SENSOR DATA
INTEGRATIONS

Quick Start Guide to Sensor Data Integration: **Data Quality**

The connected sensor technology must collect data of sufficient quality to support optimized decisions on behalf of patients

→ Learn how to evaluate the performance of a sensor generated technology using the verification, analytical validation, and clinical validation steps of DiMe's <u>V3 framework</u>

To optimize data quality and support health equity the choice of connected sensor technology must be fit for purpose for all of the patient users who can benefit from these data in a given context of use

→ Walk through all the considerations that go into optimizing the selection of a connected sensor technology in *The Playbook*: <u>Digital Clinical Measures</u>

→ Deploy DiMe's <u>EVIDENCE checklist</u>

Data Quality

The <u>Institute of Medicine</u> defines high quality data as data strong enough to support conclusions and interpretations equivalent to those derived from error-free data (<u>IOM</u>). Sensor-generated data must be high quality to be useful for clinical decision-making, noting that this bar will vary with the nature of the decision. Sensor data quality is determined by the completeness, validity, uniqueness, consistency, timeliness, and accuracy of the data.

The operational deployment of the connected sensor technology for data capture must be effective and equitable to collect data of sufficient quality for use in healthcare decision making

→ Access operational best practices for collecting sensor generated data in *The Playbook*: <u>Digital Clinical Measures</u>

→ Access the <u>DATAcc by DiMe toolkit</u> developed specifically to support inclusive deployment of digital clinical measures in healthcare and research

Ensure there is access to the necessary metadata to contextualize the sensor generated data for use and reuse in powering high quality decisions in healthcare and research

→ Apply [FAIR data principles](#)

In order to create a high quality, comprehensive dataset, data must be aggregated to combine disparate pieces of information

→ Learn how to clean and harmonize data in order to integrate heterogeneous sources [here](#)

Apply applicable standards

→ Review current standards pertinent to data quality [here](#)

See quick-start guides on other ART criteria

[Data Collection](#)   [Data Transmission](#)   [Data Processing](#)   [Data Security](#)   [Data Privacy](#)