

Leveraging Telehealth for Effective Hypertension Management

*Navigating the Terrain of
Effectively Using Today's Digital Health Tools*



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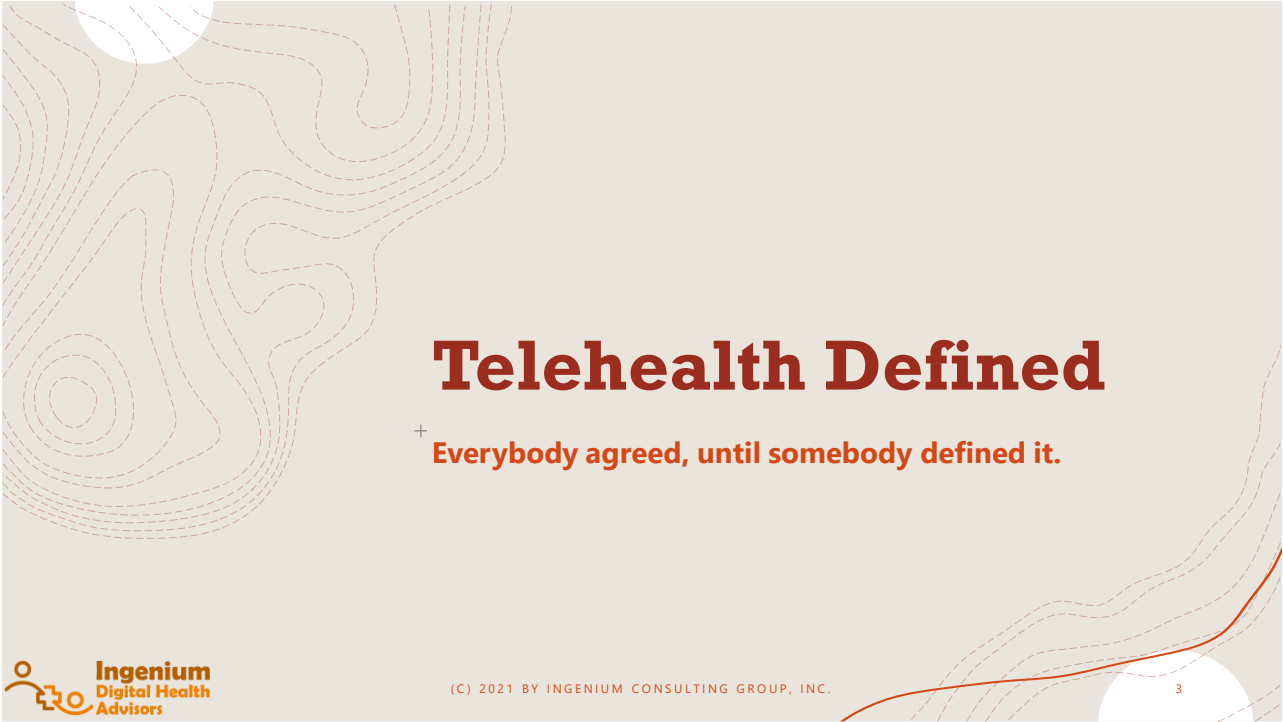
Session Description

- + *Telehealth is a great way to deliver care at a distance.*
- + *But how can you leverage it effectively to manage chronic conditions such as hypertension?*
- + *How do you optimize telehealth from a strategic, financial and clinical perspective?*

Learn more from a Cleveland Clinic TeleInternist and a German-born, Mayo Clinic-trained Engineer and Consultant.



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Telehealth Defined

+ Everybody agreed, until somebody defined it.

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*Everybody agreed,
until somebody defined it...*

