Research Priorities and Takeaways from the Virtual Care State of the Art Conference Cyberseminar

VA Health Services Research & Development Service

October 4, 2022

Virtual Care CORE SOTA Workgroup Leads

Access (Donna Zulman)

Engagement (Taona Haderlein, Tim Hogan)

Outcomes (Samantha Connolly, Jeydith Gutierrez)

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VA | U.S. Department of Veterans Affairs
Veterans Health Administration
Health Services Research & Development Service

Defining Virtual Care

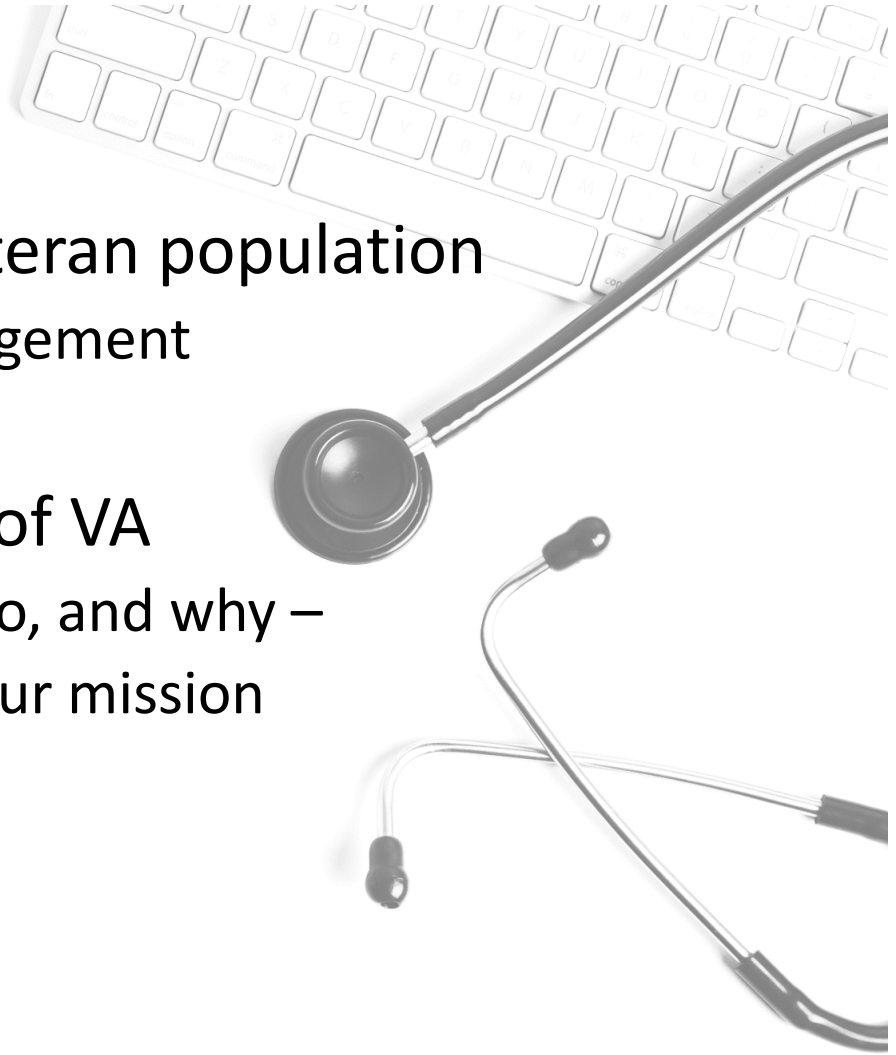
We use the term “virtual care (VC) technologies” to refer to technologies intended to enhance the accessibility, capacity, quality, and experience of VA health care for Veterans, their families, and their caregivers, wherever they are located.

