

Best Practices in Telehealth and Caregiving Programs

JAN LINDSAY, PHD

CHRISTINE GOULD, PHD



south central
mirecc
Mental Illness Research, Education
and Clinical Center



VA



U.S. Department of Veterans Affairs

Veterans Health Administration
Geriatric Research, Education, and Clinical Centers



Learning Objectives

After this presentation, learners will be able to:

1. Understand the empirical support for delivering mental health care via telehealth.
2. Recognize benefits of telehealth and technology for older adults and caregivers.
3. Identify best practices around using telehealth including appointment pre-work.
4. Identify ways to support older users of internet and mobile app-based interventions.

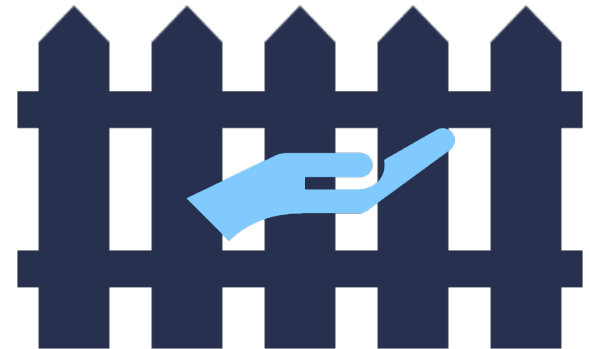
Video telehealth is Important and necessary

Most patients who need MH care don't access it¹⁻²

Most patients who access MH treatment do not receive an adequate "dose"³⁻⁴

Comorbidity and low prevalence diagnoses increase barriers to receiving specialty care⁴

Racial and ethnic minorities and rural patients experience increased barriers to access and continuity of care⁵⁻⁷



¹Primark et al. (2017), ²Wang et al. (2005), ³Seal et al. (2010), ⁴Mott et al. (2014), ⁵Gamm et al. (2010), ⁶Sentell et al. (2007), ⁷Creedon et al. (2016).

Benefits of Technology & Telehealth

Reduces barriers to in-person care

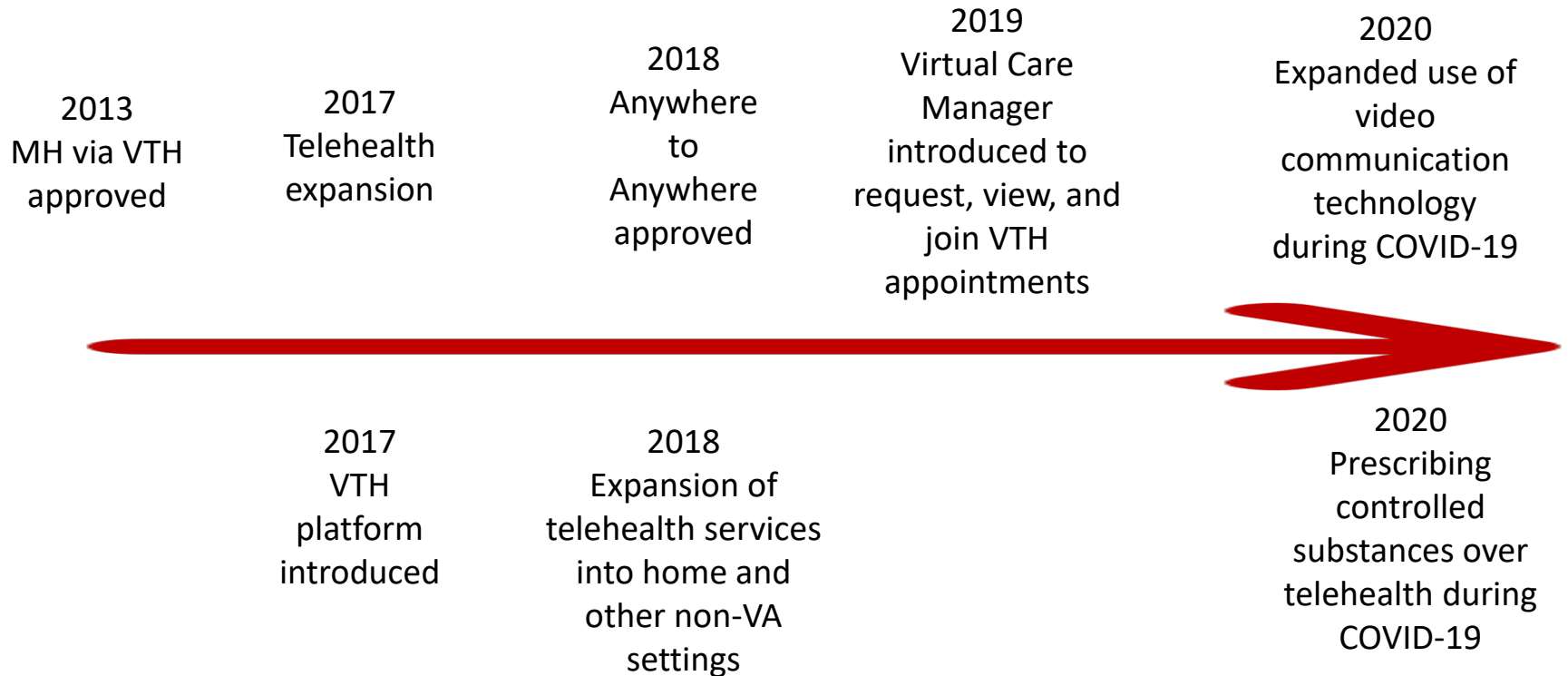
- Anxiety leaving home
- Distance/travel time
- Transportation
- Time away from work or home responsibilities
- Lack of comfort at VA
- Physical limitations

Telehealth is equivalent to in-person care

- Effectiveness of treatment
- Patient retention in care
- Patient satisfaction
- Cost effectiveness
- Increases access to specialty providers in rural areas



Video Telehealth Developments— Veterans Health Administration



Older Adults and Telehealth



Have high rates of comorbidity and mortality from other acute and chronic conditions

