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Commentary
Using Data, Tools, and Technology to Improve the Patient Experience

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The implementation of the VA Maintaining Internal Systems and Strengthening Integrated Outside Networks Act of 2018 (MISSION Act), empowered Veterans with more health care options and strengthened the nationwide VA healthcare system. VA Secretary Robert Wilkie, OMR, recently stated that the MISSION Act "put[s] Veterans at the center of their care and offer[s] options, including expanded telehealth and urgent care, so they can find the balance in the system that is right for them." In line with the MISSION Act priorities, the Veterans Experience Office (VEO) puts the Veteran at the center of everything we do, through Veteran-centered designs and the implementation of industry best practices.

VEO leverages data, tools, and technology to enable VA to be the leading customer service organization in government. VEO and the Veterans Healthcare Administration (VHA) further define the patient experience (PX) as, "the sum of all interactions, shaped by the organization's culture, that influence Veterans' and their families' perceptions along their healthcare journey." Patient experience is the organizational alignment of people, processes, and culture around the common goal of creating a consistent, exceptional experience for Veterans, their families, caregivers, and survivors.

In 2017, the call for a dedicated review of the patient experience identified inconsistent approaches and experiences across VA. An article in *JAMA Internal Medicine* stated, "VA hospitals performed better than non-VA hospitals…[but] performed worse on certain patient experience measures and behavioral health measures" (*JAMA Internal Medicine*, April 2017). The review led to efforts to standardize and improve the patient experience through a partnership with VHA and VEO's Veterans Patient Experience (VA PX) team.

Since 2017, VA serves as the Lead Agency Partner for the President's Management Agenda (PMA) Cross-Agency Priority (CAP) Goal on improving the customer experience federal government-wide. VA included the importance of the customer experience in the Code of Federal Regulations (38 CFR § 0.603):

"VA will provide the best customer experience in its delivery of care, benefits, and memorial services to Veterans, service members, their families, caregivers, and survivors. The delivery of exceptional customer experience is the responsibility of all VA employees and will be guided by VA's Core Values and Characteristics. Customer experience is the product of interactions between an organization and a customer over the duration of their relationships. VA measures these interactions through Ease, Effectiveness, and Emotion, all of which impact the overall trust the customer has in the organization."

The VA Patient Experience framework guides products, research, and technological development of tools to improve the patient experience across VHA. The framework can help identify opportunities for improving individual measures of Veterans' overall patient experience and the cultural feeling of trust.

VA's Patient Experience (PX) Framework

Journey Maps

Central to the solutions and tools being implemented to improve the patient experience across VA is the utilization of human-centered design (HCD). HCD is an innovative approach to problem solving and solutions development. The HCD approach ensures the Voice of the Veteran and Voice of the Employee are captured and allows VA to identify the moments that matter most to Veterans, their families, caregivers, and survivors. Journey maps represent a common set of moments that matter most to Veterans throughout the various phases of their interaction with VA. Journey maps identify both bright spots (things VA does well) and pain points (areas where VA needs to improve). By using journey maps, VA is able to visualize the

DIRECTOR'S LETTER

It is hard to take a flight or stay in a hotel today without getting surveyed about your customer experience. Businesses know they need to satisfy their customers if they want to stay in business. As healthcare has transformed into a fiercely competitive industry vying for patients, patient experience has risen to be as important as cost and quality in the metrics used to compare providers and hospitals. While patient satisfaction has always been important to the VA health system – what other hospital system has a corporate board whose members can get voted out by their patients? – it has taken on new importance as the Veteran population shrinks and healthcare options for Veterans increase. The majority of Veterans have always had other options for care – through Medicare, Medicaid, or private insurance – but passage of the MISSION Act in 2017 has expanded the number of current VA patients who can seek care in the community. Unless VA remains the provider of choice for these Veterans, a shrinking patient population will threaten our ability to provide comprehensive, high-quality care.

VHA assesses Veteran experience through annual mailed/online surveys – the Survey of Healthcare Experiences of Patients (SHEP) based on the industry standard Consumer Assessment of Healthcare Providers and Systems (CAHPS) family of surveys. These surveys ask about ability to access care, the quality of communication by doctors and nurses, and other questions such as whether they would recommend their hospital to other patients. Most of these data are publicly available at the VA Quality of Care portal where one can see how a particular VAMC compares to other VAs and to other hospitals in the area. Even more detailed information is available within the VA firewall on SHEP scores.

While VA has regularly performed better than Medicare or local competitors on numerous measures of quality, we have not always excelled on patient experience. One doesn't always need research to improve patient experience – for example, lack of parking is a major driver for low satisfaction at some VAMCs – but health services research can play an important role in helping VA understand and address factors that shape patient experience. HSR&D researchers have examined effects of PACT implementation on patient experience,[1] differences in the reported experience of women Veterans,[2] and effects of factors such as provider turnover on primary care experience.[3] VA researchers have also worked to expand our understanding of experience beyond the limited domains measured in CAHPS/SHEP to think what truly "patient centered" care would look like and how to measure it.

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end-to-end journey and have the opportunity to identify and align high impact patient experience improvement efforts across the entire VA system.

Since 2017, VEO has published a number of VHA journey maps including, but not limited, to the: inpatient discharge journey, inpatient hospitalization journey, outpatient journey, and outpatient women Veterans journey. Additional journey maps are in development.

