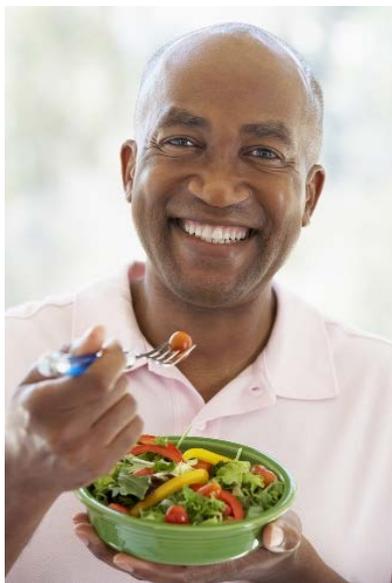


Addressing Barriers to Care for Vulnerable Populations – Intergenerational Diabetes Knowledge Transfer

~ RCMAR Scholar Meeting ~



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April 13, 2017



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Michigan Center for Urban African American Aging Research

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Outline

I. Senteio Research Overview

II. Background and Significance

- Diabetes disparities for elder African Americans
- Access barriers to support for diabetes self-care (technology)
- Intergenerational technology transfer offers potential to address barriers

III. Project Design - support self-care & tech skills transfer

- Specific Aims and Research Questions
- Methods

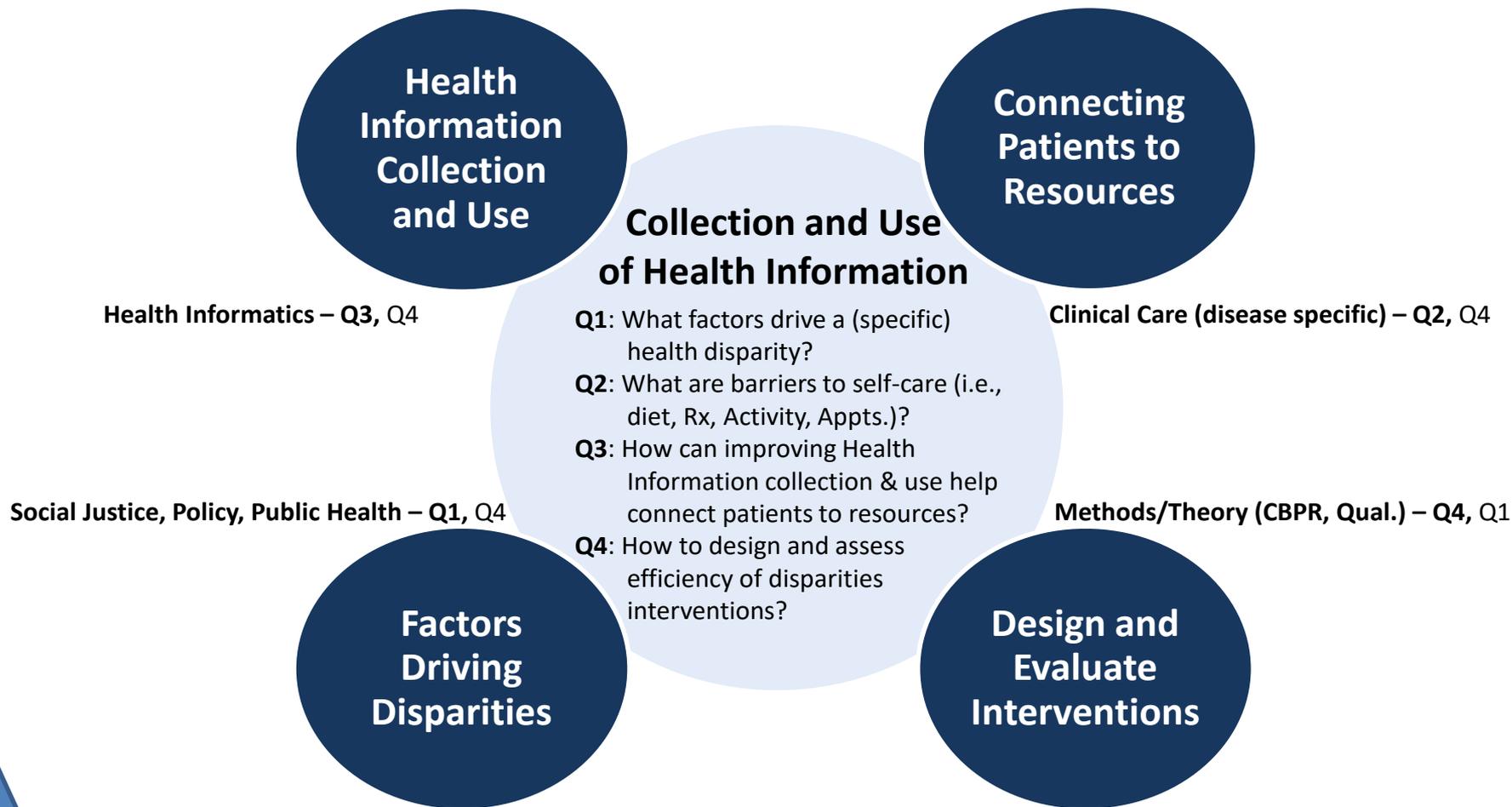
IV. Progress to Date

- Preliminary results

V. Next Steps

Research Overview – Community Health Informatics

~ Enhancing Collection and Use of Health Information to Address Health Disparities via Identification and Addressing Barriers to Care ~



Vulnerable populations: Elders, Low-SES, Reentry, Minority, Multi-morbidity

Elder African Americans and Diabetes Disparities

- African Americans aged 45+ are twice as likely to have **diabetes** when compared to Whites
- 30% of all African Americans between **65 – 74** have diabetes
- African Americans are twice as likely to experience diabetes – related **blindness** and **amputations**, 2 – 6 times more likely to have **CKD**

