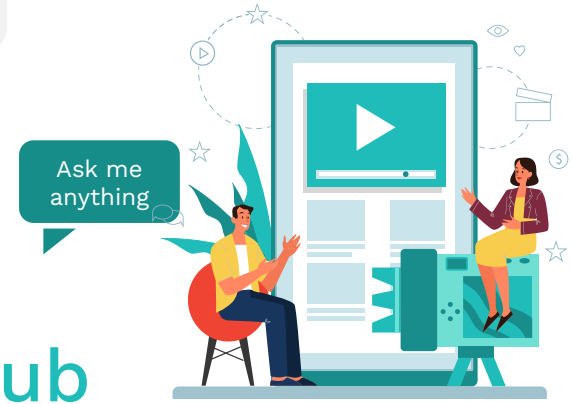
Virtual Journal club



The Patient Matters in the End(point)

Thursday, April 13th, 2023 | 11am ET

Diana Rofail, PhD, MBA
Global Head, Patient Centered Outcomes Research (HEOR, medical affairs)
Regeneron

Pip Griffiths, PhD
Program Lead
Digital Medicine Society (DiMe)

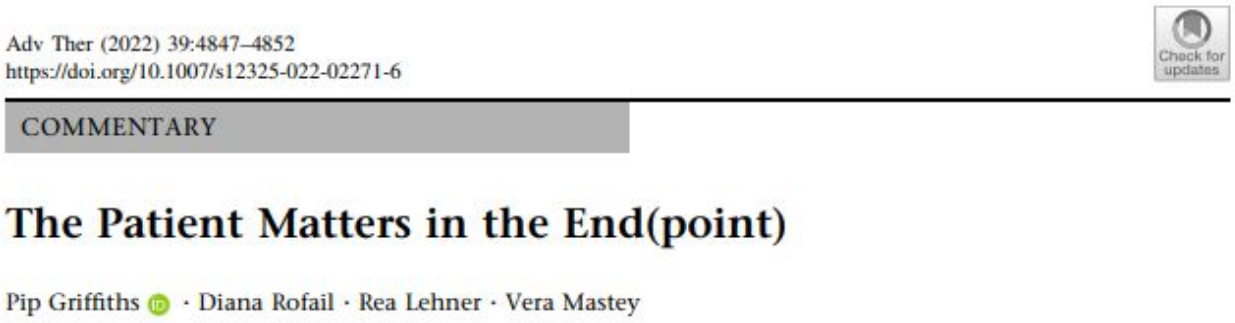
Candice Taguibao (Moderator)
Program Lead
Digital Medicine Society (DiMe)

But first, housekeeping

- Please note today's session is being recorded
- To ask a question for discussion during Q&A, please:
    - Either 'raise your hand' in the participant window and moderator will unmute you to ask your question live, or
    - Type your question into the chat box
- Slides and recording will be available after today's session

******Participants are not permitted to transcribe this webinar, violators will be removed from the session.***

Our commentary is a call to action for the proper formation of digital clinical outcomes assessments



Adv Ther (2022) 39:4847–4852
https://doi.org/10.1007/s12325-022-02271-6

COMMENTARY

The Patient Matters in the End(point)

Pip Griffiths · Diana Rofail · Rea Lehner · Vera Mastey

"The willingness and opportunities to include DHTs into clinical trials as endpoints has been rapidly increasing.

One group that tracks the inclusion of digital health endpoints in trials is the Digital Medicine Society (DiMe). DiMe's database shows that 49 individual clinical trials in Phase 2 or 3 have included DHTs measuring over 114 different endpoints as a secondary or even primary trial endpoint.

Despite these advances, DHTs have yet to be leveraged in any FDA label claim"

Source: https://pubmed.ncbi.nlm.nih.gov/32087341/

Background to the issues we saw in the field

- We saw confusion in the field about when and how to implement DHTs in clinical trials
  - *“In an effort to be innovative, digital devices have been included in research programs without first establishing meaningful aspects of the individual’s health and … being specific at the onset about what exactly the DHT is trying to measure”*
- We exemplified this through a search on the DiMe Clinical Endpoints Library
  - *“A search for applications of DHTs to measure digital outcomes … reveals digital endpoints which assess, for example, step count or cough over a whole 24-h period, total sleep time and increase in blood oxygenation over time”*
- These may or may not be clinically important - but are they relevant to the patients lived experience?
  - *“Here, the problem is that these measures do not yet relate meaningfully to a patient’s life or to how patients themselves understand their feelings and function with a certain disease and treatment.”*

