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Text messaging between providers and patients living with HIV in South Carolina: Barriers and facilitators to implementation

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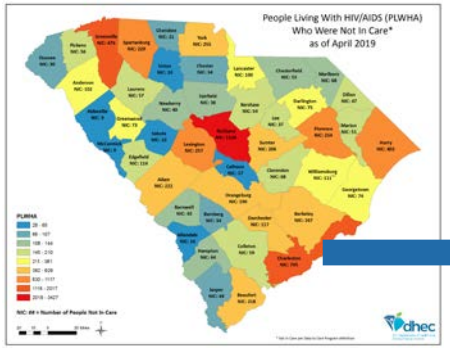
Background

- ~20,000 people living with HIV in South Carolina
  - Only ~50% are retained in continuous HIV-related medical
  - ~750 new infections per year

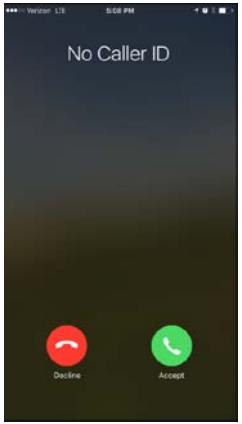


- Sustained HIV treatment ➔healthy patients ➔ no onward transmission
- Communication vital to patient engagement and retention

Background

- MUSC HIV Clinic: ~1,200 patients
  - ~250 patients receive case management services
  - An estimated 95% have cell phones; 75% have smart phones
- Current clinic operations:
  - Landline telephones used for communication, but:
    - Patients decline to answer calls from blocked numbers
    - Voice mailboxes are full or have not been set-up
    - Providers play phone tag all day
    - Patients ask to be texted, not called

MUSC
MEDICAL UNIVERSITY of SOUTH CAROLINA



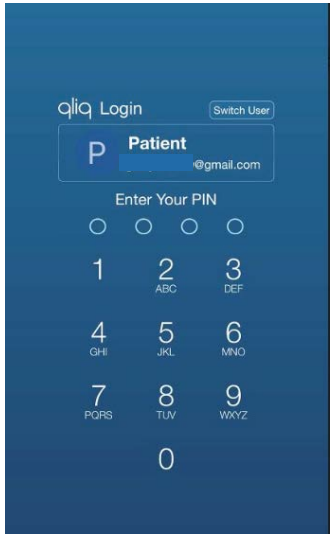
Hypothesis and aim

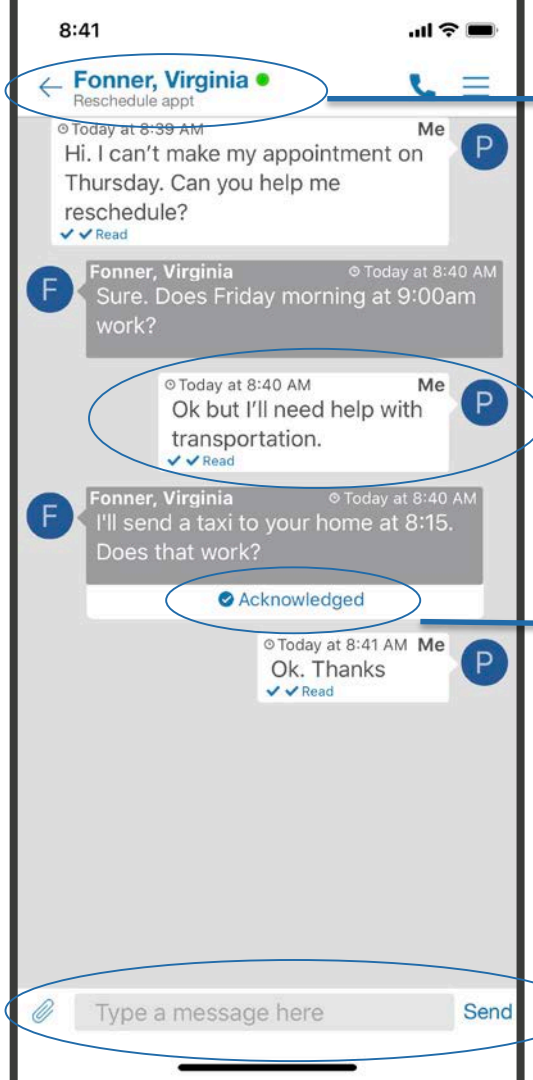
- Hypothesis: Having the capacity to text between patients and clinic providers (specifically case managers and pharmacists) will improve:
  - Linkage and retention in clinical care
  - Patient satisfaction with clinical services
- Research Aim: To understand acceptability, preferences, and barriers/facilitators to texting among patients and providers
  - Included assessing preference for encrypted app (Qliq) vs. standard texting