Most at risk of dire outcomes of COVID

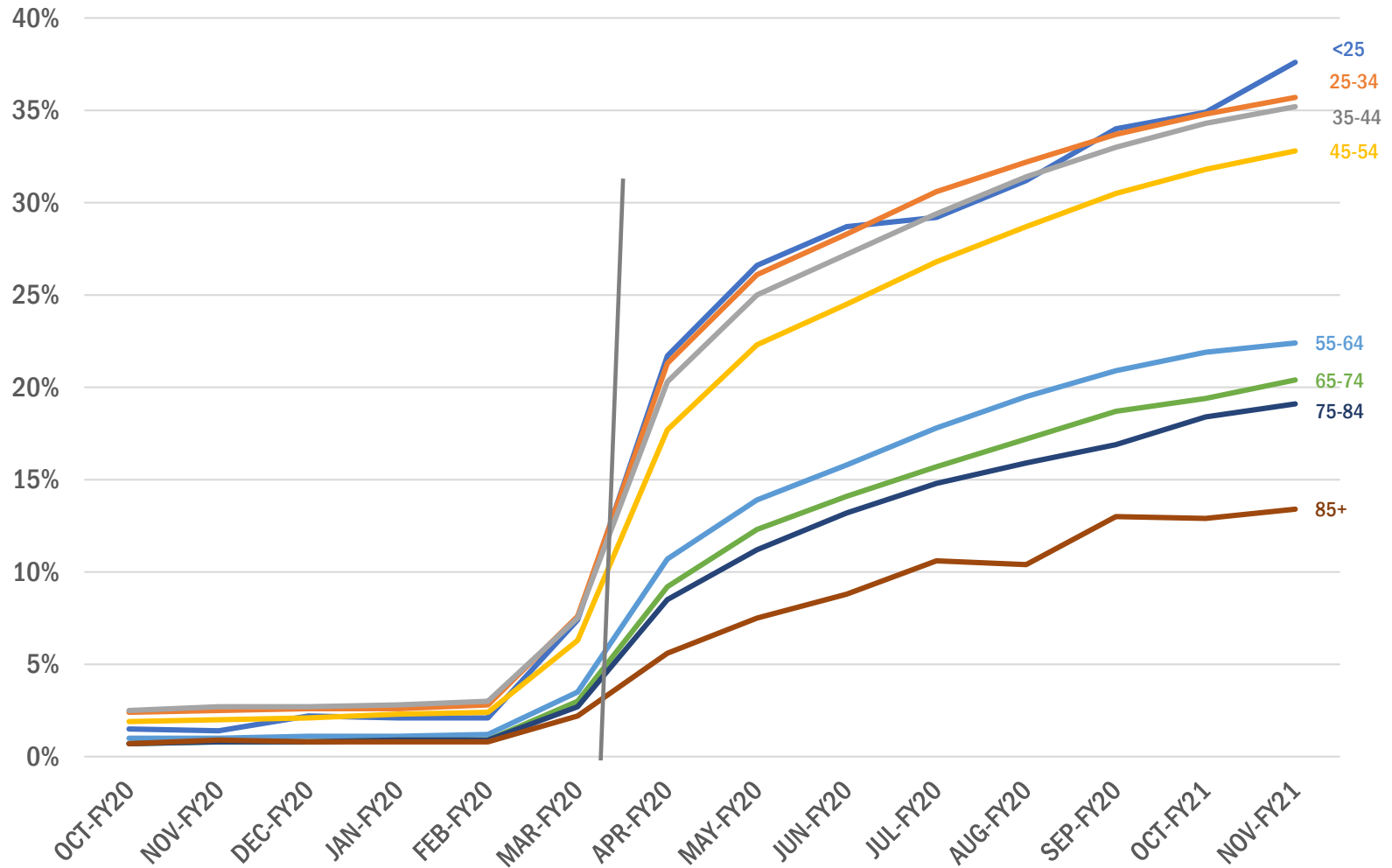
Challenged by rapid transition to telehealth for outpatient visits :

- Technology proficiency may inhibit appointment attendance
 - 2/3 use the internet
 - Differences in technology adoption exist by age and socioeconomic position, including income and education
- Physical and cognitive limitations may present additional barriers
 - Hearing loss causes misunderstanding providers if only using telephone (loss of visual cues).
 - Rates of hearing aid use are lower among minority and low-income older adults

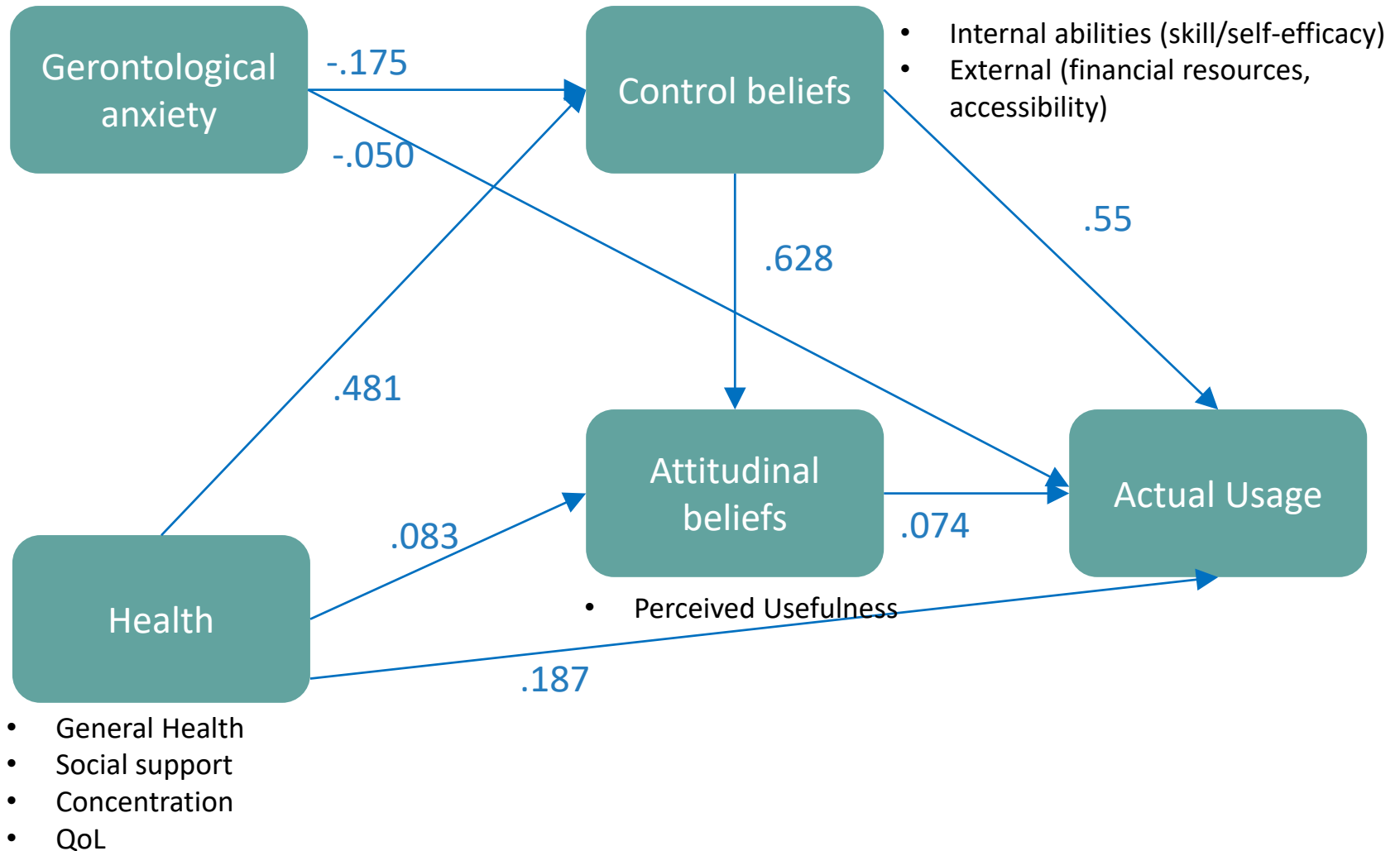
Telehealth and Caregivers

- Telehealth trainings for informal caregivers of rural older Veterans give access to resources they may not otherwise have, including managing emotions and conditions such as dementia. ¹
- Saves time and less travel for patients and their caregivers²
- Caregivers report satisfaction with video visits and feel respected and listened to²
- Caregivers can use video visits to show problem behaviors and barriers to care for patients with dementia. ³
- Caregivers showed improvements in burden, physical health, mental health, and self-efficacy with supportive care video visits⁴

FY20: Veterans aged 55+ use VVC at lower rates than younger age groups



Senior Technology Acceptance Model



Discussion

- Importance of “pre-work” for appointments.
- Utilize friend/family member/staff to conduct practice calls prior to appointments

Table. Telemedicine Communication Checklist

Before encounter

For patients

Confirm patient preference regarding format, being responsive to technology access, proficiency, privacy concerns, and potential limits in internet or data plans

Ask patient to wear headphones or a headset or confirm that they are wearing their hearing aids or amplification device

