Investigating usability and acceptability of a virtual community of practice to promote self-management of chronic vascular conditions

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ABSTRACT

Background: Virtual communities of practice (vCOPs) are a way of improving patient self-management. These inclusive online platforms can help support patients with chronic conditions to be part of a clinician-moderated vCOP. To evaluate health care professionals' perspectives on the usability and acceptability of a vCoP for improving patient activation and self-management among those with chronic vascular conditions.

Methods: A cross-sectional observational study using convenience sampling was used. Data were collected during the 2022 Vascular Society Conference held in the United Kingdom. Participants completed a structured questionnaire evaluating vCoP usability, accessibility, perceived patient benefits, and areas for improvement. Descriptive statistics, including percentages, were calculated to summarize the findings.

Results: A total of 42 health care professionals, comprising 16 vascular nurse specialists and 26 consultant vascular surgeons, voluntarily participated in the study. Sixty percent of participants found the vCoP platform accessible. The majority agreed or strongly agreed that the platform could enhance patient activation, self-management, the consent process, and the patient journey. Most participants rated the platform's readability, interactiveness, usability, and overall benefit as either excellent or good. Seventy-six percent of participants identified no major drawbacks, though concerns were raised regarding accessibility for patients with limited internet access or technical skills. Suggested improvements included modifying the layout and creating a mobile app.

Conclusions: Health care professionals viewed the vCoP platform as both usable and acceptable, with potential benefits for patient engagement and self-management. Future research is required to assess its effectiveness in improving patient outcomes. (JVS-Vascular Insights 2026;4:100360.)

Keywords: Digital community of practice; Patient activation; Self-management; Virtual community of practice

Virtual communities of practice (vCoPs) have emerged as transformative tools in contemporary health care, fostering knowledge exchange and collaboration among practitioners and empowering patients through enhanced self-management strategies. Rooted in the broader concept of CoPs, these digital platforms connect individuals with shared concerns or challenges, enabling them to engage in collective problem-solving and continuous learning over time. CoPs, as Wenger et al[1] elucidate, are defined by their ability to cultivate tacit knowledge—the unarticulated expertise developed through lived experience—which is often challenging to disseminate through conventional educational means.

The integration of vCoPs into health care aligns with global initiatives to enhance patient-centered care and improve health outcomes through innovative digital solutions. Digital health technologies, encompassing internet-based platforms (eHealth), mobile health applications (mHealth), and wearable devices, have demonstrated significant potential in bridging gaps in health care delivery.[2] They provide scalable, cost-effective solutions that transcend geographical and temporal barriers, thereby increasing accessibility and personalization of care. Within this ecosystem, vCoPs serve a dual purpose: facilitating professional collaboration among health care providers and empowering patients to become active participants in managing their health.

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Patient empowerment, a cornerstone of contemporary health care, is crucial for addressing the growing burden of chronic diseases. Chronic conditions account for a significant proportion of health care utilization and expenditure worldwide, necessitating innovative approaches to foster patient engagement and self-management.[3] Research underscores the effectiveness of digital interventions in enhancing health literacy, promoting behavioral change, and improving adherence to treatment regimens.[4] By providing a moderated space for interaction between patients and health care professionals, vCoPs offer unique opportunities to address these challenges. Through the sharing of experiences and evidence-based practices, patients can gain actionable insights to navigate their health journeys more effectively.

The conceptual framework underpinning vCoPs draws heavily from the COM-B model of behavior change, which posits that capability, opportunity, and motivation are essential for initiating and sustaining behavior change.[5] vCoPs address these components by equipping patients with the knowledge (capability) and a supportive community (opportunity) to make informed decisions. Moreover, the involvement of health care professionals as moderators enhances trust and credibility, thereby fostering motivation among patients. In addition, vCoPs are well positioned to incorporate multiple behavior change techniques from the behavior change wheel, such as education, modeling, and environmental restructuring, to achieve desired health outcomes.[5]

