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# UTILIZING LIBRARIANS AND TELEMEDICINE TO PROVIDE HYPERTENSION INFORMATION

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# INTRODUCTION



[Health Care Home](#) / [University of Utah Hospital](#) / [Hope Fox Eccles Health Library](#)

University of Utah Hospital

## Hope Fox Eccles Health Library

Information is powerful medicine

The mission of the Hope Fox Eccles Health Library is to ensure that all patients, their families, and the general community have access to the resources they need to make informed choices about their health care. Our staff can guide you to information tailored to your learning- style preferences and language needs.



# NEED

Targeted and timely patient education information is a key part of helping patients make informed choices, and achieve behavior change and disease management goals.

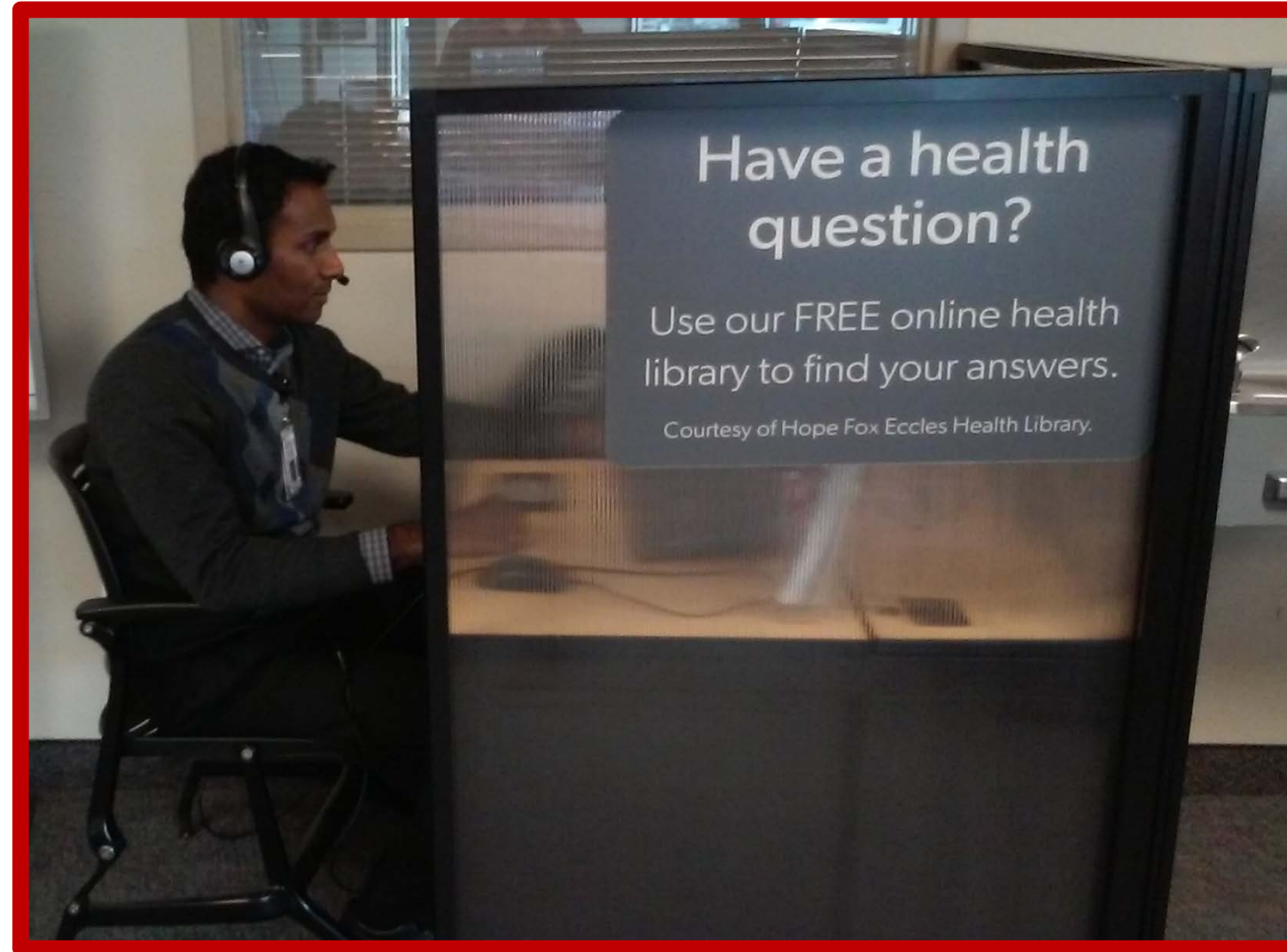
However, many patients face obstacles that make this challenging:

