U.S. Department of Veterans Affairs

Patient Generated Health Data: Best Practices in the Integration into Clinical Care

Presenter:

Christina M. Armstrong, Ph.D., Clinical Psychologist, Implementation Strategies, Office of Connected Care (OCC), U.S. Department of Veterans Affairs

Presenter

Christina Armstrong, Ph.D.
Connected Health Implementation Strategies
Office of Connected Care
U.S. Department of Veterans Affairs

Learning Objectives

At the conclusion of this training session, VA staff should be able to:

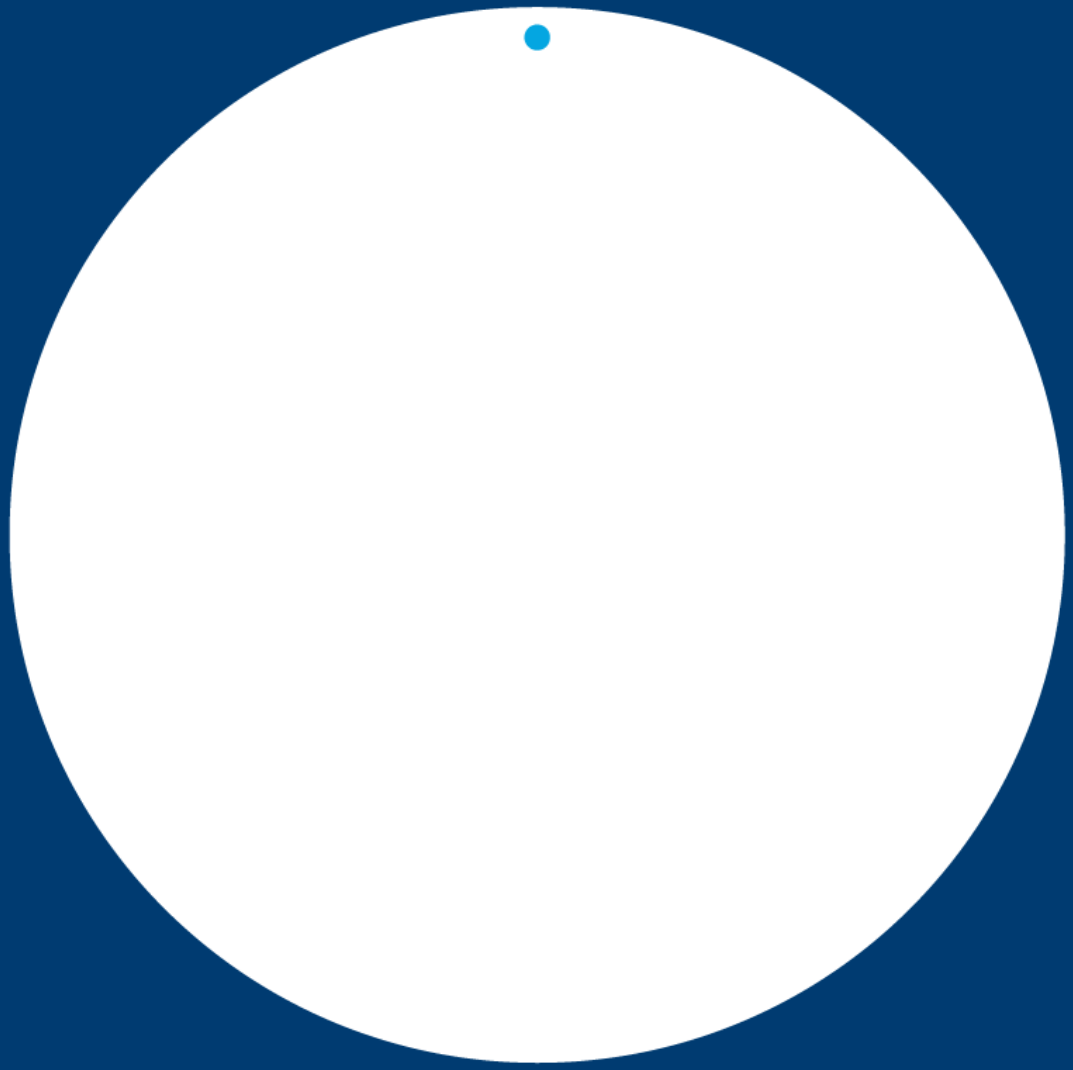
- Be familiar with common definitions of health technologies and components of patient-generated health data (PGHD).
- Describe the benefits of using PGHD in clinical care.
- Demonstrate how PGHD can support clinical management and decision making in a model of continuous care.

Agenda

- Introduction: Leveraging the ‘White Space’
- What is Patient Generated Health Data (PGHD)?
- Use and Benefits of PGHD
- What VA Staff Need to Know About PGHD

U.S. Department of Veterans Affairs

Leveraging the “White Space”



525,600 minutes

LTG Horoho on “The White Space”

https://www.youtube.com/watch?v=Lft0yDVH2tA

EHR Data informs
Episodic Care

EHR + PGHD informs
Comprehensive and
personalized Care

Pen and paper

Digital Tools

VA Health Apps

What is Patient-Generated Health Data?