Telehealth

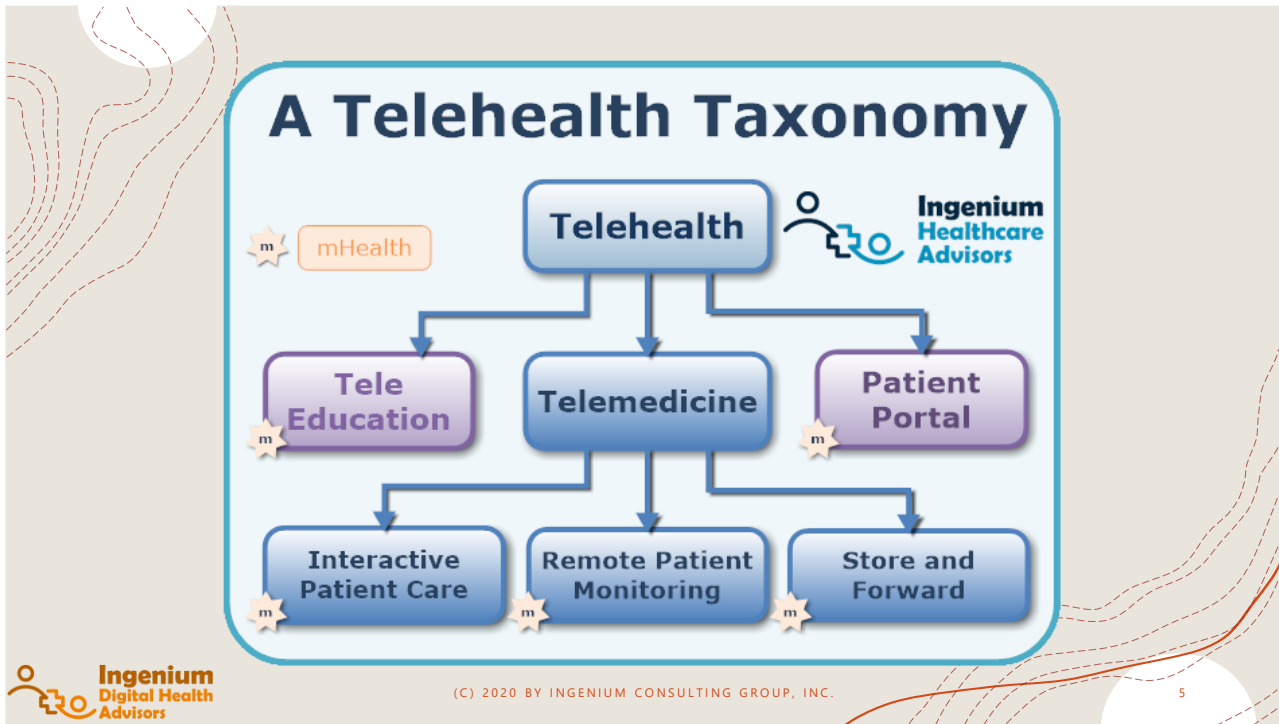
Delivering Care at a Distance

Telemedicine

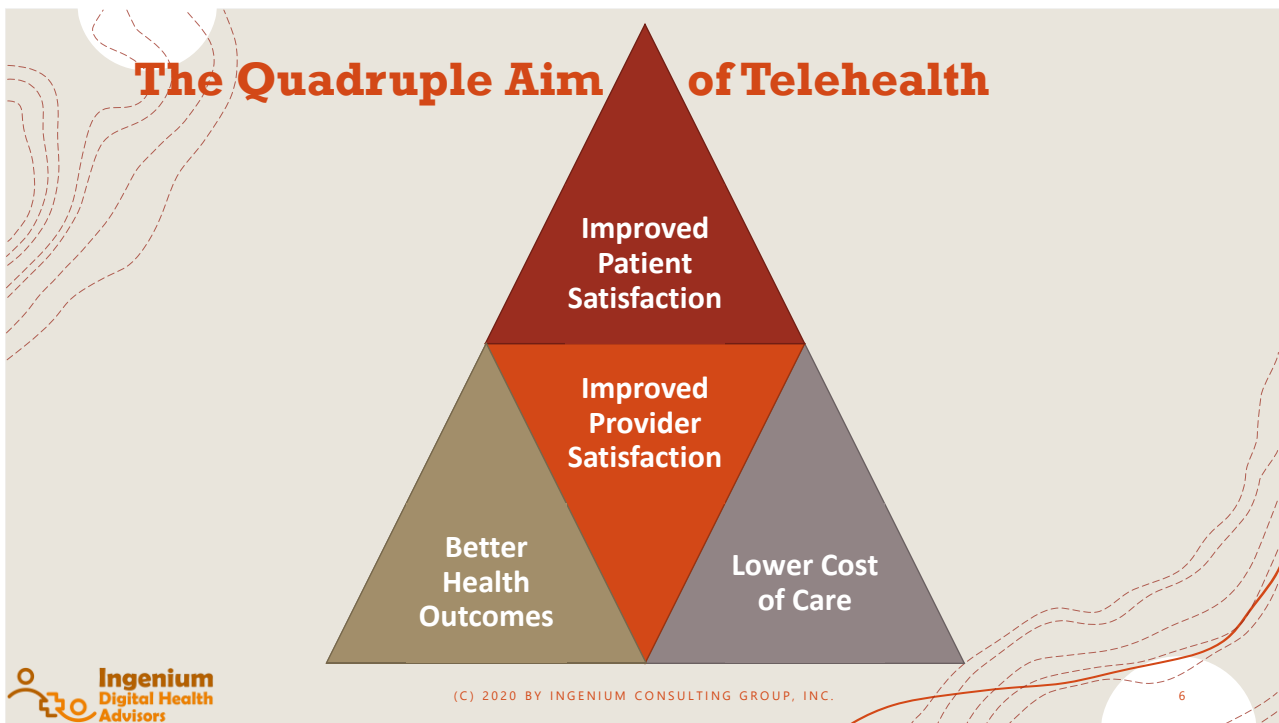
Practicing Medicine at a Distance

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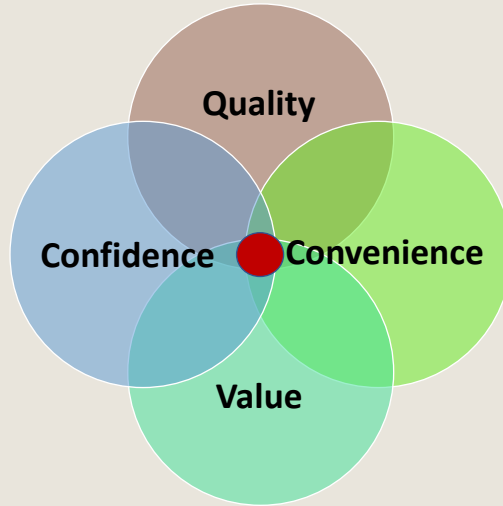


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Serving the Modern Healthcare Consumer



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Effectively Managing Hypertension using Telehealth

+ Data, Technology and then some



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The Problem

BLOOD PRESSURE CATEGORY	SYSTOLIC mm Hg (upper number)		DIASTOLIC mm Hg (lower number)