Why Virtual Care is a Priority for VA

- Potential to address some disparities in care
  - But also exacerbate others; growing digital divide
- Variation in engagement with VC within the Veteran population
  - Need to understand why and how to enhance engagement

  if we hope to realize the potential of VC
- Proliferation of VC technologies in and outside of VA
  - Need to know what works and what doesn't for who, and why –

  in order to use VA resources optimally and advance our mission

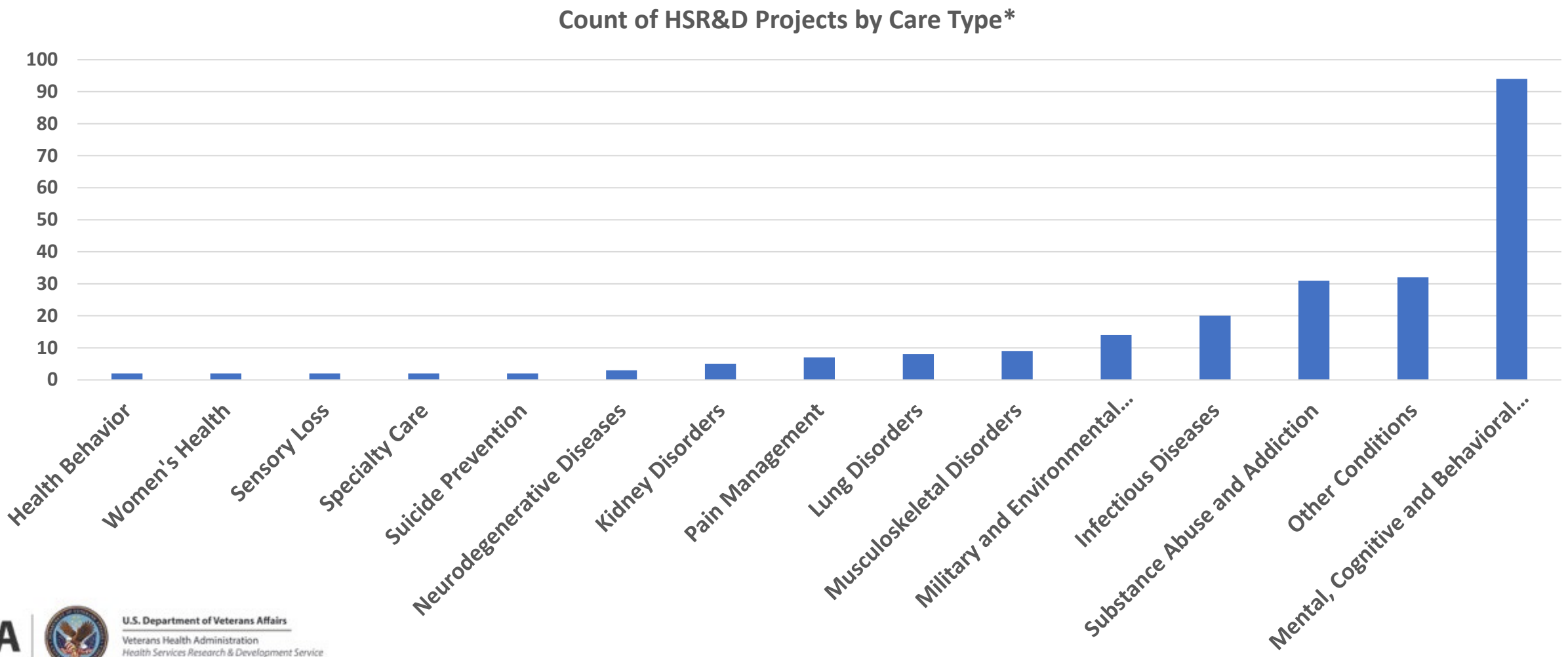


Virtual Care Research in VA

- Portfolio review data gathered directly from public HSR&D database
- Data abstracted from project descriptions
- 369 HSR&D funded projects identified (2011-2020)
- Additional projects continue to be counted and abstracted

Grant Type/ Funding Mechanism	Response Frequency: Percentage (N=369)
IIR	37%
PPO	14%
RRP	13%
CDA	9%
SDR	5%
CRE	4%
Other	18%