Despite their potential, the adoption and implementation of vCoPs in health care remain underexplored. Although existing platforms focus predominantly on professional networks or patient groups, there is a dearth of initiatives that integrate both dimensions. Health-Shared.com represents a pioneering effort to address this gap by creating condition-specific vCoPs where patients and health care providers can engage in meaningful dialogue. By positioning patients as active participants—or "practitioners"—of their own health, this platform seeks to redefine traditional patient-provider dynamics, fostering a culture of shared decision-making and mutual learning.[6]

The usability and acceptability of digital health interventions are critical determinants of their success. User-friendly interfaces, clear information architecture, and interactive features are essential for ensuring engagement and satisfaction among diverse stakeholders.[7,8] Studies indicate that health care professionals' endorsement significantly influences patients' willingness to adopt digital solutions.[9] Thus, understanding the perspectives of health care providers is pivotal for the iterative design and optimization of vCoPs.

This study investigates the usability and acceptability of a novel vCoP platform among vascular nurse specialists (VNS) and consultant vascular surgeons (CVS) in the United Kingdom. By examining their insights, the research aims to identify key enablers and barriers to adoption, thereby informing the development of more effective and inclusive digital health interventions. The findings contribute to the growing body of literature on digital health innovations, offering practical implications for scaling vCoPs in clinical settings.

The potential benefits of vCoPs extend beyond individual patient outcomes to encompass broader systemic advantages. Enhanced patient activation and self-management have been associated with reduced hospitalizations, improved adherence to care plans, and better quality of life for patients with chronic conditions.[10–12] Furthermore, vCoPs can facilitate knowledge transfer among health care providers, fostering interdisciplinary collaboration and driving improvements in clinical practice.[13] The platform itself facilitates engagement through the ability to join a specific community, contribute in the comments section, share information, and ask questions.

However, challenges such as digital literacy disparities, accessibility issues, and concerns about data privacy and security warrant careful consideration to maximize the impact of these platforms.

This paper explores the usability and acceptability of the Health-Shared.com vCoP platform through a cross-sectional observational study involving health care professionals attending the 2022 Vascular Society Conference. By leveraging their expertise and experiences, the study seeks to elucidate the potential of vCoPs to transform patient care and enhance professional collaboration. The findings underscore the importance of a user-centered approach in designing digital health interventions, highlighting the need for continuous

ARTICLE HIGHLIGHTS

- **Type of Research:** Single-center, prospective cross-sectional observational study
- **Key Findings:** Among vascular nurse specialists and consultant vascular surgeons surveyed at a national conference, the Health-Shared.com virtual community of practice platform was rated as usable and acceptable, with participants identifying strong potential to support patient activation, self-management, and improved patient-provider engagement.
- **Take Home Message:** A virtual community of practice that integrates patients and health care professionals is a feasible and acceptable digital intervention with the potential to enhance patient engagement and support self-management. Thoughtful, user-centered design and attention to accessibility are essential to maximize its impact and scalability.