Qliq vs. plain texting

	Text messaging	Qliq
Ease of use	On all phones	App (free for patients)
Contacts	Same as on phone	• Separate contacts • Account requires name and phone number or email
Sending a message	Type and hit “send”	Type and hit “send”
Privacy	Based on phone privacy settings	• Passcode protected • Can remotely delete messages if device is lost or stolen • HIPAA compliant (messages are encrypted)
Receive notifications	Yes	Yes, might need to configure settings

Qliq





Can change status ("online," "away," or "do not disturb")

Can see when someone has read a text

Can request acknowledgement

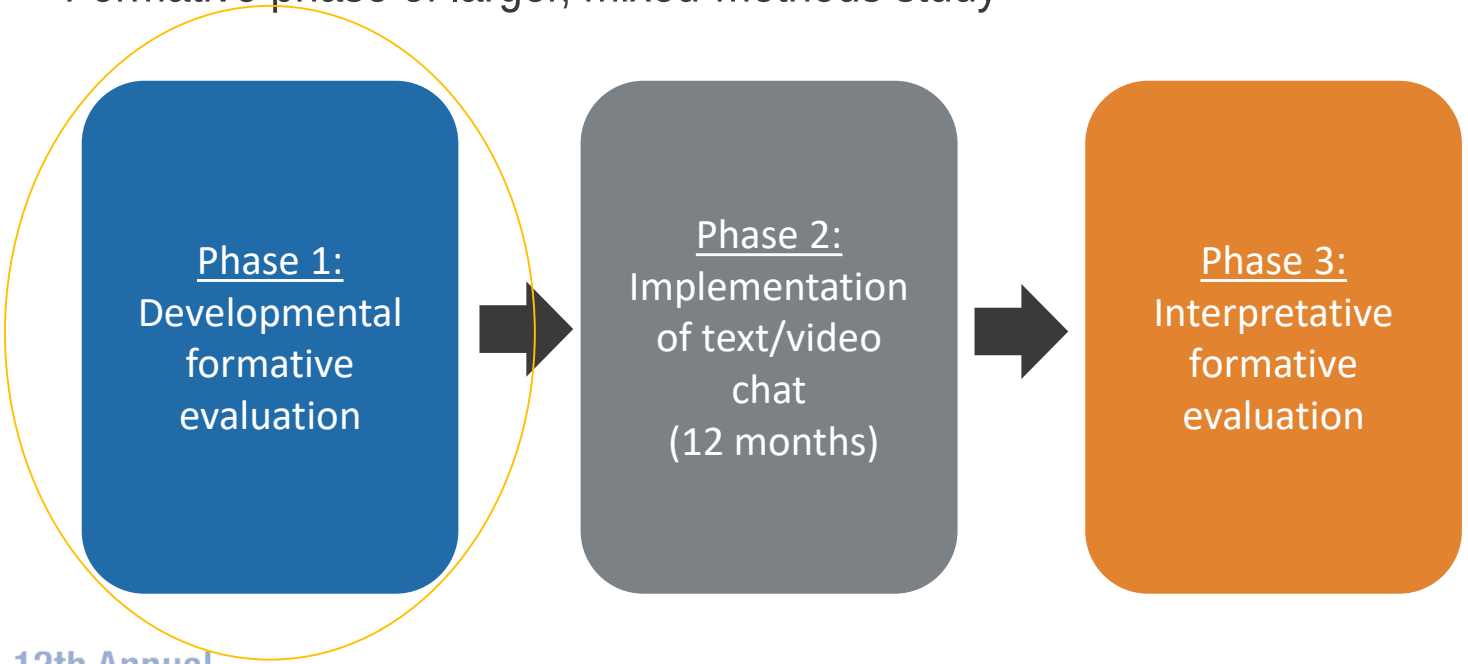
Standard way of typing and sending messages. Can also send pictures