Virtual Care Research in VA



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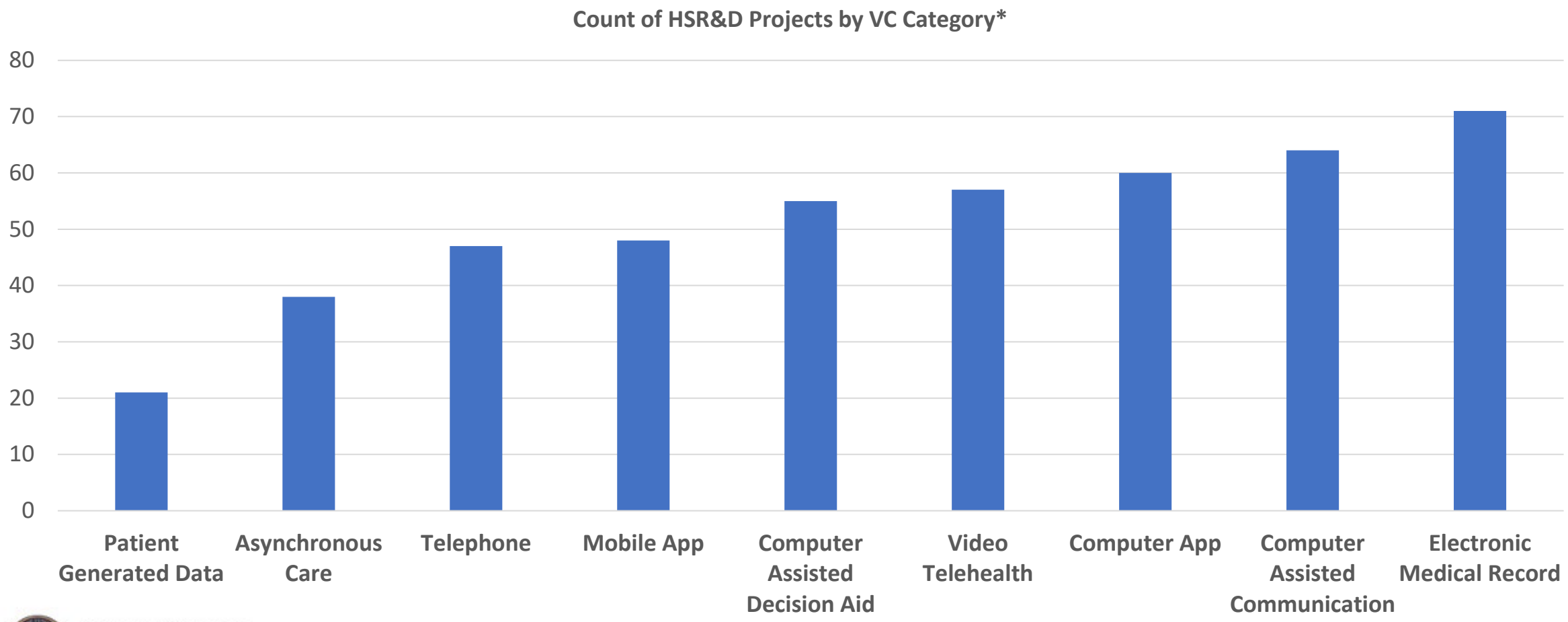
*More than one Care Type could be selected for a project

Virtual Care Research in VA



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*More than one VC Category could be selected for a project

VA Virtual Care: From Anywhere to Anywhere

Where VA Connected Care Occurs

Home/Community

- Portal / Secure Messaging
- Home Telehealth / Remote Monitoring
- VA Video Connect
- mHealth - Apps, Annie
- Telephone Care
- Tele-Urgent Care
- And more…

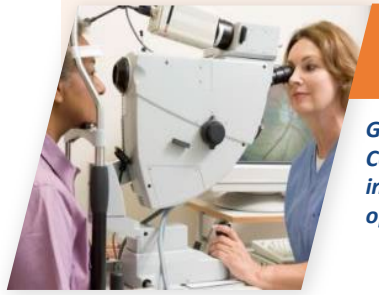
Clinic

- Video Telehealth
- -Primary Care
- -Mental Health
- -50+ specialties
- Store and Forward Telehealth
- Provider Connect

Hospital

- TeleICU
- TeleStroke
- TeleNephrology
- More …

How VA Implements Connected Care



Local

Goal: Connected Care Integration into all routine operations

Regional

Clinical Resource Hubs

- TeleMental Health
- TelePrimary Care
- TeleDermatology
- TeleRehabiitation
- TeleSleep

National

- Expert TeleConsultation
  - TeleGenomics
  - Specialty Mental Health
- TeleEmergencyManagement
- TeleICU, TeleStroke, etc.