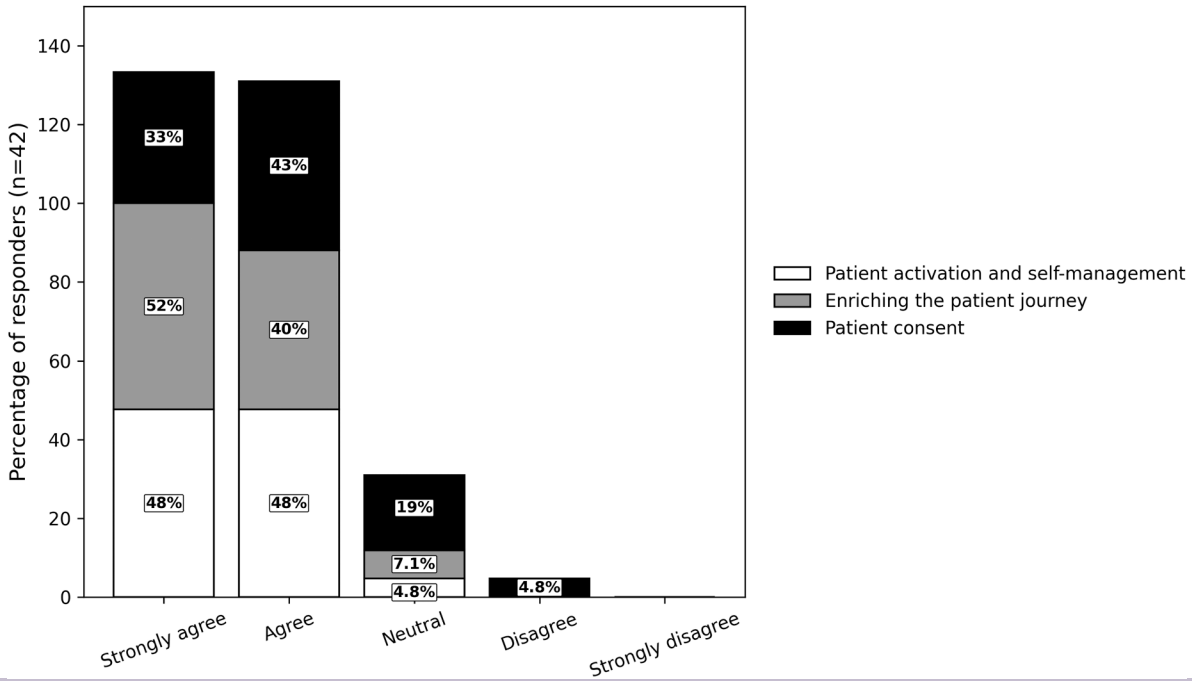


Fig 1. Perceived benefit to patients (improving the patient consent process, enriching the patient journey, patient activation, and self-management).

feedback and adaptation to meet the evolving needs of stakeholders.

The primary aim of the study was to evaluate health care professionals' perceptions regarding the usability and acceptability of a vCoP designed to improve patient self-management and activation. We also sought to assess the perceived benefits of this vCoP platform in improving patient activation, self-management, the patient journey, and consent process through the provision of accessible visual and written information about vascular conditions and procedures.

METHODS

Study design and setting. This study used a cross-sectional observational design to evaluate the usability and acceptability of a vCoP platform. Data were collected during the 2022 Vascular Society Conference, held in the United Kingdom. The research was conducted at the conference venue over 2 days, providing a unique opportunity to engage with health care professionals actively involved in vascular care.

Participants. The study included VNS and CVS attending the conference. Participants were selected using convenience sampling, with inclusion criteria focusing on health care professionals involved in the management of vascular and related chronic conditions. Exclusion criteria included health care professionals not directly responsible for patient care in these areas.

Data collection. Data were gathered using a structured, self-administered questionnaire designed specifically for this study. The questionnaire comprised Likert-scale items and open-ended questions to explore various dimensions of the vCoP platform, including its usability, accessibility, perceived benefits, and areas for improvement (Appendix). Participants completed the survey on tablets equipped with Google Forms, ensuring ease of use and data integrity.

Variables. The primary variables of interest were usability and acceptability, as assessed through participants' ratings of the platform's readability, interactivity, ease of navigation, and overall benefit for patients. Secondary variables included specific suggestions for improvement and participants' willingness to recommend the platform to colleagues and patients.

Ethical considerations. Informed verbal consent was obtained from all participants before survey administration. The consent process included an explanation of the study's objectives, the voluntary nature of participation, and assurances of anonymity and data confidentiality. The study was conducted in accordance with ethical guidelines for research involving human participants.

Formal institutional review board approval and National Health Service (NHS) Research Ethics Committee approval were not required. According to UK Health Research Authority guidance, studies involving NHS staff recruited by virtue of their professional role do not require NHS Research Ethics Committee review.[14] All participants provided informed consent, and participation was voluntary.

