Enhancing Donor Decision-Making and Equitable Access in Medical Crowdfunding Platforms

Abstract

Given the widespread popularity of **medical crowdfunding (MC) websites**, numerous studies have explored this phenomenon, revealing ethical and equity concerns such as disparities in campaigners' **social networks** and **communication skills**, biases tied to attributes such as **race**, **gender**, and **age**, as well as a **lack of information** and **transparency in algorithms**. This study focused on donors' user experience and the potential of **web design** to enhance equitable medical crowdfunding resource allocation. Using **UX methodologies** and **eye gaze tracking**, the study confirmed that **improved informativeness** and **linear campaign navigation** enhance donors' understanding of a larger number of campaigners, leading to more informed decisions.

Intro & Background

Recent years have seen a surge in the popularity of MC through platforms like GoFundMe. However, disparities have arisen, benefiting higher-income communities and specific demographics (Kenworthy et al., 2020). Success often favors those with better **social networks** and **communication skills** due to higher income and education levels (Sear, n.d.). Disparities also manifest based on **race**, **gender**, and **age** (Sear, n.d.; Kenworthy et al., 2020). The absence of **informativeness** and **algorithmic transparency** worsens unequal outcomes (Kenworthy et al., 2020). This phenomenon unveils the roots of societal health disparities, possibly obstructing the fair **distribution of medical resources** (Renwick and Mossialos, 2017).
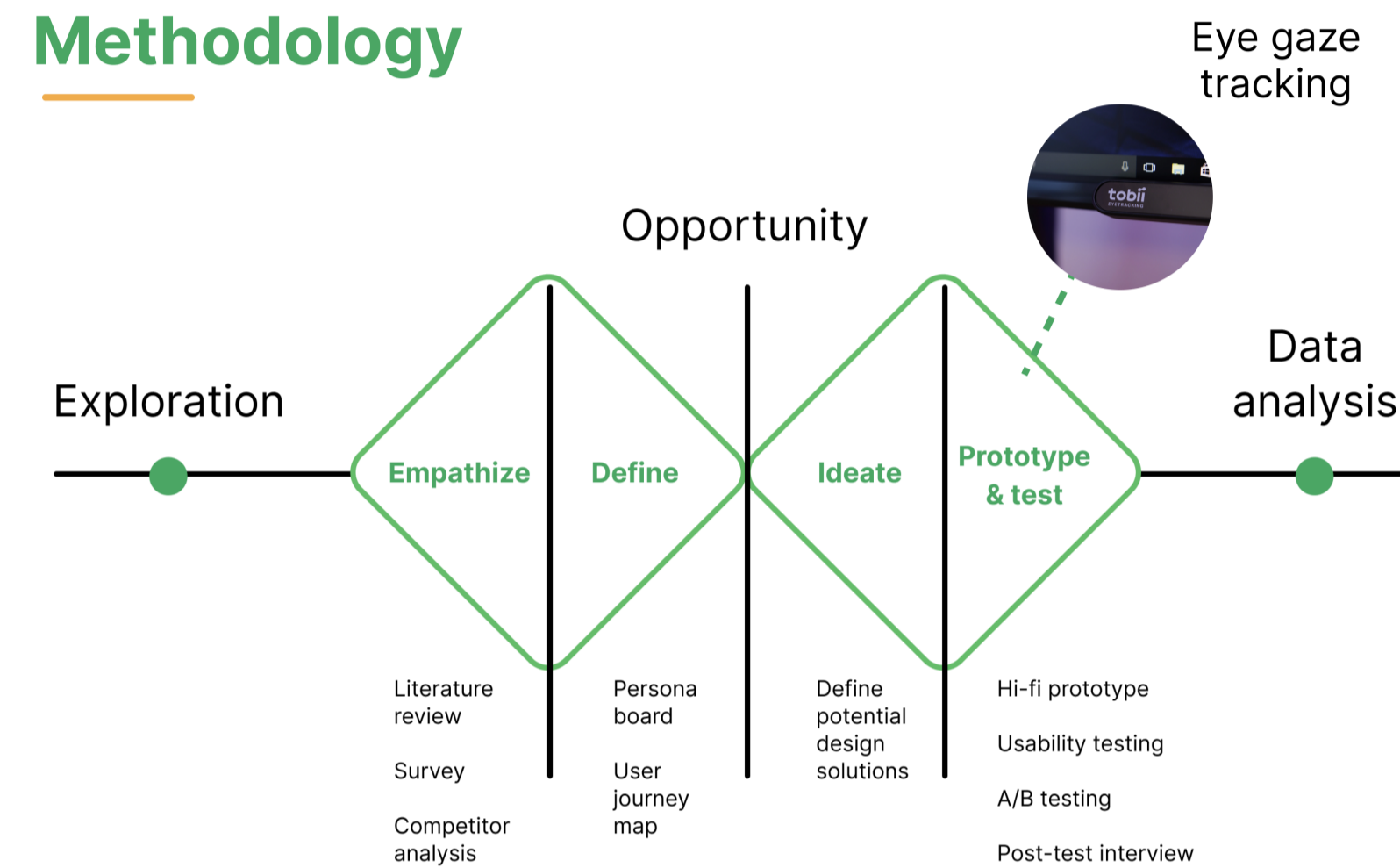
Research question (RQ)