Foundational Tools

From 2017 to 2019, VA PX implemented five foundational tools across VHA healthcare systems to assist with the standardization of branded and positive orchestrated touchpoints that lead to improved patient experiences and trust in VA. VA PX designed the foundational tools to improve interactions identified as the outpatient moments that matter most to patients in their outpatient journey.

FOUNDATIONAL VA PATIENT EXPERIENCE TOOLS

Own the Moment — VA's signature customer experience workshop that educates staff on how to guide Veterans through "moments that matter" on their VA journey

Red Coat Ambassadors — Ambassadors welcome Veterans, their families, and caregivers at medical center entrances and help guide them to their destination

WECARE Rounding — Medical center leaders make "rounds," speaking directly with staff and visitors about the care and services Veterans receive

"I Choose VA" Employee Badges — Designed with input from Veterans, caregivers, VA staff, and experts, these badges help identify staff names and roles at a glance.

Standard Phone Greeting — A uniform way to greet patients over the phone and let them know they have reached their intended point of contact to reduce their anxiety

The foundational tools align to lead change across our VA culture, people, and processes. By engaging leaders and employees, creating a culture of caring and clear communication, and measuring and improving our qualitative and quantitative research, we can improve VA's patient experience.

VA employees are required to learn how to facilitate positive customer experiences through the Own the Moment (OTM) workshop. In OTM, employees learn guiding principles aligning ease (making it easy), effectiveness (understanding and responding to needs), and emotion (feeling like a valued customer).

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Tumultuous Times Require Novel Tools and Partnerships to Maintain Patient Satisfaction and Trust

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The Veterans Experience Office (VEO) is a critical and innovation-driven arm of the Department of Veterans Affairs (VA) that is tasked with improving the experience of care for our Veteran customers. As Richardson and colleagues demonstrate, the VEO has developed a suite of tools to address Veteran needs. The Office comprehensively targets experiences across the lifecycle of Veteran experience within VA, including families and caregivers, and looks at the range of VA benefits. The VEO also integrates stakeholder engagement using its Veteran, Family, and Community Engagement Office, which partners with thousands of community groups in a grass-roots network. Importantly, the VEO emphasizes the need to innovate, representing experiences from an initial appointment to service delivery, drawing upon both quantitative and qualitative data.
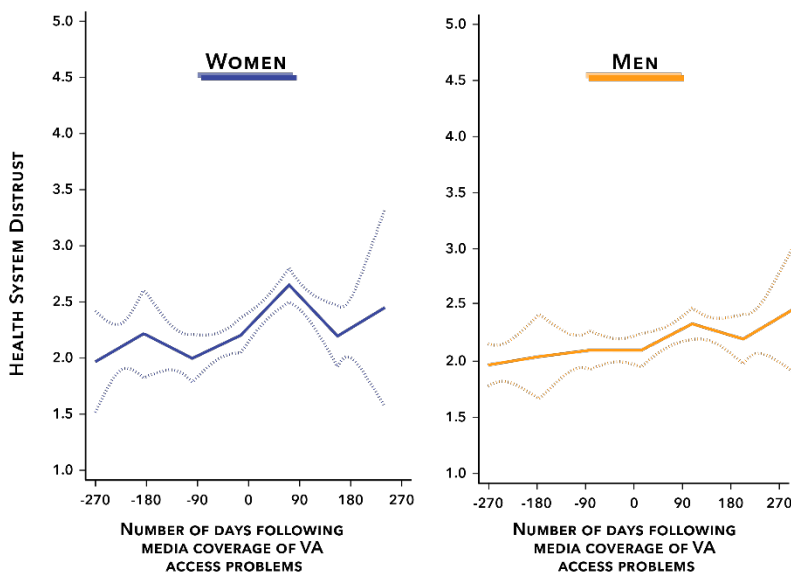
Many healthcare systems focus on measuring patient experience and satisfaction with standardized surveys. VA has used the Survey of Healthcare Experiences of Patients (SHEP) for many years to track facility performance on patient experience metrics. The VEO adds a novel approach, capturing real-time satisfaction data through their Veterans Signals (VSignals) electronic tool, which is tied to specific visits. Importantly, it also encourages comments with opened-ended questions. The analysis of such narratives relies on artificial intelligence, providing complex feedback at a scale and within a timeframe that further improves the VA system's responsiveness to its customer needs. The VEO's analysis of Veteran experience data identifies areas in need of improvement. The design of their tool also drives changes across the entire spectrum of VA services. Moreover, the VEO seeks to achieve high satisfaction equitably across VA medical centers by applying their Five Foundational VA PX Tools. Our own data from the Disparities In Satisfaction with [VA] Care (DISC) study highlights the need for such tools, as we found substantial differences in Veteran satisfaction with care across VA facilities.[1]

It is promising that the VEO is now focused on COVID-19. VA will need to ensure a positive patient experience both during and after the pandemic. Our research shows the impact that transitions and disruptions can have on satisfaction and trust in VA. In our work on the early rollout of the Veterans Choice Program, we found substantial barriers and dissatisfaction with Choice during the early implementation, demonstrating the importance of system stability during times of change.[2] Similarly, our DISC study captured the natural experiment of the access "scandal" that occurred on April 23, 2014, when CNN first reported on the hidden waitlist at the Phoenix VA. Because our DISC interviews included a validated measure of Health System Distrust, we were able to correlate the timing of news coverage with increases in Veteran distrust. As shown in Figure 1, we found small increases in distrust in VA healthcare after the media exposure, with different patterns over time for women and men. Among women, levels of distrust increased in the first 90 days following media broadcasts regarding the scandal, followed by a significant decrease in distrust in days 90-180 post-media exposure. Among men, increases in distrust in the first 90 days following the media exposure did not reach statistical significance. Combined, our findings illustrate that well-publicized negative events can have measurable impacts on Veteran trust in the VA system, which could impact their willingness to receive care.