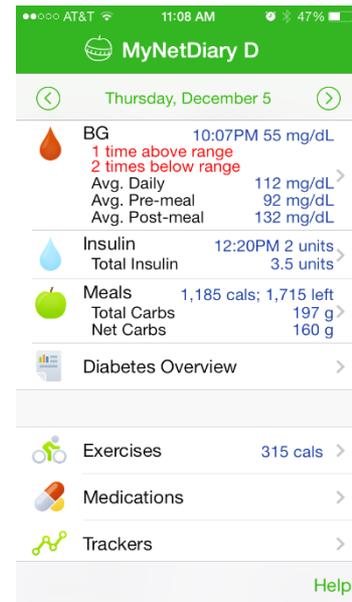
Barriers to technology to support self-management

- African Americans (AAs) more frequently have **low health literacy** which is associated with poor outcomes from **traditional diabetes self-management programs**
 - Self-care – recommendations (i.e., Rx, diet, physical activity, appts.) known to reduce diabetes-related morbidity and mortality risk
 - Self-care intervention efficacy enhanced by use of ICTs - low health literacy is associated with low intervention effectiveness
- 66% of **all elders** report difficulty in **using** and **interpreting** health information
- Low SES elders **less likely** to have internet **access**, a **positive predictor** of SNS use – an increasingly important **resource for** self-management (health information, social support)

AAs elders experience barriers to access technology designed to support diabetes self-management

Accessibility limited by requisite skills

- Various **skills required** to use **ICTs** to support **self-care**:
 - Seeking and interpreting **online** health information
 - Use of ICT-enabled **glucometers** and **pedometers**
 - Mobile **apps** to support self-care across 4 areas and mood: Rx **behaviors** (e.g., alerts), **tracking** of physical activity, dietary **choices**, appointment **reminders**



Emerging insights on intergenerational technology skills transfer – reciprocal learning

