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Building Care That Fits Its People: Insights from Social Media–Enabled Community-Based Rehabilitation in Thailand

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Abstract

Digital health interventions in the Global South often rely on transmission models, assuming that delivering correct medical information yields better care. We challenge this view through an analysis of a multi-platform social media intervention for Community-Based stroke Rehabilitation(CBR) in rural Thailand. Following a collaborative development process with clinicians and a deployment across roughly 2,000 villages, we interviewed 28 caregivers, patients, and health volunteers. We found that communities appropriated the technology in unexpected ways, such as using videos as "social objects" to manage family hierarchies, integrating rehabilitation into Buddhist merit-making, and prioritising offline peer networks over online discussion. Our findings suggest that effective Human-Computer-Interaction (HCI) for digital health in Low- and Middle-Income Countries (LMICs) should look beyond engagement metrics to support the appropriation of digital tools, enabling communities to integrate clinical protocols into their existing cultural and relational fabrics.

CCS Concepts

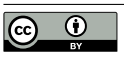
• **Human-centered computing** → **Empirical studies in accessibility**.

Keywords

Community-Based Rehabilitation, CBR, Social Media, Low- and Middle-Income Countries, LMIC, Thailand, Stroke, Patients, Caregivers, Health Professionals

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1 Introduction

Mr. Somchai sits in a plastic chair in his home in rural Chiang Mai, months after his stroke. His daughter, now his primary caregiver, is responsible for a relentless cycle of daily tasks, assisting with physical exercises, managing hygiene, preventing infections, and preparing special meals. She constantly worries if she is doing them correctly, feeling abandoned with little more than a single page of hospital instructions to guide her.

The situation above reflects a broader crisis in many Low- and Middle-Income Countries (LMICs), where access to rehabilitation is critically uneven [5, 60]. Hope often lies in Community-Based Rehabilitation (CBR), a model that relies on a network of patients, families, and local volunteers [61]. However, this system is stretched thin and its success [90] is built upon the family's complex and unsupported "invisible labour", a reality that research often overlooks [64, 75].

Simultaneously, the potential for digital technology to support this collaborative work is vastly underexplored [55]. The central challenge is designing solutions that are equitable and sustainable within the unique context of LMICs. This means accounting for low-cost tools, varying literacy levels, deeply-held cultural beliefs, local languages, and social norms that shape how people approach health and community care [20]. Starting with the technologies people already use (i.e., their mobile phones) rather than imposing unfamiliar ones is also important. In many LMICs, where mobile connectivity outpaces clinical infrastructure, social media becomes a pragmatic channel for care [61, 94]. While these platforms and other digital tools have been used for related applications like telemedicine and remote exercise [18, 29, 37, 57, 93], we still know little about how to design within them to support the nuanced, relational work of community care. This leads to our research questions:

RQ1: How is a multi-platform social media intervention used and appropriated by different stakeholders to navigate the daily challenges of CBR?

RQ2: How can understanding local appropriation practices inform culturally grounded design strategies for digital health in LMICs?

To address the gap in understanding how to design for these complex, community-driven dynamics, this paper investigates how everyday social media is appropriated by a community to support their own systems of care. We present an analysis of a six-month CBR intervention in rural Chiang Mai, Thailand, which we co-designed with stakeholders and deployed across four social media platforms (i.e., LINE, Facebook, YouTube, TikTok). Our analysis of post-intervention interviews with 28 participants reveals that the community moved beyond a model of simple information consumption. Instead, they actively repurposed the technology. They shared positivity through personal cultural beliefs, drew on humorous videos for emotional resilience, deployed expert content to navigate family hierarchies, mediated trust with local health volunteers, and leveraged the platforms to spark trusted, offline peer support rather than engaging in public online forums. Synthesising these findings, we argue for a shift away from designing interventions that primarily deliver information towards cultivating and sustaining what we call *infrastructures of repair*: multiple, locally assembled socio-technical arrangements that support rehabilitation, redistribute care work, and sustain moral and spiritual worlds of care. This orientation offers a new lens for designers, one that focuses on strengthening trusted offline relationships and valuing emergent social outcomes by providing flexible, adaptable resources that communities can weave into their existing care infrastructures.

2 Background

This section outlines how CBR functions as essential post-discharge support in low-resource settings, and why culturally grounded digital tools, especially social media, could strengthen the wider ecosystem of caregivers and community health workers that sustains CBR.

2.1 A lifeline in the community: the promise and challenges of CBR

For many families in low-resource settings, the journey of rehabilitation begins at its most vulnerable point: the moment a loved one is discharged from the hospital. In this critical post-discharge phase, CBR represents a vital lifeline. It is an approach that brings care into the home, relying on the strength of local communities and the direct involvement of families and volunteers to support a person's recovery [40, 74]. Initiated by the WHO, CBR has grown from a medical model into a holistic strategy aimed at enabling social inclusion and equal opportunity [60]. It is a deeply participatory process, where individuals with disabilities, their families, and local healthcare workers [50, 90] collaborate to improve a person's physical functioning, autonomy, and ability to participate in daily life [32].

CBR holds incredible potential in these settings, offering a way to deliver locally accessible and culturally relevant care that can reduce the heavy socioeconomic impacts of disability [3]. For conditions like stroke, CBR has proven effective in enhancing daily activities for survivors everywhere [103]. Stories of success from LMICs further highlight its potential, even in the most resource-constrained environments [10, 33, 34]. In rural Thailand, for instance, a CBR initiative that trained family caregivers led to improved daily living for stroke patients and reduced complications [66]. Similarly, a CBR program in Zimbabwe improved the quality of life for children with disabilities, despite facing significant systemic challenges [6]. While CBR holds significant potential, its on-the-ground effectiveness is often hampered by severe, practical challenges. These include a shortage of trained professionals, a lack of accessible information for families, the immense emotional strain on caregivers, and an over-reliance on a stretched network of local volunteers. Compounding these systemic issues is a gap in the research itself. Much of the current rehabilitation and telerehabilitation literature focuses on patient-level clinical outcomes and technology effectiveness, with comparatively less attention to the wider human ecosystem – the family caregivers, community health volunteers, and multidisciplinary teams, who collectively sustain care at home and in the community [10, 59, 86]. This leaves a gap in understanding how to support the whole network of people who make community care possible. Emerging digital tools offer a promising opportunity to address this gap, with the potential to expand the reach of CBR and support this entire network of care in underserved areas [3].

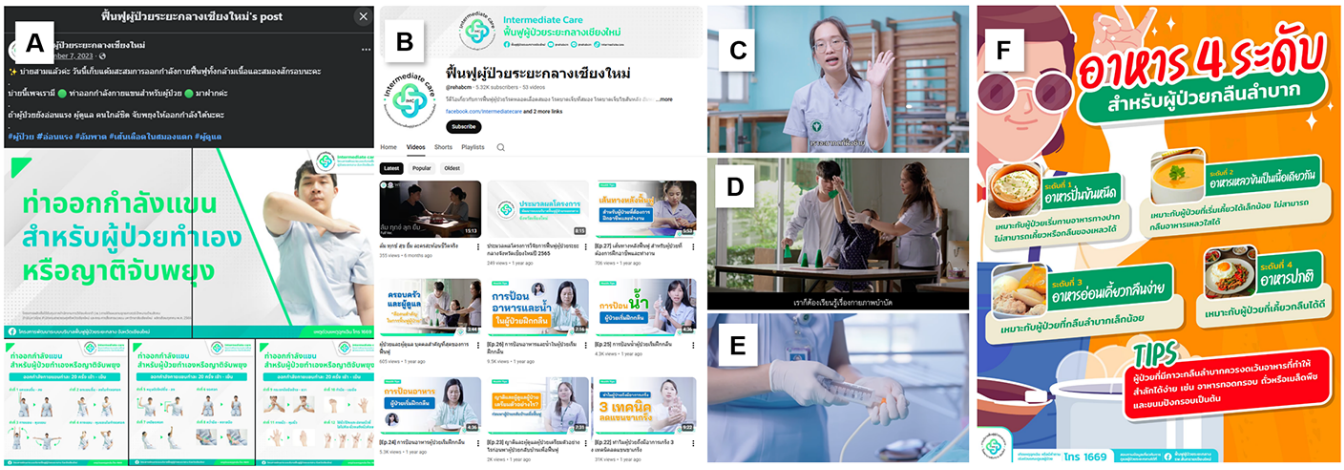


Figure 1: Elements of the multi-platform CBR intervention. Panels A–F show the different channels and content formats we deployed to reach caregivers and patients: (A) Facebook infographic post introducing home rehabilitation exercises; (B) YouTube channel hub with video playlists; (C) video of Thai traditional medicine practitioners stimulating pressure points to alleviate constipation and reduce swelling; (D) video foregrounding family members and caregivers as crucial contributors to recovery; (E) video demonstrating administration of liquid food through rubber tubing to patients; and (F) infographic explaining four fluid-to-solid food levels for people with dysphagia.

2.2 Digital technologies and social media in CBR – an underused resource

Digital technology is increasingly shaping healthcare, improving both accessibility and quality of care across diverse contexts [25, 78, 84]. While applications in CBR remain underresearched, digital tools have already demonstrated significant potential in broader rehabilitation domains [2, 46, 70]. Technologies such as tangible interactions, wearable devices, and virtual reality have been shown to enhance motivation, enable remote therapy, and improve recovery outcomes [28, 67, 91, 96, 99]. Similarly, Artificial Intelligence-driven tools, including chatbots, can support decentralised rehabilitation by providing monitoring, guidance, and conversational support beyond traditional healthcare settings [52, 104–106].