This experience with evaluating rapid system change points to the importance of having tools in place to meet the challenges of the pandemic. No office is better placed than the VEO to accomplish this. In response to the pandemic, VA care changed dramatically in a matter of weeks. Whether patients with canceled appointments feel abandoned by their healthcare system needs to be ascertained. Also, understanding Veterans' experience, satisfaction, and trust with telehealth is critical as our older, rural Veterans may be uniquely impacted by a digital divide. This is especially important as telehealth may largely replace routine face-to-face communication even after the pandemic. VEO's journey maps

Figure 1. Increases in Health System Distrust Following the VA Access Scandal Among Women and Men

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Anthropology Offers Insights for How We Think about Science and How We Think about People

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On January 8, 2020, Iran launched ballistic missile attacks on two bases housing U.S. troops in Iraq. Despite early reports of no casualties, it was later revealed that at least one dozen American service members had sustained concussions and been medically evacuated to be treated and evaluated for possible traumatic brain injury, or TBI (Lubold, 2020). At a press conference two weeks after the missile attacks, the U.S. President described the injuries as "not very serious," saying "I heard they had headaches and a couple of other things." He went on to characterize the service members' injuries as less severe than those of troops who lost limbs in roadside bomb attacks, "I don't consider them very serious injuries relative to other injuries that I've seen…. I've seen people with no legs and with no arms. I've seen people that were horribly, horribly injured in that area, that war" (Donnelly, 2020). The Brain Injury Association of America, a prominent advocacy and research organization focused on increasing awareness and understanding of brain injury, expressed concern that the President's remarks minimized the severity of TBI as "a major cause of death and disability in the United States" (Brain Injury Association of America, 2020). The co-chairs of the Congressional Brain Injury Task Force released a bi-partisan statement reiterating the nation's commitment to providing "unqualified support and respect" to persons impacted by TBI, noting "brain injury should never be minimized. Unfortunately, too many people, including elected leaders, are not familiar with the terrible realities of traumatic brain injury." (Office of Congressman Bill Pascrell, 2020). [Excerpt from forthcoming paper in Journal of Community Engagement and Scholarship by True et al.]

Scientists encounter misinformation and misunderstanding frequently. In 2020, we are seeing examples of scientific illiteracy and public health illiteracy weekly. Lack of public understanding about science and our work as researchers can feel painful and personal. What will it take to get people to understand? To build trust between science and the public? To make leaders see what is at stake for individuals' health, families, and quality of life?

This is where we bring this line of thinking back to our work as HSR&D researchers grounded in anthropological training, and where it gets personal for us. We share common questions that guide our work regardless of topic and strive to increase the usefulness of our work. Our VA HSR&D colleague, Dr. Erin Finley, sums up the root of these aims nicely: "Anthropological theory has a powerful grasp of the connection between broadscale social structures and intimate lived realities, and its methods are perhaps unequaled in capturing the nuances of context."[1]

As technology has evolved and the use of information has changed as a result of technological developments such as the Internet, the public's contact with research has increased. While we might hope this means our findings and insights get fast-tracked into meaningful policy, more often it leads to feelings of being misinterpreted or wondering, "but did they read what I wrote?"

Even before the Internet, subjects of anthropological research started reading what was said about them. As a result anthropologists increased their grappling with how we represent others, use the details of their lives as data, and sleep soundly at night. Anthropologists largely agree that our work requires attention to the dynamics of partnership and awareness of who defines the research question, who interprets the data, and who determines what to do with what one finds out. This does not make for easy, or particularly fast work, however, it may generate something different, something that Veterans see themselves in and connect to.[2]

What if we saw the people who participate in our research studies as partners rather than de-identified subjects? We know it would not work for every study and that it is not appropriate for all methods, but in studies where partnership is possible we find that the learning and the personal value of our work increases. As the number of anthropologists has increased in VA HSR&D research, so has the presence of studies and individuals on study teams that push on ideas of what research can do and seek to innovate.

In addition to training in anthropology, Dr. True is a folklorist. She chose folklore for its focus on vernacular culture and understanding how people build community and express multiple and intersecting identities through small, everyday expressions of language, dress, and the stories they tell about themselves. In a recent conference presentation, she commented: "I wanted to work with Veterans in a way that engaged them as equal partners in the research, did not pathologize or attempt to label their experiences, and enabled them to tell and share their own stories in private safety and in public venues."

In an HSR&D-funded study "Communicating the Impact of TBI on Post-Deployment Reintegration using Photovoice" we used a photovoice method to assess and generate awareness of "invisible injuries," in particular TBI, by inviting the voices of Veterans and their family caregivers into the research conversation. Photovoice is a qualitative method that pairs images and text to communicate on topics that are often hard to capture using conventional research instruments. This approach to research invites participants to become collaborators in data collection, product generation, and

dissemination. In this research, we were guided by critical pedagogy and participatory action research's recognition of researchers and participants as bringing different types of expertise to the research enterprise.