Economic

Technological

Educational

# HEALTH INFORMATION STATION



# BENEFITS OF HEALTH INFORMATION STATION

## For patients

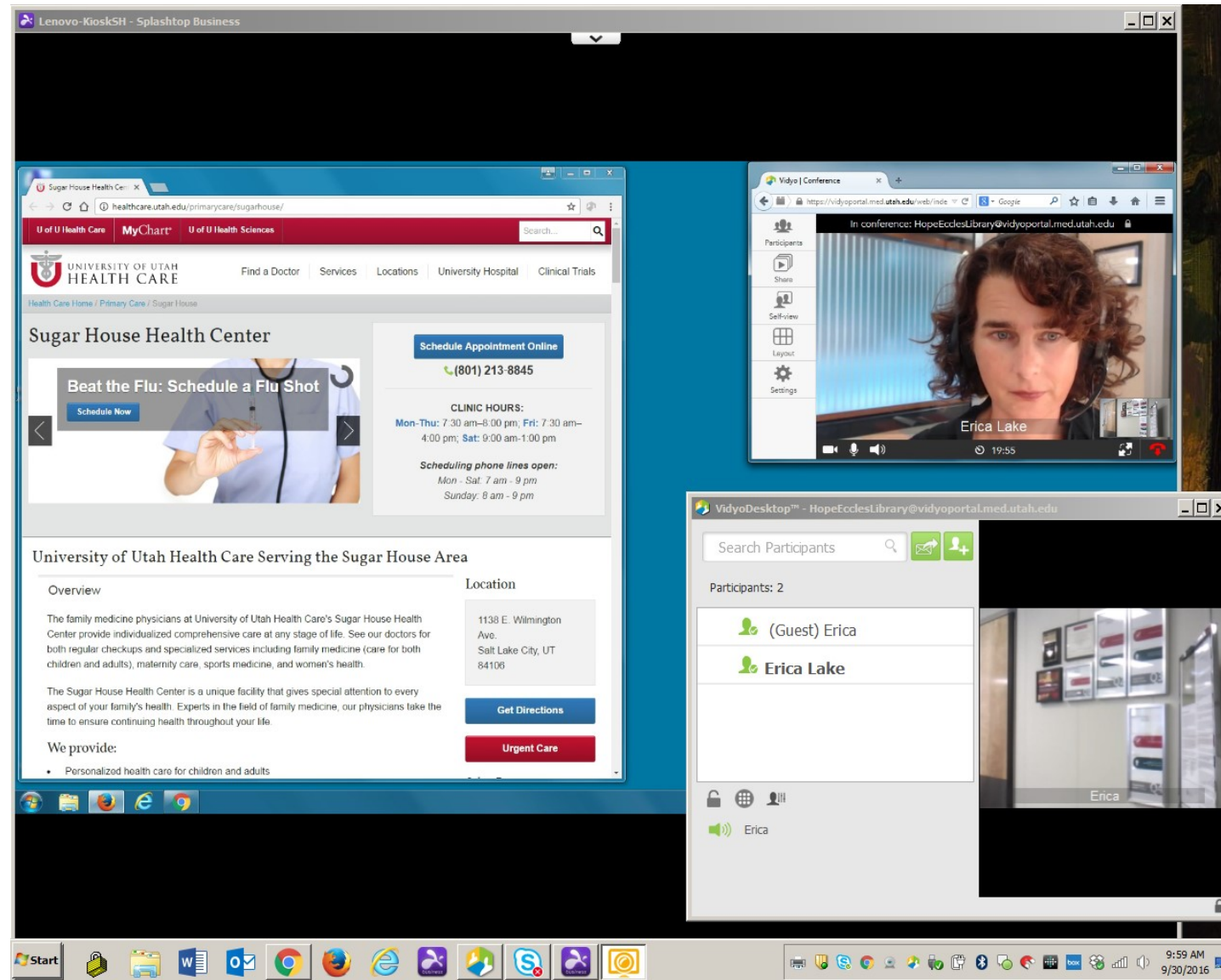
- Information equity
- Increased engagement
- Tailored information individualized to:
  - Gender, age, race
  - Health literacy level
  - Technology literacy level
  - Learning-style preferences
  - Language needs

