WRAP™: Wearables Research Analytics Platform

An end-to-end data collection and analysis solution to improve Service member health, readiness, and performance

The Challenge

Downtime is not an option for military personnel and Service members because optimal health is critical to mission success

Leaders need to ensure their teams are as healthy as possible and bring awareness to changes in performance before issues arise. The widespread adoption of wearable technology over the past decade has significantly strengthened the ability of individuals, leaders, clinicians, and researchers to understand and intervene in many aspects of personal and population health. Interest in collecting data from wearable devices is increasing, but these groups of people commonly face two challenges:

1. People do not have the technology infrastructure or the expertise to incorporate wearable devices into current programs.
2. Wearables data are not standardized when they are collected—so there is no way to manage and analyze this information in a meaningful way and ensure individuals and leaders are making decisions based on accurate data.

The Solution

Introducing WRAP: Wearables Research Analytics Platform

RTI International can help you with these challenges. Our experts conduct research about the reliability and validity of wearable products and provide guidance and technical support to plan and implement programs that use wearables for various applications. These include data collection to (1) manage pilot and demonstration programs and (2) monitor and evaluate efforts that ensure wearable devices generate trusted and actionable data.

Identify, evaluate, select, and configure the most appropriate wearable(s) for your study's participants.

Procure devices, manage shipping logistics, and distribute devices to program participants.

Obtain informed consent, register devices, and onboard participants in a collected or distributed environment.

Applications

- Military health performance monitoring
- Research studies
  - Longitudinal
  - Observational
- Fatigue and sleep monitoring
- Early symptom detection for COVID-19 and other illnesses
- Employee health programs
- Insurance providers
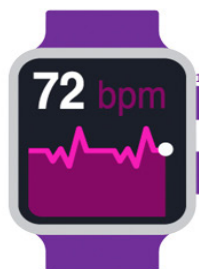- First responders

Advantages

- Provides continuous data collection with and without Wi-Fi
- Is device agnostic; compatible with multiple types and brands of wearable devices
- Encrypts data transmission directly from device to data server
- Stores data in a single secure location or transmits data to Department of Defense–specified endpoints
- Features integrated electronic consent
- Is easily scalable
- Has a low operating cost
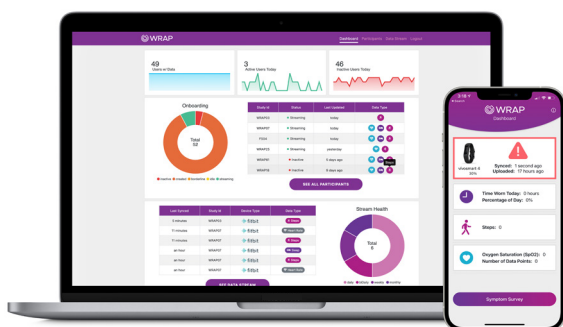
The Technology

A comprehensive, end-to-end solution

WRAP enables teams to collect, manage, and analyze wearables data from large cohorts in a streamlined, evidence-based, and cost-effective manner. RTI deploys our WRAP technology stack on the Microsoft Azure® cloud and provides a highly robust, scalable, and secure platform for sensitive data—such as personally identifiable information or protected health information.

Data flow directly from the wearable device to the WRAP smartphone app and then to a server of your choice.

Participant data are safe, secure, and free from any third party access.

Web Application

- Compatible with wearable devices from Fitbit, Garmin, Oura, and others

- Customized dashboard allows for monitoring of participant compliance

- Participant data can be exported with the click of a button

- Simple authentication workflow allows for participant enrollment

- Easy setup for user accounts and permissions across your team

Apple App Store

- Compatible with wearable devices from Garmin and Polar; additional device integrations are under way

- Data streaming directly from wearable device to server— not shared with third parties

- On-device customizable surveys to combine with sensor data collection in research studies

- Home screen widget to improve compliance

- Data storage by RTI or on your own personal server location

- Simultaneous data collection from multiple devices

Interested in learning more? Contact us.

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WRAP™

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