Anthropology's immersive methods highlight the importance of establishing a social contract in this field, especially, in order to accurately and ethically represent community perspectives through a collaborative effort. It is an ongoing process to adapt the ideals and methods of anthropology to the VA setting – and we believe it is worth the effort. The anthropological perspective contributes to work that seeks to make connections and orient the findings in a larger, complex context. We often talk about "the big picture." The big picture is short-hand for an aim of anthropology: seeing the whole. Whether that whole is a culture, a village, or a healthcare system.

Researchers are trained to focus on a topic or questions that over time becomes more refined and targeted. The challenge with this approach is that it begs the question: at what point do we pull all the findings into conversation with each other and who does this work? This systematic and incremental approach is a mark of scientific rigor and the ideals of the laboratory.[3] Science seeks to bring order from disorder. Anthropology says, the state of being messy tells us something about all the pieces and how they interact

with each other. Anthropologists were champions of whole health before it became a branded approach to health care.

As scientists we most often strive to get clean and controlled results, i.e. evidence that is empirical. The challenge here is that the world and individuals do not exist in laboratories. We can make the world into labs, our sites of experimentation and data collection, but these are messy labs. A primary care physician working with Dr. Ono makes the case that research, in particular implementation efforts, targeting specific conditions (e.g. cardiovascular disease) with focus on related measures (e.g. hypertension) more often than not brings that laser focus to the task at hand and fails to see the rest of the person – the patient – in front of them. Generalists in medicine know that a risk of heart disease is important, but not more important than the poor sleep caused by anxiety and depression or the borderline A1C. These competing demands are the ones occurring in the body. Health care is in a moment when it is also asked to consider and address the fact that someone may have just lost their job or embody the impact of being Black in the United States. Hypertension may be a result of being Black in the United States and if this is acknowledged it may take more than a diuretic and a promise to make lifestyle changes to meet clinical guidelines.

Following talks with the Afghan president and anthropologist Ashraf Ghani in 2015, President Obama quoted anthropologist Ruth Benedict when he said, "the purpose of anthropology is to make the world safe for human differences." Underlying the core tenets of anthropology is the belief that different people see the world differently. The anthropologist attempts to communicate, understand, and bridge those differences rather than try to erase them.[4] In health services research, the work we do seeks to bring to the surface these variations in viewpoint to expand our thinking and increase the relevance of services that VA provides to Veterans and their families. We are constantly striving to marry the big picture and the individual story with the goal of strengthening the impact of research.

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can be designed to capture key bright spots and pain points in areas most important to Veterans during this pandemic, particularly in the telehealth journey experience. Capturing input from both Veterans and VA employees who may fear for their safety can provide further clarity into optimal care approaches during a pandemic. The journey of a COVID-19 hospitalized patient will differ from that of a non-infected patient needing an in-person procedure, as well as from the journey of a patient receiving care virtually.

As a Health Services Research and Development (HSR&D) community, partnering with the VEO will help us to answer essential research questions such as: Which Veterans are at risk of losing trust in VA during the COVID-19 pandemic? What impact do social determinants of health play in the COVID-19 experience of care? How might the SHEP be revised to capture the exigencies of the moment? What qualitative questions should be asked to best capture the needs of Veterans and caregivers? With a strong VEO/HSR&D partnership, the innovation that our

investigators bring can further the important goals of the VEO.

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Whole Health Improves Veterans' Experience and Patient-Reported Outcomes

Barbara G. Bokhour, PhD, and Anna M. Barker, MS, HSR&D Center for Healthcare Organization and Implementation Research, Bedford, MA, on behalf of the EPCC team*

The VA Office of Patient Centered Care and Cultural Transformation (OPCC&CT) has been promoting patient-centered care through the implementation of the Whole Health System of Care. OPCC&CT defines Whole Health as an "approach to healthcare that empowers and equips people to take charge of their health and well-being and live their life to the fullest." The goal is to transform the organization and culture of care to a system which starts with understanding the Veteran's life mission, aspiration, and purpose (i.e., what matters most to the Veteran) and then provides care to improve Veterans' overall health and well-being. Whole Health integrates peer-led explorations of Veterans' mission, aspiration, and purpose, personalized health planning, and use of Whole Health coaches and well-being classes, with both allopathic, and complementary and integrative clinical care that focuses on Veterans' goals and priorities.