In LMICs, these technologies have begun to expand healthcare delivery through robotic prototypes designed with cost-conscious components, mobile health interventions, and telerehabilitation services that extend care into rural areas [19, 38]. A recent scoping review of 129 randomised controlled trials of robot-assisted upper limb stroke rehabilitation found that 83% of studies were conducted in high-income countries and only 17% in LMICs, despite growing interest in robotic therapy [72]. The authors highlight that although robotic interventions often show positive outcomes, access in LMICs is constrained by high equipment costs, limited research and clinical infrastructure, a shortage of trained professionals, and challenges with maintenance and integration into routine care. Even when described as "low-cost", many virtual reality and robotic systems remain expensive relative to local incomes and depend on specialist hardware and stable connectivity. In addition, many digital health solutions overlook the socio-cultural realities of rural communities [38, 87, 88]. Even mobile-based interventions, despite their relative affordability, face challenges such as low digital confidence, limited support systems, and design choices that do not align with technologies people already use in everyday life [56]. These gaps underscore the need for solutions that are not only technically feasible but also culturally and socially grounded.

Social media presents a promising, but still under-examined, opportunity in this regard. Widely adopted across diverse populations, social media [42, 43]. Families are left to shoulder the long and complex process of recovery largely on their own [4, 35, 42, 43]. To bridge these systemic gaps, Thailand relies on CBR, where family caregivers and Village Health Volunteers (VHVs) form the backbone of support. Locally recruited and trained by the Ministry of Public Health, VHVs act as trusted links between households and clinics, offering health information, monitoring, and basic rehabilitation support. Yet their preparation typically amounts to only around 70 hours of training, leaving them with limited skills and resources. Caregivers, typically family members, play a critical role in the recovery process. Their responsibilities often include assisting with physical therapy exercises, managing hygiene and infection prevention, preparing meals, and ensuring medication adherence [48]. These tasks are both physically and emotionally demanding, and when combined with financial pressure and lack of formal support, frequently lead to caregiver stress and burnout. Despite the efforts of CBR programs, existing community and institutional resources remain insufficient to meet the growing rehabilitation demand.

At the same time, Thailand's expanding digital infrastructure is opening new avenues to strengthen CBR. By 2024, nearly 88% of the population was online, and over two-thirds actively used social media [17]. In Chiang Mai, fibre and 4G/5G roll-outs, universal-service initiatives, and Smart City projects have extended reliable broadband across peri-urban and rural districts, reaching many households, clinics, and VHVs [100]. These advances mean that digital tools are increasingly accessible not only in cities but also in remote communities where formal rehabilitation services are most

limited. Within this digital landscape, social media platforms stand out as particularly relevant for CBR. Facebook, LINE, YouTube, and TikTok are widely used across age groups in northern Thailand. LINE, for example, underpins national health communication through the Mor Prom system and has been shown to improve VHV knowledge of stroke care [27, 53, 73]. Meanwhile, YouTube and TikTok are well-suited for short, visual rehabilitation and health-promotion content, making them powerful tools for both caregivers and community health workers [13, 63].

Although these platforms already function as informal spaces for peer connection, caregiver support, and emotional exchange, they have yet to be systematically incorporated into rehabilitation strategies, where a co-designed, multi-platform approach with VHVs and clinicians could embed them into a coherent CBR workflow, as suggested by Nanthanasit et al. [55]. Persistent challenges remain. Uneven digital and health literacy, limited training and supervision for VHVs, and risks of misinformation and unsafe content constrain effective use [9, 36, 39]. Still, the widespread adoption of social media and mobile internet creates an urgent opportunity: to embed these familiar, accessible tools into scalable CBR programs. Through this, community health workers and families could gain practical resources, peer support, and structured rehabilitation guidance, helping to bridge the gap between overstretched hospitals and the daily realities of stroke recovery in rural Thailand.

3 The CBR intervention

Our intervention was a multi-platform digital initiative co-designed with and for the community in rural Chiang Mai, Thailand. Grounded in participatory methods, the process unfolded over three distinct phases. First, we identified the community's most pressing needs; second, we co-created culturally resonant content to address them; and third, we disseminated these resources through an online and offline strategy. To promote the intervention, we collaborated with the Public Health Office of Chiang Mai and visited hospitals across all 25 districts of the province, which encompasses 204 sub-districts and roughly 2,000 villages.

3.1 Phase one: Grounding the work in community needs

Our approach began with listening. To ensure the intervention was anchored in the lived realities of CBR, we conducted need-gathering workshops with the people at its heart. We met with a diverse group of 39 stakeholders, including doctors, nurses, physical and occupational therapists, and, crucially, VHVs from the front lines of community care. This group brought a wealth of experience, with over 40% having worked in rehabilitation for more than three years, ensuring our insights were grounded in deep practical knowledge.

Using a collaborative "world café" format, participants explored the challenges and opportunities in local caregiving. The discussions revealed six important areas where families and volunteers required urgent support, which provided the foundation for the subsequent design of intervention content:

- Overcoming misconceptions and misinformation in caregiving practices.
- Managing the emotional and psychological struggles of both patients and caregivers.
- Navigating complex healthcare systems and financial burdens.
- Ensuring the safe and proper use of medical equipment at home.
- Finding motivation for sustained, long-term rehabilitation.
- Understanding the vital role of nutrition and hygiene in recovery.

3.2 Phase two: Collaborative content creation

Building on the insights from *Phase one*, we initiated a collaborative content creation phase. To accommodate the logistical constraints of patients and caregivers (e.g., conflicting work schedules and transportation difficulties), we utilised a multidisciplinary proxy team of 20 experts in healthcare and media to translate community needs into content. The team included six media and communication experts, two doctors, four professional nurses, two physiotherapists, two occupational therapists, one dentist, one nutritionist, one social worker, and one psychologist. Our goal was to synthesise the priorities identified in *Phase one* into content that is accessible and engaging, while ensuring clinical accuracy. Through collaborative effort, we produced 30 core videos and dozens of complementary social media posts and print materials, each designed to directly address the priorities identified in *Phase one* — from practical rehabilitation exercises to mental health support for caregivers. To accommodate different ways of engaging with content and balance production resources, the video content was developed in four distinct styles (detailed in Table 1).

Table 1: Video production styles

Group	Production style	Details
Group 1	Healthcare professional explaining concepts, combined with video, photos, and stock footage.	Designed for simplicity and efficiency. Filming was done in presenters' offices to avoid travel and complex setups, with each video completed in 3–4 hours. Post-production added visuals to sustain engagement.
Group 2	Healthcare professional explaining and demonstrating with real patients.	Offered hands-on guidance and practical knowledge. These videos were more resource-intensive, requiring precise camera work and continuous filming with patients or actors. Production typically took 1–2 days per video.
Group 3	Narrative voiceover with demonstration footage.	Combined narration with video clips, stock footage, and images. This style reduced production time and costs but lacked the personal connection of an on-screen presenter.
Group 4	Storytelling based on real patient experiences.	Used dramatic storytelling to inspire and educate. These videos required extensive pre-production (story development, casting, location scouting) and typically took 1–2 weeks per video.

To illustrate how these formats were translated into practice, Figure 2 presents screenshots from three of the produced videos.



Figure 2: Screenshots from three sample video designs: *(1) What is the Rehabilitation Phase?, (2) Demonstrating the Administration of Liquid Food Through Rubber Tubing,* and *(3) 6 Months: The Golden Period of Patient Recovery.*

These examples show the variety of approaches, ranging from expert explanations, to hands-on demonstrations, to storytelling that captures the patient journey. For some of the videos, professional actors were hired alongside medical professionals and community members. They were also from the local communities so they understood the context quite well, which helped them take on relatable roles. Before publication, every piece of content, from video scripts to printed infographics, underwent a rigorous, iterative review by our expert group to ensure clinical accuracy, cultural appropriateness, and clarity, maximising its potential impact.

3.3 Phase three: A hybrid strategy for bridging the care gap

To bridge the gap between overstretched clinics and the daily realities of home-based care, our five-month dissemination strategy was designed to embed support within the community's existing digital and social fabric. We deliberately chose Facebook, YouTube, TikTok, and LINE, the four social media platforms that are already integral to daily life in rural Thailand, aiming to meet patients, caregivers and VHVs where they already were.

Our multi-platform ecosystem was designed to serve diverse needs. We used Facebook and YouTube as a library for in-depth educational videos, while through TikTok we delivered engaging, short-form clips for capturing attention and sharing quick tips. To maximise accessibility and remove authentication barriers for our target demographic, all videos on YouTube and TikTok were uploaded as 'public'. Moreover, to reduce the chance of participants being directed to unrelated or misleading content on YouTube, we placed all videos in one playlist and linked the "next" videos to our own materials. We also used end-screens encouraging viewers to subscribe and maintained a consistent visual style and logo on all video covers, so participants could easily recognise our content. We followed the same approach on TikTok by keeping all videos under the same account with consistent styling, making it easy for participants to identify and follow only our content.