"How can website design be optimized to enhance donors' decision-making process and further promote equitable access to medical crowdfunding resources for campaigners?"

Problems

- Disparity in social network and communication skills
- Biases rooted in race, gender, and age
- Deficiency of information and algorithmic transparency

Methodology

Eye gaze tracking

Opportunity

Exploration — Empathize / Define / Ideate / Prototype & test — Data analysis

Empathize	Define	Ideate	Prototype & test
Literature review	Persona board	Define potential design solutions	Hi-fi prototype
Survey	User journey map		Usability testing
Competitor analysis			A/B testing
			Post-test interview

The **empathize** phase aimed to understand potential donors' challenges and needs, using research including literature review, surveys and competitor analysis. In the **define** phase, persona boards and journey maps helped visualize target users and identify key user problems to address. In **ideation**, various design solutions were brainstormed, with selected features forming prototypes. High-fidelity **prototyping** created a testable service model with iterative usability **testing**, while A/B testing determined the most appropriate solution to the user's issue and further addressed the primary research question.

Literature review

Offline V.S Online donors

While offline and online donations differ significantly in their methods of fundraising, they do share certain critical success factors, including the **characteristics of the campaigners**, the **quality of information** provided, the **credibility** of both the campaign and the platform, as well as the perceived **impact** and **updates** of donors' contributions.

Underlying factors contributing to inequity

- Lack of adequate information
- Algorithmic inequity in promotion

Potential design solutions

Increased informativeness

Including verified medical documents and fund utilization

Increased campaign visibility

Drawing from modern dating apps, a potential approach inspired by **Tinder**'s layout can be adopted. Tinder's navigation and matching algorithm facilitates quick connections, resulting in over 26 million daily matches.

	GoFundMe	Shuidichou	Give.Asia	Leetchi	Ketto
Title	✓	✓	✓	✓	✓
Images and videos	✓	✓	✓	✓	✓
Organizer info	✓				
Creation time	✓				
Deadline				✓	✓
Story	✓	✓	✓	✓	✓
Updates	✓	✓	✓		✓
Medical documents		✓			
Fund utilization		✓			
Words of support	✓	✓	✓		✓
Donation goal	✓	✓	✓	✓	✓
Donation progress	✓	✓	✓	✓	✓
Donation number	✓	✓	✓	✓	✓
Donation history	✓				
Number of social media shares		✓	✓		
Verification process		✓	✓		

Survey

30 23 9

Quantitative data

Female donation inclination

16 female respondents all donated, while among 14 male respondents, only 8 did.

Income & participation

100% earning $25,000–$50,000 and above $75,000 donated, compared to 69% below $25,000.

Limited impact of age and education

Age and educational level didn't strongly influence donation behavior, differing from previous studies.

Donation preference

Medical/health-related causes were preferred (30.8%), especially cancer (76.9%).

Key decision factors

The patient's financial situation (65.4%) and severity of the condition (60%) were key decision factors.

Concerns

Campaign credibility (69.2%), low data transparency (53.8%), unclear goals (53.8%). Design should prioritize informativeness.

Qualitative data

Users' clicking decisions were influenced by specific and personal titles that conveyed impact and purpose, particularly when emphasizing **urgency** and **severity**. Specific topic campaigns and empathetic images, especially **mothers with babies**, or **children**, were engaging. Campaigns nearing their funding target and **deadline** prompted contributions due to the urgency associated with impending deadlines.