- Intergenerational technology activities facilitate learning for both young adults and elders **skills required** to use **ICTs** to support **diabetes self-care** ...
 - Leading practices include activities to focus on new **skills**, rather than differences based upon age or technology competencies and interpreting **online** health information
- ... yet **little** is known of its applicability to support diabetes self-care for populations plagued by persistent disparate higher incidence and poorer outcomes

Opportunity to Address Barriers Through Intergenerational Technology Skills Transfer

Specific Aims and Research Questions

- Specific Aims
 1. Develop diabetes **self-care class** using a proven intervention for increasing health literacy for similar participant population
 2. Document **factors** which promote intergenerational technology transfer in support of diabetes self-care for selected participant population
- Research Questions:
 1. What is the current level of **digital knowledge, technology readiness, and self-efficacy** for African American (AA) elders, aged 55 or older, with respect to managing their chronic condition (diabetes)?
 2. What **impact** do young adults have on AA elders' perception of: relevance, knowledge, and self-efficacy concerning technology skills, access, and resources that can support chronic disease self-care?

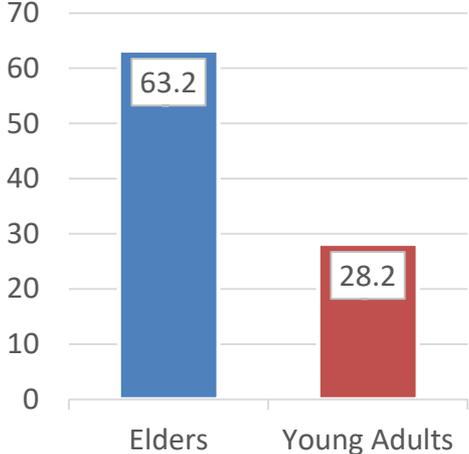
Goal is to enhance diabetes self-management for AA elders via enhancing technology skills required to access to digital resources designed to support self-management

Designed investigation to help address persistent disparities via intergenerational technology transfer

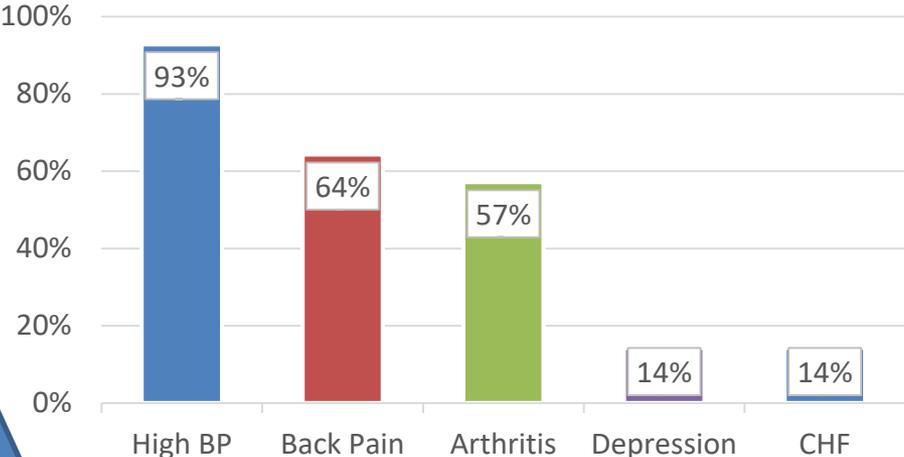
- **Collaboration** between MSU, Rutgers and YOUR center, a Flint-based non-profit - 2 sites: Flint and Detroit, Michigan
 - Participants: Elders (50+) with diabetes, young adults (18 – 34) connected to elders via naturally occurring social networks
- **CBPR** approach included participatory design and insights concerning intergenerational technology transfer – participants helped design the session
 - Intergenerational technology transfer - paired AA elders (50+) with diabetes with young adults from their social network to investigate how to promote intergenerational skills transfer - technical skills to elders; and diabetes and aged health/wellness information to younger adults
 - Member Checking – research construct for validity