Methods

- Semi-structured in-depth interviews with patients (n=12) and providers (n=14)
  - Purposeful sampling (variation of provider role and patient age/gender)
- Interviews included:
  - Open-ended questions related to CFIR domains
  - Demonstration of a secure texting app (Qliq)
  - Close-ended Likert scale questions related to intervention acceptability
- Interviews transcribed, coded using deductive and emergent codes
- Thematic analysis

Methods

- Formative phase of larger, mixed-methods study



Results: Sample characteristics

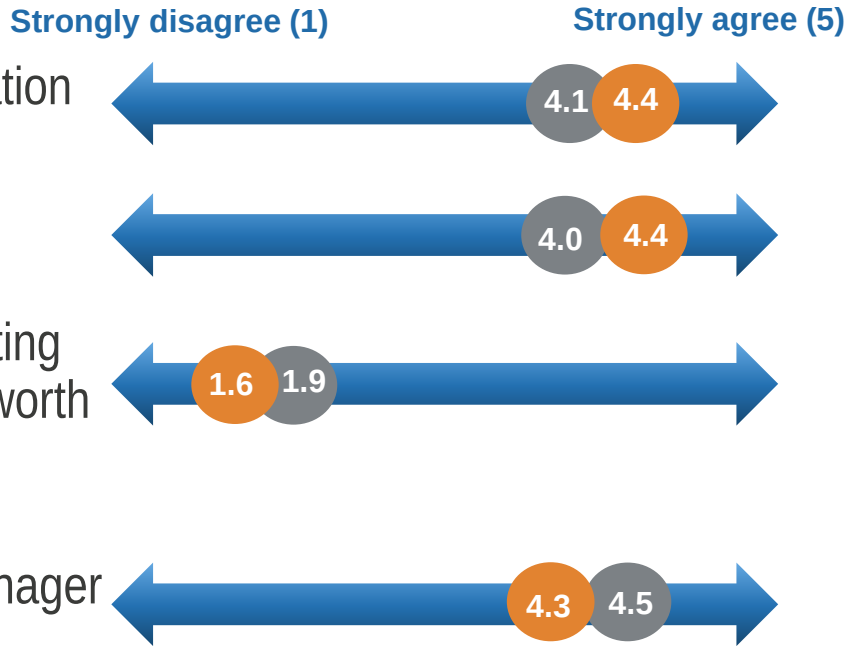
Patients (n=12)

Characteristic	% in sample
Gender	42% male 50% female 8% gender fluid
Race/ethnicity	83% African American
Age, *mean (range)*	39.5 (23-57)
Phone access	100% smart phones

Providers (n=14)

Role	N (%)
Social Support Provider *(Case Managers, Social Workers, Outreach)*	6 (43%)
Medical Provider *(Physicians, PAs, Pharmacists)*	5 (36%)
Support Staff *(Nurse Administrators, Coordinators, Program Support)*	3 (21%)

Quantitative Results: Acceptability



1. I would like to use this form of communication frequently.
2. Providers and patients should have the capacity to text with each other.
3. Trying to implement a system to allow texting between patients is too complex and not worth the time and risk.
4. Most patients would be interested in communicating by text with their case manager or pharmacist.