NORMAL	LESS THAN 120	and	LESS THAN 80
ELEVATED	120 – 129	and	LESS THAN 80
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 1	130 – 139	or	80 – 89
HIGH BLOOD PRESSURE (HYPERTENSION) STAGE 2	140 OR HIGHER	or	90 OR HIGHER
<u>HYPERTENSIVE CRISIS</u> (consult your doctor immediately)	HIGHER THAN 180	and/or	HIGHER THAN 120

Source: AHA

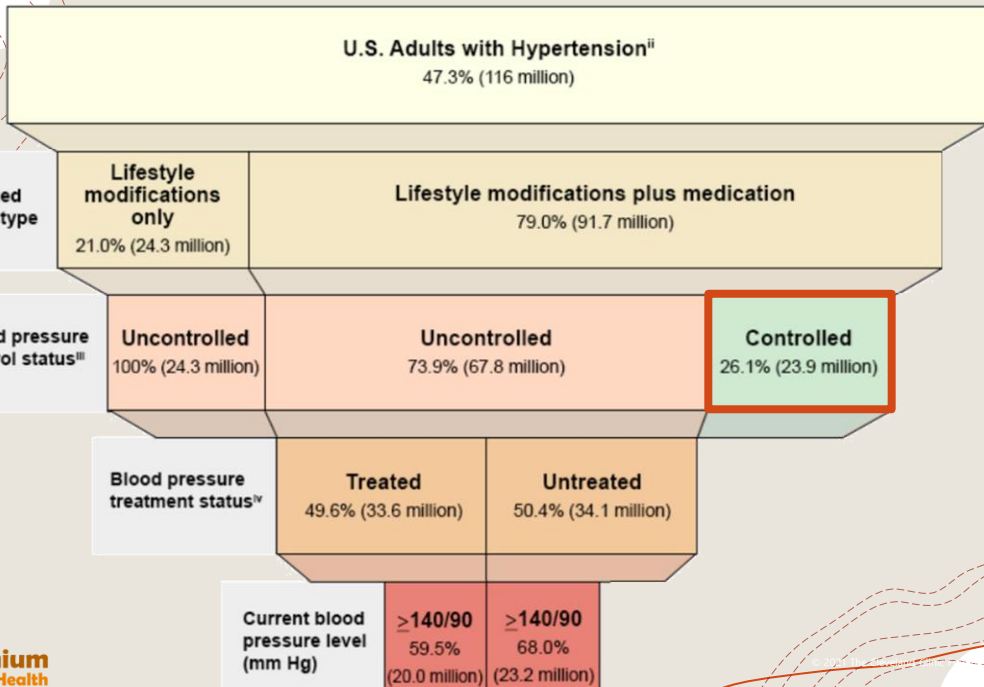
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Who has Hypertension?

Nearly 45% US Adults have Hypertension (116 Million)

Hypertension: BP \geq 130/80

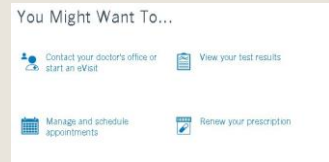
CDC, 2018



Delivering RPM – It's more than data!