Use the speaker function of the telephone as a backup

For providers

Assume that your older patient has some degree of hearing loss

Use a headset and avoid relying on built-in microphones

Use video whenever possible

Light your face evenly and from the front to minimize shadows

Position camera to focus on your face

Use captioning when available for video-based encounters

Start of encounter

Confirm that patient is in a quiet location; minimize background noise

Ensure that patient is able to see your face

Be aware of cues patient is not following the conversation, and address it early

During encounter

Speak slowly and clearly

Minimize raising your voice too much to cause distortion

Monitor for cues that the patient may not be following the conversation

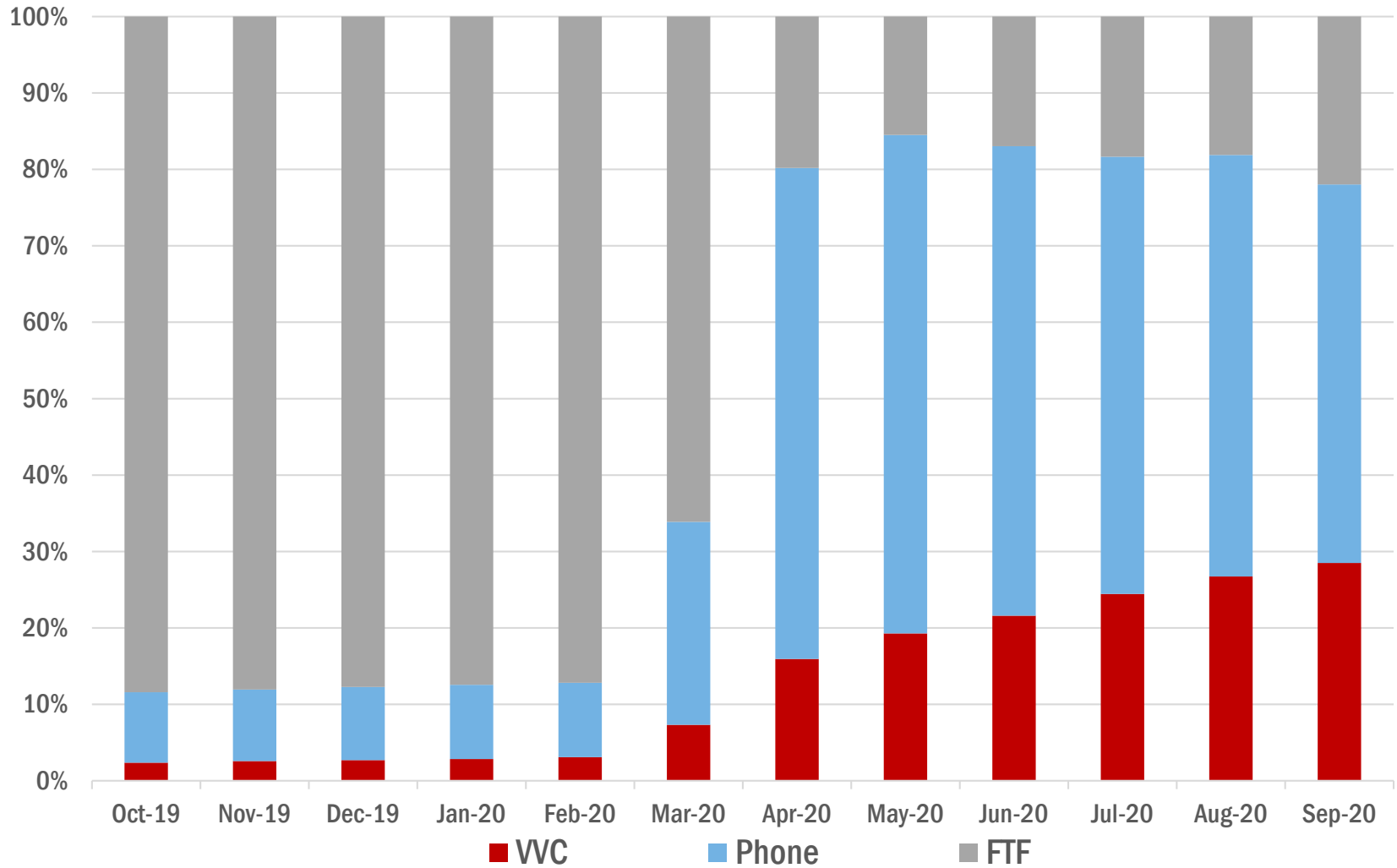
Repeat but then rephrase if patient does not hear or understand you

End of encounter

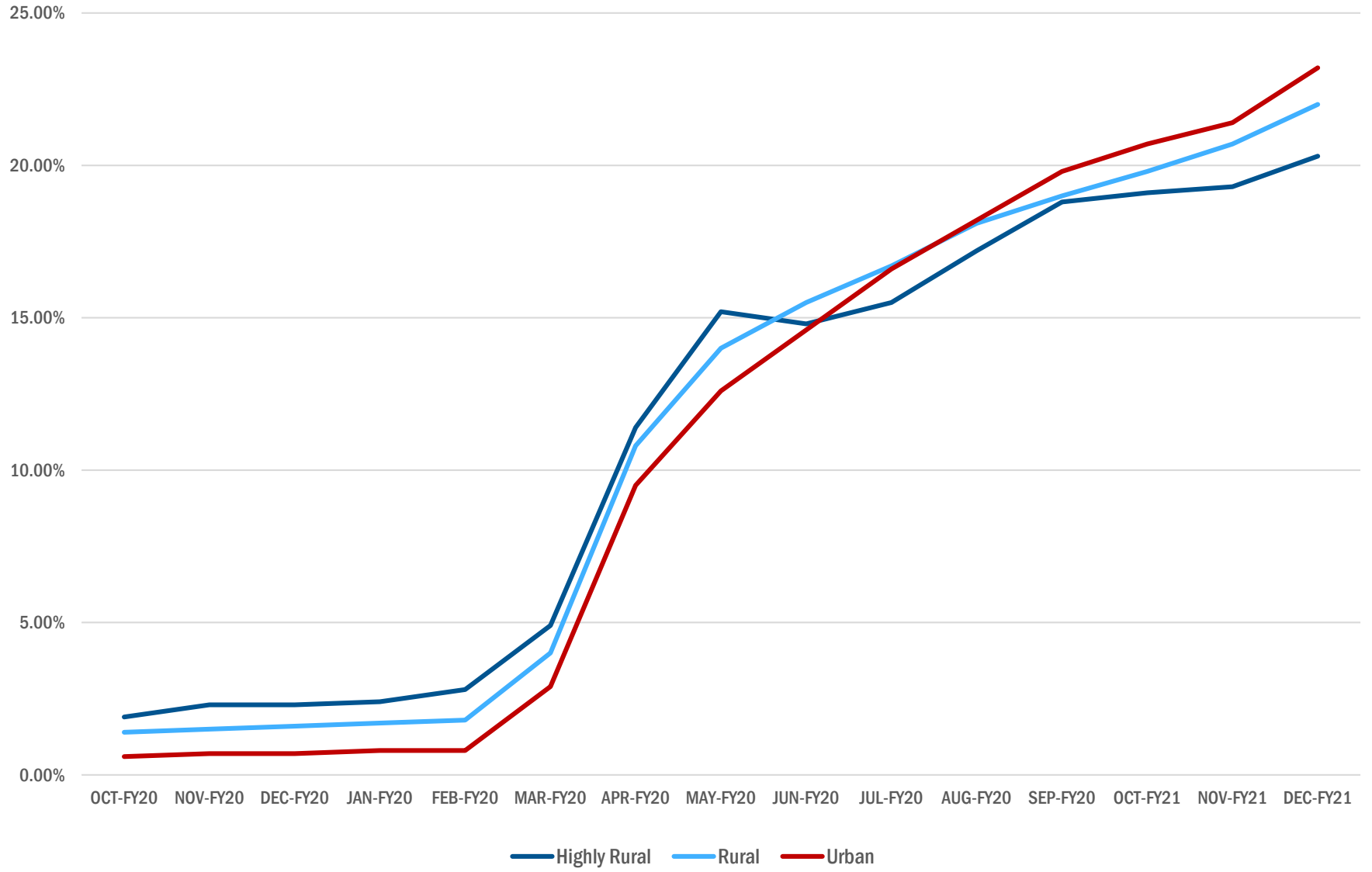
Use teach-back techniques, preferably throughout as able

Provide written summary of key points and instructions

Percentage of phone and **VTH grew** as face-to-face dropped during COVID-19



Utilization of VVC by rurality among Veterans aged 55 years and older.