= patients

= providers

No significant differences ($p<0.05$) between patients and providers' perceptions

Outer setting: Meeting patient needs

- Most patients (92%) and providers (86%) favored having text messaging as mode of communication

Patient Perspective

"…phone calls get drawn on and then get still and I be like, 'okay miss, is that it?' But that's, it sucks for it to be like that cause I know she only calling for my best interest but I am not the phone talking guy…I would rather text all day." *–African American male patient, 26 years old*

Provider Perspective

"You know that people will text, but maybe they're not answering their phone, maybe they don't want to talk... they would just rather text…I'm hoping it [*text messaging*] will be an efficient and time reducer, I guess, in terms of wasting time trying to get people that I feel like the chances might be greater with a text sort of solution. " *–Social Support Provider*

Perceived benefits of text messaging

Benefits	Exemplary quotes
Quick and efficient	"Send it, shoot it, it's quicker communication." –*Social Support Provider*
Convenient	"Well that'd [text messaging] be good, especially on like days when I'm at work. Instead of that phone ringing and I'm like, 'Oh I can't.' This way here [*acts like checking a text*], 'Oh okay'." –*African American female patient, 57 years old*
Ease of use	"…if somebody texts you, it's easy to text them back at your convenience." –*White/Native American female patient, 36 years old*

Perceived challenges of text messaging

Challenges	Exemplary quotes
Impersonality	"I feel as though texting loses emotion…People don't see my concern over text." —*Medical Provider*
Expectations of instant access (provider)	"…Texting implies that you have my full attention and I'm at your disposal anytime, anywhere." –*Medical Provider*
Potential for overutilization (provider)	"…Please don't send me 15 text messages in one day." –*Social Support Provider*
Privacy and security	"There's always an element of concern for someone who's HIV positive that somebody's gonna find out their status that they don't want to know their status." –*Social Support Provider*
Cost and access	"…Some people have monthly bills for phone plans. They have unlimited. Some people have minutes and stuff." –*African American male patient, 33 years old*

Provider vs. patient perspectives in technology preference

- Providers thought patients would prefer plain texting; concerned with access
- Providers deferential to patients needs/preferences

> "If that's the way you want to communicate with me, I'm all for it. If it'll get you to answer my questions, you do what I want you to, then sure. " –*Social Service Provider*

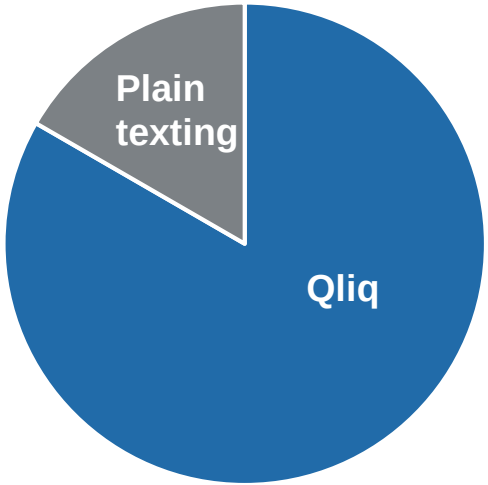
- Providers and patients agreed security was a benefit of using Qliq

> "You have kids, you have family members who doodle in your phone. They can read the text, everybody else's text. But when it comes to your health and your privacy, there should be an app that is created just for that." –*African American male patient, 37 years old*

