

# P1752.2

## Cardiorespiratory Subgroup Teleconference

Working Group Sponsored by IEEE Engineering in  
Medicine & Biology Standards Committee

October 27, 2022  
15:00 UTC

# P1752.2

## Cardiorespiratory Subgroup

### Agenda

Oct 27, 2022

#### Attendance

Prior minutes & slides / complete, pending posting

#### Discussion: Use cases - Pt. 2

- *Exercise physiology*
  - *Focus on exercise recovery*
- *Other considerations about cardiorespiratory fitness (CRF)*

#### Other business

- *Collaborations / stakeholder engagements*
  - AHA Conference (Nov 5-7, 2022, Chicago, USA)
- *Next meeting : New proposal*

# P1752.2 Standard for Mobile Health Data

## *Cardiorespiratory Subgroup*

### **Scope**

The P1752.2 Cardiorespiratory (CR) Subgroup will review Open mHealth schemas related to CR measures and propose updates and additional schemas as needed. The scope includes but is not restricted to the following measures of CR health: blood pressure, heart rate, heart rate variability, RR interval, respiratory rate, and O2 saturation. *The focus of this Subgroup's work is on modeling data pertaining to CR function, not on current or future individual devices or apps that measure various aspects of CR health.*

### **Duties**

By reviewing the clinical aspects of CR health and existing relevant devices and apps, the Subgroup shall deliver a list of common attributes as well as a list of clinically important attributes in the CR domain as scoped above. The Subgroup shall propose modified and new schemas relating to CR health, including examples as informed by use cases and the list of common and clinically important attributes. Finally, the Subgroup shall deliver a review of mappings and/or relationships to non-Open mHealth CR schemas.

# Fitness / Performance Paradigm

*Use Case*

## Exercise Recovery

*... continuation*

**Conner McCraw**

Epidemiological Cardiology Research Center (EPICARE)

Wake Forest School of Medicine

# Physical Activity

## Overview

1. What happens during physical activity?
2. What happens during recovery from physical activity?
3. What are we capturing with mobile health?

### Variables of interest:

- Hemodynamics (Q, BP, HR, TPR)
- Respiratory (Respiration Rate, Tidal Volume, Ventilation)
- Gas Exchange ( $\text{VO}_2$ ,  $\text{VCO}_2$ )
- Heart Rate Variability (HRV)
- Symptoms (Rating of Perceived Exertion, Dyspnea, Angina)

# ***Exercise as a vital sign...***

[https://www.cdc.gov/Pcd/issues/2017/17\\_0030.htm](https://www.cdc.gov/Pcd/issues/2017/17_0030.htm)

[https://www.mayoclinicproceedings.org/article/S0025-6196\(19\)31078-X/fulltext](https://www.mayoclinicproceedings.org/article/S0025-6196(19)31078-X/fulltext)



**AHA**

<https://www.heart.org/en/healthy-living/fitness/fitness-basics/aha-recs-for-physical-activity-in-adults>

# Physical Activity

## Overview

1. What happens during physical activity?
2. What happens during recovery from physical activity?
3. What are we capturing with mobile health?

### Example:

AHA & PAA : HL7 FHIR

#### *“Physical Activity Implementation Guide”*

- Fitness assessment as ‘vital sign’
- P1752.2 schema component metrics

**Use case paradigms for  
developing P1752.2  
Cardiorespiratory  
Schemas**

**Athleticism**

*Fitness  
Performance*

**Self Care**

*Health Maintenance  
Wellness*

**Health Care**

*Chronic Disease Monitoring  
Post-Intervention Recovery  
Rehabilitation*

**Maintain alignment with existing  
“gold standard” clinical data landscape**

*DiMe Society Playbook :*

- Clinical Research
- Clinical Care
- Public Health

# Physical Activity

## Overview

1. What happens during physical activity?
2. What happens during recovery from physical activity?
3. What are we capturing with mobile health?

Example:

AHA/ACC

*“Variety of exercise stress test protocols...”*

- Prognostic assesment
- P1752.2 schema component metrics

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# Recovery from Physical Activity

## Overview

1. What happens during physical activity?
2. What happens during recovery from physical activity?
3. What are we capturing with mobile health?

### Example:

Cleveland Clinic

#### *“Heart Rate Recovery”*

- Prognostic assessment
- P1752.2 schema component metrics

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# Physical Activity Alliance

*'Partners'*

			
			
			
			<p><b>Physical Activity Alliance</b></p>

**Listing of key stakeholders in the “Athleticism” paradigm**

*Professional organization & industry*

*Other P1752.2 Open mHealth stakeholder entities*

# ***Physical Activity Metrics***

- *Fitness & performance*
- *Health mainenance & wellness*
- *Chronic disease...*

Example:

*Impact of cardiomyopathy/ heart failure*

*(Metric deviations)*

# Physical Activity & Mobility Subgroup

Table 1

\$schema: <a href="http://json-schema.org/draft-07/schema#">http://json-schema.org/draft-07/schema#</a>
"\$id": <a href="https://w3id.org/ieee/ieee-1752-schema/physical-activity.json">https://w3id.org/ieee/ieee-1752-schema/physical-activity.json</a>
"title": "Physical Activity"
"description": "This schema represents episode(s) of physical activity."

# ***Collaborations / Stakeholder Engagement***

- *MedTech Industry*
- *Data Industry*
- *Professional Organizations*
- *Advocacy Organizations*

AHA Conference (Nov 5-7, 2022, Chicago, USA)

# Next meeting : November 17?, 2022 (15:00 UTC)



Change from 4th Thursday to 3rd Thursday of the month?