

Revolutionize Healthcare

Unleash the power of UX Research to supercharge your product teams



Amit Mitkari

Sr. Manager, Design Experience Team, CitiusTech

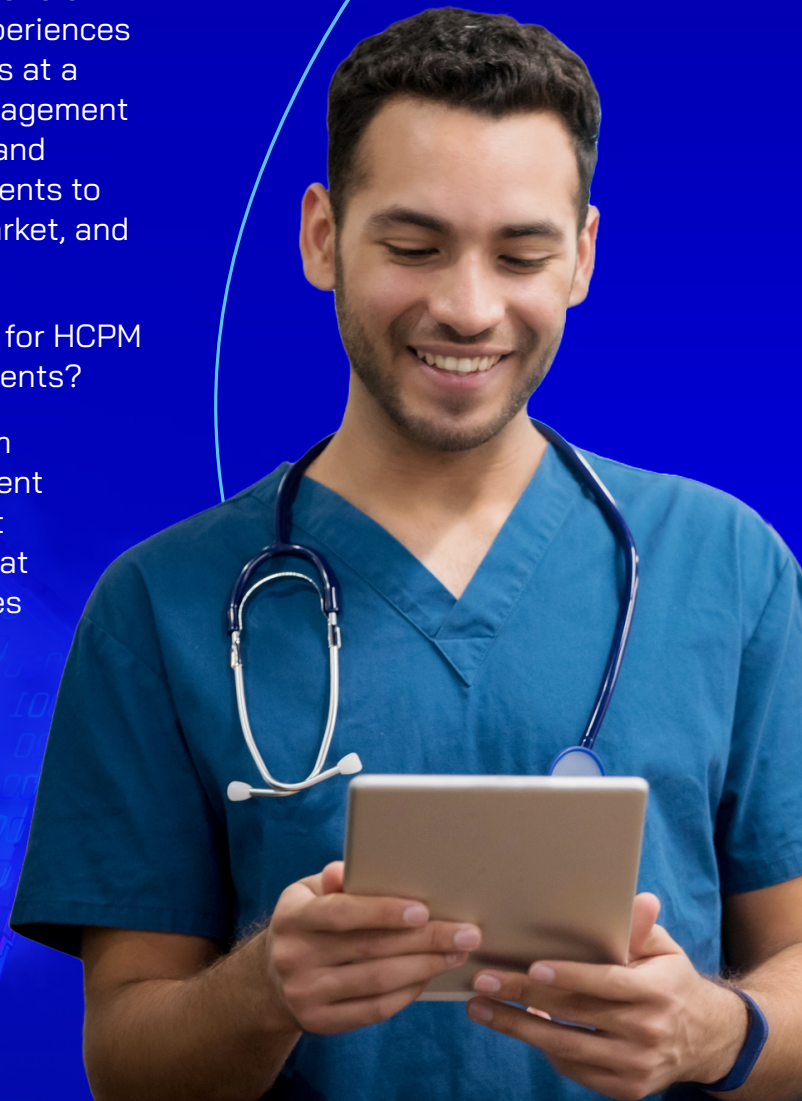
Introduction

With a 1 trillion opportunity⁽¹⁾ on the horizon, a booming advanced health systems market, and a growing demand for tailored and secure experiences among patients – the Healthcare industry is at a critical juncture. Healthcare Product Management (HCPM) teams must constantly reevaluate and update their fundamental product requirements to match these trends, stay relevant in the market, and outrun competitors.

But as Healthcare goes digital, is it enough for HCPM teams to meet these fundamental requirements?

Present times call for a mindset shift – from discussing solutions and return on investment incredibly early in the product development lifecycle to more human-centric thinking that promotes product innovation. This translates to better coordination between product managers, owners, user experience (UX) researchers and designers.