Technology Preference: App vs. Plain Texting

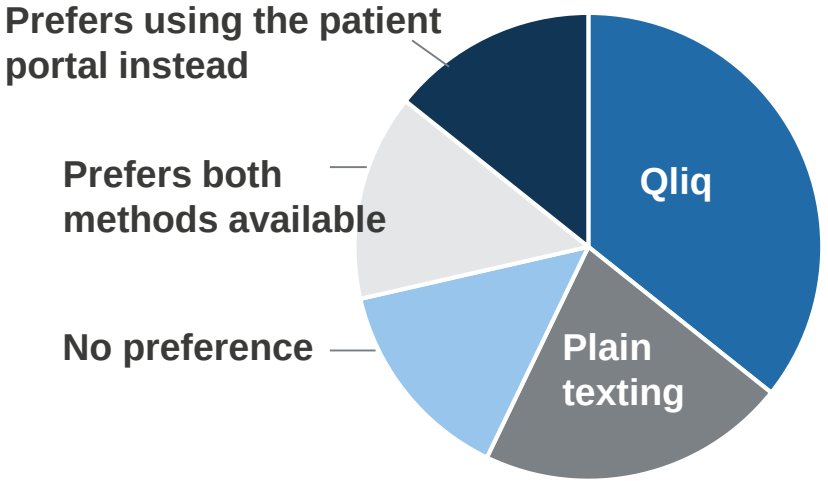
Patients

- 10/12 (83%) preferred Qliq



Providers

- Qliq preferred but more variation



Provider vs. patient perspectives in technology preference

- Patient portal and text messaging redundant? Some providers thought so, patients disagreed.

> I see [*text messaging*] as a better improvement 'cause when I go through the MUSC patient care app like every six months you gotta get a new password and its like, 'I don't want to get a new password. Just show me when the next doctor's appointment is coming up'." *–African American female patient, 47 years old*

- Separateness of Qliq seen as beneficial but concern over message visibility

> "Obviously they would have to get those push notifications, or it wouldn't work."
> *–Social Support Staff*

Privacy and Security

- Agreement on what should never be sent by text

> "Probably the three little words—H.I.V." *–White/Native American female patient, 36 yrs old*

- Providers concerned about "HIPAA violations" and "PHI". Patients were not

> "…You can control what you send out to patients, but you can't control what patients send back to you." *–Social Support Staff*

- Patients mainly trusted providers to be discreet

> "You just have to be confident with yourself and trust and know your staff. So to me, I think it's a trust factor. And me, I trust them 100 percent." *–African American female, 39 yrs old*

What information to send by text?

- Some patients wanted medical information sent by text, not others

> …She'll [the case manager] get information about my lab work before I do…she could just send me a text message and be like 'hey this changed, this improved'" *–African American male, 26 yrs*

- Providers wanted short, general messages

> "Just a simple text and not a detailed text. We're not trying to give a dissertation about the client's medical history. We just want to give them simple instructions." *–Social Services Provider*

- Patients and providers liked using texting for quick check-ins

> "I would think just a short check in as far as text …like, "Hey, are you doing okay? Is there anything I can help with?" *– White gender-fluid patient, 38 years*

Results summary

- Text messaging acceptable and helps meet patient needs
  - Benefits: quick, efficient, convenient, easy
  - Challenges: Security; perception of instant access; overutilization; impersonality; cost and access
  - Too efficient? Too convenient? Advantages raise complexity (potential for disruption) and compatibility issues (Increased work load? Altered work flow?)
- Using secure app preferred over plain text messaging
- Frequency of engagement and information exchange is a two-way street

Implications for D&I Research

- Unique challenges of implementing bidirectional intervention
  - One size does not fit all
    - Wide variations in expected use by patients and concern of overuse/unreasonable expectations by providers
  - Patient perspective more critical than most institutionally-initiated interventions
  - Questions:
    - How to match patient/provider expectations and use?
    - Determining fidelity?
    - Addressing provider and patient perspectives in implementation frameworks?

Implications for D&I Research

- Implementation research ➔ community/institutional buy-in
  - Involvement of patients and providers gave voice/stake in project
  - Institution has no formal policy on texting in clinical settings
    - Text messaging in research context more acceptable than for clinical purposes
    - Sparked institutional recognition of need to formulate text messaging policy

Implications for D&I Research

- Results from formative work used to develop text messaging intervention
  - Use of encrypted, HIPAA-compliant app
    - Plain texting allowed for those without smart phones
  - Intervention “rules” provided to patients prior to enrollment
    - Ex: Providers will try to respond within 1 business day
- Implementation indicators being collected

…stay tuned for results!

THANK YOU!

- Funding source: Viiv Healthcare
- Research team: Eric Meissner, MD, PhD (co-PI), Lisa Martin (coordinator), Samuel Kennedy and Christie Eichberg (data collectors)
- All participants

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