Develop measures that matter to patients

Meaningful Aspect of Health (MAH)

Aspect of a disease that a patient:

- does not want to become worse, or
- wants to improve, or
- wants to prevent

Concept of Interest (COI)

- Simplified or narrowed element that can be practically measured

Outcome to be measured

- The **measurable characteristic** influenced or affected by an individual's baseline state or an intervention
- If you are conducting research, you will also define an **endpoint** to be measured

Source: Manta C. et al

Case examples: Measures that matter to patients with Parkinson's Disease and Anxiety Disorder

	Meaningful Aspect of Health (MAH)	*Concept of Interest* (COI)	*Outcome to be measured*
Parkinson's Disease	"I want to be able to walk so I can carry my own groceries"	Activity (e.g., walking capacity)	**Outcome**: Walking bouts per day **Endpoint**: Percentage of patients with > 15% increase in activity monitoring from baseline Parkinson's
Anxiety Disorder	"I am exhausted and having trouble resting and relaxing"	Sleep (e.g. sleep duration)	**Outcome**: Time to sleep onset **Endpoint**: Average change in time to sleep onset one month from baseline

Source: Playbook team analysis

There are 7 types of biomarkers

Diagnostic Biomarker

Monitoring Biomarker

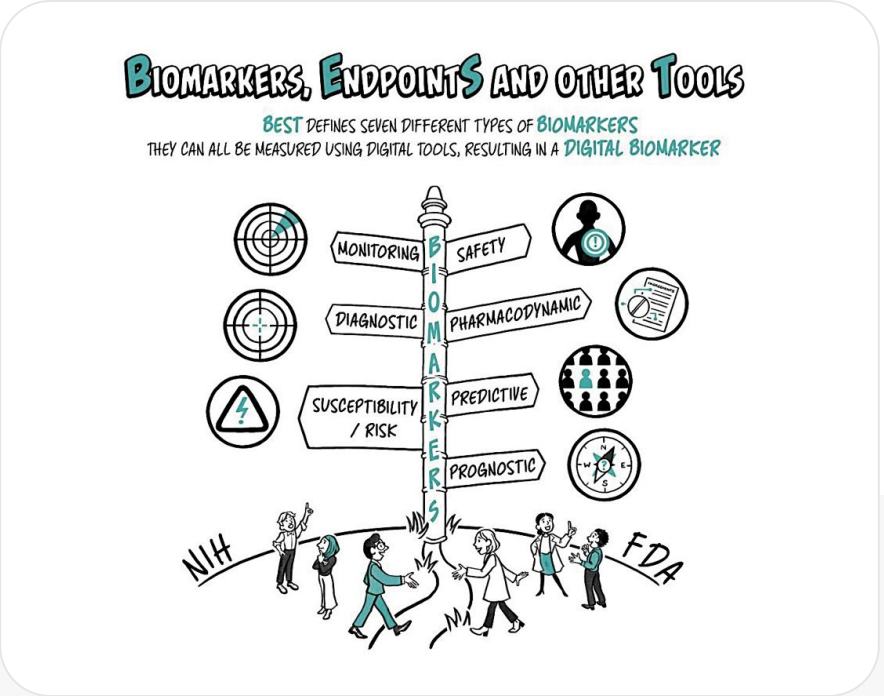
Pharmacodynamic / Response Biomarker

Predictive Biomarker

Safety Biomarker

Susceptibility / **Risk** Biomarker

Prognostic Biomarker



When a biomarker is collected using a digital sensing product, it is a ***digital biomarker***.