FY 2021-2025 - Connected Care Strategic Plan

Trusted Care: Anytime, Anywhere

Goals

1. Enhance Veteran Digital Engagement

2. Deliver Health Care Without Walls

3. Solidify Connected Care Foundations

Strategies

1.1: Build an Engaging Digital Front Door	1.2: Support Veterans in Managing Their Own Health	2.1: Deliver Synchronous Care in the Home	2.2: Expand Clinical Capacity	2.3: Empower VA's Workforce to Deliver Connected Care	3.1: Modernize VA's Connected Care Infrastructure	3.2: Analyze Digital Health Data and Connected Care Programs for New Insights	3.3: Enhance Connected Care Operations and Authorities

Objectives

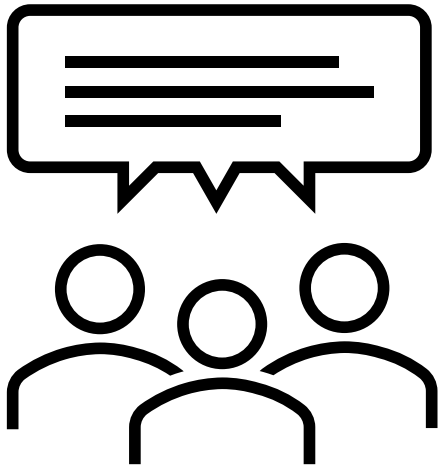
1.1.1: Enhance the Veteran's digital experience.	1.2.1: Develop tech for patient self-care, RPM-HT and communication.	2.1.1: Integrate video care to home into routine operations.	2.2.1: Expand clinical services in outpatient, inpatient, and acute care.	2.3.1: Implement training to transition VA staff to a Connected Care capable workforce.	3.1.1: Modernize OI&T infrastructure to support Connected Care technologies.	3.2.1: Leverage data reports, processes, and tools to oversee and enhance the quality of Connected Care programs.	3.3.1: Share health care professionals' services across VA facilities.
1.1.2: Give Veterans access to licensed independent providers.	1.2.2: Leverage VA's resources and strategic partnerships to bridge the digital divide.	2.1.2: Develop enhanced diagnostic capabilities in the home.	2.2.2: Increase resource sharing between VA facilities.	2.3.2: Establish a workforce to manage equipment, operations, education, and encounters.	3.1.2: Deliver Connected Care services using effective and modern equipment.	3.2.2: Support Connected Care research to advance the health community knowledge base.	3.3.2: Communicate info on Connected Care services to Veterans and key stakeholders.
	1.2.3: Offer remote monitoring and care coordination services.		2.2.3: Ensure provider-to-provider consultation is available across the VHA enterprise.	2.3.3: Develop apps to support clinical teams in delivering care.			3.3.3: Establish a legal, regulatory, and policy environment that supports Connected Care.
	1.2.4: Bridge communications across inpatient environments.		2.2.4: Collaborate with DoD to enhance services for active service members and Veterans.	2.3.4: Transition Connected Care capabilities to the Cerner Electronic Medical Record.			3.3.4: Schedule telehealth appointments efficiently.
			2.2.5: Integrate Connected Care into enterprise emergency management planning and response.	2.3.5: Enhance healthcare professionals' experience with virtual care.			3.3.5: Provide help desk support for Connected Care services.

Virtual Care State-of-the-Art (SOTA) Conference

Goal: Convene VA researchers, representatives from program offices, Veterans, and HSR&D leadership to identify research priorities that will inform VA virtual care policy and clinical operations.

SOTA Workgroups were charged with identifying research priorities to:

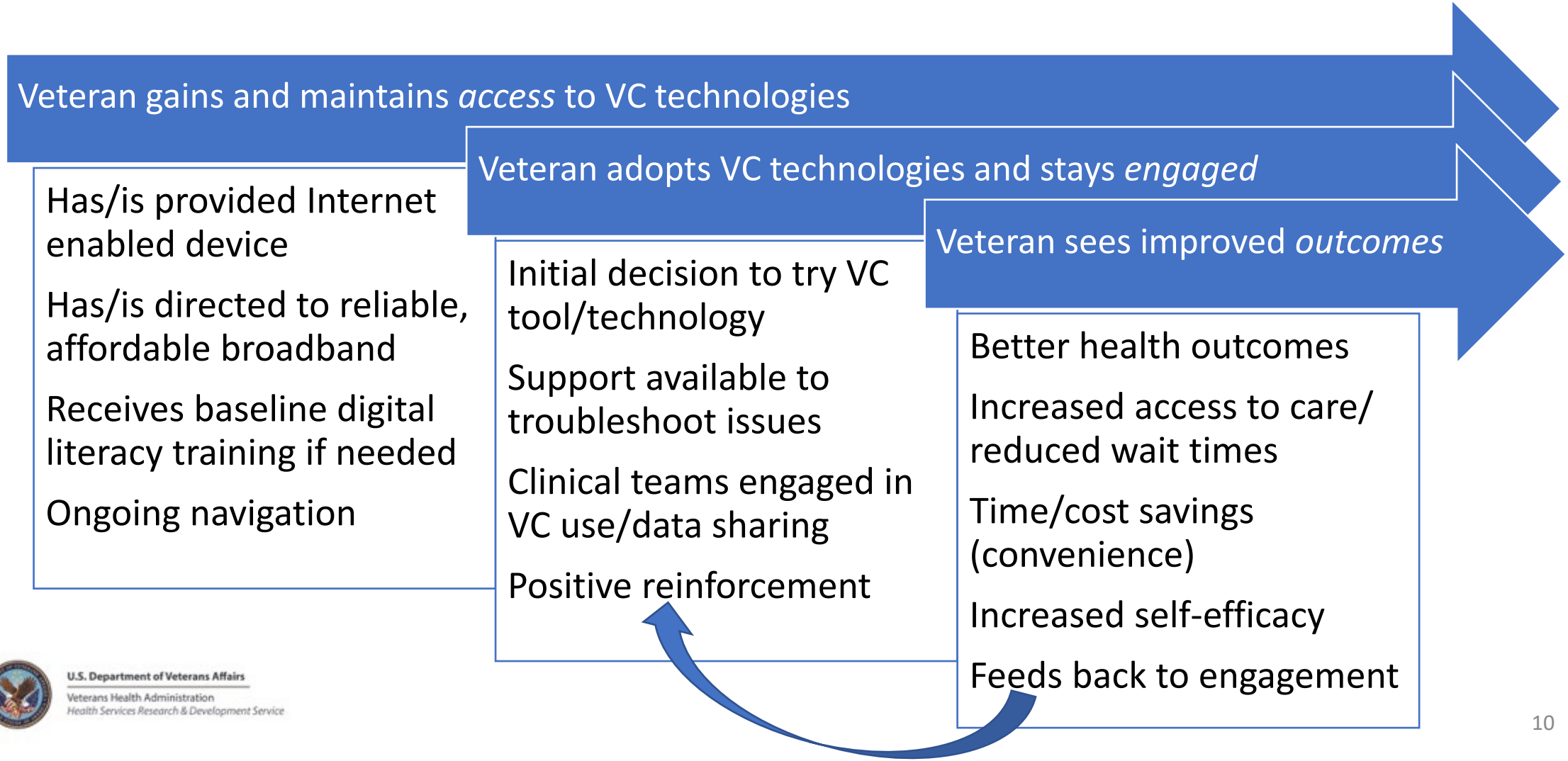
1. Address virtual care access disparities
2. Enhance Veteran engagement with virtual care
3. Define and improve outcomes influenced by virtual care



Prior to SOTA, workgroups:

- Refined key workgroup questions
- Identified subject matter experts to participate in workgroups
- Selected pre-conference readings to address SOTA objectives
- Created evidence briefs based on review of research

SOTA Framework
Continuum of access, engagement, & outcomes



Access
Workgroup Questions

- Based on the existing evidence about **barriers that impede virtual care access** in digitally vulnerable populations, what additional research is needed to understand these factors?

- Based on the existing evidence about **digital inclusion strategies**, what additional research is needed to identify the most promising strategies?

