#### **Partnering for Impact**

Advancing the Implementation and Effectiveness of Virtual Care Technologies in VA

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- The views expressed in this presentation are those of the presenter and do not necessarily reflect the position or policy of the Department of Veterans Affairs or the United States government.



- Overview of virtual care technologies in VA
- Evolution of the eHealth Partnered Evaluation Initiative (PEI)
  - Our journey to partnership with VA's Office of Connected Care (OCC)
- Engaging our partner
  - Current practices
  - Lessons learned

### The Tire Swing Cartoon



As proposed by the project sponsor.



As produced by the programmers.



As specified in the project request.



As installed at the user's site.



As designed by the senior analyst.



What the user wanted.

## Virtual Care Technologies in VA



Yet, adoption of these technologies among Veterans and clinical team members remains limited, as does evidence of their effectiveness

# eHealth Partnered Evaluation Initiative (PEI)

**Overarching Objectives** 

Founded in 2015 to....

- To demonstrate the impact of VA patient-facing technologies on outcomes important to patients and the healthcare system
- To identify fruitful strategies to further the adoption of patient-facing technologies among patients and clinical team members

Renewed every two years by QUERI as a PEI, funding provided by OCC on an annual basis

# eHealth Partnered Evaluation Initiative (PEI)

#### **Representative Projects**

- FY 2016-2017 •
  - Impact of Secure Messaging on Patient Communication and Experience: Randomized Encouragement Design Trial
  - Automated Text Messaging with Specialty Clinic Patients: A Hybrid Type 2 Effectiveness-Implementation Study
- FY 2018-2019 .
  - Developing the Veterans Engagement with Technology Collaborative (VET-C) Cohort
  - Automated Text Messaging for Goal Setting Support
- FY 2020-2021
  - Rapid Adoption of OCC Technologies During COVID-19: Understanding the Experiences of New Users
  - Implementing and Evaluating VA's Pain Coach Mobile App
  - User Experiences of VA's Mental Health Checkup App

-			
JOURNAL OF	MEDICAL	INTERNET	RESEARC

Shimada et al

**Original Paper** 

Impact of Patient-Clinical Team Secure Messaging on Communication Patterns and Patient Experience: Randomized **Encouragement Design Trial** 

Stephanie L Shimada<sup>1,2,3</sup>, PhD; Mark S Zocchi<sup>1,4</sup>, MPH; Timothy P Hogan<sup>1,5</sup>, PhD; Stefan G Kertesz<sup>6,7</sup>, MD, MSc; Armando J Rotondi<sup>8,9,10</sup>, PhD; Jorie M Butler<sup>11,12</sup>, PhD; Sara J Knight<sup>11,12</sup>, PhD; Kathryn DeLaughter<sup>1</sup>, MA; Felicia Kleinberg1, MSW; Jeff Nicklas113, MSc; Kim M Nazi14, PhD; Thomas K Houston15, MD, MPH

JOURNAL OF MEDICAL INTERNET RESEARCH

Yakovchenko et al

**Original Paper** 

Automated Text Messaging With Patients in Department of Veterans Affairs Specialty Clinics: Cluster Randomized Trial

Vera Yakovchenko<sup>1</sup>, MPH, MS; Timothy P Hogan<sup>1,2</sup>, PhD; Thomas K Houston<sup>3</sup>, MPH, MD; Lorilei Richardson<sup>1</sup> PhD; Jessica Lipschitz<sup>4,5</sup>, PhD; Beth Ann Petrakis<sup>1</sup>, MPA; Chris Gillespie<sup>1</sup>, PhD; D Keith McInnes<sup>1,6</sup>, ScD

#### Which US Military Veterans Use Text Messaging to Receive Health-Related Information?

#### Jamie Patrianakos, MA<sup>1,2</sup>; Bella Etingen, PhD<sup>1,2</sup>; Bridget M. Smith, PhD<sup>1,2,3</sup>; Stephanie L.

Shimada, PhD<sup>1,4,5</sup>; Rachel E. W JOURNAL OF PARTICIPATORY MEDICINE Frisbee, Ph

Etingen et al

**Original Paper** 

Supporting the Implementation of Connected Care Technologies in the Veterans Health Administration: Cross-Sectional Survey Findings from the Veterans Engagement with Technology Collaborative (VET-C) Cohort

Bella Etingen<sup>1,2</sup>, PhD; Daniel J Amante<sup>3</sup>, PhD; Rachael N Martinez<sup>1,2</sup>, PhD; Bridget M Smith<sup>1,2,4</sup>, PhD; Stephanie L Shimada<sup>1,3,5,6</sup>, PhD; Lorilei Richardson<sup>1,5</sup>, PhD; Angela Patterson<sup>3</sup>, MA; Thomas K Houston<sup>1,5</sup>, MD, MPH; Kathleen L Frisbee<sup>7</sup>, PhD, MPH; Timothy P Hogan<sup>1,5,8</sup>, PhD