Vital signs

Lifestyle data

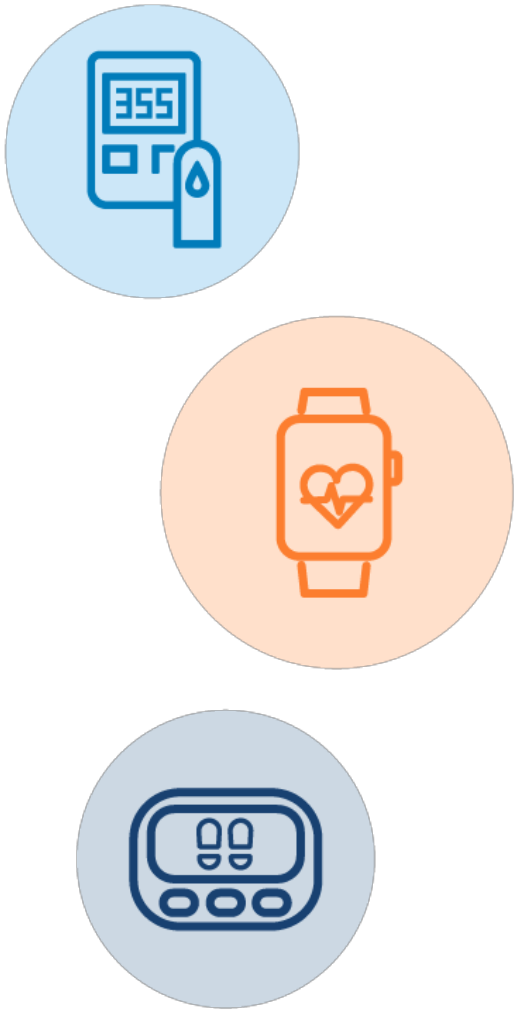
Quality of life data

Other health data

How is PGHD Collected?

Patient-generated health data (PGHD) is health-related data created, recorded, or gathered by patients, their family members, or caregivers.

- Patients capture and record PGHD. Data is captured through clinical apps, wearable devices, devices such as glucometers, or input from patients.
- PGHD is usually distinct from the data generated in clinical settings and through encounters with clinicians.
- Patients decide whether to share the data with providers.



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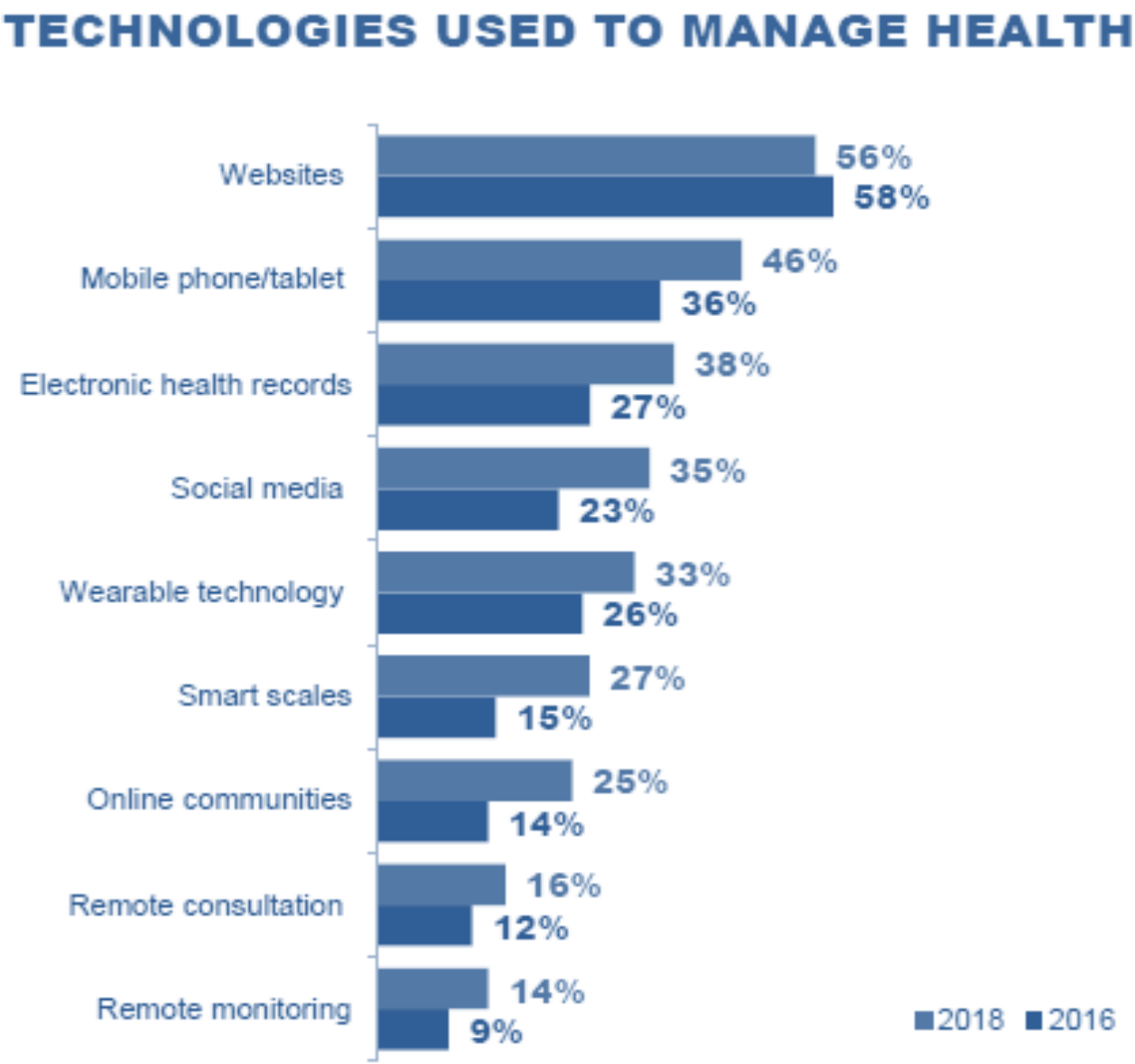
Use and Benefits of PGHD

What health technologies do people use?