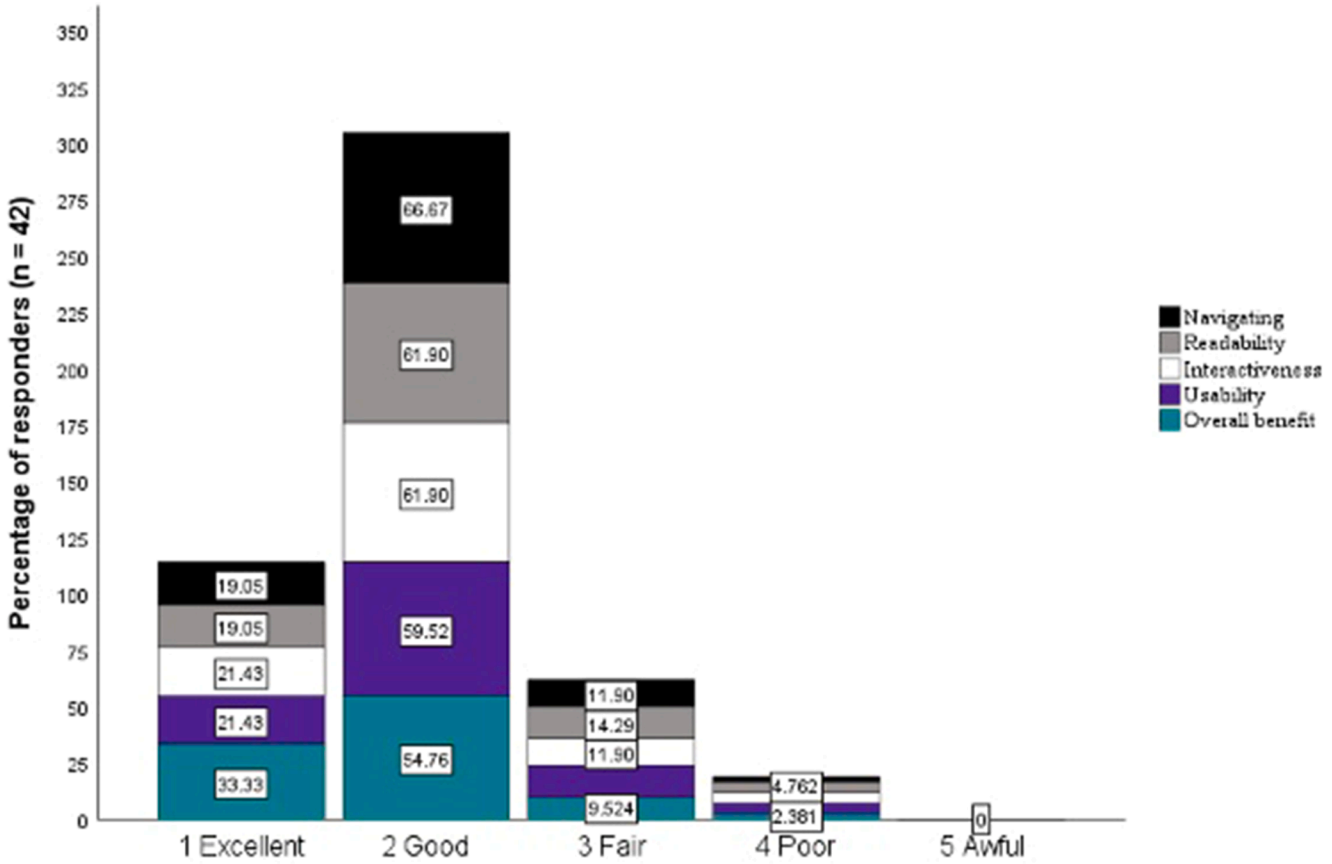


Fig 2. Rating of ease of navigation, readability, interactiveness, usability, and overall benefit for patients of the virtual community of practice (vCoP) platform.

Data analysis. Quantitative data were analyzed using descriptive statistics to summarize responses, expressed as frequencies and percentages. Open-ended responses were analyzed thematically to identify common suggestions and concerns. Microsoft Excel (Microsoft Corp) was used for data organization and analysis.

LIMITATIONS

The study's reliance on convenience sampling and a single-site data collection approach may limit the generalizability of findings. In addition, the small sample size and self-reported nature of the data may introduce bias. Given the small sample size, subgroup analysis was not performed as it was thought that this would lack statistical reliability. Future research should consider larger, more diverse samples and multisite studies to validate these findings.

RESULTS

Participant demographics. A total of 42 health care professionals participated in the study, including 16 VNS and 26 CVS. Demographic data, such as age and gender, were not collected, as these variables were deemed irrelevant to the study's objectives.

