

The logo for HIMSS 18, featuring the text 'HIMSS' in a bold, sans-serif font, followed by '18' in a larger, blue, stylized font.

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Remote Patient Monitoring: A Mississippi Success Story

Session 264 March 7, 2018

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COMMITMENT

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DISCLAIMER: The views and opinions expressed in this presentation are those of the author and do not necessarily represent official policy or position of HIMSS.

Conflict of Interest

Michael P. Adcock, FACHE

Has no real or apparent conflicts of interest to report.

Conflict of Interest

Tearsanee C. Davis, DNP, FNP-BC

Has no real or apparent conflicts of interest to report.

Agenda

- Objectives
- The Problem
- The Proposal
- The Methodology
- Findings
- Outcomes
- Future Work

Learning Objectives

- Recognize the need for a collaborative approach to managing chronic disease
- Identify potential barriers to conducting research involving technology as a mode of healthcare delivery
- Evaluate chronic disease management programs using technology in patients home to achieve significant cost savings and reduce readmissions

The Problem

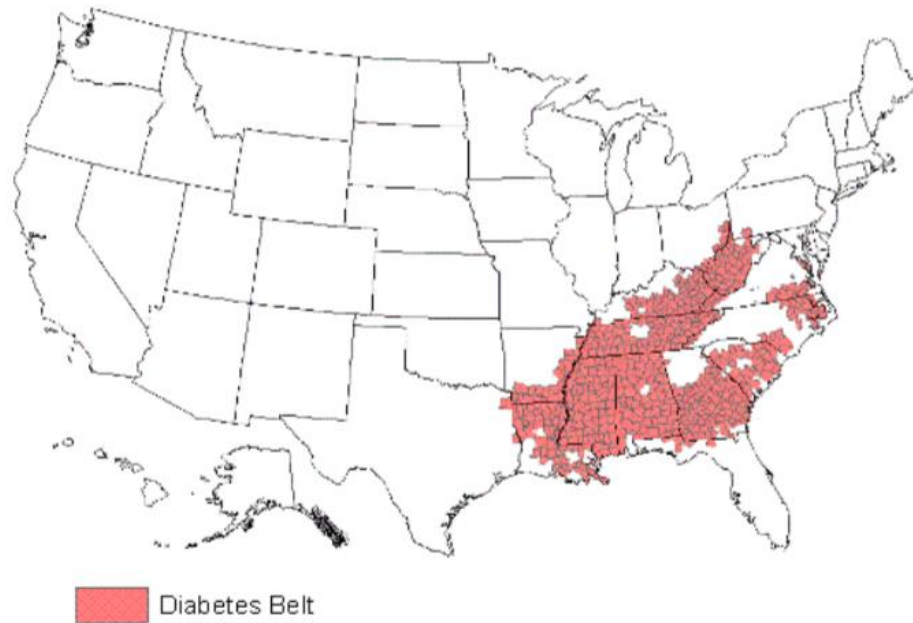
- Mississippi and specifically Sunflower County ranks at the top for the prevalence of diabetes.
- Mississippi continues to rank in the top two for highest prevalence of Diabetes in the nation.
- In 2012, diabetic medical expenses in Mississippi totaled \$2.74 billion, according to the American Diabetes Association.

The Problem

- Approximately 371,662 people in Mississippi, or 15.4% of the adult population, have diabetes.
- People with diabetes have medical expenses approximately 2.3 times higher than those who do not have diabetes.
- Diabetes and prediabetes cost an estimated \$3.5 billion in Mississippi each year. The serious include heart disease, stroke, amputation, end-stage kidney disease, blindness – and death.

Diabetes Belt

- Southeastern United States
- More likely to have Type 2 Diabetes
- 644 counties in 15 states



Proposal

- Create a sustainable model of care that would assist patients and providers as they manage diabetes
- Use Technology to deliver American Diabetes Association approved education
- Test the effect of a collaborative approach to diabetes management powered by technology on patient outcomes

Partnerships

- Partnerships were formed with key stakeholders. All parties provided services “in-kind” for this project
- These partners met for a year prior to discuss the aims and methodology for the project