(Consumer Survey on Digital Health: US Results, 2018; N=2,301)

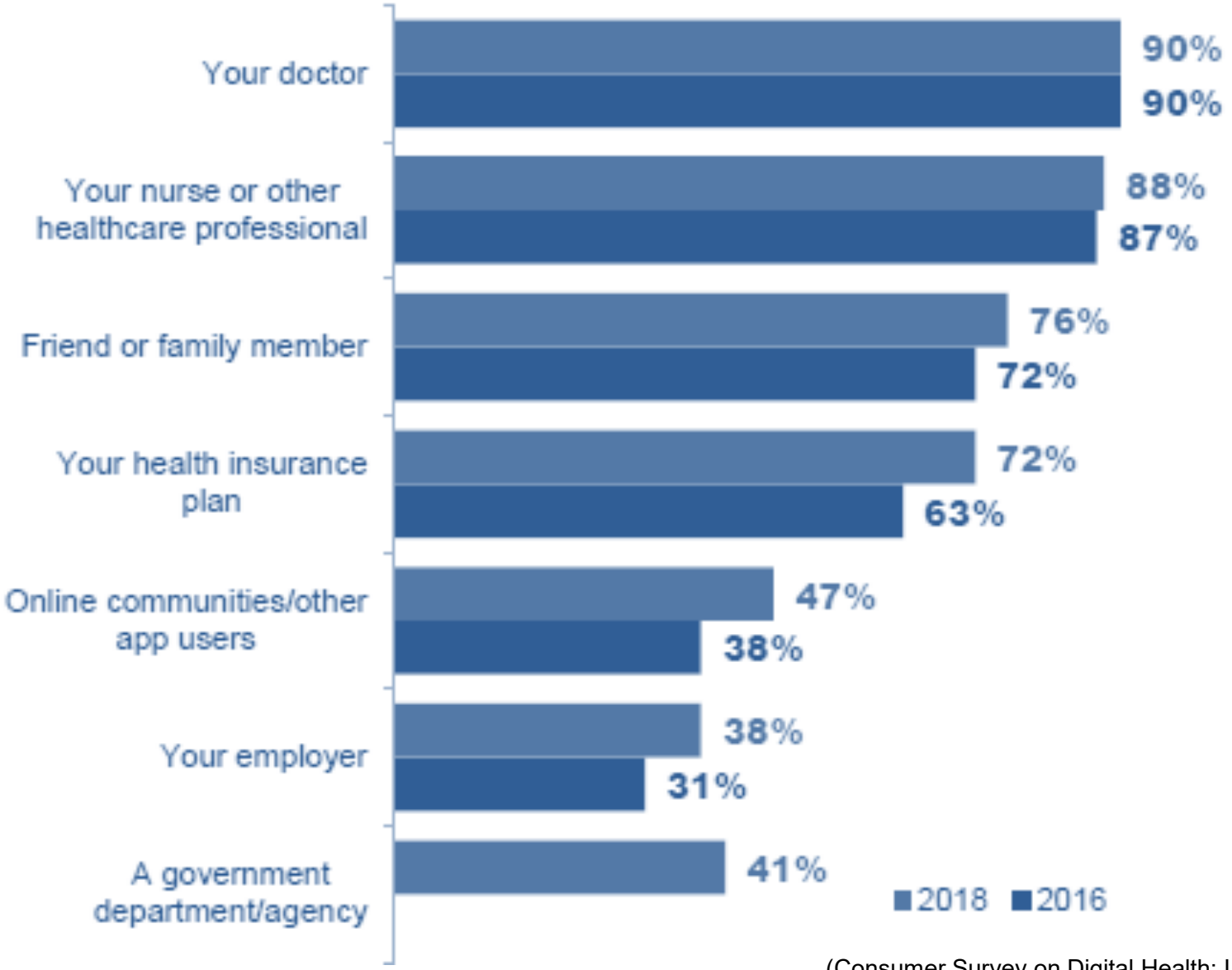
Worldwide Use of Sensors and Wearables

- 325 million (Piwek et al. 2016) and estimated to increase to 929 million by 2021 (Statistica, 2018)
- Increasingly used as the primary assessment and/or treatment modality (Hermens & Vollenbroek-Hutton 2008; Hilty et al. 2021; Kvedar et al. 2014).

Sensors and Wearables Transforming Care

- Transition from a cross-sectional, manual transfer of data at a healthcare appointment to a 24 × 7, longitudinal framework (Areàn et al. 2016; Luxton 2016; Torous and Roberts 2017; Ariga et al. 2019).
- Makes the collection, processing, and sharing of data more integrated and provides the opportunity for real-time feedback based on the ecology (home, health, lifestyle, social) of patients in natural settings (Seko et al. 2014).
- These data support “in-time” clinical decision support (Rohani et al. 2018; CDS) (Greenes et al. 2018) and automatic monitoring systems (Garcia-Ceja et al. 2018; National Academy of Sciences, Engineering and Medicine 2020).

Who do you want to share wearable data with?