Delivering Care through...

- ❑ **Synchronous Virtual Visits**
 - Live, Audio/Visual Connection
- ❑ **Asynchronous Telehealth**
 - eVisits, pushes and pulls
- ❑ **Remote Patient/Physiologic Monitoring (RPM)**



Delivering RPM – It's more than data!

- Remote Patient Monitoring
- Needs both: Pushes and Pulls
- Reimbursement opportunities:

healthaffairs.org/do/10.1377/hblog20210504.207017/full/



Chronic Disease Management – Active Programs

- + Hypertension
 - + Adult and Peds
- + Diabetes
- + Heart Failure
- + Asthma
- + COPD
- + BMT

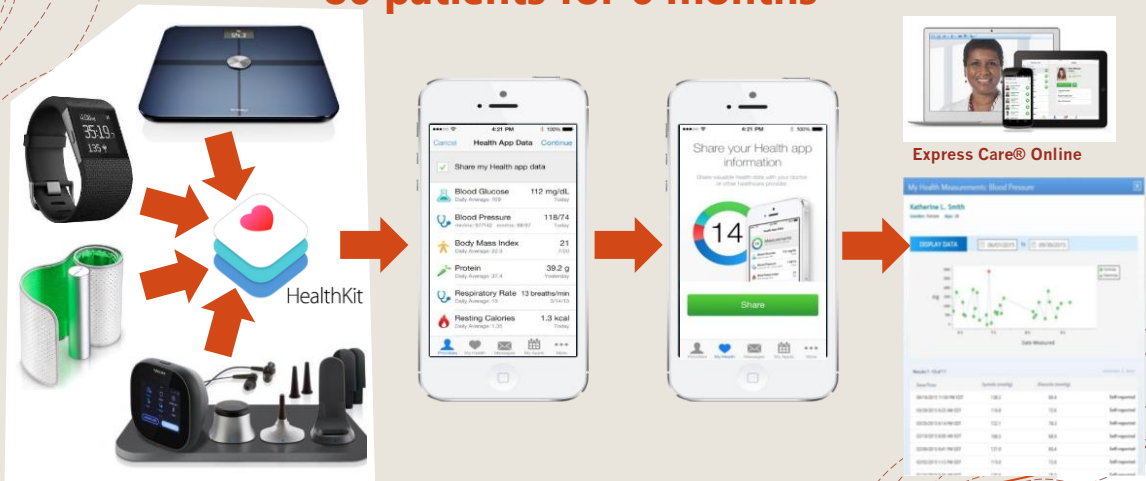


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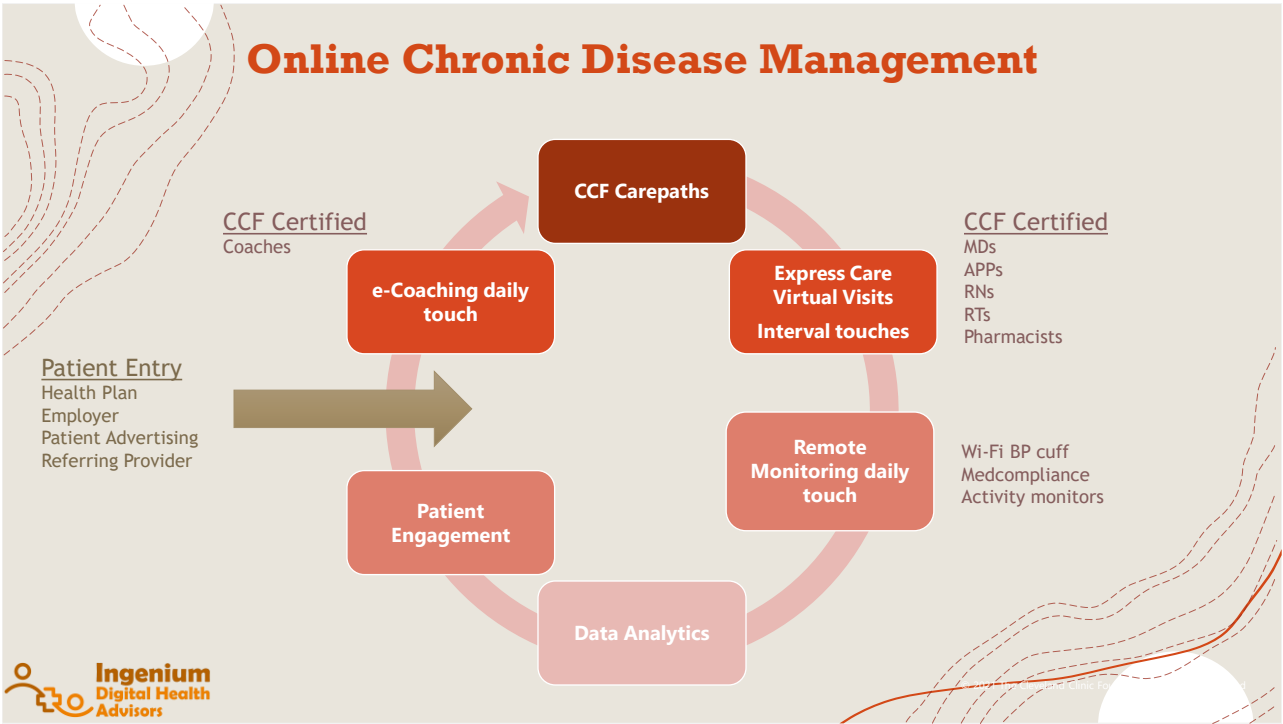
Virtual HTN 1.0 – An Example Hypertension Pilot