The Whole Health System of Care is comprised of three major components: 1) Whole Health Pathway – in which Veterans are introduced, often by peers, to the concepts of Whole Health, explore their mission, aspiration, and purpose, and develop a personal health plan; 2) Whole Health Clinical Care – in which Veterans receive care from providers trained to provide Whole Health care, focusing on Veterans' personal health plans and goals aligned with their mission, aspiration, and purpose as a foundation for treatment recommendations; and 3) well-being programs in which Veterans participate in complementary and integrative health services, health coaching and support, and other self-care and skill-building groups to support them in managing their own health.
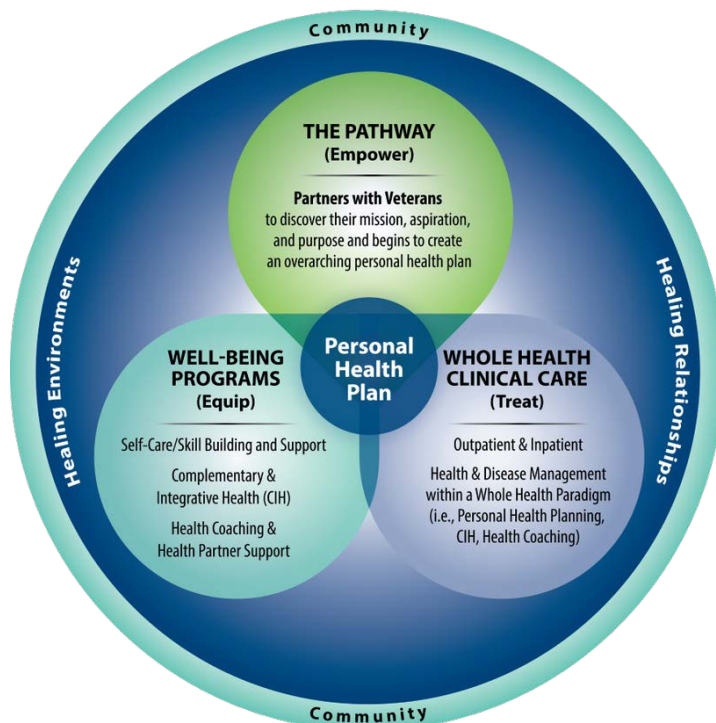
In October 2017, as part of VA's response to mandates in the Comprehensive Addiction and Recovery Act,[1] Directors of each of VA's 18 Veterans Integrated Service Networks selected one facility to participate in piloting the Whole Health System of Care (WHS). The Center for Evaluating Patient-centered Care (EPCC), a QUERI Partnered Evaluation Initiative, conducted a comprehensive evaluation of the implementation of WHS and its impact on Veterans with chronic pain. We conducted a longitudinal survey (baseline, 6 months, and 12 months) of Veterans receiving care at the 18 flagship sites, to assess a range of Veteran-reported outcomes believed to be impacted by the WHS: 1) perceptions of care; 2) engagement in care; 3) sense of life meaning and purpose; 4) health and well-being (functional status, perceived stress); and 5) pain intensity and its impact.

While our evaluation is ongoing, early analysis of change in patient reported outcomes at six months for 3,266 respondents shows meaningful positive effect sizes in several areas. Comparing Veterans who used WHS services with those who did not, Veterans who used WHS services demonstrated greater improvements in experience of care with their primary care providers, and in patient-reported health and well-being outcomes. Findings were particularly strong among Veterans who were comprehensive WHS users, defined as having at least eight visits, including both core WH services (such as WH classes or WH coaching) and Complementary and Integrative Health services.

Veterans who used WH services also reported positive experiences with their care. Those Veterans who used WHS services reported greater improvements in quality of healthcare interactions with VA providers and improved satisfaction with VA care compared to those who did not use WHS services. The largest improvements occurred in the response to two questions regarding Veterans' personal health goals, indicating that Veterans who used WHS services more frequently discuss and get help with their personal health goals from providers, compared to non-users.

Figure 1: VA Whole Health System of Care

Our preliminary findings support the inspiring impacts that Whole Health Flagship Leaders are seeing and hearing about every day. During qualitative interviews about implementing WHS at the flagship sites, a WH leader told this story of one Veteran's experience with WH:

> We recently worked with a Veteran – he's a retired colonel. Perfect example of what you want. He came to us with chronic pain, had struggled with it for quite some time. Started using acupuncture and chiropractic care, kind of the more passive modalities – someone doing something to you. Then he started doing some of our integrative pain academy…From there he started doing yoga and tai chi at VA. Then he started doing yoga in his community at his gym. And then he heard about a swim class at the gym, and now he's swimming regularly at his gym! Coming to the VA for a couple of things but essentially is doing so well that he doesn't really need us anymore!
>
> – (Site F, Whole Health Clinical Director)

Another WH leader reflected on the stories she had heard from Veterans:

> When I think about what we are doing and the idea of "Caring for him who has borne the battle" … our Veterans deal with more than any other population – PTSD, chronic pain, anxiety, depression, suicide. The kinds of things that Whole Health approaches have to offer, just the way that it's operationalized is what our Veterans need and haven't gotten… I think of all the individual stories I've seen and heard of just truly transformed lives. People who felt like they've gotten their lives back. Those are the things to me that say we need to stay on this path.
>
> – (Site R, Whole Health Clinical Director)

We are planning future qualitative interviews with Veterans to further uncover how and why WH works for them. Complete analysis of our full cohort will also enhance our understanding of the extent to which WH impacts Veterans' health and well-being. Health services researchers need to take advantage of VA's ongoing natural experiment of VA's WHS implementation in order to learn how and for whom different components of the WHS work best.[2]

Creating a system of care that is truly patient-centered, focused on providing care that is aligned with each individual Veteran's goals, is the highest priority. As the Veteran consultant for EPCC, Rodger Kingston, said upon hearing the outcomes of this evaluation "one of the best things [about Whole Health] is what it does to your state of mind." Staying on the Whole Health path may truly transform Veterans' healthcare and more importantly, Veterans' lives.

*Dr. Steven Zeliadt, Dr. Justeen Hyde, and investigators at Bedford/Boston,Seattle and Los Angeles COINs.

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Measuring the Patient Experience

To understand the overall experience and trust in VA, we utilize the Veterans Signals (VSignals) and Survey of Healthcare Experiences of Patients (SHEP) survey mechanisms. This quantitative data provides a balance to the utilization of the more human-centered design focus of qualitative data. VA has an opportunity to gain trust by adding emotion into our interactions, building stronger relationships, recommitting to our shared purpose of caring for Veterans, and showing that they are our valued customers.