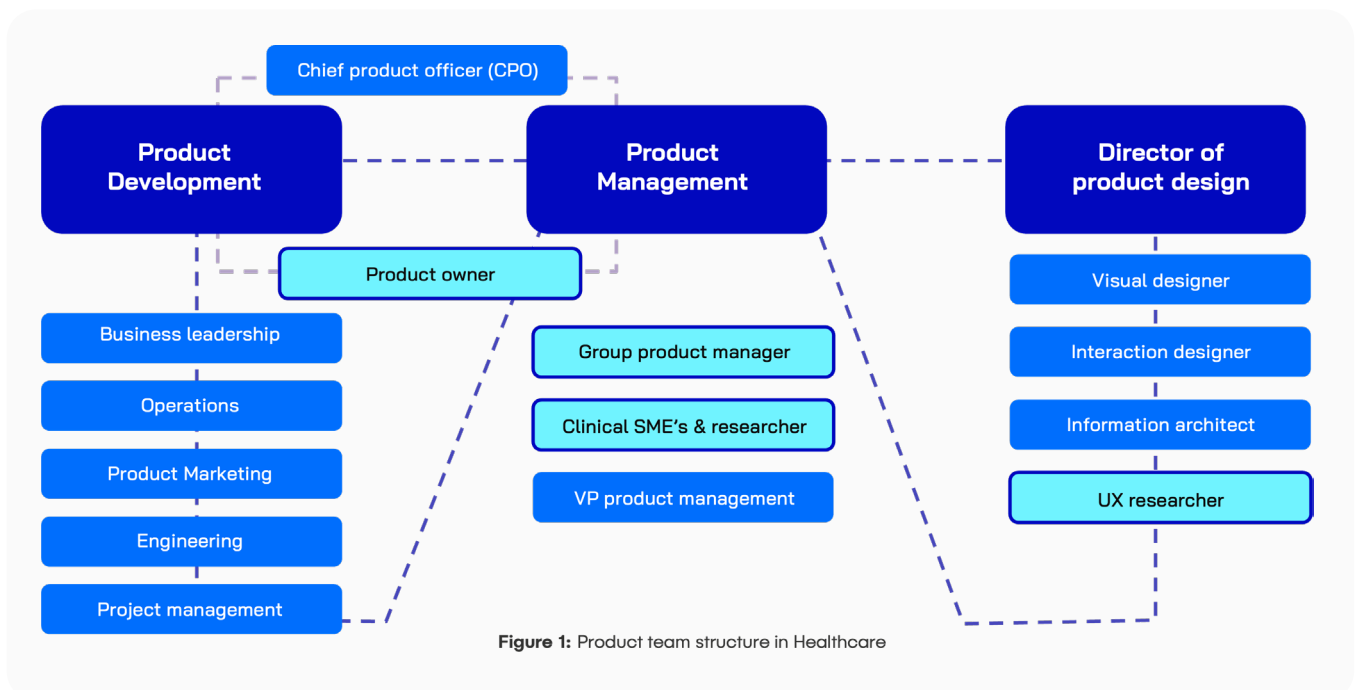
PERSPECTIVE PAPER





UX RESEARCH ON THE RADAR

- Today, Healthcare UX is no longer limited to design artifacts like wireframes, high-fidelity mockups, and prototypes. The industry is refocused on enhancing product functionality and usability while accommodating regulatory, compliance, and clinical standards.
- A systematic, data-backed approach to gather information on users, their ecosystems, needs, pain points, and improvement opportunities is the need of the hour. This is where UX research⁽²⁾ is pivotal—it can no longer stay concealed within a high-paced, competitive, and result-oriented Healthcare software development lifecycle (SDLC).



With UX research, HCPM teams can:

- Identify and evaluate user needs and pain points
- Validate product ideas, features, and usability in real scenarios
- Improve patient engagement and adherence
- Reduce development costs and time
- Meet relevant regulatory, accessibility, and safety standards

UX research holds a lot of promise in the coming days. However, the road ahead is hardly easy, from converging new-generation technologies to validating prototypes and meeting rapidly changing user expectations.

NAVIGATING HEALTHCARE PRODUCT MANAGEMENT CHALLENGES WITH BETTER UX

From initiating early product adoption to the industrialization stage – ensuring precise problem targeting, high learnability performance, and opinion leaders' engagement play a crucial role in Healthcare product development.

These are also the major drivers that help Healthcare organizations (HCOs) enhance user experience, boost competitive advantage, and bridge the innovation gap. While product managers and UX designers strive to create practical, intuitive, and improved patient digital experiences, they also encounter numerous challenges that hinder their progress.

Here are five major challenges Healthcare product management teams face that can be alleviated with UX research, ultimately contributing towards smarter Healthcare products:

Challenge 1.