80 patients for 6 months



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Hypertension 1.0

- ❑ 80 actively monitored patients: uncontrolled BP
- ❑ RPM + optional lifestyle coaching (curriculum based)
- ❑ ~370 care coach motivational interviewing video / phone visits (58 patients)
- ❑ 16 patients declined coaching

This program has been very helpful. It has increased my awareness and has made me more accountable.

"I feel better with taking my medications in the morning. I am taking ownership and I feel great participating in this program... it only took me 20 years!"

Test Result Question

From: [redacted] To: Brendan Griesmer Sent: 10/27/2016 8:16 AM

Thanks for email and new prescription. I do believe that you getting me into this study has saved my life. Thank you and your team. I will be sending you results daily if you don't mind. Sending my results daily helps an adhd person like me to keep up with my health issues. Go team Griesmer! You guys are great!

Wt: 206.8
Bp: 172/92
Hr: 85

- + Heightened awareness of blood pressures and how to manage them better
- + Enhanced accountability for self-management of care
- + Increased patient engagement in their care

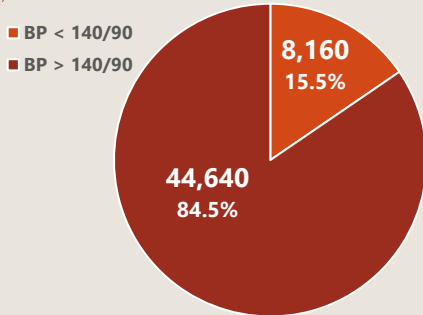
Parameter	Start (Week 0)	End (Week 24)	Change
Systolic BP (SBP)	~140	~132.6	-7.4 points
Diastolic BP (DBP)	~80	~76.9	-3.1 points
Heart Rate (HR)	~75	~75	0 points

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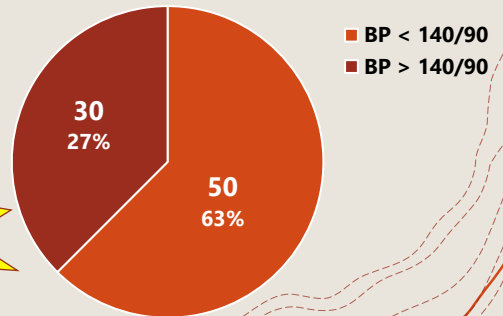
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Results of Cleveland Clinic Healthy Life HTN Program

**15.5% Achieved BP Control in
"16k in '16 Campaign" (52,800 Patients)**



**62.5% Achieved BP Control in
Healthy Life HTN Program (80 Patients)**



**4x | 300%
improvement
in BP control!!**

Current HTN Programs

- + Pushes and Pulls
- + No Risk Categories
- + No Stratifications
- + Using AI to analyze Multivariate Data

Development of a Risk Model

Literature Review: no model found to risk-stratify for use with RPM

- + ASCVD – 10 year
- + CVD – 10 year

European and Canadian Literature Sparked Idea:

- + Can we make a model to use with RPM?
- + Non-linear regression, gradient boost, C-stat

European Society of Hypertension | 2013 ESH/ESC Guidelines for the management of arterial hypertension

Stratification of total CV risk in categories

Other risk factors, asymptomatic organ damage or disease	Blood pressure (mmHg)			
	High normal SBP 130-139 or DBP 85-89	Grade 1 HT SBP 140-159 or DBP 90-99	Grade 2 HT SBP 160-179 or DBP 100-109	Grade 3 HT SBP ≥180 or DBP ≥110
No other RF		Low risk	Moderate risk	High risk
1-2 RF	Low risk	Moderate risk	Moderate to high risk	High risk
≥3 RF	Low to moderate risk	Moderate to high risk	High risk	High risk
OD, CKD stage 3 or diabetes	Moderate to high risk	High risk	High risk	High to very high risk
Symptomatic CVD, CKD stage ≥4 or diabetes with OD/RFs	Very high risk	Very high risk	Very high risk	Very high risk