# BENEFITS OF HEALTH INFORMATION STATION

## For providers

- Improved efficiency of clinic visits - time savings
- Increased interaction with health care team
- Enhanced adult learning through appropriate repetition and format of information
- Support in meeting CMS Meaningful Use patient education regulatory requirements for reimbursement of services

# USER INTERFACE





# RESEARCH BACKGROUND

- Only 50% of hypertensive patients have their blood pressure under control despite treatment.<sup>1</sup>
- Limited understanding of hypertension contributes to poor outcomes.<sup>2</sup>
- Patients who receive materials customized to health literacy level and learning style show gains in knowledge.<sup>2</sup>

1. Mozaffarian D, et al. *Heart disease and stroke statistics--2015 update: a report from the American Heart Association*. *Circulation*. 2015 Jan 27; 131(4):e29-322. PMID: 25520374.

2. Giuse NB, Koonce TY, Storrow AB, Kusnoor SV, Ye F. *Using health literacy and learning style preferences to optimize the delivery of health information*. *J Health Commun*. 2012;17 Suppl 3:122-40. PMID: 23030566



# RESEARCH PURPOSE AND OBJECTIVES

## **Purpose:**

To determine if patients can improve their blood pressure and related health outcomes more effectively by utilizing health technology for tailored health information.

## **We hypothesize Information Prescription via the Health Information Station in patients with uncontrolled hypertension will:**

- reduce the time to achieve blood pressure goal
- increase hypertension-specific health literacy
- increase patient engagement and self-management practices
- increase patient satisfaction with their care

**... when compared to standard of care.**

# STUDY DETAILS

<b>Dates</b>	August 2014 – March 2017
<b>PI</b>	Dr. Bernadette Kiraly, Family and Preventive Medicine
<b>Funding</b>	Department of Family & Preventive Medicine Health Studies Fund, University of Utah
<b>Study site</b>	University Health's Sugar House Health Center 24,000 patients seen each year Approximately 1,100 receive a diagnosis of hypertension (4.5%)

# STUDY POPULATION

**Recruitment size:** 100 patients

**Age of Participants:** 18-69 years old

## **Inclusion criteria:**

- Diagnosis of uncontrolled hypertension at any stage, primary or secondary
- Last BP greater than/equal to 140/90 if younger than/equal to 59 yrs old
- Last BP greater than/equal to 150/90 if older than 60 yrs old
- Current patient at University Health's Sugar House Health Center

## **Exclusion criteria:**

- Primary language is not English
- Under 18 or over 70 years of age
- Have intellectual and/or cognitive impairments

# STUDY DESIGN

Survey/questionnaire research

Interviews and focus groups

Prospective clinical research

Randomized

- 50 participants each in control group and intervention group
- Control group = standard clinical care including routine patient education
- Intervention group = standard clinical care + 1 Health Information Station session
- All patients completed assessments at baseline and at 6 months post-intervention

# RECRUITMENT/IDENTIFICATION PROCESS

- Reviewed daily clinic schedule in Epic to identify patients with HTN
- Attended huddle with providers to get approval to approach identified patients for participation
- Invited clinic providers to recommend patients for the study
- Reviewed patient's medical records to determine if they met criteria
- Presented eligible patients with an IRB-approved letter inviting them to participate

# ASSESSMENTS

1. **HEALTH LITERACY:** *Single-item Literacy Screener (SILS)*
2. **HYPERTENSION KNOWLEDGE:** *High Blood Pressure Questionnaire*  
17-item questionnaire developed by Koonce TY, Giuse NB, Alexander PT, Storrow AB, Storrow AB in *Using patient literacy and knowledge to optimize the delivery of health information.* (2011)
3. **LEARNING STYLE PREFERENCES:** *Learning Assessment in Epic Ambulatory*  
Single "Patient learns best by" question
4. **PATIENT ACTIVATION LEVEL:** *Patient Activation Measure (PAM)*  
13-item questionnaire
5. **PATIENT SATISFACTION:** *Press Ganey Patient Satisfaction Survey*  
11-item survey

# DATA ANALYSIS AND INTERPRETATION

## Outcome measures:

- **Primary measure** - difference in time to blood pressure goal between control and intervention groups
- **Secondary measures** - hypertension knowledge, patient activation level, and patient satisfaction

Qualitative data collected during the patient focus group was coded and analyzed for emergent themes.