Partners



Mississippi Diabetes Telehealth Network

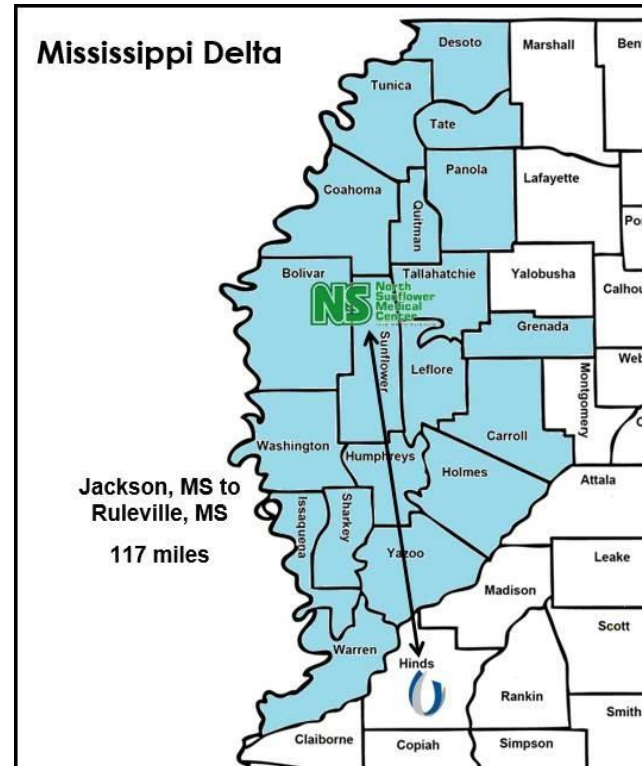
A Collaborative Approach to Health Care Delivery

Research Question

- Does the addition of telehealth services to deliver the ADA standards of care result in a decrease in patients' hemoglobin A1c measures and have a positive affect on the secondary outcome measures in the population of uncontrolled diabetics?

Purpose:

- To improve clinical outcomes and care coordination for chronic disease management
- Increase access to care
- Bring healthcare resources into the patient's home



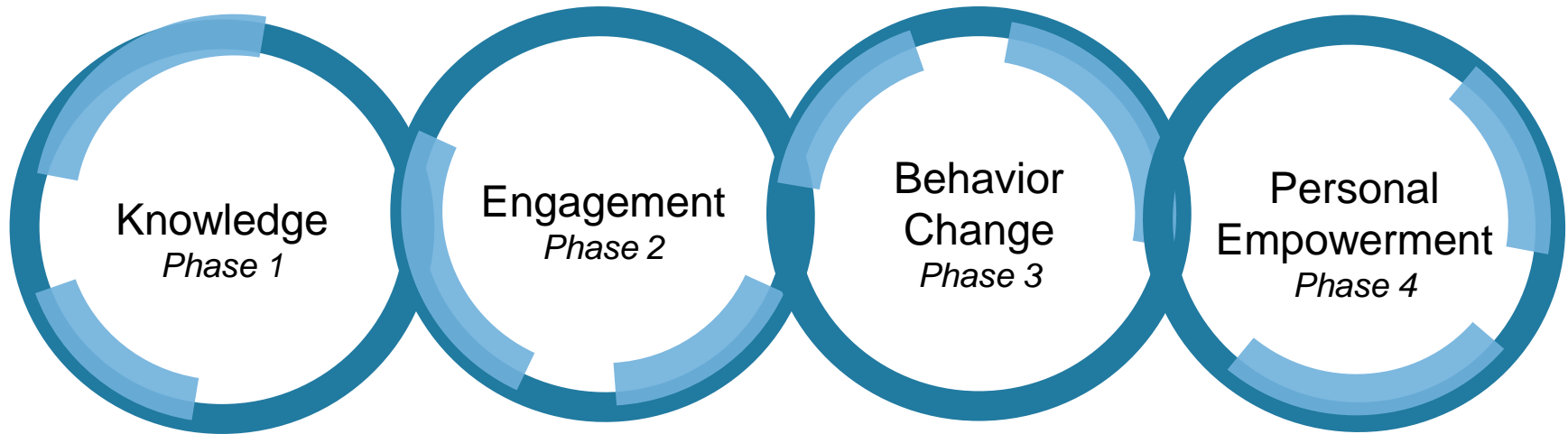
Eligibility

Target number 200

• Inclusion Criteria:

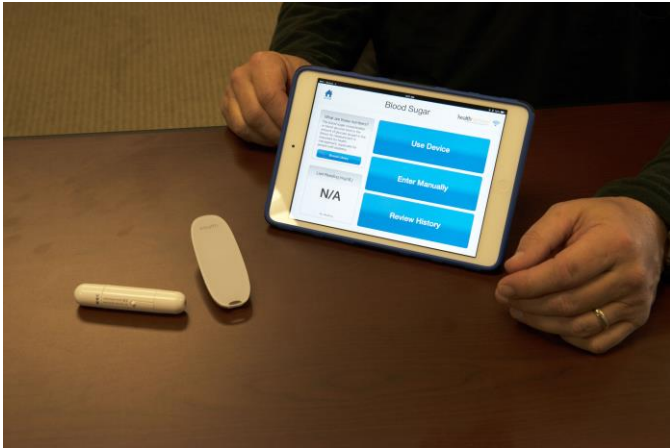
- Patient at the NSMCSRHC
- 18 years of age or older
- Prior diagnosis of diabetes mellitus
- Not pregnant
- Hemoglobin A1C greater than or equal to 7% based on prior or current testing at the NSMCSRHC

Sustainable Change: Engaging the Patient



Remote Patient Monitoring

Chronic disease management in the patient's home including:



Daily Health Sessions

Personalized Interventions


Targeted Education

Health Coach

Behavior Modification

Patient Empowerment

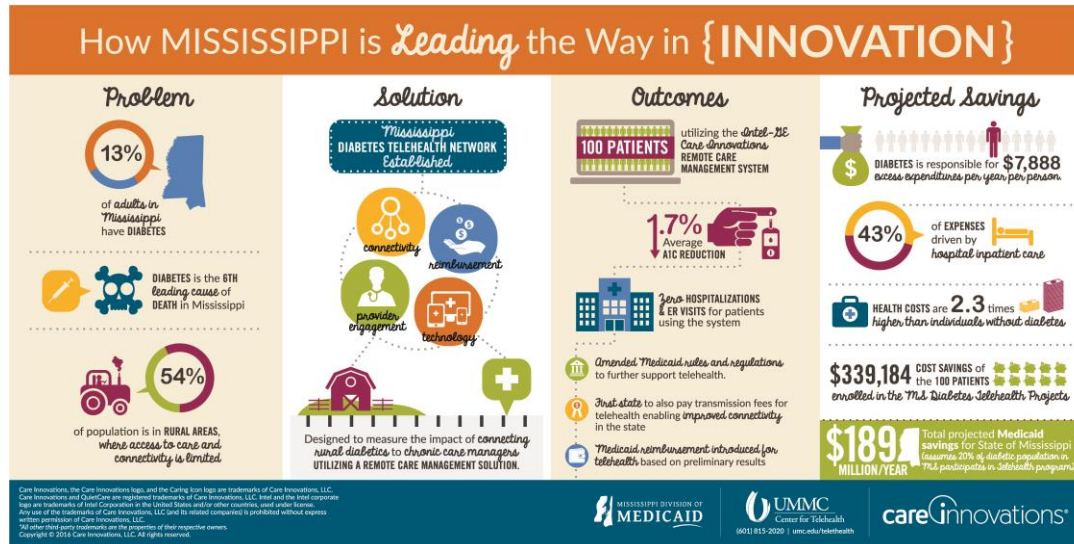
MS Diabetes Telehealth Network

 HbA1c 1.7%	Medication Compliance 96%	Health Session Compliance 83%
Retinopathy Found 9 cases	Weight Loss 71 pounds	Miles Saved 9,454.11

No Hospitalizations or ER visits for DM

Preliminary results on first 100 patients

MS Diabetes Telehealth Network



	Completed Study	Withdrawn	P value
	115 (67.3%)	56 (32.7%)	
Sex			.912
Female	79 (68.7%)	38 (67.9%)	
Race			.351
Black	97 (84.3%)	44 (78.6%)	
Whites	18 (15.7%)	12 (21.4%)	
Baseline A1c	9.5 (2.0)	10.1 (2.0)	.084
Household income ¹	\$35,009 (37,900)	\$30,343 (21,874)	.409
Number in household ²	2.6 (1.4)	2.0 (.81)	.414
Year onset diabetes ³	2004 (9.2)	2005 (8.5)	.845
Age ⁴	53.5 (11.9)	48.5 (11.3)	.009