Preliminary Results – Participants

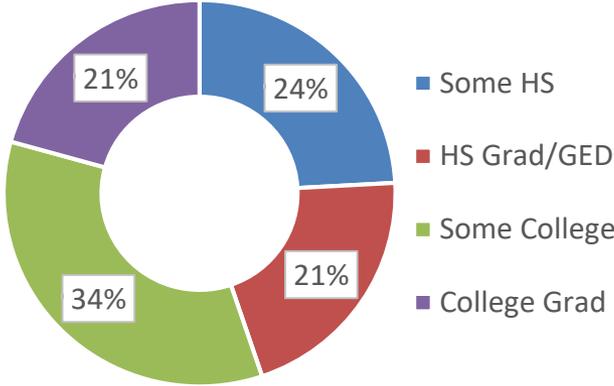
Average Age



Comorbidity (Elders)



Education (Total)



Intervention Design and Pre-Pilot Sessions

1. Design Sessions (N=11)

Site	Participants	Location
Flint (2/18)	<ul style="list-style-type: none"> • 6 participants “designers” <ul style="list-style-type: none"> ○ 3 elders (50+) ○ 3 young adults (18 – 38) 	Word of Life Christian Church
Detroit (2/17)	<ul style="list-style-type: none"> • 5 participants “designers” <ul style="list-style-type: none"> ○ 3 elders (50+) ○ 2 young adults (18 – 38) 	Diggs/Forest Part Place (DHA Elder living facility)

2. “Pre-Pilot” Sessions (member checking) – Pre-Pilot to: confirm topics, exercises, handouts, exercises (N=14)

Site	Participants	Location
Flint (4/1)	<ul style="list-style-type: none"> • 6 participants “designers” <ul style="list-style-type: none"> ○ 3 elders (50+) ○ 3 young adults (18 – 38) 	Word of Life Christian Church
Detroit (4/1)	<ul style="list-style-type: none"> • 8 participants “designers” <ul style="list-style-type: none"> ○ 4 elders (50+) ○ 4 young adults (18 – 38) 	Diggs/Forest Part Place (DHA Elder living facility)

Aim 1 – Intervention Design

- Should target a **mixed** group of participants – elders and youth, those with and without diabetes
- Should address **both** ‘diabetes 101’, and technology overview and exercises
- Participants likely will have smartphones, but use them **primarily as phones**
- Technology exercises should be driven by pairs ***themselves, demonstrate*** usage

“... keep it **mixed** so that we can [share] information from the horse’s mouth and provide information to ... people that don't have [diabetes].”

~ Detroit, #6 ~

“... limit it to pretty much, to you know, cell phones. Don’t nobody have a tablet ... you know, we who are older, we want to **keep it simple** ... one device [phone] to help our health. I just can see the value of getting some of this stuff figured out. I mean maybe **I’ll learn** how to download an app!”

~ Flint, #3 ~

Aim 2 – Factors promoting intergenerational technology skills transfer

- Conducting technology skills transfer should consider **patience** level
- Consider physical **limitations** (i.e., eyesight, operating on relatively small screens) and/or **reading** levels
- Demonstrate **one skill** (e.g., download and use a phone app) in small groups (pairs)

“... somebody that’s gonna, you know ... [have] **patience** with us because we might not pick it up fast.”
~Flint, #5~

“you gotta find a young person who is **interested** ... those who have helped you the past, or [are] just interested in you.”
~Flint, #3~

“a **demonstration** is definitely helpful ... a demonstration [on the] phone [would increase] interest.”
~Detroit #6~

Pilot Sessions, New Participants

- Conduct Pilot (Target N=48);

Site	Participants	Location
Flint (TBD) #1-10a – 12:30p #2-1p – 3:30p	• Target 24 Total: 12 participants for each session (6 pairs)	Word of Life Christian Church
Detroit (TBD) #1-10a – 12:30p #2-1p – 3:30p	• Target 24 Total: 12 participants for each session (6 pairs)	Diggs/Forest Part Place (DHA Elder living facility)