# PROTOCOL FOR INTERVENTION SESSIONS

## **Prior to scheduled session:**

- Reviewed patient's chart in Epic
- Reviewed patient's assessment results in REDCap
- Selected most relevant MedlinePlus *High Blood Pressure* Health Topics links to share with patient
- Completed patient's spreadsheet

## **After session:**

- Emailed/letter sent to patient
- Entered Telephone Encounter in Epic to relay to PCP what information was shared with patient, and what questions arose during session

# SPREADSHEET FOR INTERVENTION SESSIONS

MRN	Name	
Date/Time	Phone	Email
Epic	Age	
	Gender	
	BP	(most recent), (highest)
	HTN status/history	__ Previously diagnosed and uncontrolled __ Newly diagnosed
	HTN medications	__ Existing __ Previously taken __ Newly prescribed
	Smoking status	
	Height/Weight/BMI	
	Select problem list	
	Caregiver status	
	PCP	
	Learning Assessment Module	__ Visual (video/AV material) __ Reading (Read/write; printed material) __ Listening (Aural) __ Doing (Kinesthetic) __ Demonstration __ Multimodal

Assessments	Health literacy: <i>SILS</i>	__ Score less than 2 (adequate) __ Score equal or greater than 2 (inadequate)
	HTN literacy: <i>HBP Questionnaire</i>	__ /17 Number of correct answers
	Patient activation: <i>PAM</i>	__ Low patient activation level __ Moderate patient activation level __ High patient activation level
	Patient satisfaction: <i>Press Ganey Patient Satisfaction Survey</i>	
	MedlinePlus information selected for participant	
Specific information shared with participant		
Information delivery method chosen	Mailing address	
	Email address	