Stratification of total CV risk in categories of low, moderate, high and very high risk according to SBP and DBP and prevalence of RFs, asymptomatic OD, diabetes, CKD stage or symptomatic CVD. Subjects with a high office BP but a raised out-of-office BP (masked hypertension) have a CV risk in the hypertension range. Subjects with a high office BP but normal out-of-office BP (white-coat hypertension), particularly if there is no diabetes, OD, CVD or CKD, have lower risk than sustained hypertension for the same office BP. BP, blood pressure; CKD, chronic kidney disease; CV, cardiovascular; CVD, cardiovascular disease; DBP, diastolic blood pressure; HT, hypertension; OD, organ damage; RF, risk factor; SBP, systolic blood pressure.

The Task Force for the management of arterial hypertension of the European Society of Hypertension (ESH) and of the European Society of Cardiology (ESC) - J Hypertens 2013;31:1281-1357



HTN – A Possible Future

Definitions and Categories

Hypertension Type	RPM Program – Coaching, Digital, Behavioral Modification, Medical, AI
Resistant HTN	Intensive
Uncontrolled HTN (Non-Resistant)	Intensive
Controlled HTN	Moderate – Intensive
Pre-HTN	Low – Moderate
General Wellness	Low





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The Basics of Remote Patient Monitoring Free White Paper



Send Christian an email to request your free copy!

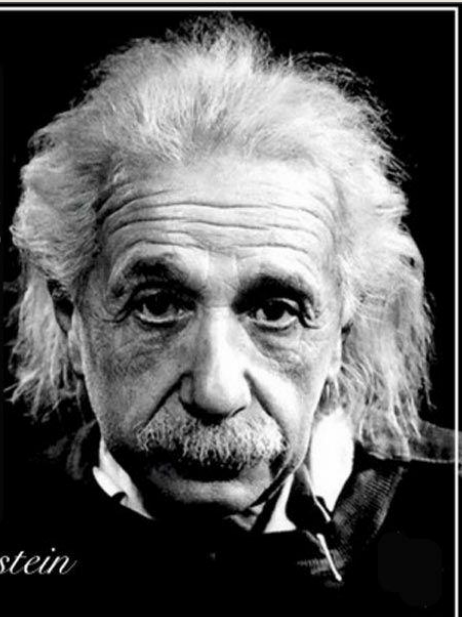
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Optimizing Telehealth

Avoiding Insanity.




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Insanity:
doing the same thing
over and over again
and expecting
different results.

- Albert Einstein



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Proven Telehealth Optimization Strategies

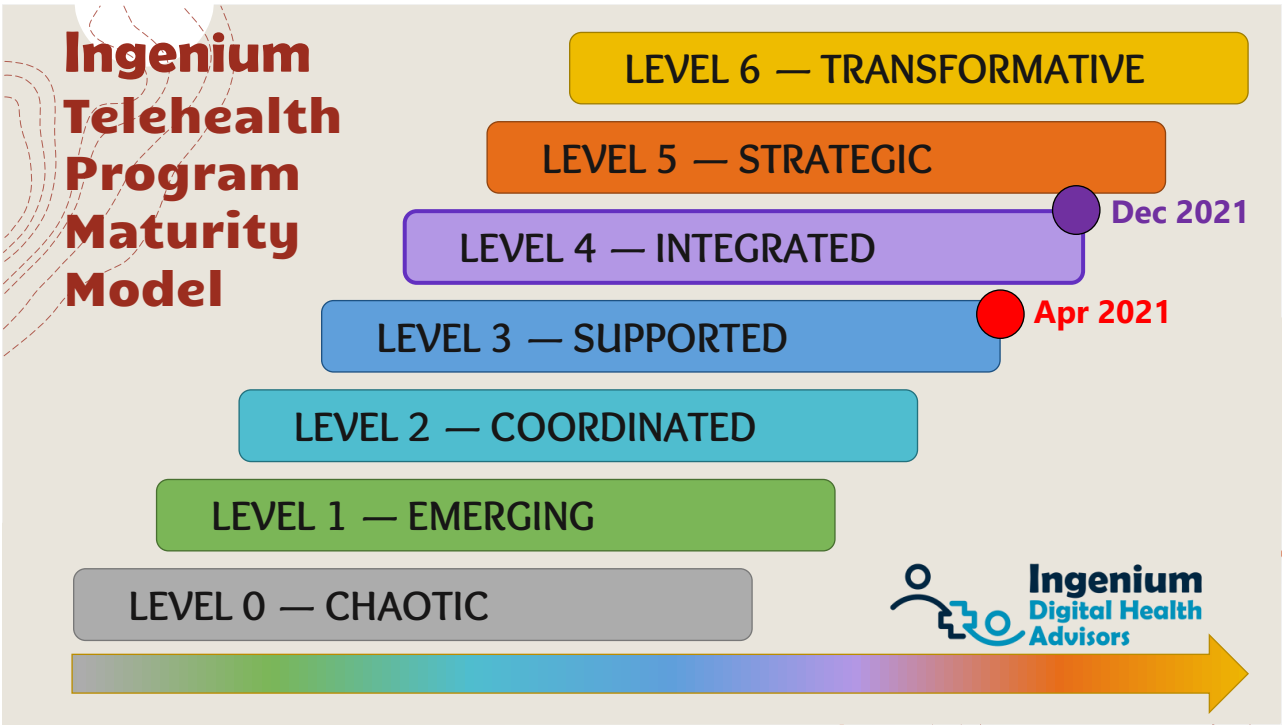
Maturity Growth	Performance Management	Change Management
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Maturity Analysis & Roadmap