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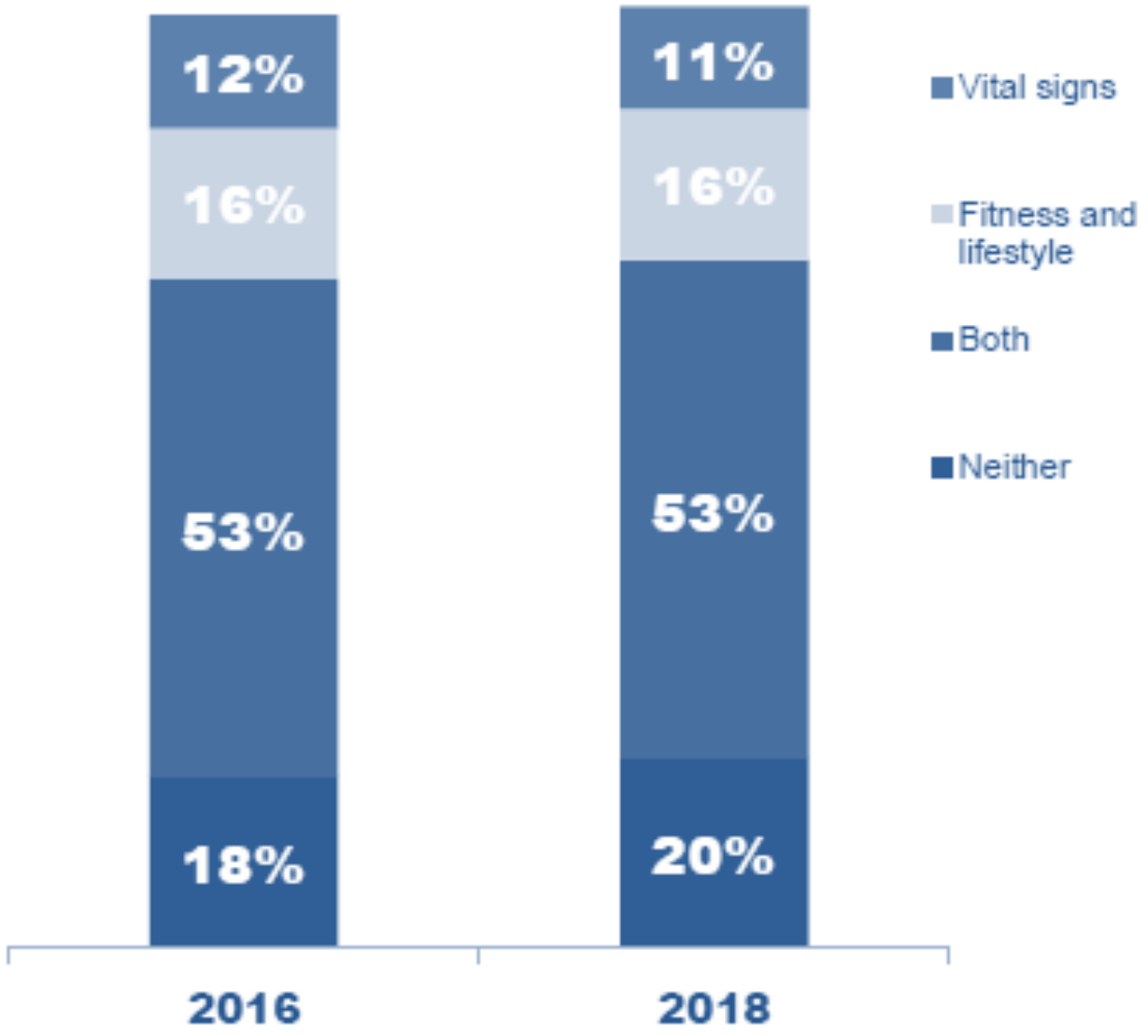
What wearable data are people willing to share?



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Veteran Benefits of PGHD

- Empowers Veterans by gaining a greater understanding of health and wellness.
- Provides supplementary information to help Veterans and their care teams make health care decisions together.
- Veterans control their PGHD and decide whether to share this data with their care teams.

Patient Attitudes Toward Use of PGHD

75% understanding your health condition

73% engaging in your own health

73% monitoring the health of a loved one

69% improves overall quality of care

69% patient/physician communication

69% accuracy of the medical record

66% patient satisfaction

(Consumer Survey on Digital Health: US Results, 2018; N=2,301)

Healthcare Staff Benefits of PGHD

- Leverage the ‘white space’
- Augment their understanding of patients’ health and wellness
- Support clinical decision-making and delivery of care
- Identify meaningful trends than can explain or predict health-related outcomes

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What VA Staff Need to Know About PGHD

VA PGHD Policy

Department of Veterans Affairs
Veterans Health Administration
Washington, DC 20420

VHA DIRECTIVE 6506
Transmittal Sheet
(DATE)

REVIEW AND USE OF PATIENT-GENERATED HEALTH DATA UNDER THE OFFICE OF CONNECTED CARE

1. REASON FOR ISSUE: This Veterans Health Administration (VHA) directive establishes policy and responsibilities for Department of Veterans Affairs (VA) staff who have access to review and use patient-generated health data (PGHD) submitted by Veterans through the Office of Connected Care (OCC) mobile health applications.

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b. Establishes expectations for how providers will communicate with Veterans about PGHD.

c. Describes provider responsibility for documenting any agreed upon plans, as were agreed to by the Veteran, for access and use of PGHD.

3. RELATED ISSUES: VA Handbook 6300.5, Procedures for Establishing and Maintaining Privacy Act Systems of Records, dated August 3, 2017; VHA Directive 1200, Research and Development Program, dated May 13, 2016; VHA Directive 1200.01, Research and Development Committee, dated January 24, 2019; VHA Directive 1605.01, Privacy and Release of Information, dated August 31, 2016; VHA Directive 1605.02, Minimum Necessary Standard for Access, Use, Disclosure and Requests for Protected Health Information, dated April 4, 2019; VHA Directive 1058.03, Assurance of Protection for Human Subjects in Research, dated September 17, 2020; VHA Directive 1200.05(1), Requirements for the Protection of Human Subjects in Research, dated January 7, 2019; VHA Handbook 1200.12, Use of Data and Data Repositories in VHA Research, dated March 9, 2009; VHA Handbook 1907.01, Health Information Management and Health Records, dated March 19, 2015; and Assistant Secretary for Information and Technology and Chief Information Officer Memorandum, "Ethical Principles for Access to and Use of Veteran Data," dated June 24, 2020.

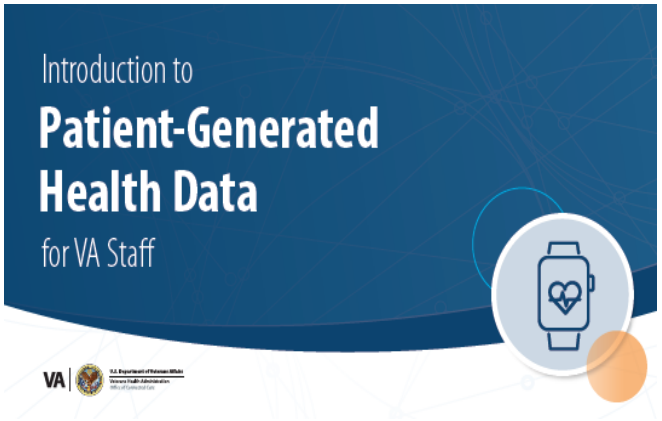
4. RESPONSIBLE OFFICE: The Office of Connected Care (12CC) is responsible for the content of this directive. Questions may be addressed to VHA12CCConnectedCareAction@va.gov.