Acceptability and perceived benefits. The platform was widely regarded as beneficial for patients (Fig 1). Thirty-two participants (76%) agreed or strongly agreed that the platform could enhance patient activation and self-management. Furthermore, 28 participants (67%) believed that it could improve the patient journey, and 30 participants (71%) indicated that it could support the patient consent process. These findings underscore the perceived value of the platform in fostering patient engagement.

Usability of the vCoP platform. Participants provided favorable evaluations of the platform's usability (Fig 2). Thirty-six participants (86%) rated the ease of navigation as either "excellent" or "good." Similarly, 38 participants (90%) rated the platform's readability positively, highlighting its clarity and accessibility. Interactive features were also well received, with 35 participants (83%) rating the interactivity as "excellent" or "good."

Recommendations and areas for improvement. A majority of participants (86%) indicated that they would recommend the platform to other health care professionals or patients (Fig 3). However, 17% raised concerns about accessibility for patients with limited internet access or digital literacy. Participants suggested improving the platform's accessibility by modifying the layout, increasing font sizes, enhancing signposting, and developing a mobile app. Twenty participants (48%)

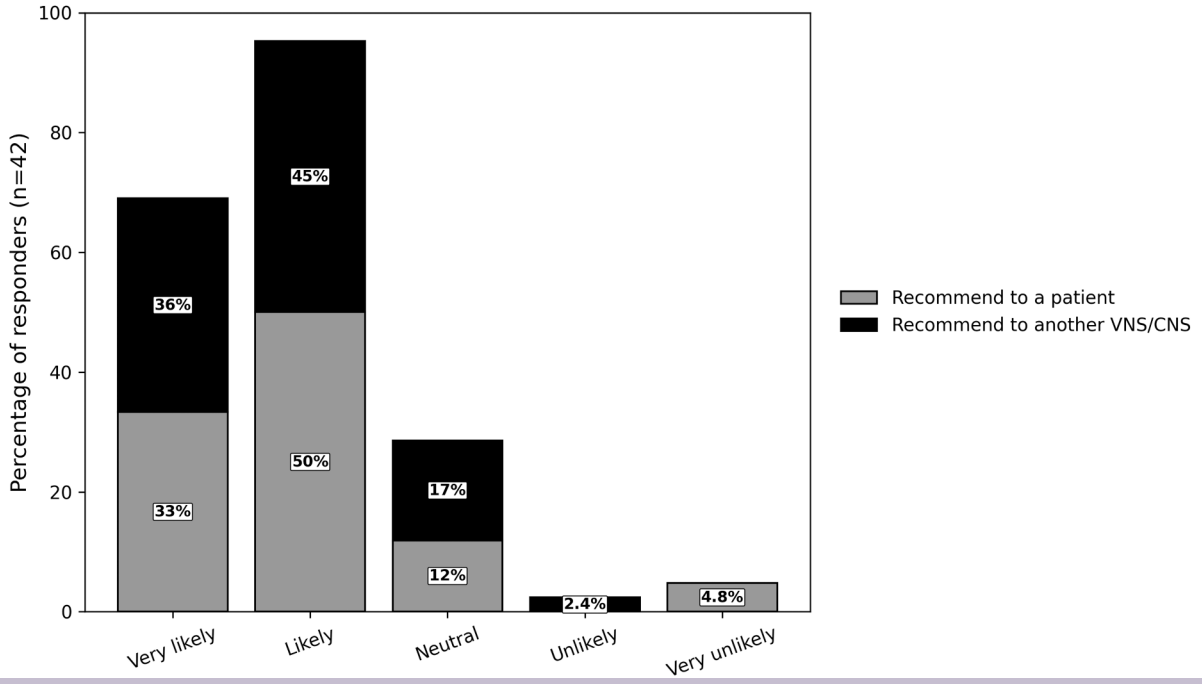


Fig 3. Likelihood of recommending the virtual community of practice (vCoP) platform to another vascular nurse specialist (*VNS*), consultant vascular surgeon (*CVS*), or a patient.

identified no major drawbacks, and 10 participants (24%) stated that they would not add additional features.