We used LINE as an interactive support hub, a strategy that built upon its established role as a trusted channel for national health communication in Thailand [53]. Its menu-driven interface provided easy access to categorised videos, downloadable resources, and practical tools such as a clinic locator, making it a powerful and familiar resource for caregivers and VHVs navigating the complexities of CBR. In total, the team published 86 original Facebook posts (30 videos, 27 texts, 22 photos, 7 links) and 39 curated posts, uploaded 30 videos to YouTube, shared 21 clips on TikTok, and sent LINE push notifications about three times per week.

To extend reach beyond social media, the team combined hospital outreach (visits to six hospitals and collaboration with staff from 24 hospitals), professional presentations, a one-hour local TV interview, radio segments (often simulcast on Facebook with links), and partnerships with local influencers (Facebook and TikTok). While the public settings of our chosen platforms allowed for broader viewership, we directed traffic primarily through these hyper-local channels to ensure engagement remained concentrated within the target communities. Platform analytics (impressions, reach, reactions, comments, shares, and other clicks) were reviewed regularly and, together with feedback from healthcare workers, informed ongoing adjustments to posting cadence, format, and messaging during the deployment.

4 Methodology

This study employed a mixed-methods approach to understand how stakeholders experienced and appropriated our multi-platform social media intervention for CBR. The methodology was designed in two sequential parts. First, we collected and analysed platform analytics to understand the broad patterns of reach, engagement, and user demographics across the five-month deployment. Second, we conducted semi-structured interviews with key stakeholders to delve into the nuanced, lived experiences behind the metrics, exploring the practical and social roles the intervention played in their daily lives.

4.1 Participants and recruitment

To evaluate the intervention's impact, we conducted semi-structured interviews immediately following the conclusion of the five-month deployment period. Crucially, participants were not pre-recruited or primed to view the content during the deployment phase. Instead, we employed a retrospective, purposive sampling strategy to identify organic users. Recruitment was facilitated by hospital



Figure 3: Family caregivers interviewed at the hospital.

staff and VHVs who had assisted in the dissemination. They identified individuals who had actively engaged with the content based on: (1) demonstrated frequency of interaction (e.g., commenting, sharing, or discussing clips with staff during clinic visits); and (2) willingness to provide feedback. Staff explained to potential participants that the interviews were part of a research study aimed at improving the digital health resources they had been using. This process ensured that our sample consisted of genuine users who had integrated the intervention into their care routines naturally. In total, 28 participants were recruited, including one stroke patient, 12 family caregivers, six VHVs, and nine healthcare professionals (detailed in Table 2).

Table 2: Summary of participants in the study

Participant Group	Total (n)	Gender	Age Range
Stroke Patient	1	Male (1)	46
Family Caregivers	12	Male (3), Female (9)	18–66
Village Health Volunteers	6	Male (2), Female (4)	48–61
Healthcare Professionals	9	Male (3), Female (6)	27–52
– Doctor	1		
– Nurses	4		
– Occupational Therapists	2		
– Physiotherapists	2		

Ethical Considerations: All interested individuals received study information sheets and provided written informed consent. The protocol was approved by the Human Research Ethics Committee of the Chiang Mai Provincial Public Health Office. To ensure confidentiality, we used pseudonyms, removed all direct identifiers, and securely stored recordings and transcripts.

4.2 Interview procedure

Interviews were conducted face-to-face (in hospital wards, outpatient rooms, or village multi-purpose spaces; see Figure 3) or online (via Zoom) according to participants' preferences and access. Sessions lasted 30–60 minutes and were audio-recorded. We used semi-structured guides tailored to stakeholder roles. Core topics covered: (i) roles and responsibilities in rehabilitation; (ii) experiences using and sharing the intervention content; (iii) barriers and supports related to platform access, formats, and language; (iv) examples of content that felt useful, confusing, or inapplicable; and (v) suggestions for improvement.

To build rapport and facilitate more open conversation, interviewers used the northern Thai dialect, particularly with VHVs, caregivers, and patients. This allowed participants to more comfortably discuss sensitive topics like caregiver strain or uncertainty with technology. All interviews were recorded, transcribed verbatim in Thai, and translated into English for analysis. We followed cross-language quality procedures [1]: two bilingual translators produced and checked translations, with discussion-based resolution of discrepancies and terminology choices [31, 51]. Native English-speaking researchers reviewed translated segments when meanings were uncertain. We retained key Thai terms in brackets when a direct English equivalent was imprecise.

4.3 Data analysis

Data analysis followed the principles of Reflexive Thematic Analysis (RTA) [7, 8], with a focus on meaning-making rather than inter-coder reliability. Three researchers conducted this analysis. First, all of the researchers familiarised themselves with the data. Initial codes were then generated, with transcripts divided among the researchers. Each interview transcript was read and coded by at least two researchers. Inductive coding was applied to capture practical experiences (e.g., "sharing videos with relatives"), emotional responses (e.g., "feeling overwhelmed by caregiving"), and

Table 3: Key performance indicators and feature available per platform

Metric	Facebook	YouTube	TikTok	LINE
Impression (Number of times a piece of content was displayed to a target audience)	✓	✓	N/A	✓
Reach (Number of users exposed to a piece of content)	✓	✓	✓	✓
Engagement Number of interactions the piece of content received from user, including reactions, comments and shares)				
• Reaction (Like)	✓	✓	✓	N/A
• Comments	✓	✓	✓	N/A
• Shares	✓	✓	✓	✓
Other clicks (Information on how many times users clicked other elements of Facebook post, including Page title, links to 'See More')	✓	N/A	N/A	N/A

Table 4: Platform summary — volume metrics

Platform	Followers/Subs	Impr.	Reach	Views	React.	Comm.	Shares	Clicks
Facebook	731	110,772	94,658	21,656	3,362	464	716	–
YouTube	959	1,053,537	–	54,943	980	25	1,728	–
TikTok	567	–	–	86,092	1,871	43	341	–
LINE	–	16,211	–	–	–	–	–	4,770

Table 5: Normalised engagement and efficiency (computed from Table 4)

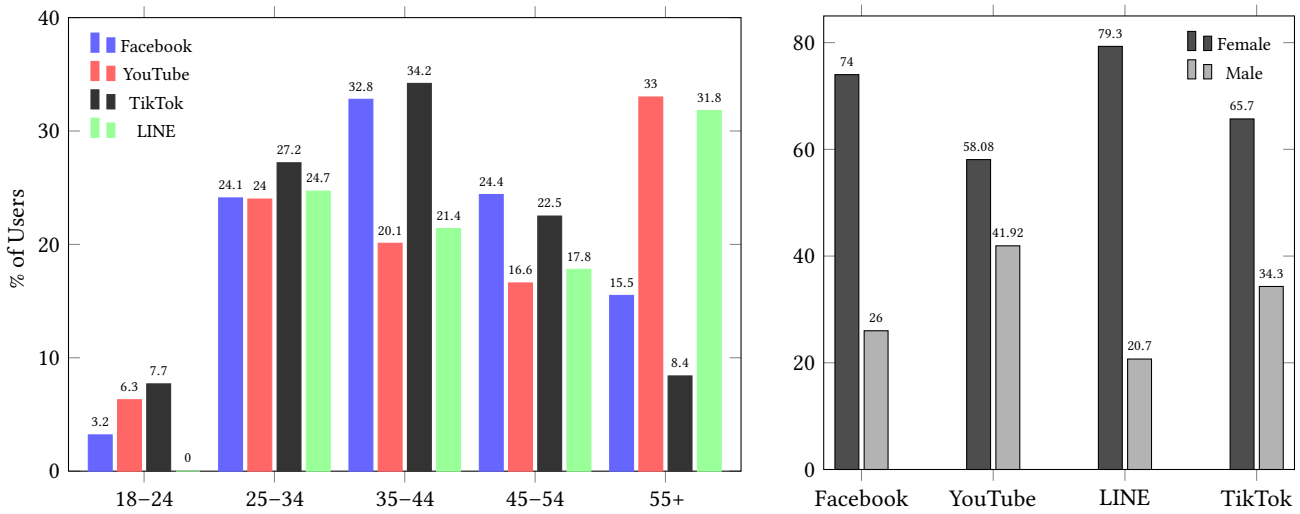
Metric	Facebook	YouTube	TikTok	LINE
Views per follower/sub	29.63	57.29	**151.84**	–
View-through rate (views/impr.)	**19.55%**	5.22%	–	–
Engagements per 1,000 views[a]	**209.73**	49.74	26.19	–
Shares per 1,000 views	**33.06**	31.45	3.96	–
Engagement rate (per impression)	4.10%	0.259%	–	–
Menu click-through rate (CTR)	–	–	–	**29.42%**

[a] Engagements = reactions + comments + shares. Platform definitions vary; compare directionally.

barriers (e.g., "difficulty navigating LINE menus"). Codes were iteratively grouped into broader categories through collaborative discussions, which were documented in analytic memos. Regular meetings enabled refinement of themes and provided space to question emerging assumptions, particularly around the role of social media in rehabilitation practices.

