The Adoption of Video Visits During the COVID-19 Pandemic by VA Home Based Primary Care

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Introduction

The Department of Veteran's Affairs (VA) Home Based Primary Care (HBPC) Program delivers in-home care to chronically ill geriatric veterans.[1] During the COVID-19 pandemic, older adults adults were required to minimize in-person contact, and the home-based care delivery model became untenable.[2,3] National VA leadership encouraged replacing in-person visits with videoconferencing. This posed challenges for HBPC, where video visits represented only 0.3% of over 1 million total national HBPC visits from January 2019-February 2020 despite efforts to promote adoption. Prior to the pandemic, national VA and HBPC leadership had developed structural changes, defined as changes related to resources, management systems and policy guidelines,[4] which laid the groundwork for video visit adoption. This included development of the VA Video Connect (VVC) videoconferencing software, investment in support lines to troubleshoot software issues, creation of a health record provider note template, and provision of government-issued laptops and cell phones to providers. Providers could enroll patients in a program distributing video-capable tablets to veterans with need.[5] National leadership developed VVC training modules and incentivized replacing in-person visits with video visits. Nevertheless, it was not until additional key local and national changes occurred around the time of the pandemic declaration that adoption rapidly increased in the San Francisco VA Health Care System's (SFVAHCS) HBPC from February to June 2020. We highlight key changes facilitating this increase.

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Methods

We developed a timeline of changes and categorized changes guided by the COM-B model of behavior change, a framework used to demonstrate how behavior (B) change occurs when individuals have the physical and mental capability (C) to seize available opportunities (O) if there is sufficient motivation (M) for change.[6] Utilizing VA national (Corporate Data Warehouse) data, we trended video visits as a percentage of total visits between January 2020 through June 2020 in relation to aforementioned timeline. We trended percentages of providers becoming video visit capable.

Results

Changes involved augmenting provider *capability* (leadership encouraging providers to upgrade computing hardware and complete training modules, temporary expansion of allowable videoconferencing platforms besides VVC), *opportunity* (large group didactics as well as individual tutorials and biweekly virtual office hours for VVC training, encouragement of peer education, triage changes to favor VVC visits), and *motivation* (local mandate for all clinicians to become VVC capable, heightened desire to keep patients healthy during the pandemic) (Figure 1). *Behavior change* occurred rapidly, as video-visit-capability among clinicians increased from 12% to 94% from March 1 to 27 and video visits increased from 0% to 2% of total visits from February to March, to 8% in April onward. This surpassed the regional Sierra Pacific Network to which SFVAHCS HBPC belongs, where video visits similarly increased from 0% to 2% in from February to March but increased only to 6–7% in April onward.

Discussion

This project showed that improved VVC adoption required multiple domains of change. The combination of national structural changes and local changes addressing provider capability, opportunity, and motivation led to increased adoption. Given the diverse organizational, technological, and social barriers impacting the adoption of telemedicine,[7] a multi-dimensional approach to change is important for effectiveness. Our findings support those of another study, which found that changes in multiple domains, including modified workflow processes and improved technology infrastructure, correlated with increased telehealth adoption.[8] However, our study is unique as it examines the correlation of these changes with telehealth adoption in the distinct HBPC older adult population that typically receives high-touch in-home care.

This study also highlights the skillful use of different modes of education to efficiently train providers to host video visits. This aligns with a recent educational review supporting the use of diverse educational methods within a single intervention as a key feature of effective faculty development education.[9] These various training options accommodated the varying levels of provider expertise and knowledge gaps. For example, didactic trainings benefitted providers needing to learn the basics of VVC software utilization and virtual patient interaction, while one-on-one demonstrations and office hours catered to seasoned learners seeking advanced expertise.

The San Francisco VA HBPC program, which cares for a particularly vulnerable geriatric population, increased video visit adoption exponentially and rapidly through a combination of national structural interventions and local changes addressing provider capability, opportunities, and motivation. This paper shows how these changes operationalized on a local level, shedding light on national trends. Similar clinics may benefit from changes enacted in various domains and levels like this to decrease the digital divide for these patients.[10] Future steps for our project will focus on addressing behavior change from the patient perspective.

ACKNOWLEDGEMENTS

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Time Period	Date	Changes Occurring
Pre-Pandemic	2018-2019	SFVAHCS HBPC leadership advocates for provider laptop computer upgrade with integrated microphone and camera and external microphones and cameras for desktop computers
	31 Dec 2019	All SFVAHCS HBPC MD providers (3/33 total providers) trained in VVC & completed 1 test visit
	Feb 2020	First nurse practitioner trained
	Early Spring 2020	Early adopters comment on positive features of VVC
	March 2020	New SFVAHCS patient triage system to minimize in-person visits in favor of VVC as appropriate
	March 2020	SFVAHCS leadership publicized established national tablet program to other providers
Early Pandemic	**11 March 2020**	**COVID-19 declared a pandemic by World Health Organization**
	12 March 2020	National mandate that Tier 1 professionals[a] be VVC capable in next 14 days
	13 March 2020	SFVAHCS Medical Director communicates requirement that all home-going providers[b] (not just Tier 1) be VVC capable in next 14 days
	16 March 2020	**Shelter-in-place order in San Francisco, California**
	16 March 2020	Start of incorporation of COVID-19 related discussions into weekly SFVAHCS team meetings
	17 March 2020	SFVAHCS HBPC physicians volunteer to start training other providers to use VVC; one-on-one VVC trainings begin
	18 March 2020	Peer education efforts begin: users share VVC tips and resources via email and shared cloud folder
	19 March 2020	Expansion of allowable software for electronic communication by National VA leadership to VVC alternatives (ex: permission to use Apple Facetime® and Microsoft Skype®), SFVAHCS leadership publicizes this to team
	20 March 2020	Biweekly virtual training office hours begin
	23 March 2020	Updated national video visit EHR note template
	27 March 2020	100% (31/33) of working providers[c] become VVC capable; 48% (16/33) of SFVAHCS HBPC providers participate in didactic team VVC training
Later Pandemic	April 2020	Education about billing structure changes for video visits by SFVAHCS HBPC leadership begins
	3 April 2020	Biweekly virtual training office hours completed
	14 April 2020	One-on-one VVC trainings completed
	24 April 2020	Recruitment of 2 medical students & 1 primary care fellow to form QI team
	30 April 2020	100% of SFVAHCS HBPC providers (33/33) became video capable
	May 2020	QI team brainstorms future intervention
	May 2020	Video visits widely accepted into SFVAHCS HBPC repertoire of patient communication methods
	21 May 2020	Identification of root causes for continue barriers to video visit adoption
	June 2020	Education about billing structure changes for video visits by SFVAHCS HBPC leadership concludes

[a]Includes physicians, physician assistants, nurse practitioners
[b]Includes physicians, nurse practitioners, social workers, registered dietitians, geropsychiatry and geropsychology
[c]All providers not on sick or personal leave

Figure 1.
Timeline of national and local changes/interventions affecting video visit adoption within the San Francisco Department of Veterans Affairs Healthcare System (SFVAHCS) Home Based Primary Care (HBPC) Program. Pre-pandemic period=before March 11th, 2020; early pandemic period=March 11th, 2020 to March 27th, 2020; and later pandemic period=after March 27th, 2020. VVC=Veterans Affair Video Connect video visit software platform, VA=Department of Veterans Affairs, EHR=electronic health record, QI=quality improvement.