Telehealth and Older Rural Patients



Prior to COVID-19, VHA was increasing telehealth access for rural, older patients

- Older and more chronically ill than their urban counterparts
- Increased challenges accessing interdisciplinary care due to distance, lack of specialty providers in their region, and lack of transportation

Access to telehealth found favorable outcomes

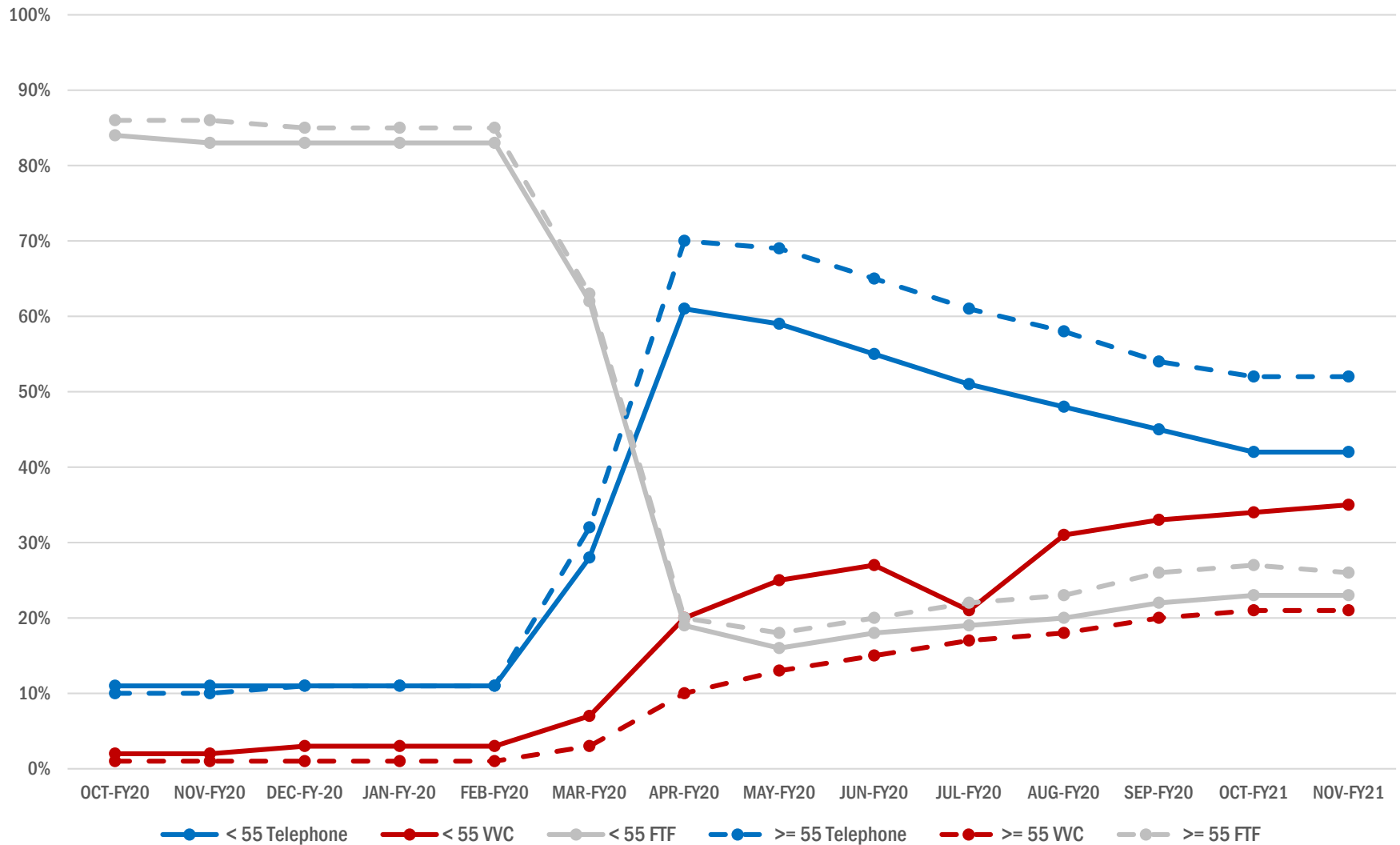
- Patient report high level of satisfaction
- Specialty geriatric consultation available more conveniently

Providers identified improvements

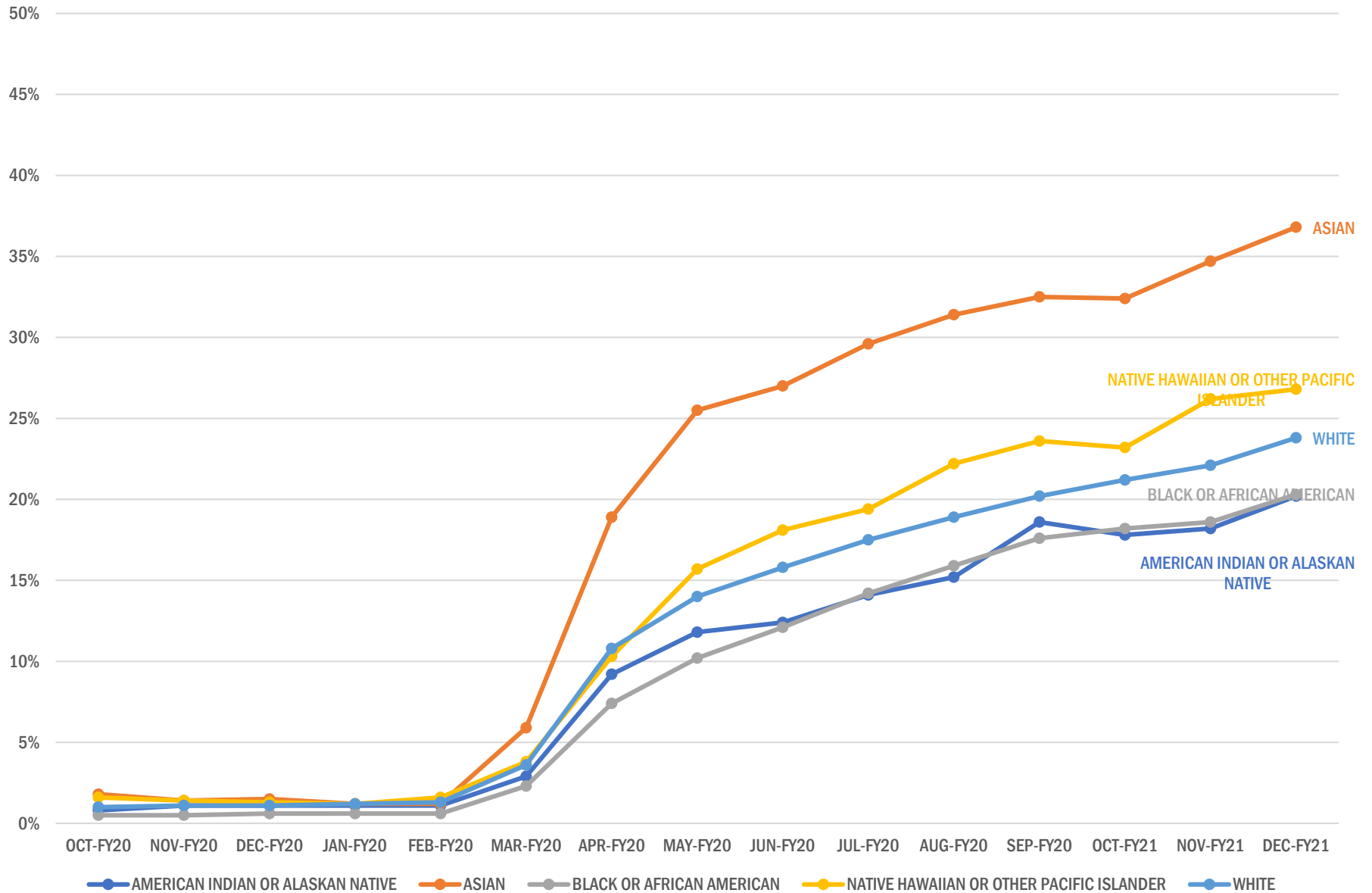
- Increased quality of life for Veterans and caregivers
- Improved access to resources for Veterans and caregivers, including
- Durable medical equipment and medical supplies
- Increased physical functioning
- Decreased caregiver burdens
- Timely discussions of diagnoses, prognosis, and future care planning.