1. Mean (SD) n=104 and n=53 for study completers and withdrawals, respectively.
2. Mean (SD) n=110 and n=4 for study completers and withdrawals, respectively.
3. Mean (SD) n=110 and n=56 for study completers and withdrawals, respectively.
4. Mean (SD)

Results

HbA1c mean values of five study time-points*

N	Mean % (SD)
Baseline**	115 9.5 (2.0)
3-months	112 7.7 (1.3)
6-months	112 7.8 (1.3)
9-months	88 7.9 (1.4)
12-months	94 7.9 (1.4)

* $p < .001$

** Pairwise comparisons indicated that the baseline mean A1c was significantly ($p < .001$) greater than each of the four subsequent mean A1c values, and no significant differences were found between mean values at 3, 6, 9 and 12 months.

SB 2646 (2104)- SAF; RPM

SENATE BILL NO. 2646

(As Sent to Governor)

AN ACT TO CREATE NEW SECTION 83-9-353, MISSISSIPPI CODE OF 1972, TO REQUIRE HEALTH INSURANCE AND EMPLOYEE BENEFIT PLANS IN THIS STATE TO PROVIDE COVERAGE AND REIMBURSEMENT FOR **"STORE-AND-FORWARD TELEMEDICINE SERVICES" AND "REMOTE PATIENT MONITORING SERVICES"** TO THE SAME EXTENT THAT THE SERVICES WOULD BE COVERED AND REIMBURSED IF THEY WERE PROVIDED THROUGH IN-PERSON CONSULTATION; TO DEFINE "STORE-AND-FORWARD TELEMEDICINE" AND "REMOTE PATIENT MONITORING"; TO AMEND SECTION 83-9-351, MISSISSIPPI CODE OF 1972, TO INCLUDE EMPLOYEE BENEFIT PLANS IN THE REQUIREMENT FOR INSURANCE REIMBURSEMENT FOR TELEMEDICINE SERVICES; AND FOR RELATED PURPOSES.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF MISSISSIPPI

<http://billstatus.ls.state.ms.us/documents/2014/pdf/SB/2600-2699/SB2646SG.pdf>

Lessons Learned

- Smaller Tablet
 - Patients need tablets that are more mobile
- No tethered devices
 - Cords and cables cause confusion and increased technical issues
- Affordable options
 - Blood glucose strips were not affordable
- Connectivity
 - Wireless connectivity limited
 - Provide patients with cellular network connectivity



Future Research

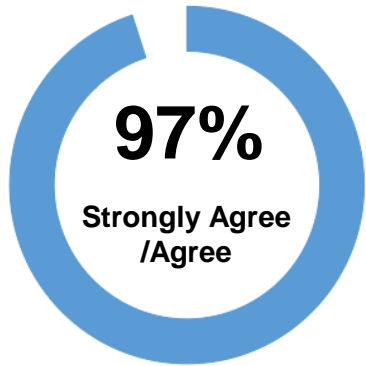
- Larger sample size
- Random assignment of treatment
- Patient and provider satisfaction
- Analysis of cost effectiveness

UMMC's RPM Plan

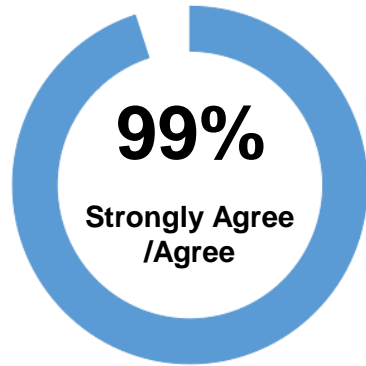
- Monitoring for patients across multiple chronic diseases
- Extend to pediatric population
- Significant cost savings
- Extend outside of Mississippi's borders
- Continue innovative approach to bringing healthcare resources into the patient's home



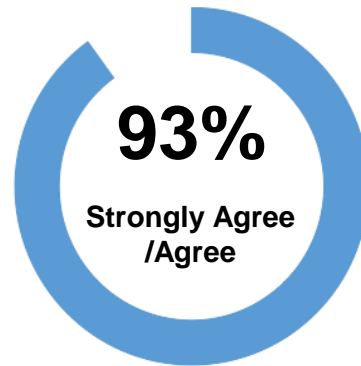
Patient Feedback



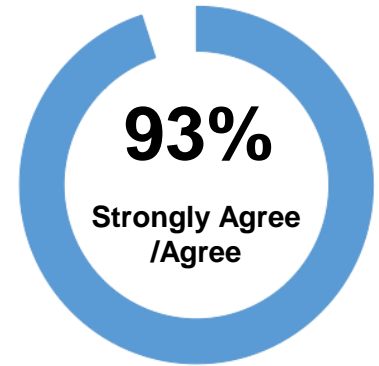
I would recommend this program to others.