- Pre- and post-questionnaires, and analysis (digital knowledge, confidence in use)
- Publish Results, Methods
- Develop project to rollout intervention, measure results

Next Steps – Beyond this Project

- Develop project design to **rollout** intervention
- Conduct intervention with **additional** groups, assess impact, receive input on improvement, “train the trainer” (other groups that experience disparities – tech use for self-care; diabetes outcomes)
- Build **capacity** through intervention designed specifically for intergenerational technology skills transfer for elders (AAs and others)
- Incorporate **practitioner input**, integrate with current recommended diabetes education for this population (diabetes educators, MD/DO, NP, RN)

Team members and acknowledgements

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We appreciate the support from the National Institutes of Health, P30 AG015281, and the Michigan Center for Urban African American Aging Research (MCUAAAR).

Grant Mentor: Sheila Cotten, Professor and Director of MSU Center for Innovation and Research

Comments / Questions / Statements

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EXTRA SLIDES

Diabetes Educational and Intergenerational Technology Transfer – Outline and Content

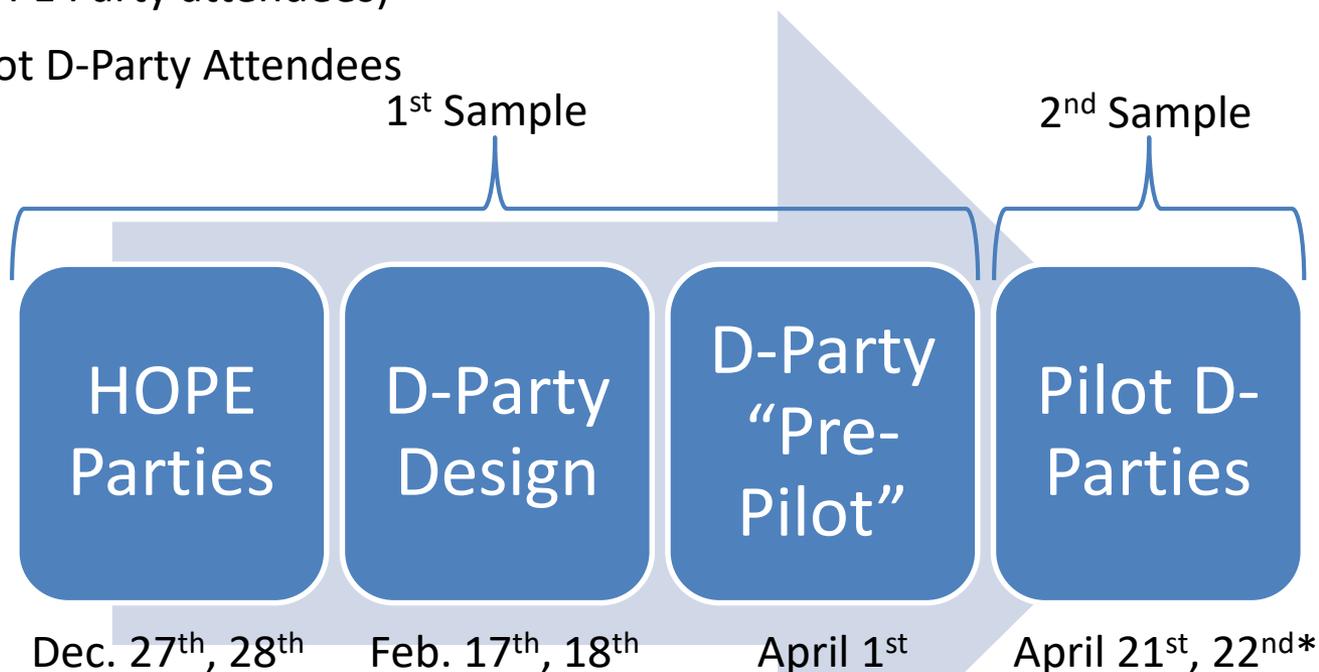
- Elder AAs experience striking DM disparities: 45+ AAs 2x likely to have DM than Whites, 30% of all AAs 65 – 74 have DM. AAs 2x likely to experience DM-related blindness & amputations, btw 2 – 6 times more likely to have CKD.
- Resources to support DSM are not accessible for elder AAs, specifically ICTs.... : AAs more frequently have low HL, associated with poor outcomes from traditional DSM programs, 2/3rds of elders report difficulty in using and interpreting health info., Poor elders less likely to have www access, a positive predictor of SNS use and increasingly important source of DSM
- ... in part because various skills required to use ICTs to support DSM – activities include: seeking & interpreting online health info, use of glucometers and pedometers, mobile apps to support: medication behavior, tracking of physical activity and dietary choices
- Emerging research suggests that intergenerational technology transfer can promote reciprocal information flow and learning
- Designed “DM Edu and Intergen Tech Transfer” to help address persistent disparities and explore efficacy of use of younger adults to support tech skills transfer
- RQs
- Methods
- Preliminary results