Veterans aged 55 years and older utilize **phone** based care more than **VVC** for MH treatment than younger age groups.

**dashed lines are Veterans >=55 years



There are Racial Health Disparities in VTH Use Among Older Patients



Why Video Is Important

The Majority of Patients Say it is Very Important to Them

VERY IMPORTANT 75%

SOMEWHAT IMPORTANT 15%

NOT IMPORTANT 8%

NO ANSWER 2%

n=73

Veteran Voices: How Video Makes a Difference

“We had to use the phone one time, and the next time, I really **appreciated video**. The contact **formalized** the appointment, [added] **accountability** to adhere to that time and be there.”

“It’s not as easy when you have just a voice to understand what might be happening. She could **see my emotion** when it was important.”

“I felt **more of a connection** with her, felt like she really cared and was listening. We weren’t in the same room, but she could see my reactions and vice versa. It’s **better than just being on the phone.**”



See our commentary on “**The Importance of Video Visits in the Time of COVID-19**” by Jan Lindsay, Juliana Hogan, Anthony Ecker, et al. Published 2020 in the *Journal of Rural Health*.

Patient Voice

“I was a little nervous and apprehensive at first but it really is very, very easy. I just turned 60. Offer for someone older to go in to vet center or VA and have them help get online the first time.”

“[VTH] gives me a sense of security feeling like I’m being COVID-compliant. It cannot be underestimated how much that is saving lives and reducing spread.”

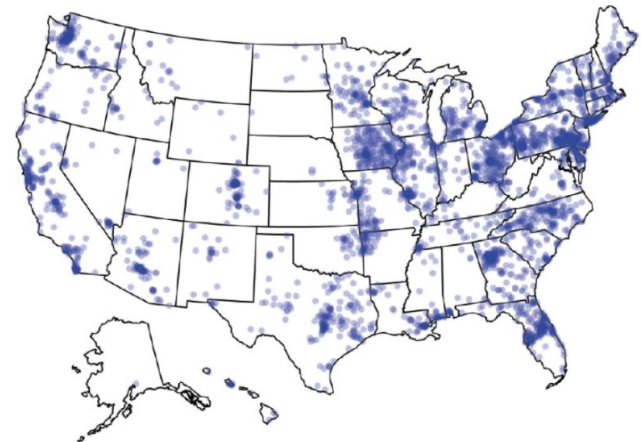
“I think that now, there’s been a change in recognizing mental health and you know, talking to other, Vietnam Veterans, they wish that they had the reception to mental health back then that they have now.”



VHA's response to structural patient barriers

- T-Mobile, Verizon, Sprint, and SafeLink by Tracfone waive all data charges for VTH appointments
- iPads available via Digital Divide consult for patients without a device/connectivity
- ATLAS sites
- Anywhere to Anywhere
- Peripherals that connect directly to devices available to aid patients with disabilities
- Help Desk available to practice and troubleshoot VTH issues with patients

Geographic Distribution of VA-Issued Tablets Sent to N=7,221 Patients (in 3,652 zip codes) During the First Two Months of the COVID-19 Pandemic (3/11/20-4/30/20)



A&D Weight Scale
High Capacity
450lbs (200kg)



Swalve Thermometer
Single Button
Start/Stop



A&D Blood Pressure
AccuFit™ Plus Cuff ` 8.6"-
16.5"
(22-42cm)



NonIn Pulse Oximeter
Auto On/Off Conserves
Battery Life



EKO Stethoscope
60x Amplification
and Ambient Sound
Reduction

Conclusions



Providers should avoid making assumptions about older adults' tech proficiency

- Older adults are interested in learning more about using technology

Older adults may feel inadequate when learning technology

- Give simple clear instructions and encouragement

Touch screens may be easier to use

Caregivers also benefit from telehealth interventions

Digital Mental Health



Synchronous

Asynchronous

Phone Appts.

Video Telehealth

Personal Med. Record
(secure msg, etc)

Apps & Web Courses



High provider support

Low provider support

Caregivers and Digital Mental Health/Sensors

- Caregivers are at risk of anxiety, distress, burden, depression, complicated grief, and physical morbidity (Schulz et al., 2020)
- Technology used by caregivers most often focus on scheduling, organizing, and facilitating medication refills/delivery (AARP, 2016)
- 71% of caregivers report interest in tech to support caregiving duties, yet only 7% are using or have used caregiving-related technology in market (AARP, 2016)
- Technology also can be viewed as “mechanism for intervention delivery” for caregivers/care recipients (Pillemer, Czaja & Reid, 2020, p. 2167)