Inability to shift from a unilateral to a multidimensional approach.

Let us take the example of a magnetic resonance (MR) console. In one such user experience redesign phase, the voice interface emerged as a promising feature. The one-on-one interview results with a group of real users proved otherwise. The data revealed that most participants did not favor it as the surrounding noise of fellow MR staff, technicians, and patients can make it difficult for the system to recognize the main technician's voice who is running the scan.

This could lead to a safety challenge in case of failed voice recognition. This proves the importance of considering and documenting honest user opinions in actual scenarios.

SMEs must avoid making decisions on behalf of end users and promote more inclusivity, with the data to back it up.

Solution: Data and evidence-based design

HCPM teams must utilize data collected through studies, including success rate, time on task, task accuracy (misclick rate, number of errors), user satisfaction, system usability score (SUS), etc. Personnel can channel those insights to boost perceived credibility, increasing empathy for product teams and neutralizing opinion-based design.





Challenge 2.

Product owners (POs) being peacemakers instead of guiding forces.

User needs and their recorded statements are crucial during product development and design. Healthcare providers (HCPs), caregivers, and patients voicing their opinions are essential in bringing consensus between product managers, clinical SMEs, UX design teams, and development architects regarding what problems organizations need to solve immediately. Product owners (POs) often negotiate in such discussions, compromising on ideal UX standards while defining user needs.

User needs must be defined, considering what Healthcare providers (HCPs), caregivers, and patients look for in natural settings.

Solution: Well-articulated user needs

It is wise for participant teams to avoid discussing solutions; ideas for solutions and design could be recorded separately. For instance, a traditional user need statement has three components: 1. a user, 2. a need, and 3. a goal.

As a [type of user], I want to [-----user need-----], so I can [-----goal-----]

The sample user need statement could be as follows:

As a pulmonologist, I would like to compare air gaps, infections, or tumors among patients in the 30 to 35 age range so that I can [observe patterns related to cystic fibrosis or emphysema conditions].

The development statement recorded could be:

Image viewer to compare chest radiograph images.

Challenge 3.

Missing out on customers' voices in a high-paced, charged environment.

Product designers, development teams, and UX researchers across health units often overlook the possible pertinent questions while undertaking usual responsibilities. Is the SDLC adhering to current experience and design quality metrics, or do any new metrics need to be added? Is the organization working towards a shared purpose through this new or renewed product? What are the overall satisfaction levels of the design team and customers? Have all teams considered users' behavioral and attitudinal aspects at every design and development stage?



Documentation and extensive surveys can augment UX research methodologies, improving user experiences.

Solution: Use of internal and external forums

Internally, product managers and owners can collaborate with UX researchers to conduct sessions with stakeholders to share data gathered from exploratory research activities, design evaluations, and usability studies. The UX researcher must also ensure reports, documentation, and study data are easily accessible to key stakeholders and relevant development team members. Effective sharing translates into increasing trust from stakeholders and confidence from leadership teams.

User-generated content (UGC) helps HCPs and caregivers upskill themselves, sync with the latest trends, and share information about potential products with peers and experts. Product management teams can explore these forums to capture top user concerns and suggestions, collect qualitative & quantitative data, and inspire significant UX changes or design approaches.

Challenge 4.

Maintaining design change and evolution data over a longer development lifecycle.

Lack of proper research, documentation, or tracking of the product development life cycle can lead to an undervalued UX. In the mass market stage, it can lead to fragmented user experiences and burnout among Healthcare professionals, not to forget the loss of lives due to imminent safety hazards. Proper documentation and archiving of relevant historical data can help HCPM teams better understand usability constraints, challenges with past versions, and more – to bolster their overall product design and development.

Solution: Design an archiving mechanism

UX design teams must consistently document, archive, and preserve design change data, assets, demos, and study materials. Such data repositories can be valuable in discovering reasons behind UX design changes, evolution, or decisions made in the past. Design and development teams can collaborate on centralized online platforms that allow visibility and access to institutional knowledge needed to do their best work.