April 30 Assessment

targeted Dec '21

	0	1	2	3	4	5	6
	chaotic	emerging	coordinated	supported	integrated	strategic	transformative
Services	few	few	some	some	many	lots	virtually all
Specialties	scattered	scattered	a few	some	broad	pervasive	pervasive
Growth	slow	slow	slow	medium	high	strategic	strategic
Coordination	none	some	informal	formal	structured	structured	structured
Tech Support	none	some	informal	formal	funded	proactive	proactive
Operational Support	none	none	some	formal	funded	proactive	evolving
Launch Support	none	none	some	informal	formal	structured	evolving
Leadership	unaware	unaware	aware	supportive	engaged	driving	leveraging
Governance	none	none	none	some	established	driving	leveraging
Vitality	survive	survive	alive	alive	arrive	thrive	thrive



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Ingenium Telehealth Program Maturity Model

LEVEL 6 — TRANSFORMATIVE

LEVEL 5 — STRATEGIC

LEVEL 4 — INTEGRATED

Dec 2021

LEVEL 3 — SUPPORTED

Apr 2021

LEVEL 2 — COORDINATED

LEVEL 1 — EMERGING

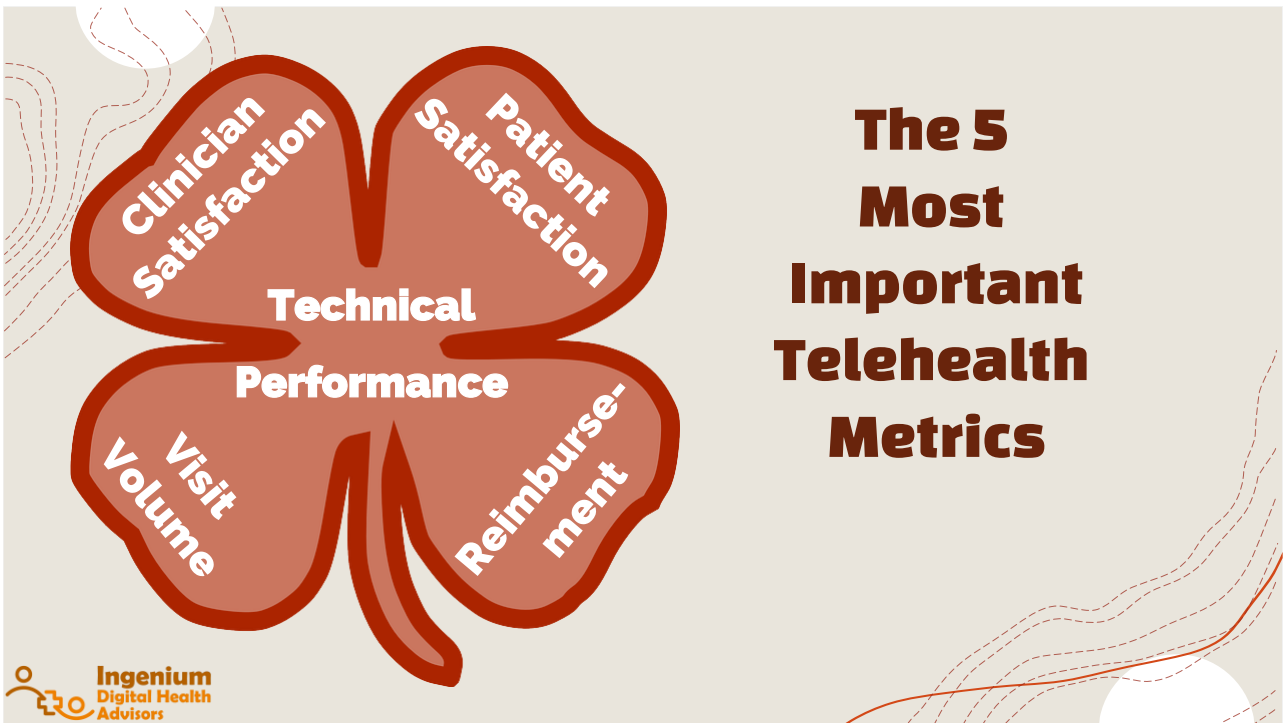