5. RESCISSIONS: None.

6. RECERTIFICATION: This VHA directive is scheduled for recertification on or before the last working day of [DATE]. This VHA directive will continue to serve as national VHA policy until it is recertified or rescinded.

Approved VA Policy on PGHD available at: https://www.va.gov/vhapublications/ViewPublication.asp?pub_ID=9252

PGHD Resources



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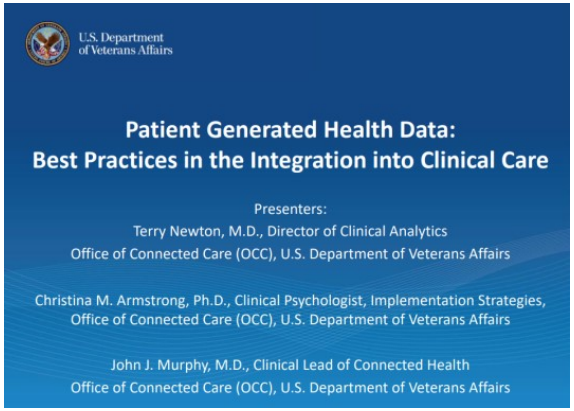

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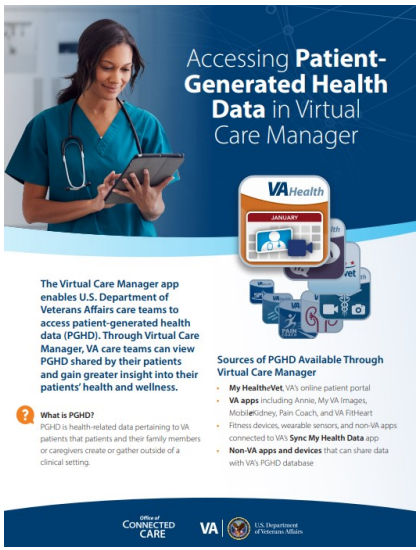
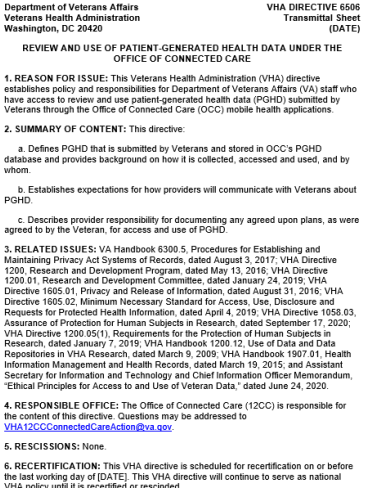
PGHD SharePoint

PGHD Fact Sheet



Virtual Care Manager PGHD Fact Sheet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VA Policy on PGHD


Journal of Technology in Behavioral Science

Sensor, Wearable, and Remote Patient Monitoring Competencies for Clinical Care and Training: Scoping Review

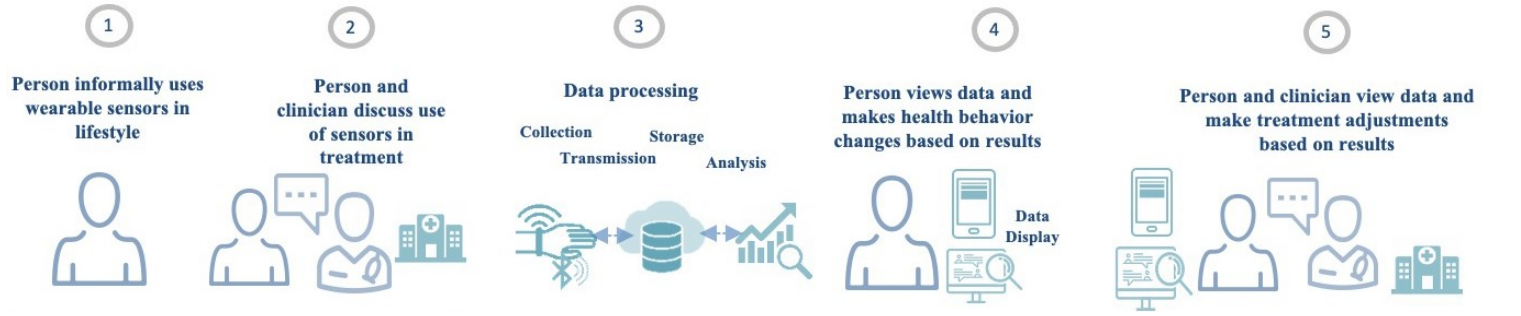
Abstract

Keywords Competencies · Monitoring · Training · Sensor · Wearable · Mobile health · Education · Implementation

Clinical Competencies on Sensors & Wearables

PGHD Competencies Across Workflow

Applicable Competency Domains Across Clinical Workflow



Patient care
-Use principles of effective Clinical Decision Support
-Educate on technology and inquire about preferences
Interpersonal and Communication Skills
-Ask about goals and preferences and be of service to clarify questions
-Engage patient perspective and clarify goals
Medical knowledge
-Learn pros and cons of different technologies
-Assess if an app is evidence based
Practice based learning
-Assess literature and learn/apply evidence base specific to a technology or intervention
Professionalism
-Join professional community

Medical knowledge
-Understand information system components (e.g., network, software)
System based practice
-Learn safety/risk issues (e.g., physical, privacy)
-Recognize need for efficient and equitable use of resources
-Communicate data and workflow in EHR to team
-Use reporting system for problems
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Patient care
-Effectively locate wearable data in EHR
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-Develop skill with text and e-mail
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System based practice
-Communicate workflow in the EHR to team and report problems
-Plan for effective transitions across settings
-Discuss possible quality gaps for care delivery

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Published Competencies available at: https://link.springer.com/article/10.1007/s41347-020-00190-3

Provider Responsibilities

The VA provider is responsible for:

1. Using OCC educational materials to inform and discuss with Veterans how they can share and receive PGHD with VA on mobile applications and devices, the planned or potential uses of PGHD, potential benefits or burdens of allowing use of their data, expectations about if and when the provider will review that data and the need for the Veteran to make the provider aware of situations in which they believe that they may be experiencing a medical issue or need medical attention based on their PGHD. See paragraph 6 for more information.
2. Viewing PGHD using a VA application or platform (e.g., VA's Virtual Care Manager (VCM)) or displaying PGHD to the Veteran during an encounter, as needed.
3. Documenting in the EHR a summary of PGHD discussions with the Veteran, including expectations for provider review of the Veteran's PGHD and agreed-upon communication of how and for what purposes PGHD will be shared.
4. Documenting in the EHR all instances in which a licensed independent provider uses PGHD in making medical decisions. ***NOTE:*** *The change in the plan of care and a copy of or a narrative description of PGHD that led to the change in care must be documented in the EHR.*

VAMC Facility Director Responsibilities

The VA medical facility Director is responsible for:

- Ensuring overall VA medical facility compliance with this directive and that appropriate corrective action is taken if non-compliance is identified.
- Ensuring that VA providers are aware of this directive, understand how PGHD can be incorporated into their relationships with Veterans, how to talk to Veterans about PGHD and how to complete required documentation as described under paragraph 5.h of policy (VHA Directive 6506) .

Agreement for PGHD Use

If the provider requests that the patient collect and share PGHD, or if a patient begins sharing PGHD with VA, that provider should discuss how PGHD will be viewed and acted upon with the patient.

- Set expectations for patient sharing and provider viewing PGHD, and for care decisions to be made.
- Inform the patient that it is their responsibility to make the VA provider aware of situations in which the patient believes that they may be experiencing a medical issue or need medical attention based on their PGHD.
- Document any agreement regarding the collection, monitoring and use of PGHD in a note within the patient's EHR.

Categories of PGHD

For the purpose of clinical care, the review and use of PGHD falls into two primary categories:

- Solicited Data
- Unsolicited Data

Accessing and Documenting PGHD

- PGHD is stored in a secure VA database.
- Providers can access PGHD through Virtual Care Manager.
- PGHD is not considered a part of the patient's official medical record unless the provider actively adds the data to the Electronic Health Record (EHR).

Workload Credit for Data Review

- Relative Value Unit (RVU)

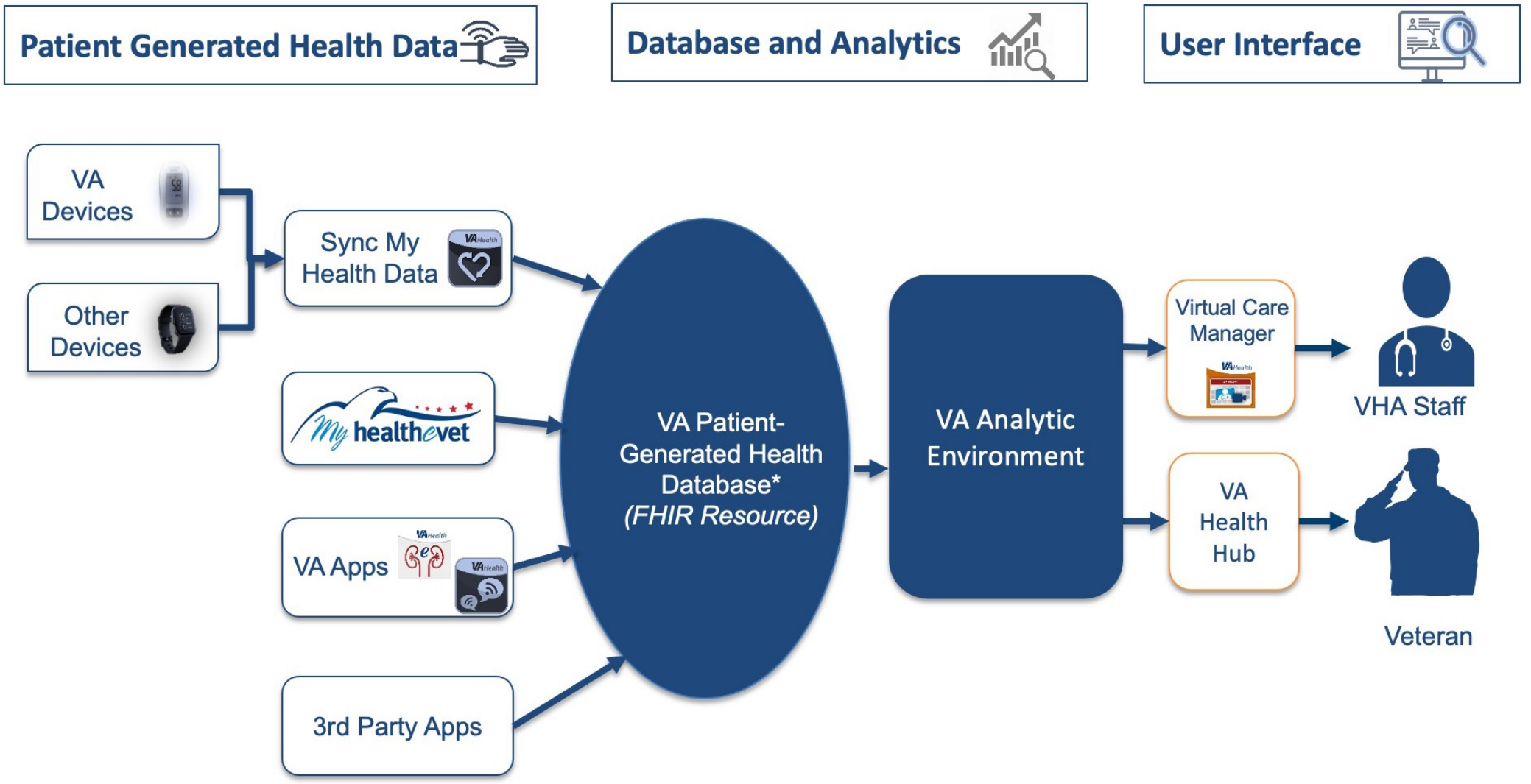
698 Secondary Stop Code - General Remote Patient Monitoring - Provider Site (Outside RPM-HT Program) Records workload for the remote monitoring of patients on a regular basis where the data comes from a non-VAMC location and the monitoring is being done outside the Remote Patient Monitoring-Home Telehealth program. This may include monitoring of Patient Generated Health Data (PGHD) residing in or obtained from VA or Non-VA databases. Additionally, this credit Stop Code can be used for documenting medical decision making and care plan changes based on remote monitoring. Use of this Stop Code is limited to those programs approved by the Office of VHA Connected Care. (VA FY22 Active Stop Code updated July 8, 2021)