As VA adapts and innovates to facilitate healthcare for Veterans in a pandemic and post-pandemic era, we need to learn:

- How might we measure the impact of increased telehealth services on VA employees and patients?

- How might we look at the impact on the patient experience in adapting to telehealth services for our patient population?

- How might we discover the health status, regional expectations, and correlations of patients to the overall patient experience rating?

- How might we adapt and measure the changing demographics and perception of Veterans?

- How might we understand the impact of diversity as it relates to patient expectations?

- How might we measure empathy and compassion in the healthcare experience?

- How might we design new measurements that capture the patient perspective of a consistent and exceptional overall healthcare experience?

- How might we define and understand the concept of trust as a measurement on the delivery of health care?

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Research Points to Importance of VA and Community Care Patient Experience Scores

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Through the Choice Act of 2014 and the MISSION Act of 2018, VA has vastly increased the amount of healthcare it purchases in the community for its enrolled Veterans. Improving access to timely, high-quality care was the primary intent of both these Acts. Measuring access to and the quality of VA and community care is difficult since comparisons must account for patient-level and system-level factors that could affect the outcomes. Nonetheless, comparisons between VA and community care remain a high priority for VA leaders and policy makers, such as VA's Office of Reporting, Analytics, Performance, Improvement and Deployment and VA's Office of Community Care.

Our recent study, published in the August issue of *Health Affairs*,[1] used data from the Survey of Healthcare Experiences of Patients (SHEP) to compare the outpatient experiences of Veterans who received VA-delivered care with those who received VA-purchased care. Outpatient SHEP questions are based on the industry standard for patient experience, the Agency for Healthcare

Research and Quality's Consumer Assessment of Healthcare Providers and Systems Clinician & Group Survey (CG-CAHPS). We examined Veterans' perceptions of access, coordination, communication, and provider rating separately for primary care, mental health care, and other specialty care by quarters from Federal Fiscal Year 2016 quarter 2 through 2017 quarter 4. Veterans' self-reported experiences of care are increasingly considered key outcome measures as VA focuses on becoming a Veteran-centered learning health system. They are also fundamental to measuring access and quality.

We found that VA outperformed community care on all SHEP measures except access, in which the community scored better on specialty care access; no differences were found for primary or mental health care access by site of care (see Figure below). In some cases, baseline VA scores were considerably higher than those in the community (e.g., primary care coordination, where a 15 percent difference was found). In other cases, VA and community care scores were not meaningfully different at baseline (e.g., specialty

care provider rating, where a 2 percent difference was found). Although some patient experience scores increased over time (specifically, primary care coordination and all four specialty care scores), the gap between VA and community care scores did not decrease over time. In summary, while Choice improved access to care, patient experience appears to be quite similar between VA and community care in some cases, and markedly better at VA in others. Findings such as these point to the importance of incorporating Veteran perceptions of care in the monitoring of patient care and policy impact over time.

Quality of care comparisons are now required by the MISSION Act. VA has developed a MISSION Act Quality Standards Tracking Report (MAQSTR), but metric scoring had to be suspended through Fiscal Year 2020 because of disruption of measure collection due to COVID-19. In addition to its utility for VA and community care comparisons, MAQSTR presents researchers with opportunities to compare patient experiences across other federal payers, including the Department of Defense (DoD) and Health and Human Services (HHS). Since the outpatient SHEP questions are based on CG-CAHPS, it would also be possible to use these measures in order to harmonize data across federal systems through HHS' Quality Roadmap. The Roadmap is part of Executive Order 13877, *Improving Price and Quality Transparency in American Healthcare to Put Patients First,* which was released on May 15, 2020.

In summary, there is much promise for patient experience data to be used for comparisons of access and quality both within VA and for VA to community care comparisons, as well as across other payer and provider systems funded by the federal government.

Difference Between VA and Community Care Scores at Baseline
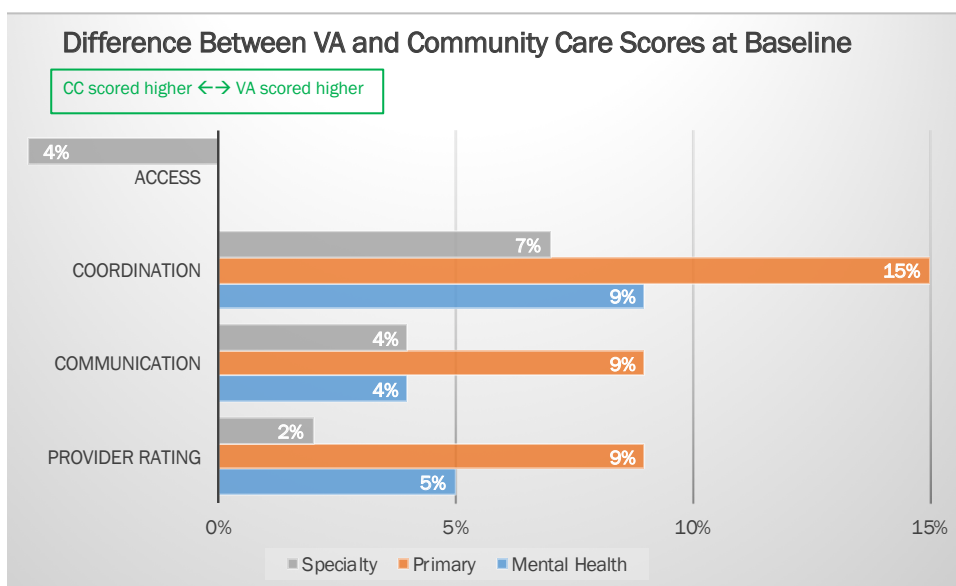
Note: Data from SHEP Federal Fiscal Year 2016 quarter 2 through 2017 quarter 4. Access, coordination, and communication scores are mean composite scores across multiple SHEP questions, with values between 1 and 4 (3-point range). Provider rating scores are from a single SHEP question, with values between 0 to 10 (10-point range). Results are based off multivariate models with fixed effects for VA facilities and controls for individual-level factors. To allow for comparisons across measures, we calculated the percentage difference of the total range for each patient experience measure. For example, at baseline the primary care coordination score was 0.45 points (15%) higher in VA than in community care: (0.45/3)*100=15%. Differences in access for primary care and mental health care at baseline were not statistically significant.