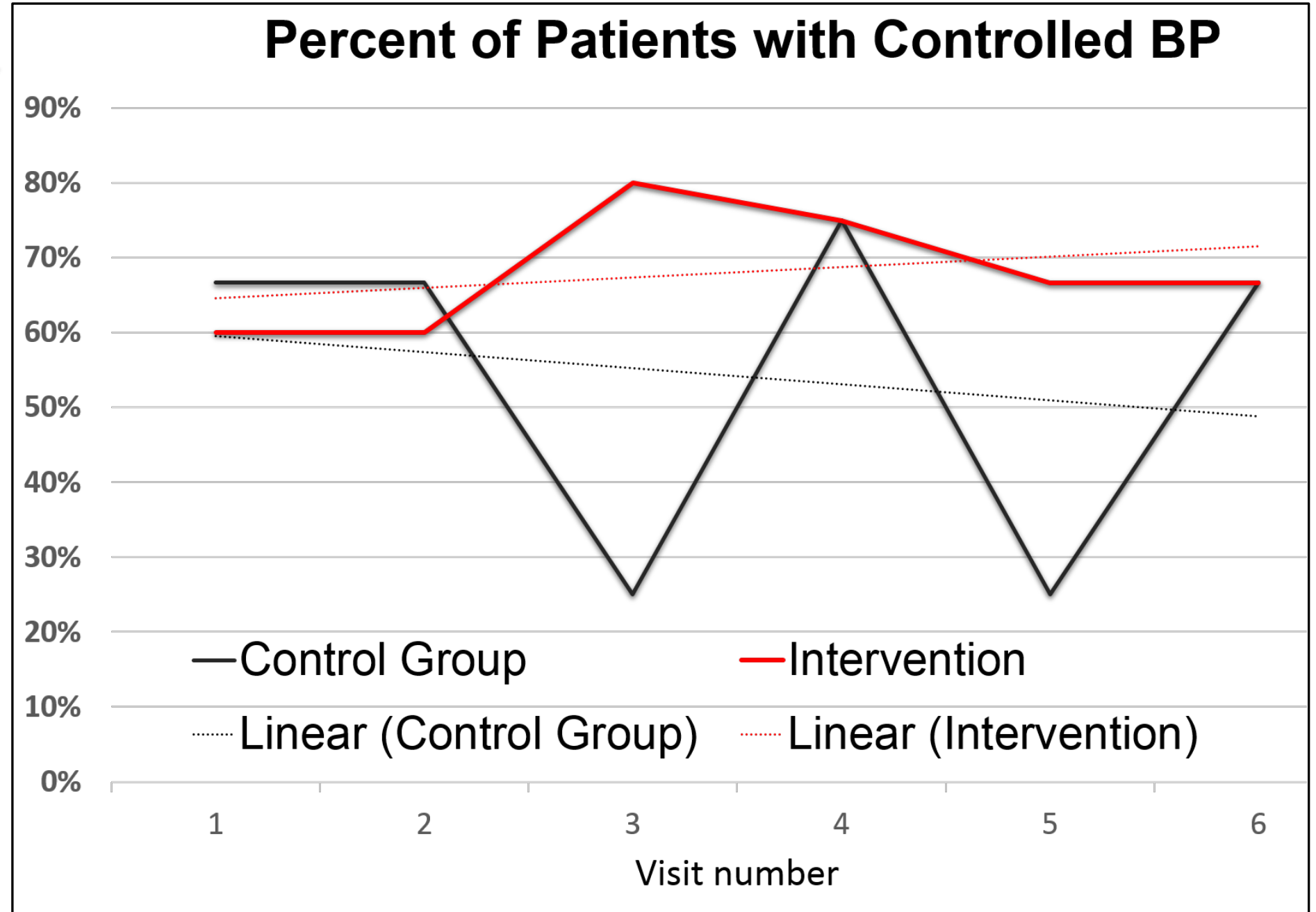
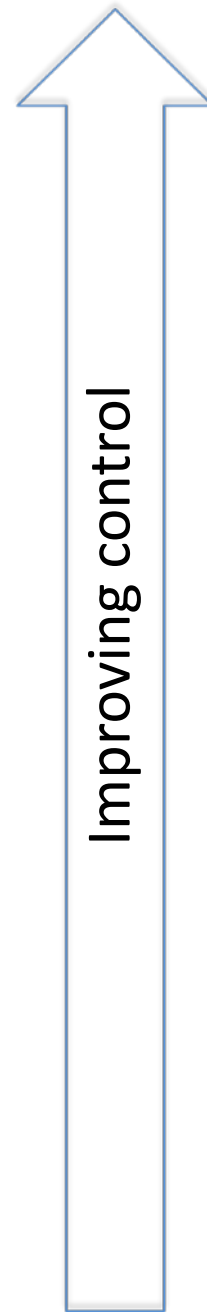
# TELEHEALTH SESSIONS

- Technology up and in place by the time patient sat down for scheduled appointment
- Introductions + brief tour of MedlinePlus
- Focused dive on *High Blood Pressure* Health Topics page
- Sure to cover information that addressed questions they missed on *HBP Questionnaire* and that would increase their *PAM* level
- Addressed their questions

# RESULTS

11 subject's data were complete and analyzed

Non-statistically significant trend toward better BP control in the intervention group