LEVEL 0 — CHAOTIC



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Measuring Telehealth Success

Definition

*How to collect the metric?
How to analyze the metric?
How often? How to report?*

Ownership

*Executive Owner
Operational Owner
"Data Steward"*

Expectations

*What are the goals/targets?
for acceptable performance?
for success?*

Actions

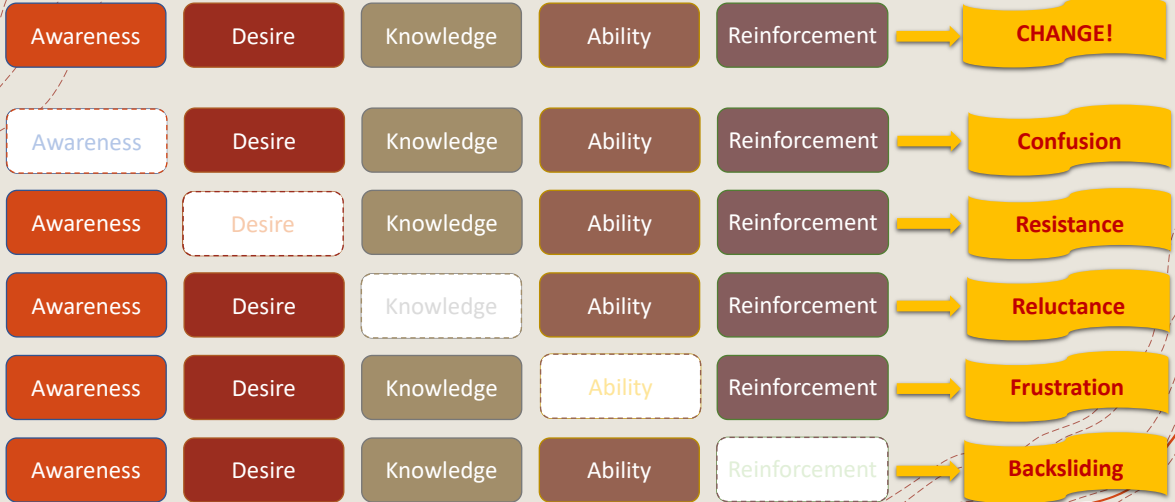
*pre-defined actions to take
if goals not reached?
if goals exceed? if met?*



3 Change Management

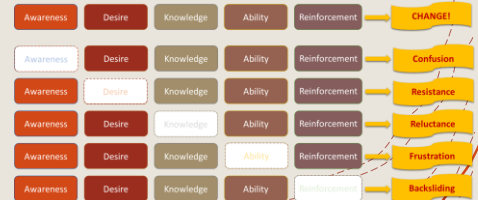
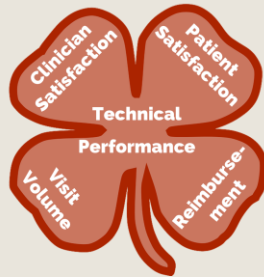
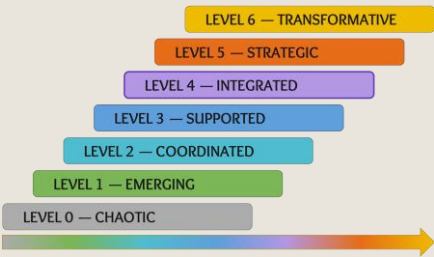
Mitigate	Overcome Resistance
Motivation	Focus on Motivation
Acknowledge	Acknowledge Struggles
Systems	Optimize Systems, not People

ADKAR Model for Successful, Sustainable Change



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Proven Telehealth Optimization Strategies



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CONTACT

CONNECT

Thank
You!



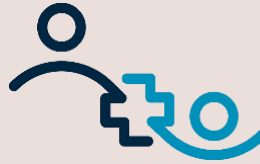
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