Source: FDA Facts: Biomarkers and Surrogate Endpoints Karger - Digital Medicine: A Primer on Measurement *The Playbook* team analysis

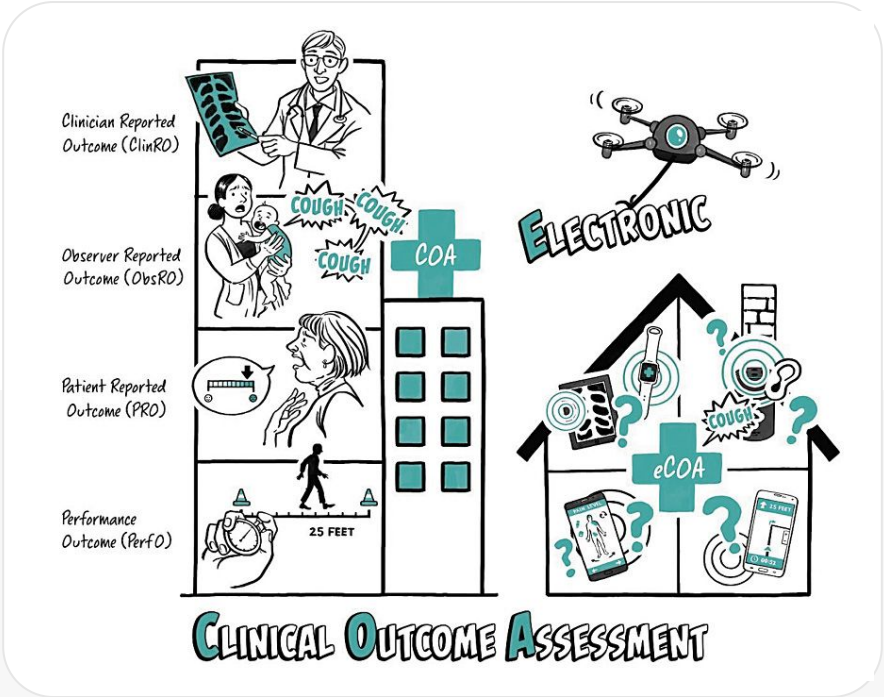
There are 4 types of clinical outcome assessments (COAs)

Clinician reported outcome (**ClinRO**)

Observer reported outcome (**ObsRO**)

Patient reported outcome (**PRO**)

Performance outcome (**PerfO**)



When a **COA** is collected using a digital technology, it is called an ***electronic outcome assessment*** or ***'eCOA'***. Note not all eCOAs are collected using a sensor. Ex: ePROs

Source: FDA Facts: Biomarkers and Surrogate Endpoints Karger - Digital Medicine: A Primer on Measurement *The Playbook* team analysis

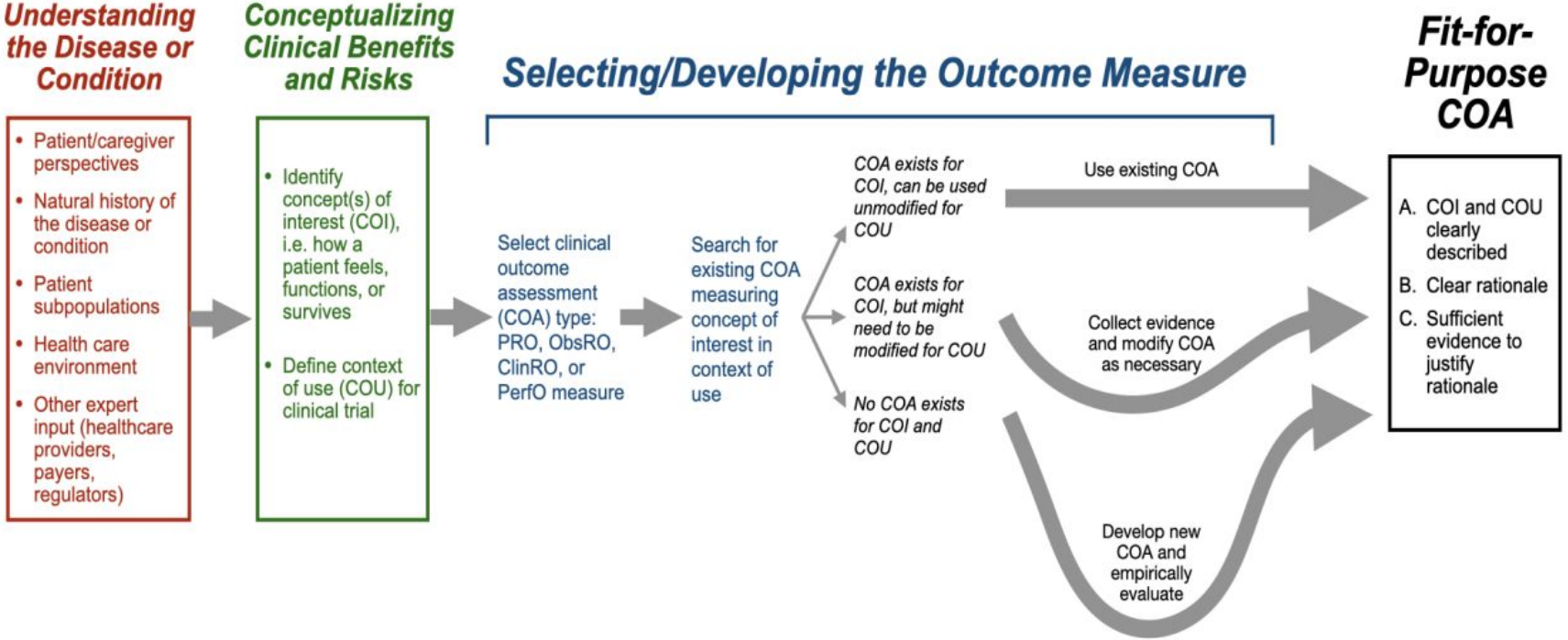
Existing guidance has been published to help researchers develop COA endpoints