The analysis was further informed by the critical incident technique [68, 80], which highlighted events that had a decisive influence on participant experience. Incidents such as successfully applying a video tutorial to manage equipment, struggling with content in the local dialect, or disengaging after negative online feedback were treated as pivotal for understanding how the intervention was used in practice. These moments exposed tensions and opportunities that routine accounts might otherwise obscure. To present the findings in a grounded and accessible way, we constructed analytic vignettes inspired by Ppali et al. [68], some of which were built directly around critical incidents. Vignettes combined excerpts from multiple interviews within the same stakeholder group to create situated narratives that illustrated both what happened and how it was experienced. By linking incidents to broader patterns through vignette form, we were able to capture not only the significance of specific events but also their resonance across different roles and contexts. Each vignette was paired with analytic commentary that connected personal accounts to overarching themes.

Descriptive statistics complemented the qualitative analysis by summarising platform engagement and participant demographics. Metrics were extracted from platform-specific tools (Facebook Meta Business Manager, YouTube Analytics, TikTok Account Manager, and LINE Insights) at the end of deployment. Table 3 outlines the indicators available per platform. We examined impressions, reach, engagement (reactions, comments, shares), and other clicks to assess overall impact. Analysis focused on three dimensions: demographics, usage patterns, and cumulative reach. Demographics captured the age and gender distribution of users, usage patterns compared performance across platforms, and cumulative metrics provided a holistic view of effectiveness. These summaries did not stand alone but contextualised the qualitative findings, situating participants' accounts within broader patterns of access and engagement.



(a) Platform usage by age group. **(b) Platform usage by gender.**

Figure 4: Comparison of platform usage by age group (left) and gender (right).

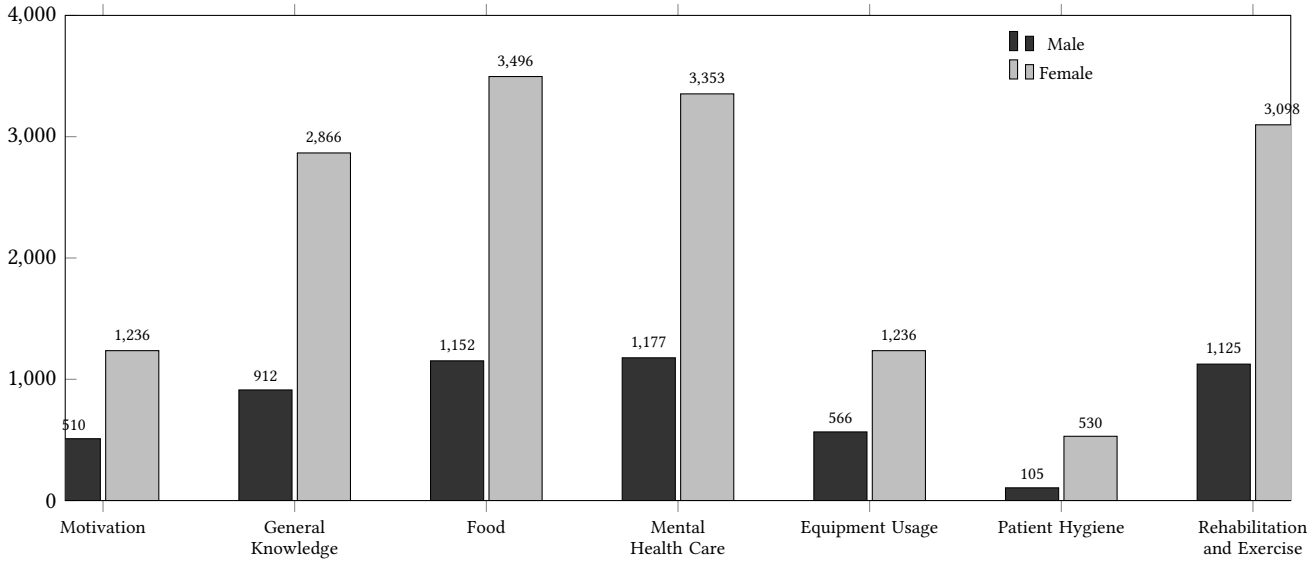


Figure 5: Number of male and female viewers by content category.

5 What the figures tell us

The analytics confirm that the intervention successfully reached the primary caregivers in the community. Women constituted the majority across every platform, particularly on the hyper-local **LINE** (79.3%) and community-focused **Facebook** (74.0%). Crucially, the data show we successfully engaged older generations, with users aged 55+ being most present on **YouTube** and **LINE** (Fig. 4).

Within this demographic landscape, users formed a digital ecosystem where each channel served a distinct purpose in their daily caregiving journey. To get quick information, the community turned to **TikTok**, where short, punchy videos were viewed 86,092 times, more than any other platform (Table 4). For more detailed, instructional content that could be saved and passed on, they relied on **YouTube**, which recorded the **highest number of shares** (**1,728**; Tables 4–5). For conversation and support, **Facebook** recorded **4,542** combined reactions, comments, and shares (Table 4). Finally, consistent with the higher concentration of older users on the platform, **LINE** proved effective for direct engagement. It achieved a 29.42% click-through rate (Table 5), indicating that this demographic was highly responsive to content delivered via trusted push notifications.

Attention focused heavily on practical caregiving needs. Topics related to Food, Mental Health Care, Rehabilitation and Exercise, and General Knowledge accounted for approximately **80%** of all viewing. Interestingly, while women dominated most categories, Equipment Usage drew the most balanced interest by gender (male-to-female ratio ≈ 0.46) (Fig. 5).

6 Crafting care or how the community appropriated digital tools

The preceding analytics paint a picture of what happened, including which platforms were used, by whom, and for which topics. However, these numbers cannot tell the story of engagement or explain why the content resonated in the complex reality of caregiving. In this section, we present interview-based vignettes that trace users' lived experiences and the recurring patterns across our participants. We then return to these themes in Section 7, where we situate them within prior HCI and CBR research.

6.1 *From one lamp, a thousand are lit* or Merit as shared care

Vignette #1: Just as a fire from a single lamp may light a thousand others without diminishing, so too does one's merit increase when shared with others.

FC6 is a daughter caregiver who keeps her phone within reach of her mother, recovering from a stroke. Each morning, the daughter scrolls through photos of merit-making: feeding stray dogs and cats, small donations, and everyday good deeds. She invites her mother to join, hands raised in respect, with a brief prayer for strength. The daughter also follows our CBR Facebook page and occasionally plays the motivational videos, though she pairs them with temple media that her mother finds emotionally grounding. For FC6, these practices are care. Through these quiet rituals, the rhythm of daily life took on moral weight, carrying the household toward recovery not just in body, but in spirit: "It uplifts her spirits", she says, thinking of her mother.

As the vignette illustrates, religion was an active, lived framework that shaped how people made sense of illness and sustained care over time. Participants consistently described **recovery as a moral and spiritual journey**, more than a purely biomedical one. This journey was often structured around the Buddhist practice of merit-making (*tambun*): accumulating positive karma through good deeds, which participants directly linked to health outcomes [62]. In short, each act of merit-making is thought to generate positive karma that through gradual accumulation, could incrementally lead to recovery for themselves, or could be dedicated to their loved ones to help them recover. This aligns with the central ethical triad in Buddhism: *avoiding harm*, *doing good*, and *purifying the mind*, as a foundation for both spiritual progress and everyday action. Interestingly, the opposite was also observed, with one participant explaining that burdening parents with care was considered bad karma, since children are expected to care for their parents and not the other way around. As such, he described how he "won't let his parents care for him,[as he is]...afraid of sin [FC11]". Overall, such examples illustrate how deeply beliefs centred around merit making and karma were woven into community care dynamics.

For many, **merit-making created a tangible horizon of hope**, transforming the abstract goal of "getting better" into a series of meaningful, spiritually-charged milestones. For patients, the belief that their good deeds contributed to their survival created a powerful, ongoing reason to persevere: "When I managed to survive, I started making merit because I believed that my acts of merit contributed to my survival. After that, I began making merit every day [PT1]." This echoes the Buddhist view that good actions, repeated over time, shape one's present and future, thus encouraging the gradual cultivation of wholesome karma. In other cases, caregivers even used upcoming religious festivals to motivate their loved ones, linking the hard work of daily exercises to the reward of community participation: "I have to constantly tell my mother that if she wants to come home or if she wants to attend a religious festival in our home-town in another five months, she has to recover quickly. After that, my mother can get up on her own [FC7]."

Beyond motivation, these spiritual practices served as a crucial **source of emotional comfort and resilience, known in Thai as *sabai jai*.** When illness prevented physical trips to temples to perform merit-making, families adapted through digital practice, sharing videos from our platform to bring knowledge to others, posting photos of good deeds or making small donations online became forms of digital merit-making, helping calm patients and sustain hope. "My father asked monks if he'd get better; merit-making calmed him when he couldn't go to the temple [FC3]." Even when participants were not the ones performing the acts directly, **seeing others perform good deeds through the screen** gave participants a sense of sharing in those good deeds, and as they rejoiced in the merit of others, it made them feel as if they too were part of the cycle of merit-making.

Merit-making also functioned as a **moral compass**, shaping the dynamics of community caregiving. VHVs, for instance, sometimes framed their unpaid labour as a form of spiritual investment: "I volunteer as a VHV because I want to help people, even though I receive almost no financial compensation... In the future, whether in this life or the next, it might make my life better [VHV1]." The moral weight of caregiving was palpable across many interviews, consistent with the Buddhist ideal that serving the sick is equivalent to serving the Buddha himself.