I feel this is an important step in my care.

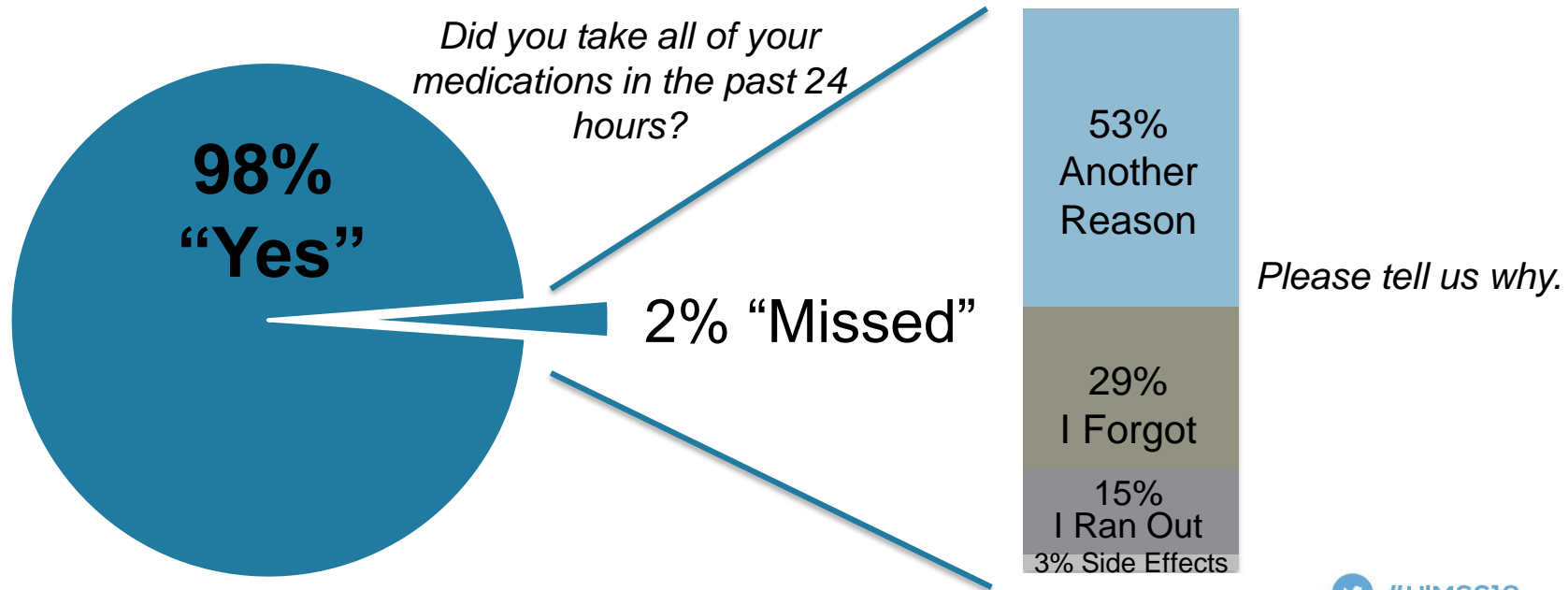


The equipment was easy to use.



If I had a problem, someone was available to help me.

Excellent Medication Compliance



Remote Patient Monitoring

Current RPM Programs

- Employer based program
- Chronic disease
 - Diabetes (Adult and Peds)
 - Congestive Heart Failure
 - COPD
 - Hypertension
 - Bone Marrow Transplant
 - Kidney Transplant
- High Risk Pregnancy

Future RPM Programs

- Asthma (Adults and Peds)
- Congenital Heart
- Medical Weight Loss
- Neonatal

Questions



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Please complete online evaluation.