Willingness to engage. Twenty-three participants (55%) expressed willingness to participate in vCoPs for vascular diseases on the platform, indicating strong potential for health care professional engagement. This aligns with the platform's aim to foster collaboration and knowledge exchange among practitioners.

Thematic analysis of open-ended responses. Thematic analysis of open-ended responses revealed three key themes: usability, accessibility, and potential impact. Participants emphasized the importance of user-friendly design, equitable access, and the platform's role in enhancing patient-provider communication. Concerns about digital exclusion and suggestions for technological enhancements were recurring themes.

DISCUSSION

Summary of principal findings. This study demonstrated that health care professionals view the HealthShared.com vCoP platform as both usable and acceptable, with substantial potential to enhance patient activation, self-management, and the patient journey. Participants highlighted the platform's user-friendly design and interactivity as key strengths, aligning with prior research on the importance of intuitive digital health tools.[15,16]

Comparison with existing literature. The findings are consistent with previous studies emphasizing the role of digital platforms in improving patient engagement and education.[17] Unlike traditional CoPs that primarily serve professionals, this vCoP uniquely integrates patients and providers, facilitating bidirectional knowledge exchange. This novel approach also contributes toward addressing gaps identified in prior research regarding patient-centered digital interventions.[18]

Implications for practice. The study underscores the importance of designing digital health platforms that are accessible and inclusive. Addressing barriers such as digital literacy and internet access is essential to maximizing the platform's reach and impact. The recommendations for enhancing usability, including the development of a mobile app, provide actionable insights for future iterations of the platform.

Strengths and limitations. A key strength of this study is its focus on the dual perspectives of patients and providers, offering a holistic understanding of the vCoP's utility. However, limitations such as the small sample size and single-site data collection may restrict the generalizability of the findings. Future research should expand on this work by incorporating diverse participant groups and longitudinal designs to assess long-term outcomes.

Future research directions. Future studies should evaluate the platform's impact on patient outcomes, such as adherence to care plans and quality of life, through robust clinical trials. Exploring the scalability of the platform across diverse health care settings and conditions is also warranted to ensure its broader applicability.

CONCLUSIONS

The Health-Shared.com vCoP platform represents a promising innovation in digital health, with the potential to transform patient-provider interactions and improve chronic disease management. By fostering a collaborative ecosystem that empowers patients and supports health care professionals, this platform sets a new standard for patient-centered digital interventions. Continued investment in research and development will be critical to realizing its full potential.

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AUTHOR CONTRIBUTIONS

Conception and design: FK, AE, AD, UJ
Analysis and interpretation: FK, TP, AE, UJ
Data collection: FK, TP, AE
Writing the article: FK, UJ
Critical revision of the article: FK, TP, AE, AD, UJ
Final approval of the article: FK, TP, AE, AD, UJ
Statistical analysis: FK, TP, AE, AD, UJ
Obtained funding: Not applicable.
Overall responsibility: FK
FK and TP contributed equally to this article and share co-first authorship.

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DISCLOSURES

U.J. is the CEO and Founder of Health-Shared.com, a platform developed under Axiom Medical Ltd. In addition, A.D., a coinvestigator, is listed as a team member on the platform. Given that our study aims to evaluate the effectiveness of Virtual Communities of Practice (vCoPs) hosted on Health-Shared.com, the direct association of U.J. and A.D. with the platform could be perceived as a conflict of interest. This relationship may raise concerns about impartiality in study design, data interpretation, and reporting of outcomes.

To address this, we implemented the following measures:

1. Full Disclosure: We have transparently declared the affiliations of U.J. and A.D. with Health-Shared.com in all relevant documentation and communications related to the paper.
2. Data Integrity: Data collection and analysis was conducted by research staff who have no affiliations with Health-Shared.com, minimizing potential biases.
3. Publication Ethics: All findings are being submitted for publication in peer-reviewed journals, adhering to standard disclosure practices regarding conflicts of interest.

By proactively addressing these potential conflicts, we aim to uphold the credibility of our research and maintain public trust in our findings.

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