Overall, the findings from the interviews revealed a key tension between our intervention's secular, biomedical content and the spiritual frameworks that truly animated community care. Participants saw value in our content but found it incomplete, pointing out ways to bridge the two worlds. As one caregiver noted after watching one of our videos: "I once played your motivational video for my grandmother, and she seemed to like it. However, she finds emotional support through listening to sermons on her own. I think combining religious sermons with information about illnesses in videos would be even better [FC12]." Healthcare professionals involved in our study echoed this, confirming that while our content was credible, its "academic" style was often insufficient to connect with the community's deeper values: "I've learned from my work that being too academic doesn't reach the general population. Beliefs and cultural aspects come into play, and it makes them feel 'valued.'

I take what they already know and mix it with new information [HP2]."

Read through the lens of digital religion, what we document is not religion "added" to online rehabilitation but a hyper-mediated weave of bedside, temple, and platform. CBR videos are taken up inside spaces where offline ritual and online media co-produce practice, and the smartphone at the bedside becomes a material mediator of care [24]. In this view, families entangle secular guidance and religious media, creating "third spaces" in which clinical advice is made legible within a Buddhist moral world [11, 22].

6.2 *Smiling through tears* or Humour as a tool for resilience

Vignette #2: The *Cool VHV* effect

FC3 is exhausted. The weight of caring for her father feels immense today, and scrolling through a Facebook support group only deepens her anxiety, filled with stories of suffering. She opens our CBR page instead and clicks on a video from the "Cool VHVs" series. On screen, two familiar village health volunteers are bickering playfully while demonstrating how to properly reposition a patient. The information is clear, making a difficult task seem manageable. The gentle, local humour breaks the tension. For the first time all day, she feels a sense of lightness. She finds herself, as she later puts it, "smiling through my tears." While in this particular case, the video didn't directly solve her problems, but for a few minutes, it made them feel less heavy. "It was enjoyable. It provided some relief," she reflects.

The emotional toll of long-term caregiving was a central reality for our participants. Conventional online peer groups, such as those on Facebook, did not seem to work for FC3, who explained she actively avoided them because they added to her stress rather than alleviating it: "As for stroke caregiver groups on Facebook, I don't participate in them because seeing other people's problems makes me feel overwhelmed and overly anxious. I'm focusing on my own challenges, and taking care of my father is already exhausting [FC3]." Her experience points to the need for support that can offer emotional relief without further emotional overload. Initially, our co-design team attempted to address this need with explicit "motivational" videos. These, however, fell flat. Participants found them impersonal, with one caregiver stating plainly, "I don't watch motivational videos. Personally, I prefer receiving motivation directly from people I know [FC8]." Indeed, the **"Motivation" video category consistently showed some of the lowest user engagement** percentages, particularly on visually-driven platforms like YouTube (4.31%) and TikTok (3.2%). This rejection of prescribed emotional content revealed that support cannot be simply delivered, it must be felt.

Instead, a more effective form of support emerged as users **appropriated content that integrated humour and relatable storytelling** for their own emotional and motivational needs. The *Cool VHVs series*, for example, blended practical tips with lighthearted moments. Importantly, these humorous interludes were fleeting—typically just 4–5 seconds, as also visible in Figure 6. They were never the core purpose of the videos, nor integral to the informational content. Yet, despite their brevity, these moments shaped how many participants engaged with and remembered the material: as brief relief that helped them cope, and that motivated them to watch the videos in full. As two caregivers noted: "I enjoy all of your videos. Still, I watched all the VHV videos because they were fun. As for serious videos, I only watch the parts I'm interested in [FC12]"; "The *Cool VHVs* videos are amusing and relaxing [FC9]." Although humour was never the point, those brief beats made the content feel lighter and more relatable keeping viewers engaged to the end. A caregiver explained, the video's relatability helped them feel more capable, supported, motivated, and less alone in their caregiving journey.: "The main reason I visit your Facebook page is to watch the *Cool VHVs* video series because it's easy to understand and boosts my confidence. When I see people in the videos doing something, I feel like I can do it too [FC7]."

While prior work has explored humour as a strategic tool to drive engagement in digital health [58, 97], our findings point to a deeper function. Here, humour was a culturally-grounded mechanism for emotional resilience. This suggests a design orientation that moves away from providing content that prescribes a specific emotion (e.g., "be motivated") and towards creating an ambient atmosphere of support, for example, by using culturally familiar humour to co-regulate distress and invite self-efficacy, while teaching concrete skills.

6.3 *An ally in the pocket* or Media(ting) generational and gender dialogue

Vignette #3 : When the video has more authority than I do

FC12 thinks back to when her grandmother first came home from the hospital. She was away at the time, and she remembers the frustration of the handover: "others told me about her condition and how to care for her, but not everything." Now, facing a new problem – her grandmother is constipated – she is determined to find a solution. As she later recalled, "I went on your LINE app and found a video about food for rehabilitation patients." The information is exactly what she was missing. When she tries to explain this to her older relatives, she is met with scepticism. She's the youngest, and her voice doesn't carry the weight of experience. So, she tries a different approach. She opens the app and sends the video to the family group chat. The dynamic shifts immediately. The video, clear and credible, is trusted in a way she was not. It didn't just share information; it gave her a voice.

As the vignette illustrates, the primary challenge for younger caregivers was often a **lack of authority**. This dynamic is increasingly prevalent as the structure of family care shifts. As VHV7 observed, working adult children are often unavailable, meaning that "grandchildren often step in" to provide care. In this hierarchy, younger members are expected to learn through observation and assistance. Giving direct advice to elders can be seen though as a breach of etiquette, a dynamic deeply rooted in the Thai cultural practice of *kreng jai* (deferential respect), a norm of self-restraint that avoids openly contradicting seniors as it may cause embarrassment and disrupt social harmony. With knowledge tied to seniority



Figure 6: A brief (4–5 s) three-act comedic moment used within our rehabilitation content. The scene begins with a seemingly normal conversation, with the patient waiting in a wheelchair while the VHVs are distracted (Left). The punchline builds as the patient starts to silently slip from the chair, unnoticed by the VHVs (Middle). The comedy lands as they suddenly realise what is happening and break into a chaotic, panicked rush to help (Right).

and older adults less likely to seek health information online themselves as shown in [71], it was difficult for younger caregivers to have their voices heard. In this context, our intervention was appropriated as a tool to navigate this specific cultural barrier. As one younger caregiver explained: "I would grab my phone, show her your videos. Before, she didn't really grasp our conversations, perhaps because I am much younger... when I showed her some of your easy-to-follow videos, she understood better [FC1]." Here, the video worked on two levels. Its visual, "easy-to-follow" format made complex information more accessible, overcoming the purely communicative challenge. At the same time, its status as a neutral, external source allowed the message to be received without being filtered through the lens of the speaker's junior status in the family.

This generational hierarchy was further complicated by a **deeply gendered division of labour**, a theme that emerged strongly also in our need-gathering workshops, which preceded the deployment of the CBR intervention. As multiple healthcare professionals and volunteers noted, caregiving is overwhelmingly seen as women's work, a responsibility primarily shouldered by wives, mothers, and daughters: "Most caregivers are women: wives and mothers [HP7];" "Daughters more than sons take the lead [HP4]." This real-world dynamic was directly mirrored in our digital intervention. Our platform analytics show that women dominated engagement across all platforms, representing, for example, 74% of users on Facebook and 79.3% on LINE. This is a deviation from global social media trends where men often constitute a larger share of users, demonstrating just how caregiving is feminised in this context. Even when men participate, their roles are often circumscribed. One professional observed a common pattern: "Men excel at hospital follow-ups; women excel at home care [HP5]." This is partly due to cultural norms where a son may "hesitate to touch/intimately care for his mother [HP5]."

In this context, our intervention was appropriated to both **bypass age-based hierarchies and also to gently nudge these gendered roles**. The videos served as an accessible entry point that encouraged greater participation from male family members who were previously less involved. The clear, visual instructions provided a low-stakes, non-confrontational way for them to learn and contribute to what is traditionally a female domain. For one caregiver, sharing the content with her brother led to a tangible change in his engagement: "My younger brother, being a male, doesn't pay as much attention to this type of care. When I share your content with him, I feel like he understands what he has to do a bit better. Now, he is more helpful, especially with tasks that require physical strength [FC2]." Here, the video provided the scaffolding that enabled her brother to become an active participant.

While our interviews confirm that caregiving remains highly gendered, our analytics show a more complex pattern of men's participation. Among male viewers, the most-watched category was Mental Health Care (1,177 views), followed by Food (1,152) and Rehabilitation & Exercise (1,125). This aligns with well-documented dynamics: men are less likely to seek help publicly for psychological concerns due to masculine-norm stigma [77, 89], yet they do turn to private, problem-focused digital resources when available [76]. In our setting, short, actionable videos appear to offer a low-friction, face-saving entry point, letting men contribute to care without transgressing local role expectations

6.4 *The waiting room network* or Valuing offline talk over online community

Vignette #4: More to talk about

The hospital waiting room is crowded and quiet. FC3 sits next to another caregiver, a stranger, both lost in their own thoughts. To break the quiet, FC3 scrolls through our CBR Facebook page on her phone and, with a gentle nudge, shares a video with the woman beside her. A small smile flickers across the stranger's face as she watches. Soon, they are no longer strangers. They add each other as friends, and a conversation begins. The video becomes a bridge to sharing their own experiences and hard-won tips. As another caregiver, FC9, later reflected on these waiting room moments, "we enjoyed chatting, sharing tips, and exchanging information... Now that there's your LINE app, there's even more to talk about." The technology acted as a catalyst, giving an existing, unspoken community a reason to talk.