Light on references to DHTs and focus in on traditional COAs - BUT - can be applied to eCOAs

Talks to the development of an endpoint measure from the patient through to the scoring and measurement properties

Source:
https://www.fda.gov/regulatory-information/search-fda-guidance-documents/patient-focused-drug-development-incorporating-clinical-outcome-assessments-endpoints-regulatory

There is a process for defining and implementing a COA



Sources: Patient-Focused Drug Development: Selecting, Developing, or Modifying Fit-for Purpose Clinical Outcome Assessments Guidance for Industry, Food and Drug Administration Staff, and Other Stakeholders

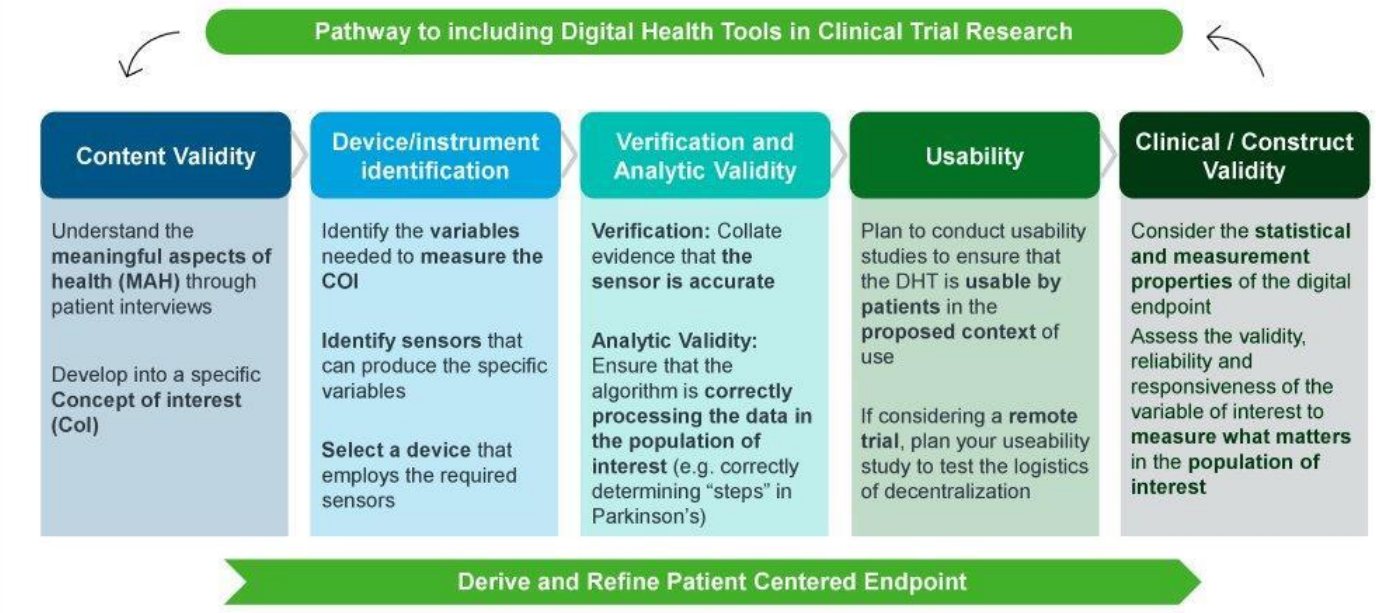
FDA just launched new draft guidance in April 2023