VHA Directive 1082: Patient Care Data Capture (March 24, 2015)

Understanding Data Flow and Data Security

- PGHD is stored in VA's PGHD database which meets all Federal and VA requirements for security and privacy.
- This data is governed by its own Privacy Act System of Records Notice (SORN) ''VA Mobile Application Environment (MAE)-VA'', 173VA005OP2.
- PGHD is not part of the Veteran's official health record unless a provider actively migrates or pastes adds the data into the electronic health record (EHR).
- Any data that is copied and placed added into the EHR by a provider becomes part of the official VHA health record and subject to all rules associated with the Privacy Act SORN, "Patient Medical Records-VA", 24VA10A7.

PGHD Sources and Data Flow



*Veteran chooses which data goes into the PGH Database

PGHD Competencies Across Workflow

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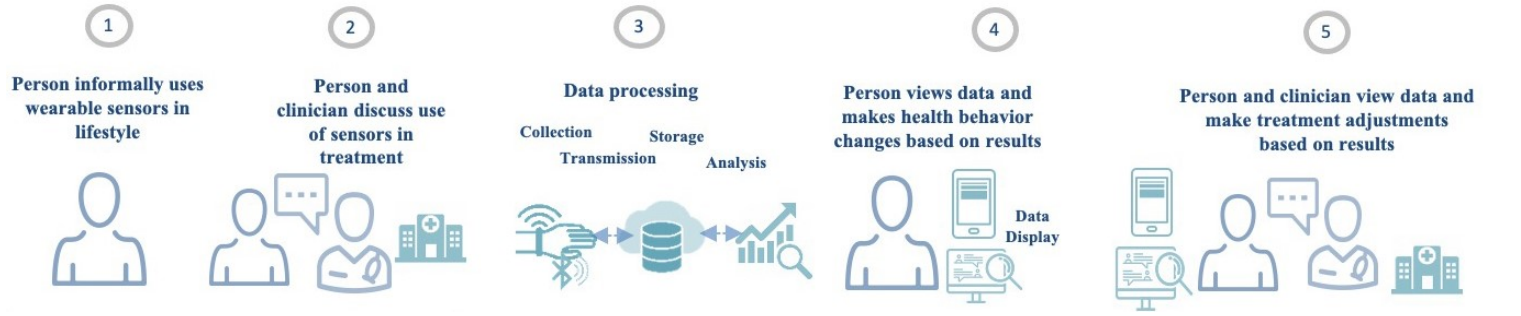

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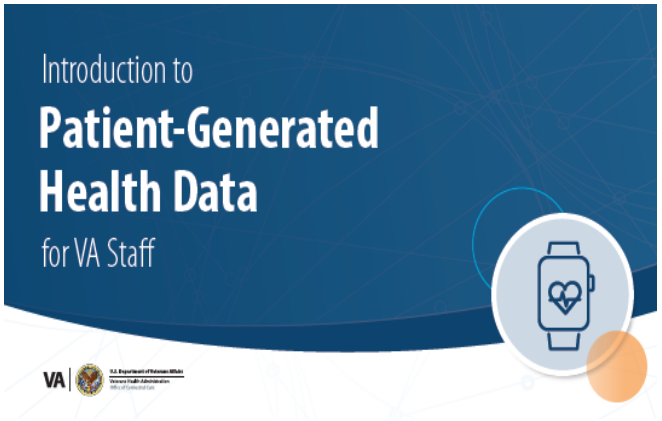
Recommendations for Providers re: PGHD

VA providers are encouraged to make patients aware of the potential benefits of sharing their PGHD with their care team. This can include:

- Discussing how apps and devices can be used to collect PGHD
- Describing benefits and limitations of PGHD
- Understanding that patients may consider PGHD an important part of their care
- Connecting the patient to designated VA staff members who can offer more information, as needed

PGHD Resources



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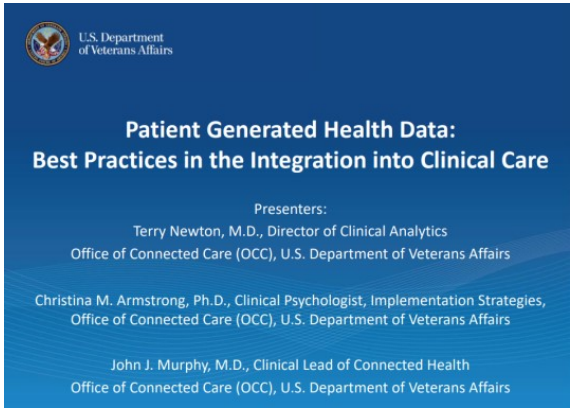

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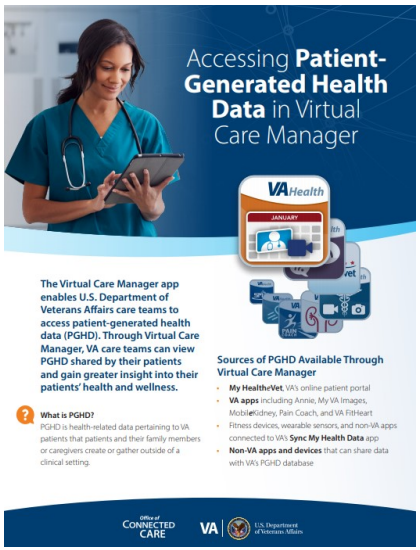