Example:

Design teams in Healthcare often deal with lots of data on the screen, and wizard is one of the most common patterns used on the web and in the application design to accommodate large amount of the data. In some wizard design buttons are placed on right hand side, in some on the left-hand side and in some middle of the wizard. And this often leads to complaints from developers within the project due to the additional effort required to make the change. SME's also debate over it in cases where UX team has changed the location of buttons in the wizard from the legacy design which they are quite used to. UX designer takes the decision based the rational like consistency, standards in the design systems and overall behavior of the product. In some case, it may even look like user experience is compromised but the decision is taken in favor of the greater good of the product. In such cases it is important for the UX design team to document the design change, communicate with the stakeholders and archive it well. So even if the UX designer or any of the stakeholders are changed in longer project cycle, we can avoid conflicting situations, which are often caused due to lack of rationale for design change.

Challenge 5.

Ensuring your Healthcare solution is safe to use

Any product with poor usability would incur excessive costs. This might be through escalating user frustration, increased need for customer support, decreased productivity, or even reputational damage.

How can health enterprises ensure patient safety and confidently vouch that their product can cater to end users like HCPs, caregivers, and patients?

Solution: Usability engineering and FMEA

Healthcare personnel can enlist Failure Mode and Effects Analysis (FMEA), a valuable tool for analyzing processes. They can break down processes into steps, identify potential failure points, and assign a Risk Priority Number (RPN) to each step. This helps health firms allocate resources more efficiently to make a significant impact. The following example demonstrates how FMEA is applied in perioperative medicine to enhance process efficiency and ensure patient safety. Above image is an example of FMEA analysis done at the University Hospital in Newark, analyzing the steps involved in obtaining a pre-anesthesia evaluation at the pre-admission testing clinic run by the anesthesiology department.^[3]

Pre-Anesthesia Evaluation (in Pre-Admission Testing Clinic)

Process Function	Potential Failure	Effect of Failure	Severity	Potential Cause of Failure	Occurrence	Process Controls	Detectability	RPN
Booking an appt for Pre-Anesthesia Evaluation	Unable to book appt	No Pre-Anesth eval prior to Day of Surgery	7	Poor comm. from Surgery to book appt	3	Auto-booking of all surgical patients in Pre-Anes Clinic	1	21
Reminder for appt	Reminder doesn't reach patient	No-show	6	No phone, email etc	3	Reminder by phone, text, email; Surgeon's office reminds pt. for appt	1	18
Patient presents for evaluation	No-show for appt	No Pre-Anesth eval	7	Failed transport, no vehicle	5	Medical transport, Family transport, Ride-sharing svc.	1	35
Available NP, resident, CRNA or physician anesthesiologist for evaluation	None available	Delayed or no eval	7	Staff shortages, unexpected call-outs	4	Hiring additional NP, increase tele-visits by residents	1	28
Accurate history	Incorrect info	Poor quality eval	4	Language/ cognitive barrier	2	Translator, family	1	8
Consults	Not obtained	No consult received	8	Unable to schedule, pt no show	3	Anes follow up	1	24
Labs drawn	Not drawn	Labs not available	3	Veins, pt not cooperative	3	Venipuncture train	1	9
Lab referrals	Not given	CXR, TTE, etc not ready	5	Rx, communication w/ pt	3	Office F/U	1	15
Instructions for DOS	Not done	Not prepared for Sx	5	Language/ cognitive barrier	2	Translator, family	1	10

CONCLUSION

UX research encourages human-centered designs that can positively impact the quality of care delivered and even the quality of public health.^[4] When UX researchers and product managers synergize, and further amplified through data-driven decision-making and iterative refinement, leads to Healthcare solutions that improve individual experiences and optimize population health outcomes.

As we move towards a digital Healthcare landscape dominated by AI, telehealth platforms, and AR/VR – Healthcare UX research will be more prominent than ever to keep up and thrive.

REFERENCES

1. 6 Healthcare Trends to Expect in 2024 and Beyond (isg-one.com)
2. Reimagining digital healthcare with a patient-centric approach: The role of user experience (UX) research (nih.gov)
3. Proactive Perioperative Risk Analysis: Use of Failure Mode and Effects Analysis (FMEA) (apsf.org)
4. Evaluating human-centred design for public health: a case study on developing a healthcare app with refugee communities (biomedcentral.com)
5. Siemens Healthcare User Forum - Siemens Healthineers (siemens-healthineers.com)



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