Reference

1. Vanneman ME, et al (2020). "Veterans' Experiences with Outpatient Care: Comparing the Veterans Affairs System with Community-Based Care," *Health Affairs* (Millwood), 39(8), 1368-76.

Research Highlight

Study Points to Racial and Ethnic Disparities in Bereaved Family Reports of Veterans' Care Near the End of Life

Ann Kutney-Lee, PhD, RN, FAAN and Mary Ersek, PhD, RN, FPCN, both from the Veteran Experience Center (VEC) and HSR&D Center for Health Equity Research and Promotion (CHERP), and Corporal Michael J. Crescenz VA Medical Center, Philadelphia, Pennsylvania

The demographics of the U.S. Veteran population are rapidly shifting. Currently, racial and ethnic minority Veterans comprise about 25 percent of the total Veteran population; however, this percentage is expected to approach 40 percent by 2045.[1] The Veteran population is also aging, with an expected surge of Vietnam-era Veteran deaths over the next 10 years. Given these changes, ensuring the delivery of culturally sensitive care to seriously ill Veterans and those near end-of-life (EOL) is imperative. Although VA has made significant efforts in identifying and eliminating health disparities in a wide range of clinical areas over the past decade, very little research has focused on racial and ethnic differences in VA quality outcomes among seriously ill Veterans near EOL.
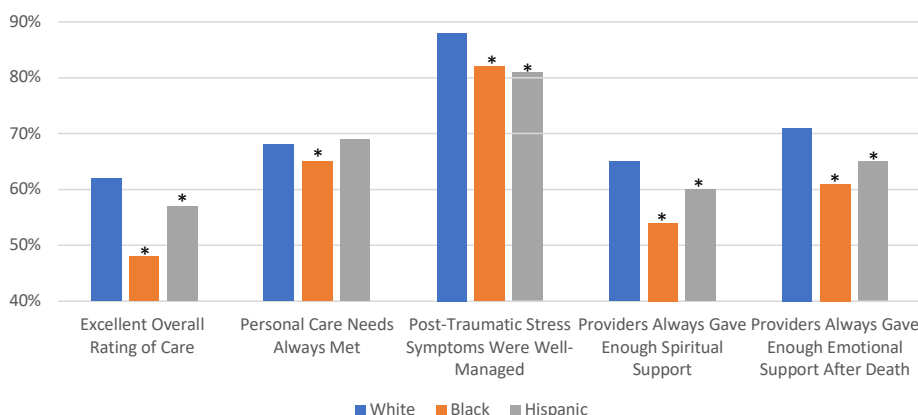
Since 2012, the Veteran Experience Center has administered the Bereaved Family Survey (BFS) to the next-of-kin of all Veterans who die as an inpatient in VA Medical Centers (VAMCs) and Community Living Centers nationally. The BFS collects information about the Veteran and family experience of care received during the last month of life. Sixteen Likert-type items are included on the survey that relate to specific aspects of care, such as communication with providers, alignment of care with preferences, emotional and spiritual support, receipt of death benefit information, as well as items related to pain and post-traumatic stress symptom management. A global item included on the survey – the BFS Performance Measure (BFS-PM) – evaluates the overall quality of care received during the last month of life. The BFS-PM, a National Quality Forum-endorsed measure, is used by VA to monitor the quality of EOL care provided in VA facilities. Two open-ended items on the BFS ask families to share any additional observations about the Veteran's care and suggestions for improvement.

Using five years of national BFS data linked with medical records, our team conducted one of the largest examinations of race, ethnicity, and the quality of EOL care provided in VA inpatient settings.[2] In our review of over 94,000 Veteran records, we found no statistically significant differences by race or ethnicity for the receipt of a palliative care consult and the occurrence of death in an inpatient hospice unit – two care processes that are associated with more favorable family ratings of overall EOL care. Figure 1 shows selected BFS outcomes from the study by race and ethnicity. Families of black and Hispanic Veterans were significantly less likely than families of white Veterans to report that the care received during the last month of life was excellent. Lower scores for racial and ethnic minorities were also noted among other important aspects of EOL care, including the meeting of personal care needs, management of post-traumatic stress symptoms, and the receipt of enough spiritual and emotional support. The results suggest that despite similar usage of services associated with high-quality EOL care across race and ethnicity, perceptions of the quality of that care by family members of minority Veterans are generally less favorable than those who are non-Hispanic white. This work illuminated the critical importance of family perceptions in evaluations of equity and quality of EOL care and that more research is needed to understand why racial and ethnic differences in perceptions of quality EOL care exist.