Professional Goals

- Assess and address barriers to chronic disease care, with an emphasis on vulnerable patient populations, focused on:
 - Persistent health disparities, which result in **avoidable suffering**
 - Inefficient care delivery, which results in **high cost of care**
 - Creating opportunities to develop and conduct translational research, which delivers **results measured clinically and financially**
- Design and conduct translational research leveraging unique expertise
 - Education: PhD in Health Informatics (UMSI), Masters in Social Work (UM – SSW), and Masters in Business Administration (UM – Ross)
 - Research Breadth: Published on various chronic conditions (breast cancer, diabetes, CKD/ESRD), with practitioners *and* patients, community-based participatory research (CBPR)
 - Breadth of Participant Experience: Urban African American, undocumented citizens, formerly incarcerated persons, HIV positive pregnant Medicaid recipients
 - Healthcare Delivery Training: Community Health Worker/Promotora Certified Instructor (CHW-I), Certified Health Education Specialist (CHES), LMSW (LCSW expected 11/2017)
 - Business and entrepreneurial experience: Healthcare and strategy consulting, building and growing healthcare consulting practice, home health & hospice

Four Step Process – Duplicated in Flint and Detroit

- 2 Samples of Participants
 1. HIV/AIDS class attendees (“HOPE Parties”) and D-Party Designers (Subset of HOPE Party attendees)
 2. Pilot D-Party Attendees



Step 1 – HOPE Parties

- Conducted **HOPE** Parties (N=29); Surveyed-demographics, health, technology use/access

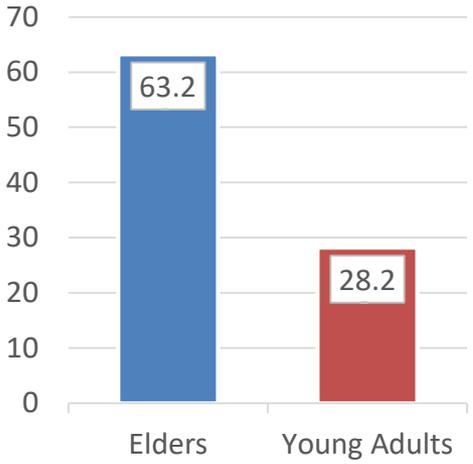
Site	Participants	Location
Flint (12/27)	<ul style="list-style-type: none"> • 14 total participants <ul style="list-style-type: none"> ○ 6 Elders (50+) ○ 8 young adults (18 – 38) 	Word of Life Christian Church
Detroit (12/28)	<ul style="list-style-type: none"> • 9 total participants <ul style="list-style-type: none"> ○ 8 Older adults (50+) ○ 1 young adult (18 – 38) (7 cancelled) 	TechTown Detroit
Detroit (1/21) 'make-up' session	<ul style="list-style-type: none"> • 6 young adult participants 	Diggs/Forest Part Place (DHA Elder living facility)