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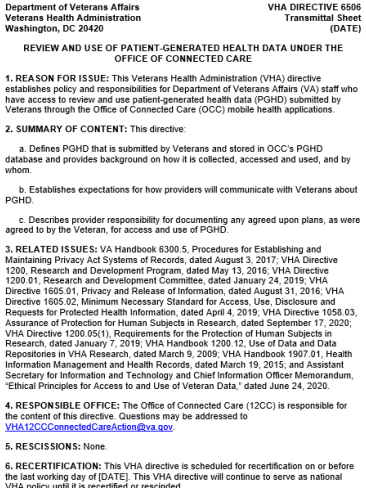
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VA Policy on PGHD


Journal of Technology in Behavioral Science
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Sensor, Wearable, and Remote Patient Monitoring Competencies for Clinical Care and Training: Scoping Review

Donald M. Hilty[1] · Christina M. Armstrong[2] · Amanda Edwards-Stewart[3] · Melanie T. Gentry[4] · David D. Luxton[5] · Elizabeth A. Krupinski[6]

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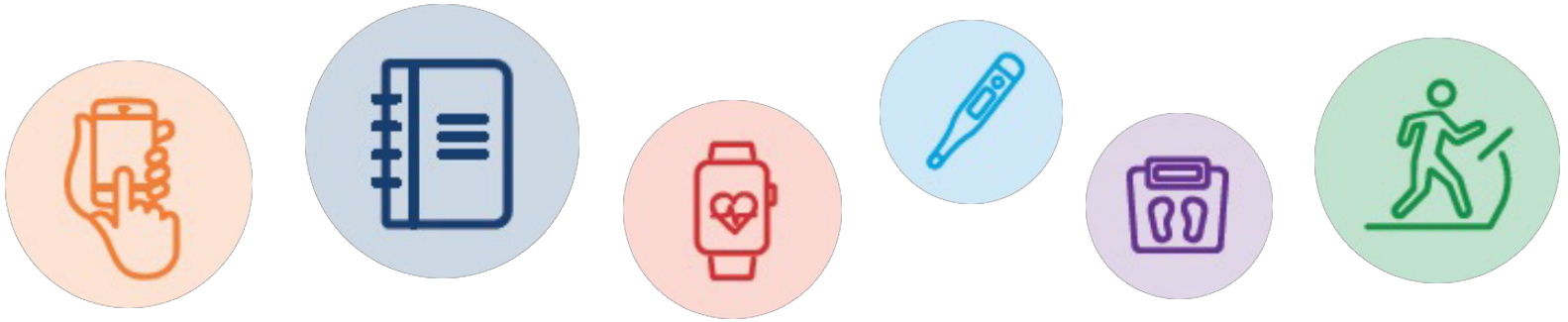
Abstract
Sensor, wearable, and remote patient monitoring technologies are typically used in conjunction with video and/or in-person care for a variety of interventions and care outcomes. This scoping review identifies clinical skills (i.e., competencies) needed to ensure quality care and approaches for organizations to implement and evaluate these technologies. The literature search focused on four concept areas: (1) competencies; (2) sensors, wearables, and remote patient monitoring; (3) mobile, asynchronous, and synchronous technologies; and (4) behavioral health. From 2846 potential references, two authors assessed abstracts for 2828 and, full text for 521, with 111 papers directly relevant to the concept areas. These new technologies integrate health, lifestyle, and clinical care, and they contextually change the culture of care and training—with more time for engagement, continuity of experience, and dynamic data for decision-making for both patients and clinicians. This poses challenges for users (e.g., keeping up, education/training, skills) and healthcare organizations. Based on the clinical studies and informed by clinical informatics, video, social media, and mobile health, a framework of competencies is proposed with three learner levels (novice/advanced beginner, competent/proficient, advanced/expert). Examples are provided to apply the competencies to care, and suggestions are offered on curricular methodologies, faculty development, and institutional practices (e-culture, professionalism, change). Some academic health centers and health systems may naturally assume that clinicians and systems are adapting, but clinical, technological, and administrative workflow—much less skill development—lags. Competencies need to be discrete, measurable, implemented, and evaluated to ensure the quality of care and integrate missions.

Keywords Competencies · Monitoring · Training · Sensor · Wearable · Mobile health · Education · Implementation

Clinical Competencies on Sensors & Wearables

Key Take-Aways

- Patient-generated health data (PGHD) helps both Veterans and providers gain a greater understanding of patient health and wellness.
- While PGHD does not replace standard medical care, it can provide supplementary information to help Veterans and their care teams make health care decisions together.
- Patients are primarily responsible for capturing and recording PGHD, and for deciding whether to share this data with their care teams.
- It is the responsibility of VA providers to inform patients about how they intend to use PGHD in care.



U.S. Department of Veterans Affairs

Questions

U.S. Department of Veterans Affairs

FAQ

Are the patients able to see the graphs that were shown?

U.S. Department of Veterans Affairs

FAQ

Do PGHD go into the patient's official medical record?

U.S. Department of Veterans Affairs

FAQ

Can data from Apple Health app be pulled into the PGHD databased with the VA Sync My Health Data app?

U.S. Department of Veterans Affairs

FAQ

Is a specific brand of sensor/wearable device required to be able to pull my data with VA Sync My Health Data app into the PGHD database?

VA Virtual Care Resources

Office of Connected Care Communication Toolkits *https://connectedcare.va.gov/outreach-toolkit*

Connected Care Academy
https:/vaots.blackboard.com

Connected Care Discussion Series
https://*mobile.va.gov/discussion-series*

Connected Care Integrated Care Series (email *VHA10P8TELEIPT@va.gov* to be put on distribution list)

VA Connected Care Community of Practice (email *chimplementation@va.gov* to be put on distribution list)

My Health*e*Vet
https://myhealth.va.gov

VA Mobile
https://mobile.va.gov/appstore
https://Tinyurl.com/tech-into-care

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Thank you!

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