Internet Interventions for Caregivers

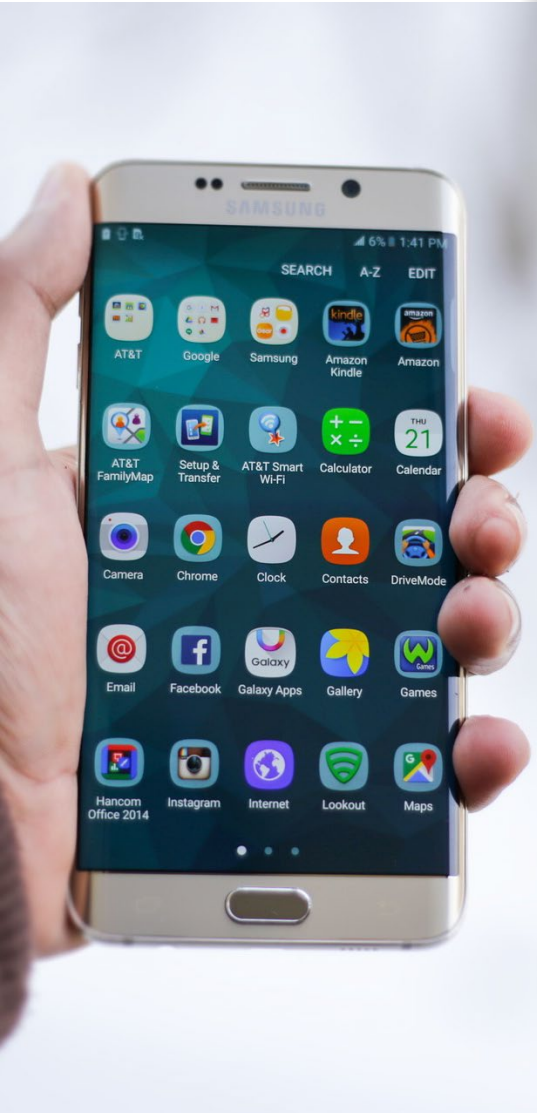
- Systemic review of 40 studies found that online psychological support (peer-based or professional) was beneficial; RCTs demonstrate improved mental health for caregivers (Davies et al., 2018)
- Meta-analysis found internet interventions (N = 17 RCTs) improved anxiety, depression, stress, and self-efficacy (Leng et al., 2020)
 - No findings for caregiving burden, caregiver reactions to behavioral symptoms
- Need for effectiveness and implementation trials (with/without technology)
- Consider incorporating personalized interventions for caregivers and care recipients

Computerized/Internet Interventions



- Generally consist of 6-15 modules that teach evidence-based skills using videos or multimedia tools (Andersson et al., 2014)
- **Internet-delivered CBT** reduces anxiety/depressive symptoms for older users (e.g., Titov et al., 2016; Xiang et al., 2019)
- **Internet-delivered CBT** prevents development of depression for older adults with multiple medical conditions (multimorbidity) (Read et al., 2020)
- **Computerized cognitive remediation** improved depressive symptoms and cognitive control vs. attention placebo in older adults with major depression (Morimoto et al., 2020)

Smartphone use by Older Adults



- Smartphone ownership among middle aged (79%) and older adults (53%) continues to grow each year.

(Pew Research Center, 2020)

- Rural-dwelling older adults less open to using apps based on comfort/familiarity, financial concerns, and on their values.

(Connolly et al., 2018)

- Older adults show interest in using mobile apps for mental health
- Yet only 10 to 12% had ever downloaded one
- Barriers to use include: privacy concerns, evidence in support of apps, not knowing where to find apps

(Gould et al., 2020; Lipschitz et al., 2019)

Mobile Mental Health Apps

- Over 10,000 mobile mental health apps in app store/play store
- 90% of active monthly mobile app users use 2 popular apps (Headspace, Calm)
- Most common skills found in mental health mobile apps: mindfulness (reaching 96% of monthly users)
- Less commonly found: cognitive restructuring (reaching 2% of active users)

(Carlo et al., 2019; Wasil et al., 2020)

National Center for PTSD Mobile App Suite

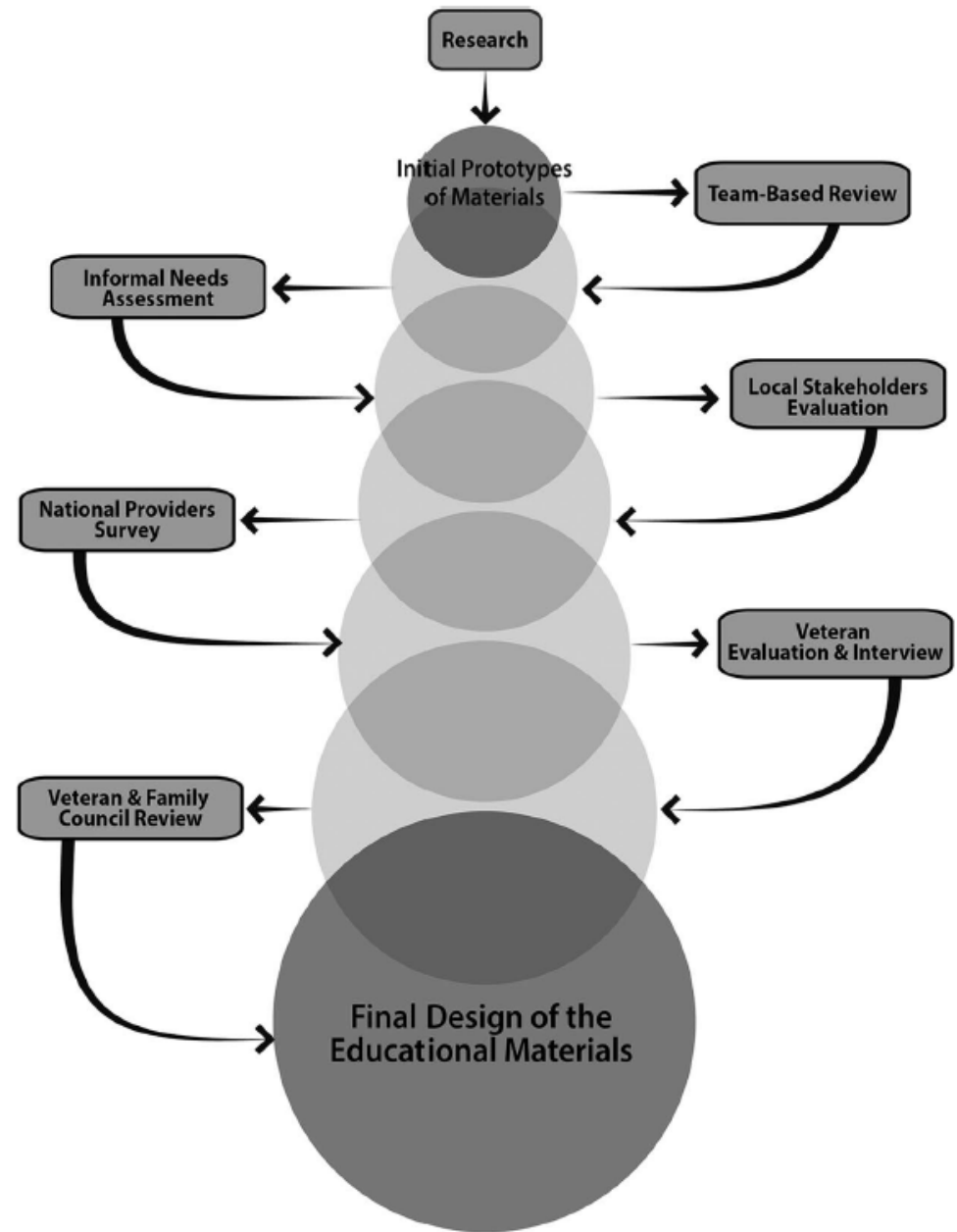


- Target anger, PTSD, depression, alcohol use, insomnia, stress, etc
- Do not replace treatment, but can supplement treatment

(See reviews: Owen, Kuhn, Jaworski, McGee-Vincent et al, 2018; Gould, Kok, Ma, Zapata, Owen & Kuhn, 2019)

Facilitating Older Adults' Use of Mental Health Apps

- Developed educational handouts to:
 1. Teach basics of mobile devices (terms, symbols, how to download apps)
 2. Describe features of 3 VA apps (Mindfulness Coach, PTSD Coach, Mood Coach)
- Process guided by User-Centered Design