While the literature on digital health often emphasises the benefits of large, open, online peer support groups, our findings revealed a strong **preference among Thai caregivers for private, trusted interactions**. This preference is deeply rooted in cultural norms.

The first is *raksa naa* (face-preservation), a concept that prioritises maintaining one's reputation and avoiding public conflict or embarrassment. A public comment thread is a high-risk space where a question might be ignored or a statement might be criticised, causing a "loss of face." A private chat or a quiet conversation in a hospital corridor, however, is a much safer space for careful, low-exposure talk. Furthermore, small acts of sharing are not just transactional, they are animated by *namjai* ("water of the heart"), a form of spontaneous, selfless generosity. When one caregiver shares a helpful video with another, it is seen as an act of *namjai*. This, in turn, creates a social and moral relationship of *bunkhun* (indebted goodness or gratitude), which turns a moment of passing help into a remembered social tie. In practice, caregivers move fluidly between the family LINE chat and the waiting room bench. As Thailand is a LINE-first society, links are passed in private groups where *namjai* can be expressed safely, and then unpacked face-to-face, creating a "hypermediated" space where online objects travel into offline talk and back again.

Our intervention played an important role as a **catalyst for these exact kinds of offline connections**. This preference for private conversation was confirmed by a healthcare professional: "I often ask patients and their relatives why they don't comment or send messages directly on the page when they have issues... They prefer private conversations, especially with pages where they don't know who they are talking to [HP2]." Instead, the digital content became a valuable social connector that participants shared in person, sparking informal support networks in the shared spaces of their caregiving journey, like the hospital waiting room: "I've shared your Facebook page with other family caregivers who are looking after patients in the hospital. Everyone there has added each other as friends and started discussing issues related to patient care [FC3]"; "I've also shared content from your page, which everyone likes and finds very useful. This has led to more conversations, the sharing of good stories, and a desire to help each other even more [FC4]." Healthcare professionals also observed this surge in informal, face-to-face knowledge sharing among patients and caregivers in the hospital: "I've noticed that when patients meet each other at the hospital, there's a lot of exchanging thoughts about recovery tips and also about food and hygiene [HP4]." Ultimately, the value of our content was in its ability to spark a conversation in a hospital corridor, beyond clicks or views in the digital space. This suggests that the most meaningful impacts of our intervention may be precisely those that our platform metrics are designed to miss.

6.5 *For the "unsung heroes"* or A toolkit to promote confidence and credibility for grassroots healthcare

Vignette #5: Water relies on the boat, a tiger on the forest

VHV7 is on a home visit. The family is struggling, trying to figure out the right consistency for blended food to be used in a feeding tube. Words are failing to explain the delicate process. Instead of trying to describe it again, she pulls out her phone, opens the project's LINE group, and finds the right video. She plays it for the family. On screen, a nurse calmly demonstrates the technique. The family watches, nods, and a wave of relief washes over their faces. VHV7 feels a sense of pride. The video validated her own knowledge and made her a more effective, confident bridge between the clinic and the home.

VHVs are the human "glue" of the community care system in rural Thailand. Their role is a living embodiment of the Thai proverb, *"Water relies on the boat, a tiger on the forest"*, which speaks to the vital importance of mutual dependency. Just as the tiger needs the forest, the formal healthcare system relies on VHVs to act as essential bridges to families navigating complex care at home. In turn, the community relies on the VHVs for trusted support. However, these volunteers operate under significant constraints, with limited formal training and few resources, facing the dual challenge of building trust with caregivers while reducing the burden on distant healthcare professionals [14, 102].

Our intervention was appropriated by VHVs as a powerful tool to navigate these challenges, primarily by **boosting their confidence and credibility**. The videos served as a form of decentralised training, providing a reliable, expert-backed resource they could use to affirm their own knowledge and become more confident in their practice. This validation was a source of pride and self-worth, reinforcing their expertise in the eyes of both themselves and the community. "I think at least, once we've seen them, they reinforce our confidence that we're doing things correctly. Watching the clips and realising that we're already doing the same or even better makes us feel proud [VHV6]." This internal confidence was crucial for tackling one of their biggest challenges: **earning the trust of a skeptical community**. One VHV described how patients were often hesitant to accept advice from non-doctors, but that the videos, by acting as a proxy for a doctor's authority, helped her establish credibility: "There were many people who said that VHVs are not doctors and that they didn't trust them. So, I approached them gradually, talked to them, and encouraged them to try some exercises and activities. But it was difficult and took a long time. When your project started, I used videos instead. I told the patients, 'This method comes directly from doctors. Watch this video, the doctor is explaining it.' And that made them trust me more [VHV5]."

The intervention also allowed them to collaborate and become more efficient within the broader care network. Healthcare professionals explained that the video library reduced their workload: "I regularly use your social media because I visit patients every

day and also train VHVs [HP7]." Furthermore, the content **supported peer-to-peer learning**, as VHVs actively shared clips and discussed patient cases in their own private LINE groups: "When we shared the intervention clips, we shared them with fellow VHVs through our LINE group. Those who watched said it was good [VHV6]." For the human intermediaries who hold the care system together, our CBR material provided a flexible resource that made their difficult work more efficient and validating.

6.6 A bridge between worlds or Mediating clinical and cultural knowledge

Vignette #6: A shared language

FC4 feels lost and distrustful. In the hospital, a nurse spoke harshly to her mother, and her own questions about care were dismissed. She returns home feeling overwhelmed, armed with little more than a QR code for our intervention, which a doctor briefly mentioned. Hesitantly, she scans it. She is wary of online information and is unsure who is behind the page. But then she finds a video. It features a doctor, who is not talking down to her. He is discussing a Thai pressure point technique to reduce swelling, explaining how it can be used safely alongside prescribed medication. For the first time, she feels seen. The video is speaking a language she understands, blending the clinical world she was struggling with and the cultural world she lives in. It begins to build a bridge of trust.

As the vignette illustrates, a disconnect often existed between the formal, biomedical world of the hospital and the informal, cultural world of home-based care. Family caregivers described the clinical environment as a source of frustration and distress, citing harsh communication and a lack of clear guidance from overburdened staff. "The way the nurse speaks to my mother is very poor... the nurse speaks to my mother harshly and directly, which makes my mother feel sad [FC6]."

This fraught relationship created a high barrier to trust, not just with professionals, but with the digital tools they recommended. For our intervention to be accepted, its credibility had to be established by a trusted human gatekeeper. As one caregiver explained, their engagement began only after a direct endorsement: "I learned about your intervention through my doctor's advice. She suggested I scan the QR code and check it out [FC12]." This need for a clear, human source of authority was crucial; participants hesitated to engage with the platform if they were unsure who was managing it, asking "who I would be talking to [FC4]?"

Once this initial trust was established by a professional, the content itself had to continue building that bridge. The most effective videos were those that spoke a shared language, validating and integrating traditional beliefs rather than dismissing them. Our content that intentionally blended modern healthcare with culturally familiar practices, like the use of herbal medicine, saw the highest engagement. This approach was a direct answer to the tension described by professionals, where families "believe strongly in herbal remedies [VHV1]" and often use them alongside prescribed medications.

This culturally-resonant content then became a powerful tool for healthcare professionals to improve their own communication and training. By providing a trusted, shareable resource, the videos helped them prepare families for the difficult transition to home care, making their own jobs easier and building caregiver confidence. "When I provide a video guide... it helps them understand what to expect and feel much more prepared... they are more focused and better understand what I am teaching [HP1]."

Ultimately, these findings show that the intervention did not function as an autonomous source of information. Its value was as a boundary object—a flexible resource that could sit between the clinical and cultural worlds. It succeeded when it was endorsed by the formal system (building credibility) and when its content spoke with empathy to the informal, cultural realities of the community (building resonance).

7 Discussion

We initially framed this project around standard HCI goals: using dashboards and schedules to deliver the right information to the right people. Fieldwork, however, revealed that relationships moved through our intervention more reliably than facts. Brief moments of humour operated as essential breathers in the weight of care. Buddhist merit-making elevated 'adherence' into moral practice. Younger caregivers leveraged expert clips to speak with authority across hierarchies. The hospital waiting room, more than any comment thread, served as the primary social network. These behaviours emerged as consistent, meaningful patterns that exceeded the scope of our original metrics.

Amid these tensions, we argue that social media-based CBR is best understood as the design of *infrastructures of repair*: everyday socio-technical arrangements that support rehabilitation, redistribute care work, sustain local moral and spiritual worlds of care, and stabilise the fragile infrastructures on which CBR depends. We use *care infrastructures* to refer descriptively to the existing arrangements we observed in Chiang Mai, and *infrastructures of repair* for the design orientation that seeks to strengthen and rebalance them. This framing also resonates with Vygotsky's Zone of Proximal Development (ZPD) [92], which describes the space between what learners can accomplish unaided and what lies beyond their current reach. Effective digital CBR, we suggest, operates within this zone by providing scaffolded guidance that enables caregivers and patients to accomplish rehabilitation tasks they could not perform on their own, while avoiding the extremes of abandonment or overprescription. In this sense, social media platforms and content function not as information-delivery systems but as scaffolds that enable home-based therapy, supporting both the delivery of care and the well-being of carers.