Persona boards & User journey map

Frequent donors

Emily Williams

- Want to make the most impactful donation
- Want to obtain more details of patients' medical needs
- Hard to make decision between campaigners
- Has difficulties understanding medical information

One-time donors

Oliver Thompson

- Want to make donation to strangers
- Want to understand the impact of his donation
- Has credibility issue preventing him from efficiently donating
- Has nowhere to know the fund utilization and the impact of his donation
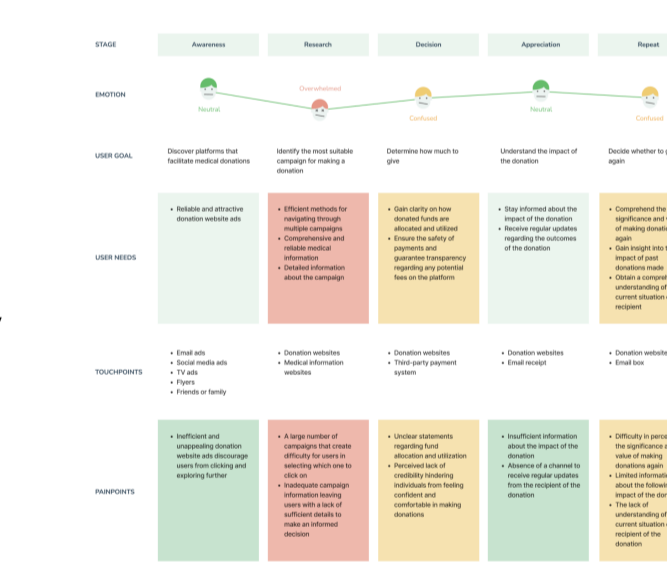
Research stage

Donors gather platform and campaign credibility, cause urgency, donation progress, and campaign goals. They also seek specific campaign details: patient info, financial status, condition severity, treatment options.

Decision stage

Donors assess different campaigns based on financial status, condition severity, urgency, and goals before deciding to contribute. When deciding their contribution, they seek fund allocation and impact details.
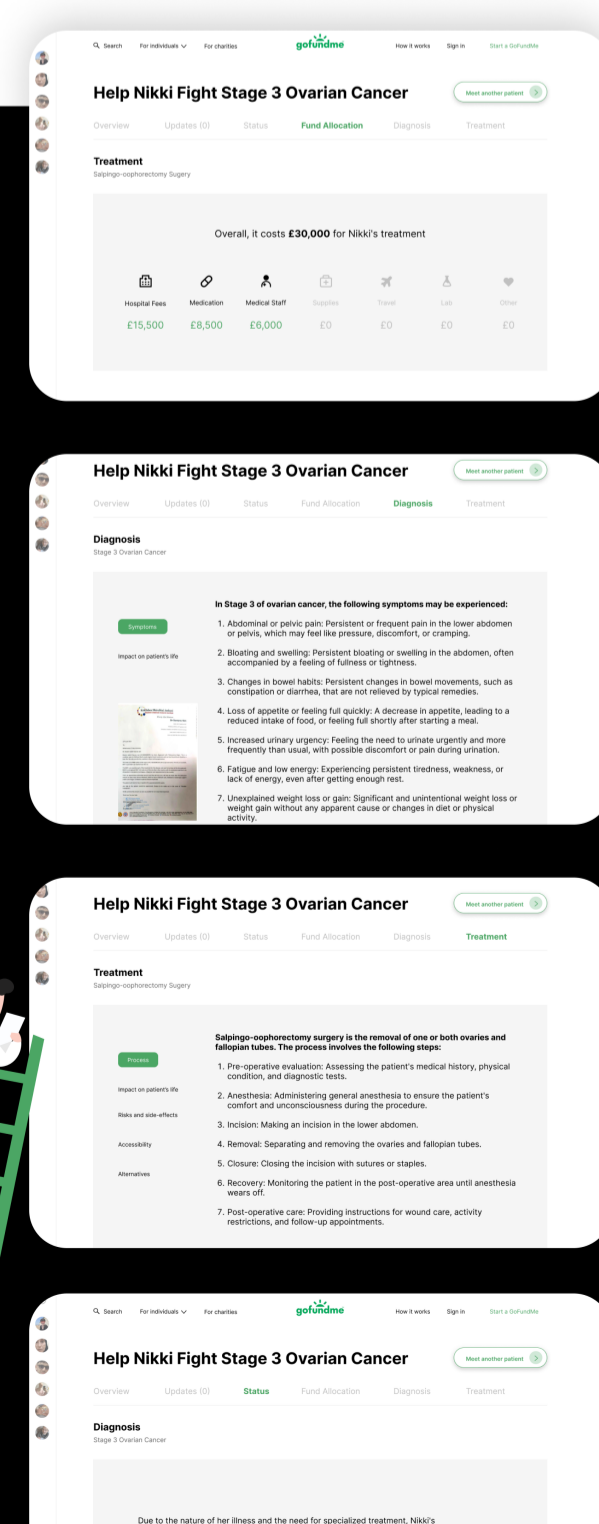
Prototype design & Usability testing