### **Steppingstones to Partnership**

- Began to establish a portfolio of work; recognition by securing some of VA's first QUERI-funded proposals focused on implementing virtual care technologies (e.g., the online patient portal, My Health*e*Vet)
  - c. 2009
- As adoption of the portal expanded, began to work with My HealtheVet Program Office leadership to support broader research plans for VA's patient portal
  - Published stakeholder-driven research agenda
  - Developed processes to support projects (e.g., partner review of aims, data access, letters of support)
  - Contributed to workgroups focused on performance evaluation; measurement

#### Embracing a Health Services Research Perspective on Personal Health Records: Lessons Learned from the VA My Health*e*Vet System

Kim M. Nazi, PhD(c)<sup>1</sup>, Timothy P. Hogan, PhD<sup>2,3,4</sup>, Todd H. Wagner, PhD<sup>5,6</sup>, D. Keith McInnes, ScD, MS<sup>2,8,9</sup>, Bridget M. Smith, PhD<sup>2,3,4,10</sup>, David Haggstrom, MD, MAS<sup>11,12,13,14</sup>, Neale R. Chumbler, PhD<sup>12,15,16</sup>, Allen L. Gifford, MD<sup>7,8,9,17</sup>, Kathleen G. Charters, PhD, RN<sup>18</sup>, Jason J. Saleem, PhD<sup>11,12,13,19</sup>, Kenneth R. Weingardt, PhD<sup>5,6,20,21</sup>, Linda F. Fischetti, RN, MS<sup>22</sup>, and Frances M. Weaver, PhD<sup>2,3,4,10,23</sup>

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### **Bolstering Partnership Amid Programmatic Change**

- eHealth QUERI established in 2011
  - Founding operational partner was the My Health eVet Program Office
  - Focus was largely the online patient portal, My HealtheVet
- With QUERI's national reorganization in 2015, eHealth QUERI shifted to a partnered evaluation center (PEI)
  - Operational partner became the newly formed and broader Office of Connected Care (OCC)
  - Focus of the work expanded to include various technologies with the potential for high impact on Veterans and VA care processes
- Operational partner faced with pressing need to demonstrate the impact of their technologies on care processes and outcomes
  - This also emphasized the importance of evaluating technology adoption and uptake

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progress

### Engaging Our Partner – What's Challenging

- Mismatches between research timelines, operational partner timelines, and technology development cycles
- Mismatches between research and operational partner
  performance metrics
- Managing expectations for what's possible on a project's budget; timeline; available data

Simply finding sufficient time to connect and discuss needs;



## Engaging Our Partner – Our Practices

- Include your operational partner across the stages of your work
  - Developing a scope of work
  - Disseminating findings (co-authorship in some cases)
- Share early and often in different venues and formats
  - Data collection instruments, implementation resources, publications
  - Status updates, interim results
  - Considering posting these resources SharePoint, etc.
- Sequence your deliverables; partner needs come first
  - Dashboards, internal white papers, reports; publications afterward





### **Engaging Our Partner – Our Practices**

- Offer support for related partner priorities; tasks
  - Carefully balance with your scope, or include as effort in your scope
  - Consultation, subject matter expertise, administrative guidance
- Participate in related, ongoing partner activities
  - Relevant, recurring conference calls; email lists, etc.

#### **Draft Policy Documents** DATE VHA DIRECTIVE 6506 CONTENTS **REVIEW AND USE OF PATIENT-GENERATED HEALTH DATA UNDER THE** OFFICE OF CONNECTED CARE 1. PURPOSE..... 2. BACKGROUND 5. RESPONSIBILITIES .....

### Engaging Our Partner – What We've Learned

- Operational partner needs and priorities are continually evolving
  - Goal is to stay relevant and aligned with those needs and priorities
- Staying aligned requires
  - Nimbleness; flexibility
  - A mutually agreed upon scope of work
  - Access to strategic plans, performance metrics to ensure alignment
  - Two-way communication
    - Share with your partner; share back with your team

# Thanks so much for this opportunity!

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• And many thanks to our FY 20-21 eHealth PEI team members:

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Bixler, F.R., Etingen, B., Smith, B.S., Shimada, S.L., Amante, D.J., Patterson, A., Netherton, D., Frisbee, K.L., Hogan, T.P. Are Online Health Information Seeking Behaviors Among US Military Veterans Impacted by Behavioral Health Conditions? Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Etingen, B., Smith, B.S., McMahon, N., Kartje, R.K., Clarke, L., Irvin, D., Bixler, F.R., Wilson, G., Shimada, S.L., Frisbee, K.L., Hogan, T.P. Veteran Use of Monitoring Devices to Collect and Share Health Information. Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Etingen B, Amante DJ, Martinez RN, Smith BM, Shimada SL, Richardson L, Patterson A, Houston TK, Frisbee KL, Hogan TP. Supporting the Implementation of Connected Care Technologies in the Veterans Health Administration: Cross-Sectional Survey Findings from the Veterans Engagement with Technology Collaborative (VET-C) Cohort. J Particip Med. 2020 Sep 30;12(3):e21214. doi: 10.2196/21214. PMID: 33044944; PMCID: PMC7557445.