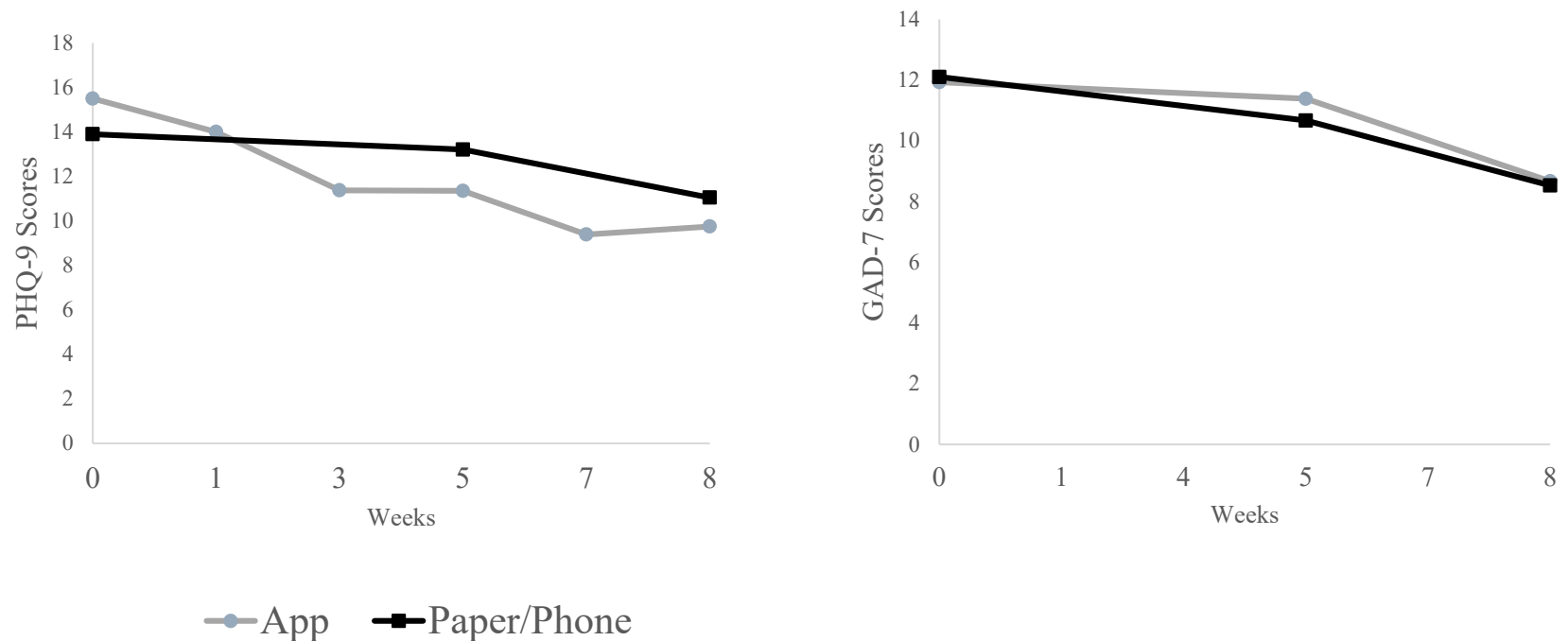
(Gould, Loup, Scales, Juang, Carlson, Ma & Sakai, 2020)

Link to request handouts: <https://www.surveymonkey.com/r/Geri-mobile>

Research on Mobile Apps

- The little research with older users has shown evidence of feasibility/acceptability (e.g., Fortuna et al., 2018)
- Mobile app-based intervention reduced depressive and anxiety symptoms in middle aged and older users (Gould et al., under review)
- Kuerbis et al. (2017) provide recommendations on features to include when designing mobile interventions for older users

Effects of 8-week Mobile-based Intervention in Middle aged and Older adults



N = 20; Age: M = 61.7 years (SD = 11.3)

Experience of less tech proficient user

Older phone/access issues

“Well, I had to make room for it on my phone 'cause I had an older iPhone that doesn't have a lot of storage, so that was my only perplexity, because, like I said, kind of dumb in the IT area. ...[I had to] go figure out what I needed to do, which was pay 99 cents a month to Apple for extra storage ((laughs)).”

Benefits

“It helped me have more energy because, you don't have to worry as much, if you have some tools that you can go back to such as this [app]. They are there and they are reliable, and you don't have to worry....I've got plenty to worry about, but, to know that there's some tools that can help me deal with things that plague me, is very comforting.”



Project Catalyst: Caregiver Technology Pilot Studies

Study 1: Care Coordination App (N = 20 Caregivers)



89% agreed care coordination is important



90% used a method to coordinate care prior to study → 95% reverted to former means of care coordination due to product limitations



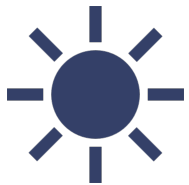
10% improvement in perceived stress

Project Catalyst: Caregiver Technology Pilot Studies

Study 2: Personal Emergency Response System (N = 20 Caregivers + Recipients)



77.5% interested in PERS, only 9.7% using tool



85% improvement in peace of mind & 57% decline in worry



3.5 emergency calls/user during 6-week period

Emerging Technologies

- Sensors (internet of things), voice activated technologies, assistive technology, and big data may benefit family caregivers
 - **Sensors/Wearables:** help identify changes in care recipient's health and behavior
 - **Voice-enabled interfaces:** can understand spoke requests, provide alerts/reminders, interface with calendar apps, etc.
 - **Assistive technologies:** support limitations in vision, hearing, mobility
 - **Big Data:** facilitate learning of behavioral patterns, may improve care management/care coordination

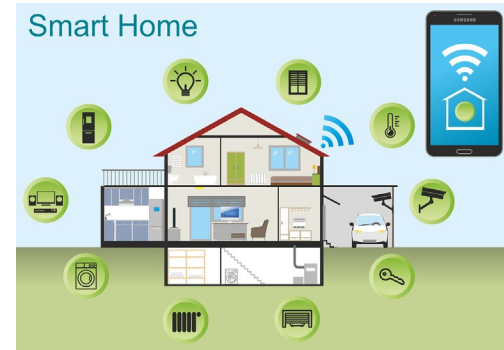


Image source: pixabay.com

(Lindemen et al., 2020)

Evidence: Using Technology to Improve Assessment and Diagnoses

- **Ecological Momentary Assessment (EMA)** were more sensitive to paper-and-pencil methods in a Mindfulness Based Stress Reduction Trial (Moore et al., 2016)
- **Movement based data** and **EMA** used to identify depression in older adults (Kim et al., 2020)
- **Computerized cognitive testing** (e.g., Ashford et al., 2019)



Tips on Using Mobile Technology with Novice Users

- Be familiar with the apps/sensors that you recommend
- Review device security
- Consider technology fit with patient's/caregiver's mental health/wellbeing goal
- Download app together (if possible) or set up sensor together in home
- Collaborate to set up a simple plan of action to use the technology
- Ask about plan of action and tech use during follow up visits
- Reflect on gains and encourage independent use of technology

Future Directions



- 1) What does **access** to technology look like for older adults?
- 2) What specific barriers and facilitators predict **technology use and adoption**?
- 3) How can research improve **quality and usability** of tech-enabled interventions to boost effectiveness?
- 4) How to implement tech solutions equally and **reduce health disparities**?

Recommended Readings

- Fortuna, K. L., Torous, J., Depp, C. A., Jimenez, D. E., Areán, P. A., Walker, R., Ajilore, O., Goldstein, C. M., Cosco, T. D., Brooks, J. M., Vahia, I. V., & Bartels, S. J. (2019). A Future Research Agenda for Digital Geriatric Mental Healthcare. *American Journal of Geriatric Psychiatry, 27*(11), 1277–1285.
- Grossman, J. T., Frumkin, M. R., Rodebaugh, T. L., & Lenze, E. J. (2020). mHealth Assessment and Intervention of Depression and Anxiety in Older Adults. *Harvard Review of Psychiatry, 28*(3), 203-214.
- Lum, H. D., Nearing, K., Pimentel, C. B., Levy, C. R., & Hung, W. W. (2020). Anywhere to anywhere: use of telehealth to increase health care access for older, rural veterans. *Public Policy & Aging Report, 30*(1), 12-18.