Hypothesis 1 (H1): Potential donors gain a better understanding of the campaign and are able to make more informed decisions
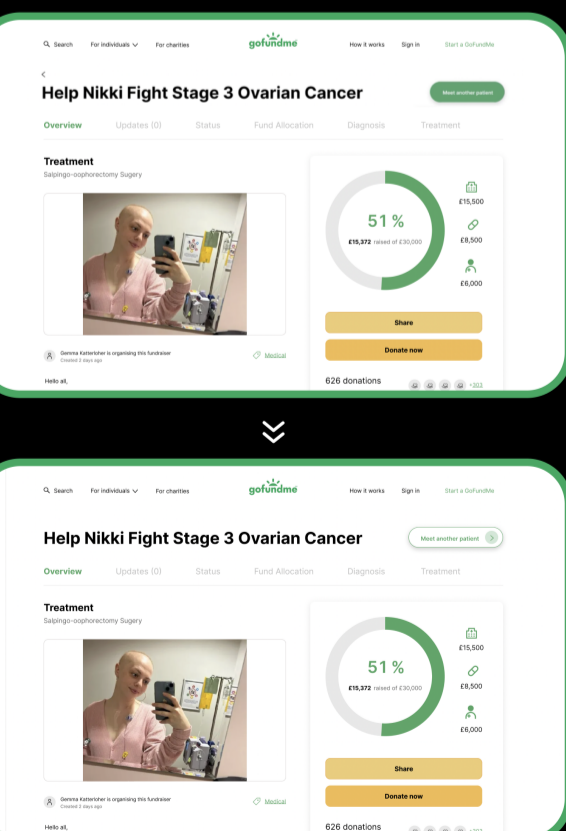
Informative information were added, including verified **medical documents** and **financial status**, transparent **fund allocation**, and authenticated **fund usage** updates.

Hypothesis 2 (H2): Potential donors interact with a higher number of campaigners and subsequently modify their donation decision process.

The design leads users to a campaigner's detailed page, not trending campaigns. Key details like disease and treatment names are upfront, and other profiles are accessible with a button click.

2 rounds 3 participants

The refined prototype added a **view history sidebar** and enhanced the visibility of the "meet another patient" button.

A/B Testing with eye gaze tracker

Design A (**dA**) - Replica of GoFundMe website
Design B (**dB**) - Proposed design solution

Quantitative data

Number of campaigns reached by users	x2
Average time spent making the final donation	+4m 25s
Average time spent focusing on a campaign	+16s
Average time spent reading the donation decision campaign	+6.4s

Qualitative data

Finding 1 - Low campaigner reach and visibility in dA

In dA, 5 out of 9 participants were drawn to baby-related campaigns due to impactful images and a desire to help the young. All of them ended up donating to these campaigns, with 4 contributing without exploring other options.

Finding 2 - Improved campaigner reach and visibility in dB

In dB, among four participants initially backing the baby campaign without further exploration, one altered their choice, two reviewed additional information, leading to 4 out of 9 participants changing decisions.

Finding 3 - Lack of informativeness in dA

Five of nine participants based final donations on campaign stories, while others sought cause, impact, or disease details. However, narrative length hindered understanding; Heatmap.2 showed most users didn't fully read the story, focusing on top sections.

Finding 4 - Reduced impact of images in dB

Four users tended to skip campaigns with fulfilled goals. Heatmaps for skipped campaigns (Heatmap.3) show focus on donation progress pie chart, suggesting reduced image impact compared to dA.

Finding 5 - Improved informativeness in dB

Interviews revealed participants' improved understanding of campaigns and four of nine emphasized financial status and fund allocation's role in their decisions. They matched campaign goals with income and validated fund usage. Additional information consumed 47% of reading time, highlighting its importance.

Regarding diagnosis and treatment information, participants didn't extensively read all details; their attention focused on the beginning (Heatmap.4). They found it hard to understand these details.

Discussion & Conclusion

The design solution improved informativeness and influenced donations. Donors adjusted choices and deliberated, using financial status and fund allocation. Categorized information aided comprehension. The solution addressed campaigner reach and visibility, promoting exploration and thoughtful decisions.

This aligns with study hypotheses (H1 and H2) about informed choices and interaction with more campaigners.

Despite ethical concerns in MC, its impactful role in aiding individuals remains undeniable. This study optimizes the donor experience through web design. Using UX methods and the Tobii eye tracker, it validates the proposed design's effectiveness in addressing challenges like campaign visibility and information.

The study suggests using web design to promote equity in MC, with insights shaping future platforms and research directions.

Limitations & Future work

Limited influence of medical info on donation decision-making

Absence of algorithm design & medical needs assessment

Future research could enhance medical information communication, develop equitable promotion algorithms, and create mechanisms for assessing campaigners' medical needs level.