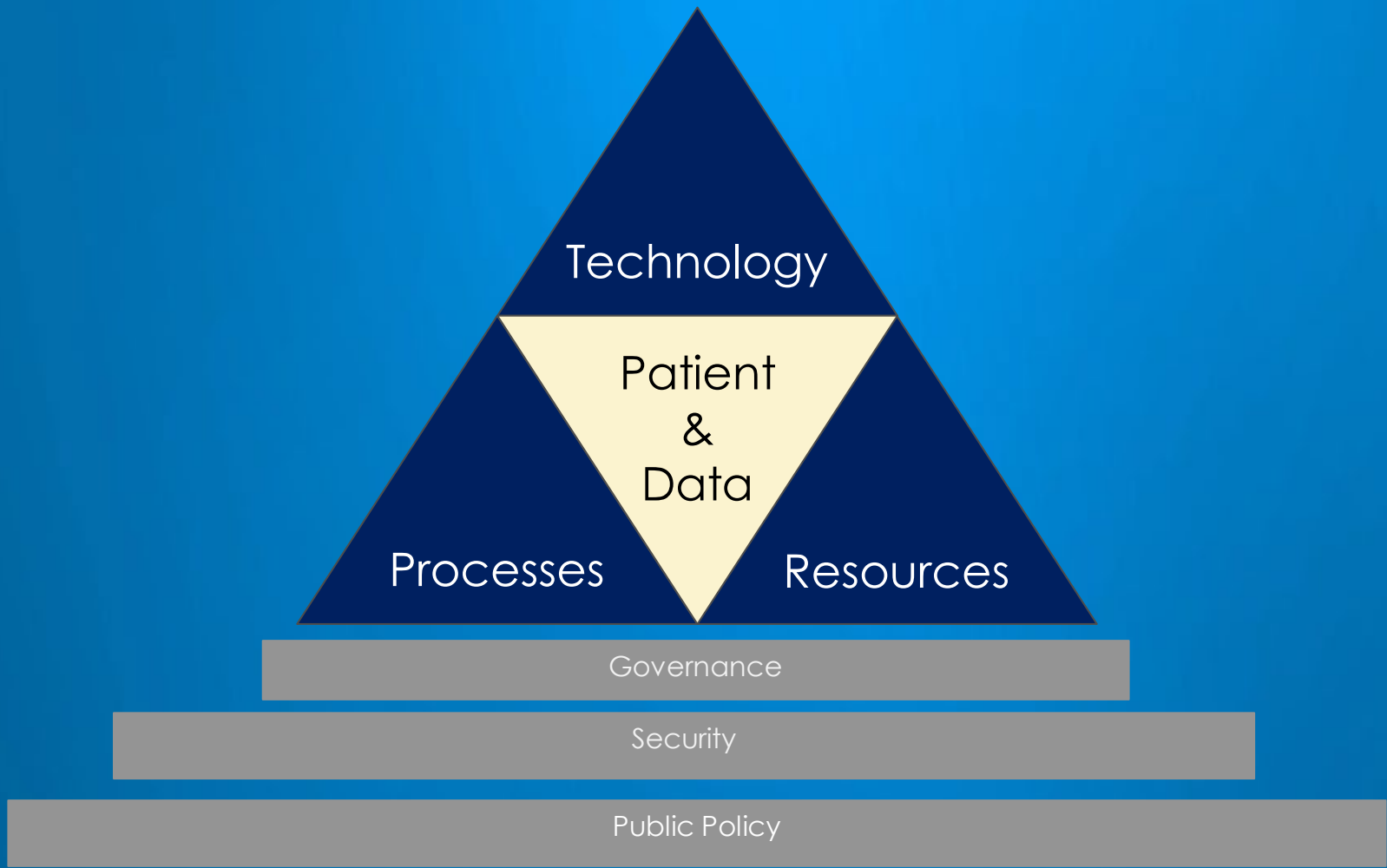
Systolic pressure results as per patient adherence level in RPM



Diastolic pressure results as per patient adherence level in RPM



# Technology alone is not the solution



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# Telemedicine in Puerto Rico

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Questions & Answers