Discusses how endpoints can be developed (applicable to DHTs)

Insights into interpretation through *meaningful score difference* and *meaningful score interpretation*

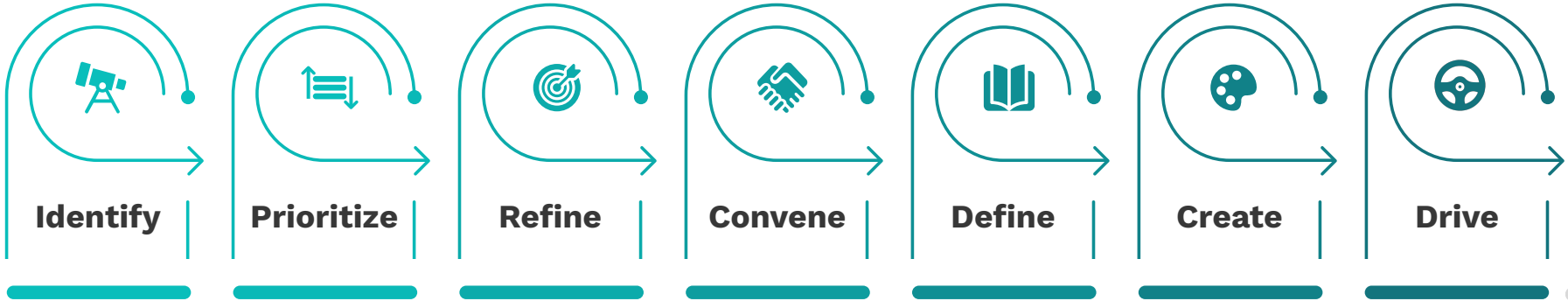
Source:
https://www.fda.gov/regulatory-information/search-fda-guidance-documents/patient-focused-drug-development-incorporating-clinical-outcome-assessments-endpoints-regulatory

Implementing digital measurement product into a trial is a process



Source: The Patient Matters in the End(point)

DiMe Pre-Competitive Collaboration



Identify common pain points &/or shared opportunities across the field

Prioritize concepts that can be successfully addressed through collaborative research & open-access resources

Refine project problem statement & goals

Convene a balanced, multi-stakeholder team of experts

Define project scope & conduct evidence-based research

Create resources for action, not consumption, targeting specific change agents

Drive the adoption of the resources & monitor their impact

Source: Digital Endpoints in Clinical Trials Need Pre-Competitive Collaboration What's the (End)Point in Digital Health Technology?

Key Points

- Digital health technologies such as wearable sensors allow another way to understand and measure the patient experience.
- Clinical trial endpoints are evolving because of the rapid implementation of such digital health technologies into trials.
- However, the implementation of these technologies is often disassociated from the patients perspective on their own health condition.
- Here, we set out that clinical outcomes assessment science should be used to fully integrate digital health tools into clinical trials to create meaningful, patient-relevant endpoints.
- A potential process flow is presented, and a need for pre-competitive collaboration is discussed

IMPACT V1C Core Competencies: The Hallmarks of High Quality, Trustworthy Virtual First Care

Thursday, April 20 at noon ET

Linette Demers (Moderator)
Director, IMPACT
Digital Medicine Society (DiMe)

Kristofer Caya
Lead Director
Aetna Virtual Care

Shelly Lanning
Co-founder, President
Visana Health

Carrie Nelson
Chief Medical Officer
Amwell

Elizabeth Zech
Principle, Center for Health Innovation
Mercer

Join us for an upcoming DiME Journal Club

Each month we will select a **manuscript tackling an important topic** in digital medicine. The DiMe Community can register to participate in an intimate discussion with the manuscript author(s).

Scan the code & learn more about our Journal Club series and to **register** for our next event!

THANK YOU

Cindy, Mark, Johan, and Martijn!

DIGITAL MEDICINE SOCIETY

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