7.1 Information vs relationship: why transmission models fail

Our findings reveal a fundamental mismatch between how digital health interventions are typically conceptualised and how they are actually appropriated in practice. The dominant paradigm in HCI and digital health assumes a "transmission model," where effective interventions deliver the right information to the right people at the right time [12]. From a Social Construction of Technology (SCOT)

perspective [65], this model privileges the technological frame of designers and clinicians and sidelines other relevant social groups such as caregivers, patients, VHVs, and religious actors. Information is treated as the primary "payload," with relationships relegated to a neutral channel or backdrop.

Our data tell a different story. Across these social groups, the intervention displayed strong interpretive flexibility. participants consistently moved beyond simple information consumption to actively repurpose our content for purposes we never intended. This appropriation [21] was systematic and purposeful. In terms of domestication theory [79], the videos and social media channels were actively incorporated into household routines and converted into resources for maintaining social ties, performing good caregiving, and negotiating authority within families. Participants treated relationships as primary and information as just one resource among many for sustaining them.

The primary value of our intervention thus lay less in its content per se than in its capacity to mediate existing social relationships. The videos functioned as "social objects," artefacts that acquire meaning through circulation and use rather than inherent properties [23]. A rehabilitation exercise video became valuable because it allowed a younger caregiver to share knowledge with an elder without violating norms of deference (*Vignette #3*), or because it enabled a VHV to establish credibility with sceptical patients. The most engaging content was often the least "clinical": humorous skits that made complex care tasks feel manageable and community-based rather than purely medical (*Vignette #2*). These patterns challenge the assumption that success is primarily about delivering high-quality information and instead foreground the social affordances of content, its capacity to facilitate particular relationships and interactions [45].

Returning to the ZPD framework [92], these findings suggest that content alone — without legitimate guidance — fails to support learning or behaviour change. In our context, legitimacy is derived from multiple sources, including the credibility of VHVs, the authority of the health system, and the breaking of family hierarchies through externally sourced expert content. The platforms enabled a zone of proximal development by providing scaffolded support accessible in moments of need. Crucially, however, this content only became useful through the mediating role of a family member, caretaker, or VHV; i.e., a human who contextualised, endorsed, and applied digital content within local relationships. This mediating role should be treated as central, not incidental, in similar interventions across LMIC contexts.

Furthermore, the shift from information-as-payload to relationship-as-primary aligns with recent work that likewise unsettles the transmission model in community health. In our study, VHVs used video to *project* authority to patients ("the doctor on the screen"); in contrast, an LLM-powered WhatsApp chatbot for Indian community health workers is used to *construct* authority in private, as workers ask rudimentary and sensitive questions they cannot raise with supervisors, using the system as a psychological safe space for "private ignorance" under conditions where admitting not-knowing threatens *raksa naa* (saving face) [69]. Similarly, "explorable" explainable AI for malnutrition diagnosis repositions Anganwadi workers from passive data collectors to epistemic agents who probe and *contest* AI outputs, while shifting their "folk theories" of AI from magical oracle to fallible tool [81]. Much as our participants reworked biomedical exercises within Buddhist merit-making, these studies show users actively negotiating the meaning of digital tools. Across these settings, digital systems are most consequential when they reorganise who can ask what of whom, and at what social risk.

Seen through an infrastructure lens [83], these uses draw attention to the largely invisible socio-technical arrangements that sustain community-based rehabilitation: phones and data plans, LINE groups and clinic waiting rooms, VHVs' travel, temple activities, and family labour *(Vignette #4)*. Our intervention elements became part of these care infrastructures, quietly supporting coordination, confidence, and trust rather than simply transmitting medical facts. This raises questions about how such relational and infrastructural work can be made legible within prevailing evaluation frameworks.

This disconnect points to a deeper tension within the HCI community's approach to "technology for good". Despite decades of rhetoric around user-centred and participatory design, we often remain trapped in what Freire would recognise as a "banking model" of technology deployment [30]: we deposit features and content into communities, expecting them to be withdrawn and used as intended. When communities appropriate technology in unexpected ways, we either ignore these uses or frame them as *misuse* rather than recognising them as evidence of more fundamental design failures and opportunities for co-creation [41, 44]. Our findings echo broader accounts of password sharing, WhatsApp groups, and other "shadow systems" as infrastructures of repair that patch over leaky designs which fail to account for delegated care and collective practice [98]. A SCOT- and domestication-informed reading of our findings instead suggests that designers should expect friction between information and relationship, design for interpretive flexibility and appropriation, and treat emergent uses as signals about the care infrastructures people are already sustaining rather than deviations from an ideal path of adherence. In line with recent calls for "humble HCI" and for centring maintenance and repair, our data point toward interventions that support ongoing relational work rather than assuming that more or better information alone will fix health inequities.

More broadly, our findings challenge the assumption that "technology for good" paradigms apply universally. They speak to the broader HCI community in demonstrating that statistical generalisability is no longer a valid or reliable way to evaluate the impact of interventions in diverse cultural contexts. There is a deeper need to understand cultures, and how technology relates to them — including people's imaginaries of technology, which differ from one culture and society to another. Designing for CBR in LMICs requires attending to these imaginaries rather than assuming that tools effective in one setting will transfer seamlessly to another.

7.2 Online affordances vs offline infrastructures: where care actually happens

A second tension lies between what social media platforms seem to afford "on paper" and the offline infrastructures of care into which they are inserted. From a communicative affordances perspective, platforms such as LINE, Facebook, TikTok, and YouTube offer persistence, asynchronicity, scalability, and visibility, which

digital health designers often seek to leverage to achieve reach, engagement, and peer-to-peer support. Our findings complicate this picture: caregivers and VHVs selectively engaged these affordances in ways tightly coupled to clinic schedules, waiting rooms, temple events, household routines, and the rhythms of VHV work *(Vignette #5)*.

For example, while Facebook and TikTok theoretically afford large-scale broadcasting and public community-building, participants often preferred closed or semi-private LINE groups, or even no online interaction at all, instead using videos as prompts for conversations in hospital waiting rooms or during home visits. The most consequential social networks in our study were not platform-based comment threads but pre-existing, face-to-face ties that the intervention could gently thicken: regular clinic attendees who recognised one another, neighbours connected through VHVs, and kinship networks spread across households. The affordances that mattered most were thus infrastructural: who had time to talk in the waiting room, who could travel to visit whom, who controlled the household phone, and whose endorsement carried weight.

Recent work on recommendation-driven platforms helps name what is at stake here. Studies of the "lonely algorithm" on TikTok show how hyper-personalised feeds can erode shared contexts, connecting each user to content while disconnecting them from one another [85], while work on hashtag re-appropriation on Xiaohongshu documents how users bend recommendation logics to carve out semi-private publics within ostensibly open feeds [95]. Our participants adopted a different but related strategy. Rather than trying to tune the algorithm, they routed *around* it, pulling videos out of personal feeds and into shared spaces (e.g., waiting rooms, home visits, small LINE groups) where content could be collectively interpreted and morally anchored. In this sense, the algorithmic feed functions more as a content *supply chain* than as a community: the social work of rehabilitation happens in the hand-offs between people.

Looking at care infrastructures makes clear that platforms appear as components in larger socio-technical assemblages, with broadcast and engagement tools reconfigured into supports for local routines (e.g., waiting-room screens that legitimised VHVs), not as standalone solutions. This has implications for how social-media-based CBR is designed and evaluated. It suggests that interventions should be judged less by their ability to generate on-platform engagement and more by how they plug into and support existing care infrastructures. Rather than designing "for Facebook" or "for TikTok," our findings argue for designing *with* waiting rooms, VHV visit schedules, temple calendars, and household routines in mind, and for content that is deliberately "leaky" and interoperable so it can travel into the spaces where care is actually done. Within an infrastructure of repair framing, repair is achieved not by maximising visibility within a feed, but by carefully configuring these socio-technical attachments.

These configurations also raise important questions about accountability that warrant future investigation. As health information circulates through social media ecosystems, questions arise about who is responsible when harm occurs. What happens if misinformation spreads through these channels and harms someone? Who bears responsibility? Is it the platform, the content creators, the VHVs who share it, or the health system that endorsed it? These questions become particularly pressing in LMIC contexts where regulatory frameworks for digital health may be underdeveloped. Future HCI research, in collaboration with adjacent disciplines such as health policy, law, and science and technology studies, should investigate how accountability can be meaningfully structured in decentralised, platform-mediated care systems.

7.3 Empowerment vs burden: who carries CBR work

A third friction concerns the rhetoric of empowerment that frequently accompanies digital health and CBR, versus the realities of who ultimately carries the labour of care. Technologies are often framed as "shifting care into the community" and "building capacity" outside overloaded hospitals. From a feminist and design justice perspective, however, it becomes crucial to ask *who* is empowered, to do *what*, and at *what cost* [16].