Hogan, T.P., Etingen, B., Shimada, S.L., McMahon, N., Clarke, L., Bolivar, D., Bixler, F.R., Wacks, R.E., Am, L., Frisbee, K.L., Smith B.S. Adoption and Use of Health-Related Mobile Apps Among US Military Veterans. Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Kartje, R., Etingen, B., Smith, B.S., Clarke, L., Irvin, D., Bixler, F.R., Shimada, S.L., Frisbee, K.L., Hogan, T.P. How Do Veterans Access Their Online Patient Portal? Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

McMahon, N., Bolivar, D., Etingen, B., Smith, B.S., Patrianakos, J., Cao, L., Am, L., Frisbee, KL., Hogan, T.P. Technology Adoption and Coping with Pain: Descriptive Factors of Pain and Technology Use among Veterans. Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Patrianakos, J., Etingen, B., Smith, B.S., Shimada, S.L., Wacks, R.E., Amante, D.J., Frisbee, K.L., Hogan, T.P. Which US Military Veterans Use Text Messaging to Receive Health-Related Information? Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Shimada SL, Zocchi MS, Hogan TP, Kertesz SG, Rotondi AJ, Butler JM, Knight SJ, DeLaughter K, Kleinberg F, Nicklas J, Nazi KM, Houston TK. Impact of Patient-Clinical Team Secure Messaging on Communication Patterns and Patient Experience: Randomized Encouragement Design Trial. J Med Internet Res. 2020 Nov 18;22(11):e22307. doi: 10.2196/22307. PMID: 33206052; PMCID: PMC7710447.

Wilson, G., Etingen, B., Smith, B.S., Cao, L., Shimada, S.L., Bixler, F.R., Irvin, D., Patterson, A., Frisbee, K.L., Hogan, T.P. Healthcare Team Encouragement to Engage in Care Through Secure Messaging and Patterns of Secure Messaging Use in the Veteran Population. Proceedings of the American Medical Informatics Association Annual Meeting; November 2020.

Yakovchenko V, Hogan TP, Houston TK, Richardson L, Lipschitz J, Petrakis BA, Gillespie C, McInnes DK. Automated Text Messaging With Patients in Department of Veterans Affairs Specialty Clinics: Cluster Randomized Trial. J Med Internet Res. 2019 Aug 4;21(8):e14750. doi: 10.2196/14750. PMID: 31444872; PMCID: PMC6729116.



# What is Virtual Care?

- Model of care focused on improving health care through technology by engaging patients, their families, and clinical teams beyond episodic, traditional in-person visits
- Reflects calls of prominent institutions (e.g., Institute of Medicine)
- Patient-facing as opposed to purely clinical-team-facing technologies
- Think "augmentation" as opposed to replacement



# **Context for Virtual Care in VA**

- Largest integrated healthcare system in the US
  - 9 million+ Veterans enrolled (6 million+ receiving services)
  - 326,000 employees (177,000 clinical)
  - 1,245 sites of care
  - Long history of investing in health information technology
- Veterans who receive care through VA are
  - Geographically dispersed
  - Users of multiple healthcare systems
  - Faced with socioeconomic challenges
  - Managing unique needs; heavy burden of co-morbid conditions
- Like other healthcare systems, VA is facing unprecedented growth in the number of patient-accessible technologies



## VA Virtual Care Facts & Figures

- PHR Portal, My Health*e*Vet
  - 4.2 million registered users
  - 114 million VA prescription refills since 2005
  - 57 million secure messages exchanged since 2008
- Telehealth
  - First episode of care dates to 1959
  - >2 million episodes of care in FY 2016/2017
- mHealth
  - 32 apps for Veterans; 14 apps for clinicians
- Automated Texting (Annie)
  - Developed via international collaboration with the United Kingdom's National Health Service





#### Timeline (Rough!) of VA Virtual Care Technologies

• Timeline of VHA Connected Care Technologies



# Vision for Virtual Care in VA

- Increase access
- Enhance patient experience
- Promote trust
- Support access to health information
- Shift to patient-centered care
  - Personalized, proactive, patient-driven