Recommended Readings

- AARP (2016). Caregivers & Technology: What they want and need. Available at: https://www.aarp.org/content/dam/aarp/research/surveys_statistics/ltc/2018/caregivers-technology-needs.doi.10.26419-2Fres.00191.002.pdf
- Lindeman, D. A., Kim, K. K., Gladstone, C., & Apesoa-Varano, E. C. (2020). Technology and caregiving: Emerging interventions and directions for research. *The Gerontologist*, 60(Supplement_1), S41-S49.
- Schulz, R., Beach, S. R., Czaja, S. J., Martire, L. M., & Monin, J. K. (2020). Family caregiving for older adults. *Annual review of psychology*, 71, 635-659.

References

Ashford, J. W., Tarpin-Bernard, F., Ashford, C. B., & Ashford, M. T. (2019). A computerized continuous-recognition task for measurement of episodic memory. *Journal of Alzheimer's Disease, 69*(2), 385-399.

Bossen, A. L., Kim, H., Williams, K. N., Steinhoff, A. E., & Strieker, M. (2015). Emerging roles for telemedicine and smart technologies in dementia care. *Smart homecare technology and telehealth, 3*, 49–57.

Buckwalter KC, Davis, LL, Wakefield BJ, Kienzle MG, Murray MA. (2002) Telehealth for Elders and Their Caregivers in Rural Communities, *Family & Community Health, 25*(3), 31-40.

Cucciare, M. A., Weingardt, K. R., Ghaus, S., Boden, M. T., & Frayne, S. M. (2013). A randomized controlled trial of a web-delivered brief alcohol intervention in Veterans Affairs primary care. *Journal of Studies on Alcohol and Drugs, 74*(3), 428-436.

Chen, K., & Lou, V. W. Q. (2020). Measuring Senior Technology Acceptance: Development of a Brief, 14 -Item Scale. *Innovation in aging, 4*(3), igaa016.

Connolly, S. L., Miller, C. J., Koenig, C. J., Zamora, K. A., Wright, P. B., Stanley, R. L., & Pyne, J. M. (2018). Veterans' Attitudes Toward Smartphone App Use for Mental Health Care: Qualitative Study of Rurality and Age Differences. *JMIR Mhealth Uhealth, 6*(8), e10748

Fortuna, K. L., DiMilia, P. R., Lohman, M. C., Bruce, M. L., Zubritsky, C. D., Halaby, M. R., ... & Bartels, S. J. (2018). Feasibility, acceptability, and preliminary effectiveness of a peer-delivered and technology supported self-management intervention for older adults with serious mental illness. *Psychiatric Quarterly, 89*(2), 293-305.

Gould, C. E., Kok, B. C., Ma, V. K., Zapata, A. M. L., Owen, J. E., & Kuhn, E. (2019). Veterans Affairs and the Department of Defense mental health apps: A systematic literature review. *Psychological services, 16*(2), 196.

References

- Gould, C. E., Loup, J., Kuhn, E., Beaudreau, S. A., Ma, F., Goldstein, M. K., ... & O'Hara, R. (2020). Technology use and preferences for mental health self-management interventions among older veterans. *International Journal of Geriatric Psychiatry, 35*(3), 321-330.
- Gould, C. E., Loup, J. R., Scales, A. N., Juang, C., Carlson, C., Ma, F., & Sakai, E. Y. (2020). Development and refinement of educational materials to help older veterans use VA mental health mobile apps. *Professional Psychology: Research and Practice, 51*(4), 414.
- Hicken, B. L., Daniel, C., Luptak, M., Grant, M., Kilian, S., & Rupper, R. W. (2017). Supporting caregivers of rural veterans electronically (SCORE). *The Journal of Rural Health, 33*(3), 305-313.
- Kim, H., Kim, S., Kong, S. S., Jeong, Y. R., Kim, H., & Kim, N. (2020). Possible Application of Ecological Momentary Assessment to Older Adults' Daily Depressive Mood: Integrative Literature Review. *JMIR Mental Health, 7*(6), e13247.
- Lai, F. H., Yan, E. W., Yu, K. K., Tsui, W. S., Chan, D. T., & Yee, B. K. (2020). The Protective Impact of Telemedicine on Persons With Dementia and Their Caregivers During the COVID-19 Pandemic. *The American Journal of Geriatric Psychiatry, 28*(11), 1175–1184.
- Lipschitz, J., Miller, C. J., Hogan, T. P., Burdick, K. E., Lippin-Foster, R., Simon, S. R., & Burgess, J. (2019). Adoption of Mobile Apps for Depression and Anxiety: Cross-Sectional Survey Study on Patient Interest and Barriers to Engagement. *JMIR Ment Health, 6*(1), e11334
- Moo LR, Gately ME, Jafri Z & Shirk SD. (2020) Home Based Video Telemedicine for Dementia Management, *Clinical Gerontologist, 43*:2, 193-203
- Moore, R. C., Depp, C. A., Wetherell, J. L., & Lenze, E. J. (2016). Ecological momentary assessment versus standard assessment instruments for measuring mindfulness, depressed mood, and anxiety among older adults. *Journal of psychiatric research, 75*, 116-123.
- Morimoto, S. S., Altizer, R. A., Gunning, F. M., Hu, W., Liu, J., Cote, S. E., ... & Alexopoulos, G. S. (2020). Targeting cognitive control deficits with neuroplasticity-based computerized cognitive remediation in patients with geriatric major depression: A randomized, double-blind, controlled trial. *The American Journal of Geriatric Psychiatry, 28*(9), 971-980.

References

Owen, J. E., Kuhn, E., Jaworski, B. K., McGee-Vincent, P., Juhasz, K., Hoffman, J. E., & Rosen, C. (2018). VA mobile apps for PTSD and related problems: public health resources for veterans and those who care for them. *Mhealth, 4*.

Pew Research Center (2020). Mobile Fact Sheet. Available at: <https://www.pewresearch.org/internet/fact-sheet/mobile/>

Read, J., Sharpe, L., Burton, A. L., Arean, P. A., Raue, P. J., McDonald, S., ... & Dear, B. F. (2020). A randomized controlled trial of internet-delivered cognitive behaviour therapy to prevent the development of depressive disorders in older adults with multimorbidity. *Journal of Affective Disorders, 264*, 464-473.

Seelye, A., Leese, M.I., Dorociak, K., Bouranis, N., Mattek, N., Sharma, N., ...& Kaye, J. (2020). Feasibility of In-Home Sensor Monitoring to Detect Mild Cognitive Impairment in Aging Military Veterans: Prospective Observational Study. *JMIR Formative Research, 4*(6), e16371.

Titov, N., Fogliati, V. J., Staples, L. G., Gandy, M., Johnston, L., Wootton, B., ... & Dear, B. F. (2016). Treating anxiety and depression in older adults: randomised controlled trial comparing guided v. self-guided internet-delivered cognitive-behavioural therapy. *BJPsych open, 2*(1), 50-58.

Xiang, X., Wu, S., Zuverink, A., Tomasino, K. N., An, R., & Himle, J. A. (2020). Internet-delivered cognitive behavioral therapies for late-life depressive symptoms: a systematic review and meta-analysis. *Aging & Mental Health, 1-11*.