



At-a-Glance: Incorporating Human-Centered Design into sDHT Development

Are you a tech developer designing a new sensor-based digital health technology (sDHT) or updating an existing sDHT?

Here’s what you need to know about human-centered design.



Optimizing sDHT usability involves more than just minimizing use-errors and use-related hazards. The goal is to create tools that are functional, intuitive, accessible, and enjoyable to use.

Human-centered design aims to make products more usable and useful by focusing on users' needs. Check out the International Organization for Standardization (ISO) [9241-210:2019](#) standard for a more detailed description of human-centered design.

The term “human-centered design” is preferable to “user-centered design,” as it emphasizes that product design impacts many user groups in addition to the sDHT end-users.



Human-centered design is:	How can you follow these principles as you design and develop your sDHT?
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Empathetic



Take time and effort to understand users’ needs, behaviors, emotions, and capabilities.

Don’t rush this process: the more you understand each sDHT user group, the better equipped you’ll be to design a product they enjoy using.

Capture this information in the use specification. Haven’t developed your use specification yet? Check out our [quickstart guide](#).

Holistic



Think about the entire end-to-end user journey.

The user experience goes far beyond sDHT hardware and software. Pay careful attention to the design of all components, accessories, packaging, instructions for use, additional written documentation developed for users, and any user training provided in videos, in-person, or by helpdesk staff.

Capture this information in the use specification. Haven’t developed your use specification yet? Check out our [quickstart guide](#).

Iterative



Take an iterative approach to designing, prototyping, testing, and refining.

sDHT design goes hand-in-hand with formative evaluations, activities, or research studies undertaken to describe user tasks, identify use-errors, and gather usability data. Use the information you learn during these activities to improve your sDHT design, test those improvements in another formative evaluation, and so on until you reach a point where your sDHT is sufficiently usable.

Capture this information in the use-related risk analysis. Haven't developed your use-related risk analysis yet? Check out our [quickstart guide](#).

User-centric



Improve the usability of your sDHTs by capturing user feedback in real-world settings.

You may choose to recruit small samples of healthy individuals during early formative evaluations. As your sDHT design improves, recruit larger samples of participants that increasingly represent the diversity of each user group described in the use specification and capture their feedback under conditions reflecting the intended use. A user-centric approach will ensure that your final sDHT design is accessible to all members of the population of interest (end-users) and all additional user groups described in your use specification, regardless of abilities or circumstances.

Are you unsure of which metrics to capture during evaluations? Check out our [quickstart guide](#).



Remember, 'users' includes end-users - the patients or participants from whom the sDHT are captured - and any other individuals who interact with the product, including carepartners, clinicians, investigators, and administrators.

Inclusive



Collaborate with individuals representing all user groups.

Consider hiring representative users as consultants or creating a user advisory panel, and create opportunities for these individuals to contribute to important design decisions throughout development.

Multidisciplinary



Collaborate with colleagues from various disciplines.

The more diverse your team is, the more innovative your design solutions will be. Each individual will bring their perspective and ideas, which you may have yet to think of in a smaller team with similar backgrounds.

See the [V3+ Usability Validation Glossary](#) for key terms and definitions.

What comes next for V3+ Usability Validation?



Check out our [at-a-glance guide](#) for selecting metrics for sDHT usability evaluations.