Studies conducted in non-VA settings have found that racial and ethnic minorities are more likely to prefer life-prolonging, intense treatments near EOL and may be more likely to experience potentially burdensome transitions (i.e., multiple hospital admissions in the last months of life or a final hospitalization with a short length of stay) as compared to non-minorities. These care patterns may contribute to overall dissatisfaction with care when rated by patients and their families. Our prior work has also demonstrated that organizational factors, specifically related to nursing care, are also important to patient outcomes, including quality of EOL care.[3] Organizational aspects of nursing care, including staffing levels and work environment conditions, directly impact a nurse's ability to provide

Figure 1. Selected Bereaved Family Survey Outcomes by Race and Ethnicity

Source: Kutney-Lee, A., et al." Race/ethnicity and End-of-life Care among Veterans," *Medical Care* 2017; 55(4):342-51.

Note: *Difference with white race (reference) statistically significant at $p \leq 0.05$. Adjusted percentages that account for patient age, sex, Elixhauser Comorbidity score, next of kin relationship, VA Medical Center geographic region, VA Medical Center urban/rural classification, VA Medical Center complexity level, survey nonresponse and clustering by facility

Innovation Update

Engaging Veterans in the User-Centered Design of a Technology-Assisted Hospital-to-Home Care Transition Intervention

Timothy Hogan, PhD, HSR&D Center for Healthcare Organization and Implementation Research (CHOIR) and Erin Reilly, PhD, Mental Illness Research, Education, and Clinical Center, both in Bedford, Massachusetts; Rachel Wacks, MPH, MA, and Stephanie Shimada, PhD, both with CHOIR; Bridget Smith, PhD, HSR&D Center of Innovation for Complex Chronic Healthcare, Hines, Illinois

Because of the challenges that Veterans with chronic obstructive pulmonary disease (COPD) and congestive heart failure (CHF) experience when transitioning home after hospitalization, re-hospitalization rates are often high. Although researchers and clinicians have developed effective interventions to address these difficulties, they are often resource intensive. Leveraging a user-centered design (UCD) process that foregrounded the Veteran experience, our research team developed a technology-assisted care transition intervention including an onscreen virtual nurse relational agent to teach patients during their hospitalization about four key pillars of a care transition: understanding one's condition, identifying red flag symptoms, learning medication self-management, and attending follow-up appointments.[1] After discharge, the intervention used automated, interactive text messages to further promote engagement with these concepts.

Our UCD process involved two Veteran-focused phases. First, we gathered iterative feedback from Veterans through card-sorting exercises and semi-structured interviews about the intervention components, including the "look and feel" of the virtual nurse relational agent and the content presented to Veterans through the onscreen nurse and text messages. Key feedback about the characteristics of the relational agent included the importance of a persona that generated a sense of warmth and comfort with a professional demeanor. Important insights regarding the texting protocol included avoiding vague wording and removing prompts likely to elicit unactionable answers or negative emotions (e.g. "How are you feeling today?"). Second, we worked with Veterans to beta test initial versions of the intervention components. Based on beta testing, we shortened interaction with the onscreen nurse and added a "repeat what I just said" button; we also simplified the syntax required for text messaging responses and the messaging schedule.

Our UCD process drew from established practices to create a unique, technology-assisted intervention that strives to relate to the needs of Veterans with CHF and/or COPD. Iterative Veteran feedback was critical to identifying solutions to various concerns that our research team could not have anticipated and has directly informed the testing of our intervention in a recently completed randomized trial.

Reference

1. Coleman EA, at al. "The Care Transitions Intervention: Results of a Randomized Controlled Trial," *Archives of Internal Medicine* 2006; 166(17):1822-8.

optimal patient care. Nursing may be an especially important area of focus in the study of EOL quality disparities as nurses are often the care providers who spend the most time with patients and their families, and are in a position to learn and communicate the Veteran's care preferences to other members of the healthcare team.

Using a mixed-methods approach, an HSR&D funded study is currently underway that seeks to identify whether patient-level factors (i.e., aggressive care/life-sustaining treatments and potentially burdensome transitions), and VAMC-level factors related to nursing care explain the observed racial and ethnic differences in BFS outcomes. Using several merged VA data sources from FY2011-2015, including the VA Nursing Outcomes Database (VANOD) and Corporate Data Warehouse (CDW), the sample includes nearly all inpatient deaths and their associated BFS responses, representing 142 VA Medical Centers nationally. In addition, we also aim to understand the needs and preferences of minority Veterans and their families at the EOL through a qualitative analysis of BFS data. The results will significantly advance our understanding of the needs and preferences of seriously ill minority patients near EOL and their families, and will provide actionable guidance to VA clinicians and administrators to move towards the elimination of these disparities.

References

1. U.S. Department of Veterans Affairs. Office of Health Equity. Racial and Ethnic Minority Veterans. Minority Veteran Statistics. Accessed from https://www.va.gov/HEALTHEQUITY/Race_Ethnicity.asp. Updated June 10, 2020.

2. Kutney-Lee, A., et al. "Race/ethnicity and end-of-life care among Veterans," *Medical Care* 2017; 55(4):342-51.

3. Kutney-Lee, A., et al. "Organization of Nursing and Quality of Care for Veterans at the End of Life," *Journal of Pain and Symptom Management* 2015; 49(3):570-7.