Access
What We Know – Barriers

- There is a digital divide, and we know many (but not) all groups affected
  - We know more about patterns related to frequently studied sociodemographic characteristics
  - We know less about intersectionality among characteristics and characteristics not captured in EHR (e.g., gender minorities)
- Virtual care access barriers exist at the patient, provider, and system level
  - Access barriers are well-established
- Connectivity and a device are necessary but not sufficient
  - We know some, but not all factors that influence Veterans' decisions to use VC

Access
What We Know – Strategies

- Expansion is feasible (e.g., rapid scaling of video visits during COVID)
- Providing Veterans with devices & connection seems to work (but not for all)
- Changing clinician behaviors/habits is hard
- Training needs to be tailored (one-size-fits-all models don't work)
- VA has implemented some effective VC access strategies – need better mechanism for dissemination
  - Digital Divide consult (many patients/providers are not aware of tablets/internet service)
  - eConsults (rates vary markedly by VISN)
- Patient needs are dynamic (strategies need to be dynamic too)

Access
Research Priorities

- Identify and evaluate opportunities to optimize Veterans' access to VC through interventions at the patient, provider, and system level
- Create standardized VC access metrics with the goal of tracking access expansion and equity
- Customize technology, implementation strategies, and VC models to ensure equitable VC access
- Examine how VA can offer access to VC that meets a Veterans' dynamic clinical needs and social circumstances
- Identify which implementation strategies increase patient/clinician adoption of effective VC technologies
- Identify rapid, real-time evaluation methods to optimize VC access, engagement, and outcomes

Engagement Workgroup Questions

- Based on the existing evidence about **factors that influence engagement** with VC among Veterans, what additional research is needed to understand such factors?

- Based on the existing evidence, **what strategies** at the Veteran, clinical team, and/or system levels show the most promise in supporting Veteran engagement with VC?

- What **additional research** beyond factors and strategies is needed to enhance Veteran engagement with VC?

Engagement
What We Know - Factors

- We know more about the role of patient-level factors (compared to clinical team and/or system level factors) and their influence on engagement
  - E.g., age, literacy, education
- We know that some factors are modifiable, but others less so
- Among VA clinical team members, we know time is limited and there is considerable workload burden
- Patients want choices and to be able to share data

Engagement
What We Know - Strategies

- Research has not clearly delineated strategies to support initial adoption from those to support sustained use
  - Work to date has focused more on strategies to support initial adoption

- There are several strategies at different levels, based on existing evidence, that show promise

  Individual
  - Provider endorsement of VC technologies increases Veteran engagement
  - Promoting awareness of VC technologies
  - Facilitation-based initiatives (e.g., problem-solving, trouble-shooting)

  System
  - Local champions
  - Internal facilitators
  - Management and leadership support

Engagement Research Priorities

- Utilizing non-clinical stakeholders, ranging from facility staff to family members and other informal caregivers, to support Veteran initial adoption and sustained use of VC
- Developing and disseminating context-sensitive measures of engagement appropriate for different VC platforms and use cases
- Fully characterizing and evaluating the role of clinical team member, facility, and system-level factors on Veteran engagement with VC
- Testing promising strategies in meaningful combinations to promote adoption and/or sustained use of VC

Engagement Research Priorities

- Translating established implementation strategies applied in other non-tech contexts to the realm of VC technologies
- Designing and testing strategies that can be integrated into clinical workflows that offload tasks to non-clinical stakeholders (e.g., other facility staff, informal caregivers)
- Understanding the Veteran journey, from the period of active service to the period of being a VA patient, and when and how VC can best be introduced along that journey to maximize engagement
- Understanding the role of informal caregivers (family, friends, peers) in promoting adoption and sustained use of VC over time among Veterans, and testing ways to support informal caregivers in that role

Outcomes
Workgroup Questions

1. **What process measures specific to VC are needed to assess/improve quality of VC?** E*xamples of process measures may include the amount of time it takes to connect to TH visits or the proportion of visits in which recommended care is provided (e.g., HbA1c measured at appropriate intervals for diabetic patients).*

2. **What VC outcomes (or categories of outcomes) are most important to track?**

3. **Based on the existing evidence about the processes and outcomes identified in Questions 1 and 2**
   a) When is VC better/equivalent/worse than in-person care?
   b) When should VC be a complement versus a substitute for in-person care?
   c) What evidence is available and what are the gaps in the literature?