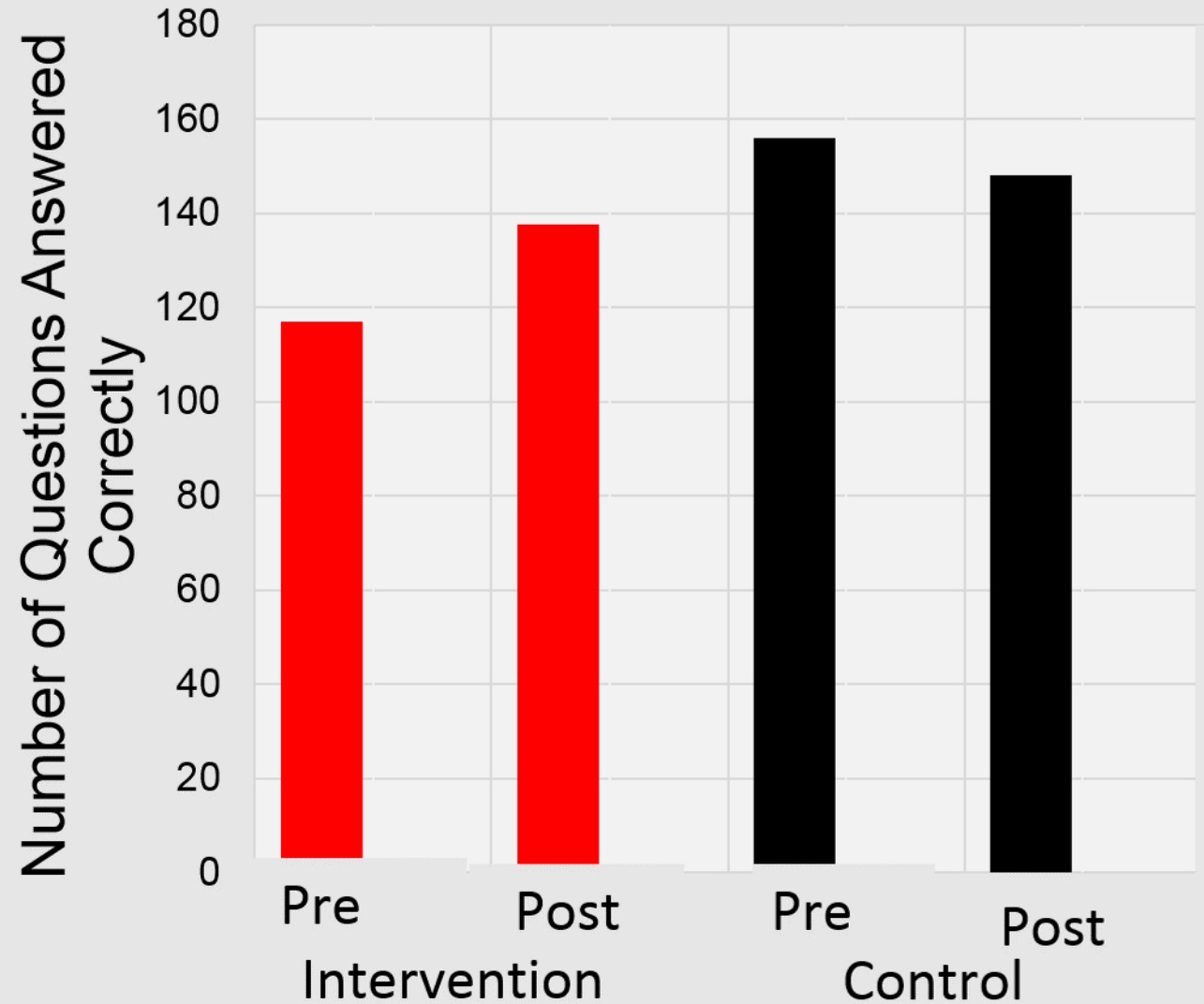
# RESULTS

Hypertension knowledge increased in intervention group.

Both groups showed improvement in engagement level.

Both groups showed similar Patient Satisfaction scores.

## Patient Hypertension Knowledge



# PARTICIPANT FEEDBACK

## Impressions of Health Librarian

- Didn't know what a health librarian did before participating
- Gathers information - "like Google"

## Health Librarian Pros

- Personalizing general information
- Distilling all the information
- Learned how to stay current on new information
- Felt it was "correct information"

## Technology Pros

- Very user friendly
- "I'm not proficient and it was easy for me."
- Screens were well laid out

## Drawbacks

- Stranger vs camaraderie of doctor
- Wouldn't make a trip to the clinic just to use the kiosk
- Can't log into kiosk from home

# DISCUSSION

## **Weaknesses of study**

- Small patient group
- Technology!

## **Strengths of study**

- Technology!
- Shared goals
- Adaptable to other patient populations

## **Advice and recommendations**

- SHOW – don't just tell - how librarians can contribute to health care team
- Don't give up! Adapt!



# FUTURE DIRECTIONS

- Establish telehealth patient access from home
- Integrate health librarians onto care teams – explore scalability
- Conduct full research study on different population:  
Type II diabetes patients in Intensive Outpatient Clinic
- Utilize librarian's patient chart access in Epic to provide clinical decision support and Information Rx services

# "HIGH TECH, HIGH TOUCH."

**Librarians are in a unique position to provide services that connect patients to critical health information, customized to their individual needs, at the time and place they need it, while being at their virtual side for assistance.**

**This service is an example of the role librarians can play in reducing health information disparities, increasing patient engagement and satisfaction, and ultimately, improving health outcomes.**

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