In our study, the day-to-day work of implementing CBR via social media fell overwhelmingly on women in families and on VHVs, themselves often in precarious positions within the health system. Videos allowed caregivers to perform skilled rehabilitation, but this came on top of existing household, emotional, and wage labour, while clinicians extended their reach with little added work as the intervention piggy-backed on their institutional authority. This pattern echoes HCI accounts of community health workers and family caregivers navigating "fractured" digital ecosystems of overlapping apps, reporting tools, and informal channels that effectively double their workload [81], and of LLM tools such as ASHABot that require frontline workers to interpret and buffer model outputs for patients and supervisors [69]. Similarly, work on technology-mediated caregiving for older adults aging in place shows digital infrastructures leaning on the already stretched time and emotional resilience of (predominantly female) family members [54]. Appropriation is therefore double-edged: caregivers and VHVs adapt tools to local needs, but the scope of what they are expected to manage quietly expands.

Conceptualising caregivers' practices as "kits of care" — constellations of tools, routines, and relationships — helps surface how each new technology redistributes work. In our study, caregivers assembled our videos, paper notes, herbal medicine, LINE groups, temple visits, and neighbours' advice into workable care arrangements. Each new technology reorganised this kit: sometimes easing pressure (e.g., reducing the need to repeat explanations), sometimes adding monitoring, documentation, or follow-up tasks. A SCOT lens highlights how designers' and policymakers' technological frames tend to cast these shifts as empowerment and efficiency, whereas caregivers' and VHVs' frames register both pride in being "more professional" and exhaustion at the additional labour. Attending to these divergent frames suggests designing not just individual tools, but more sustainable kits of care that minimise duplication, respect time constraints, and support handovers across the broader care network.

A value-sensitive [26] and design justice [16] stance suggests that future CBR technologies need to treat labour, gender, and recognition as first-order design materials. This includes asking, for each new feature, who will do the extra work; making VHV and

caregiver contributions legible to the health system; offering modest infrastructural supports (data, travel, charging); and explicitly validating limits and trade-offs rather than implicitly demanding ever more unpaid care. Infrastructures of repair, in this sense, address both the repair of impaired bodies and the repair of unequal distributions of care work.

An open question remains whether digital CBR interventions reinforce already gendered care roles or can shift the burden across family members, including those not traditionally considered primary carers. Our analytics showed men engaging with mental health and nutrition content at rates that complicate simple narratives of non-participation, yet interviews confirmed that hands-on care remained predominantly women's work. Future research should investigate design strategies that redistribute rather than merely digitise existing care inequities, attending to how platform affordances interact with local gender norms.

7.4 Metrics vs meaning: what success looks like in CBR

Finally, our study exposes a tension between the metrics by which digital health interventions are typically judged and the forms of success that mattered to participants. Standard evaluation frameworks privilege quantifiable indicators such as video views, click-through rates, completions, or adherence to prescribed exercises. These measures align with the transmission model critiqued above: they treat information uptake and behaviour change as the primary endpoints. However, when caregivers, VHVs, and patients narrated what "going well" looked like, they rarely spoke in these terms. Instead, they emphasised being able to return to valued roles (attending festivals, participating in temple life, contributing to household work), feeling less alone and more confident, experiencing peace of mind, and seeing their care recognised as meaningful.

A key part of this meaning-making was moral and spiritual. Participants described weaving exercises into Buddhist practices of merit-making and into obligations of gratitude, filial duty, and keeping face within the family. This resonates with calls in HCI to take religion and spirituality seriously as structuring forces in everyday technology use. Recent work re-examining HCI research on religion argues that faith has often been treated as a marginal "cultural variable" rather than a central ontology, and calls for a post-secular HCI that designs with, rather than around, spiritual practices [101]. Our intervention itself did not explicitly encode religious content (the videos were produced as secular health education), but participants nevertheless appropriated them as social and spiritual objects, linking digital practices such as watching, sharing, and discussing videos to merit-making and temple life (Vignette #1, Vignette #6).

These accounts foreground capabilities, understood as what people are able to be and do for others, rather than discrete compliant behaviours. Participants framed exercises and media practices as ways of doing something for others, generating and sharing merit, and maintaining face, even when functional change was modest. Such outcomes, including reduced conflict over what good care looks like, diminished shame, and a sense that efforts count morally, are difficult to capture in platform analytics or short-term clinical follow-ups, yet they are central to CBR in this context. Value Sensitive Design has long argued for making stakeholders' values explicit in design [26], and recent work on bringing religious values such as Catholic Social Teaching into technology design shows how principles like human dignity and subsidiarity can be turned into concrete commitments [15]. Our findings similarly point toward CBR systems that treat reciprocity, the dignity of continuing to contribute despite disability, and the sharing of merit as explicit design requirements rather than background culture.

Many of these meaningful outcomes depend on sustained, collective work: maintaining phones and connectivity, coordinating transport to clinics and temples, keeping LINE groups active, and supporting VHVs' morale. Metrics that focus on individual engagement with content miss this infrastructural labour and may misclassify an intervention as failing if it does not produce large-scale on-platform interaction, even when it is quietly strengthening local networks of support. Emerging HCI work on techno-spiritual practices and mindfulness-based tangible interactions for stroke rehabilitation likewise frames rehabilitation as cultivating particular states of attention and meaning rather than only moving bodies. Autoethnographic work on integrating EEG-based self-tracking into Christian prayer, for instance, shows how sound, light, and posture shape spiritual experience [82], while tangible systems highlight how sensory cues, ritualised repetition, and moments of reflection can deepen engagement with therapy [47, 49]. Our participants achieved similar effects with modest means: smartphone screens kept at the bedside, CBR videos paired with temple media and sermons, traditional remedies such as herbal medicine, and exercises folded into everyday household routines.

Within an infrastructure of repair perspective, rehabilitation success cannot be reduced to counts of views or adherence events. Evaluation frameworks should be reoriented toward values and meanings articulated by communities themselves, integrating empirical work on local values such as dignity, non-burdening care, moral and spiritual significance, and recognition of invisible labour into success criteria. A metrics regime aligned with infrastructures of repair would prioritise impacts on peace of mind, valued roles, and local care infrastructures over counts of views or adherence. This points to a need for community-centric evaluation approaches — qualitative and participatory metrics that align with community values rather than externally defined indicators that people cannot relate to. Such metrics might foreground strengthened family relationships, maintained spiritual practices, redistributed care burden, or enhanced VHV confidence; outcomes that matter locally but remain invisible to standard analytics. Developing these approaches requires sustained engagement with communities as co-evaluators, not merely subjects of measurement.

7.5 Limitations

While our study demonstrates the potential of social media to enhance CBR, it also has several limitations that should be considered when interpreting the findings and planning future work.

Generalisability. This study was conducted in rural Chiang Mai, Thailand, and its findings reflect the cultural, infrastructural, and platform-specific dynamics of that setting. Differences in digital habits, health systems, and caregiving structures may limit direct transferability to other contexts. Rather than aiming for broad

generalisability, the study offers situated insights that can inform adaptation and design in comparable low-resource settings.

Digital accessibility. Although the intervention was delivered via widely adopted platforms and included options for offline access (e.g., downloadable content via LINE), the study could not assess how effectively these features addressed access barriers. It remains unclear how many caregivers used offline materials or whether digital disparities, such as limited connectivity, shared devices, or low digital literacy, still excluded some participants.

Deployment period. The intervention was deployed over five months, which limited our ability to assess its long-term impact. Sustained behavioural changes and the scalability of the intervention require further evaluation over an extended period. Longer deployment and follow-up studies could provide a clearer picture of the intervention's lasting effects.

8 Conclusion

We set out to design a social-media intervention that would deliver rehabilitation knowledge "to the right people at the right time." Our fieldwork in rural northern Thailand showed something different: videos, feeds, and LINE groups mattered less as neutral information channels than as parts of existing care infrastructures. Participants folded our material into waiting rooms, temple calendars, household routines, and VHV visits, using it to ease conflict, save face, and sustain hope under conditions of scarcity. Social media both transmitted clinical facts and travelled as a social object within already dense worlds of obligation, moral responsibility, and care.

Across the paper we have argued that social-media-based CBR is best understood as designing *infrastructures of repair*: everyday socio-technical arrangements that support rehabilitation, redistribute care work, sustain local moral and spiritual worlds of care, and stabilise the fragile infrastructures on which CBR depends. We traced four tensions that this perspective helps to clarify: information vs. relationship, online affordances vs. offline infrastructures, empowerment rhetoric vs. the gendered and often invisible labour through which CBR is enacted, and metrics vs. the forms of meaning and value that participants themselves emphasised. Taken together, these tensions point away from transmission or "banking" models and toward an orientation that treats appropriation, shadow systems, and workarounds as evidence of ongoing infrastructural repair rather than deviation from an ideal usage pattern.

For HCI and digital health, this suggests more humble ambitions. Designing social-media CBR means designing with waiting rooms, VHV schedules, temple calendars, household routines, and "kits of care" already assembled by families, rather than assuming platforms are standalone solutions. It also means treating labour, gender, dignity, peace of mind, and moral and spiritual significance as first-order design materials and evaluation criteria, not background context. Future work can build on this study by co-designing with caregivers, VHVs, clinicians, and religious actors to translate locally articulated values into concrete design requirements and indicators of infrastructural health. Treating digital systems as guests in existing infrastructures of care, rather than as primary drivers of change, offers a path toward technologies that help communities hold rehabilitation work together without demanding ever more invisible labour.

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