Outcomes
What We Know

- There is value in telehealth
  - Broadly and within VA, patients like it, expect it and demand it
  - Research has demonstrated efficacy of telehealth for specific diseases
    - Non-inferiority of clinical outcomes of interest, patient and provider satisfaction
    - Specific cohorts
- Single disease/outcome studies have poor translation/applicability to real world conditions
  - Exclusion criteria often unrealistic/not generalizable
  - True “value” of VC should be measured holistically
- Lots of variation in what is considered “usual care”
  - Right now, PC provider only required to see patient yearly in-person OR video OR even phone
  - Blood pressure measurement must be *observed* in order to be valid; little evidence for many other examinations that occur in-person, but patients still expect them

Outcomes Research Priorities

- Studies on patients with complex medical needs (multiple chronic conditions, high utilizers) and/or complex social situations, with a preference for multiple/longitudinal outcomes
- Studies on the safety of VC; currently, we do not know to what extent VC introduces potential safety concerns
- The optimal care portfolio (i.e., mix of in-person and virtual care encounters) to create the “best” outcomes overall
- Use of PGHD in combination with traditional sources of data, such as the EMR, to generate alerts and predictions that are clinically valuable to providers
- Ability of PGHD to empower patients to change behavior and/or manage more of their care
- Impact of PGHD on population health in the long term

Virtual Care Research Priorities
Top 5 from SOTA attendee rankings

- Identify which implementation strategies increase patient/clinician adoption of effective virtual care technologies
- The optimal care portfolio (i.e., mix of in-person and virtual care encounters) to create the “best” outcomes overall
- Understanding the Veteran journey, from the period of active service to the period of being a VA patient, and when and how VC can best be introduced along that journey to maximize engagement
- Identify and evaluate opportunities to optimize Veterans’ access to virtual care through interventions at the patient, provider, system levels
- Use of PGHD in combination with traditional sources of data, such as the EMR, to generate alerts and predictions that are clinically valuable to providers

Reflections on Research Priorities

- Operations-Research Partnerships
  - Partnership between researchers and operational offices early and often is key to generating insights that are important to leadership but difficult to attain
  - Consider whether a given project is most suitable for operations-focused evaluation vs research
  - Shared sense-making of complex data sources
- Collaboration with Community and DoD
  - Community care data will be critical to fully exploring certain research questions
  - Research to reflect coordination, information sharing, and dynamic needs of Veterans

- Identifying short- and long-term opportunities
  - Pinpoint opportunities to strengthen implementation and dissemination of existing VC technologies
  - Studying long-term outcomes may require sustained commitments; short-term insights can support operations
  - Rapid pilots can expedite testing and evaluation of promising tools and strategies

What's Next?

- **Funding:** SOTA priorities informed recent request for proposals from OCC and will inform future requests from HSR&D and potentially other funding sources

- **HSR&D Conference:** Workshop at the HSR&D Conference (February, 2022) focused on research priorities and VC data sources

- **JGIM Special Issue:** VA-sponsored special issue in *Journal of General Internal Medicine* detailing findings from SOTA and VA VC research
    - Abstracts due October 28th

- **Contact Us:** For additional information on any of these opportunities/events, please contact VHAVirtualCareCORE@va.gov

Thank you to the SOTA Attendees, VC CORE Planning Committee and HSR&D for hosting this event!

SOTA Workgroup Leads– Thank You!

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Elizabeth Duran, MA

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SOTA Attendees – Thank You!

Leonie Heyworth, MD, MPH
Teresa Hudson, PharmD, PHD
Peter Kaboli, MD, MS
Rebecca Keller, MBA, OTR
Catherine Kelso, MD, PhD
Alison Lewinski, PhD
Ernest Moy, MD, MPH
John Murphy, MD
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Cathy Buck, GNP-BC
Michael E. Charness, MD
Terry Newton, PhD
Ashok Reddy, MD, MSc
Edwin Wong, PhD
Crystal Henderson, EdD

Resources

- Virtual Care SOTA Slides and Resources: https://www.hsrd.research.va.gov/meetings/virtual_care/
- Virtual Care CORE Leadership
  - Principal Investigators: Scott Sherman, Donna Zulman, & Tim Hogan
  - Project Managers: Cindie Slightam, Navid Dardashti, & Nicholas McMahon
- VC CORE Website: https://www.hsrd.research.va.gov/centers/core/virtual_care.cfm
- VC CORE SharePoint: https://dvagov.sharepoint.com/sites/VHAVCCORE/SitePages/Home.aspx
- To join VC CORE Listserv (for newsletters, announcements, etc), please email VHAVirtualCareCORE@va.gov