Insights for capacity building for promoting technology skills transfer

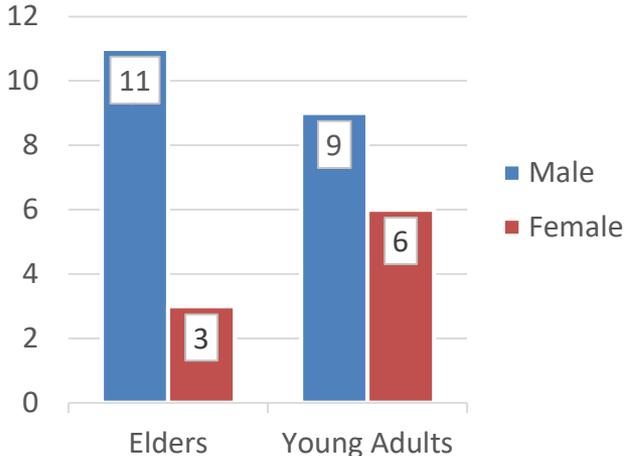
Takeaway	Insight
<ul style="list-style-type: none"> Elders stressed frustration when young people <i>lost patience</i> with them when they attempt to <i>show them how to use technology</i> – the young adults reiterated feeling frustrated <ul style="list-style-type: none"> Pairs should be self-selected, based on age (Elder stressed 8 -12 year olds have most patience, teens do not) Should <i>not be</i> in a computer ‘lab’ setting, some individuals would <i>get lost</i> Written materials selected carefully, some are <i>not readers</i> (Flint) 	<ul style="list-style-type: none"> Describe points for effective technology transfer (age of young person, characteristics, topics, format, etc.) Pairs should select from options for what they would like to do <i>during intervention</i> (e.g., download and use phone app)
<ul style="list-style-type: none"> Intervention should be conducted for a very diverse audience – those with and without diabetes because those without <i>likely know someone who does</i> [have diabetes] <ul style="list-style-type: none"> Learning about risk factors early can help individual understand what could happen to them Young adults incentivized by opportunity to help their children live healthier lives 	<ul style="list-style-type: none"> Health educational interventions designed for broad audiences Pre-pilot session useful

Preliminary Results – Participants

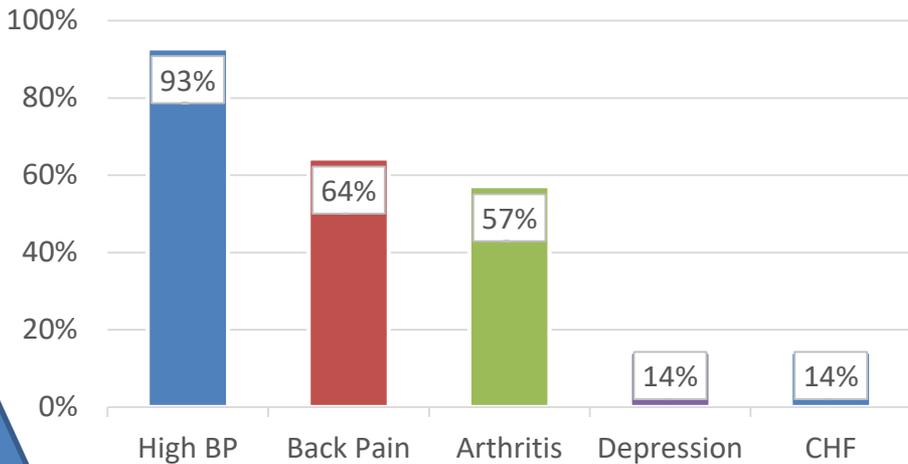
Average Age



Gender



Comorbidity (Elders)



Education (Total)

