

Developing a Help Desk Service for Enhanced Coordination in Health Informatics Projects: A Sharepoint and Power Automate Approach

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Abstract. Healthcare projects necessitate effective collaboration between clinical and technical partners, particularly during pivotal phases like lab testing and piloting. However, challenges in coordination often impede seamless collaboration, leading to inefficiencies and delays. This paper presents a comprehensive approach to developing a help desk service tailored for CAREPATH projects, leveraging SharePoint services and Power Automate. The solution aims to bridge communication gaps, foster collaboration, and enhance coordination among clinical and technical partners. Through iterative development and testing, we refined the system based on stakeholder feedback, resulting in streamlined workflows and improved document management. During the lab testing phase, the help desk system demonstrated significant improvements in resolution duration, communication efficiency, and success solution rates. Stakeholder feedback highlighted enhanced collaboration and improved access to project documentation. With successful testing, the help desk is poised for implementation in subsequent phases, promising further enhancements in patient engagement, technology integration, and scalability. These findings underscore the critical role of help desks in healthcare ICT projects, offering a transformative approach to project management and stakeholder collaboration. Future directions include enhancing patient engagement, leveraging advanced technologies, and conducting longitudinal studies to evaluate long-term impact. Embracing these directions will drive positive change, delivering better outcomes for patients and caregivers in healthcare ICT projects.

Keywords. Help Desk, workflow automation, SharePoint services, issue tracking

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1. Introduction

In the dynamic landscape of healthcare projects, effective collaboration between clinical and technical partners is vital, particularly during the crucial phases of lab testing and piloting [1]. The intersection of clinical expertise and technical innovation demands a streamlined communication framework to ensure the success of projects and the quality of outcomes. However, existing challenges in coordinating these diverse stakeholders often impede optimal collaboration, leading to inefficiencies, delays, and potential setbacks in project timelines.

In response to these challenges, this manuscript presents a comprehensive approach to developing a help desk service tailored to the unique needs of ICT-based healthcare projects such as the CAREPATH project [2]. Leveraging the robust capabilities of Microsoft SharePoint services and the automation ability of Power Automate, our solution aims to bridge the communication gap, foster collaboration, and enhance coordination among clinical and technical partners in the CAREPATH project as an ICT-based solution for Multimorbid Elderly Patients with Dementia [3]. With more multidisciplinary ICT-based healthcare projects implemented, the need for cohesive and efficient help desks becomes increasingly evident, facilitating a unified platform where queries, issues, and insights can be shared in real-time and can be monitored and documented based on the needs of the project.

This paper contributes a practical and scalable approach to project management and partner collaboration and coordination in healthcare, by discussing the challenges faced during the development and lab testing phase of the project and presenting the potential of a simple technology-driven solution to foster synergy between clinical and technical expertise. As healthcare ICT projects continue to evolve, effective collaboration becomes not only a strategic advantage but a necessity for successful project delivery.

2. Methods

The development of the help desk service followed a systematic approach, focusing on creating an integrated system architecture that promotes seamless communication and collaboration among clinical partners, technical partners, and end users.

SharePoint Online was selected as the primary platform for hosting the help desk service due to its robust list and document management capabilities and seamless integration with other Microsoft Office tools [4]. A customised form was created using SharePoint lists to allow users to submit help desk tickets. The form captured essential information such as ticket category, priority level, and detailed description of the issue.

Power Automate, Microsoft's workflow automation tool, was leveraged to streamline various processes within the help desk service. Upon ticket submission, Power Automate automatically routed the ticket to the appropriate project partner based on predefined criteria such as suggested partner, involved module, ticket category and priority level. For urgent issues, Power Automate triggered escalation procedures to ensure timely resolution, notifying the designated in-charge project person at each escalation level. Power Automate sent automated notifications to relevant partners upon ticket submission, assignment, resolution and reopening, keeping partners and the managerial team informed throughout the issue resolution process.

Leveraging Microsoft SharePoint Online for data management and collaboration, coupled with Power Automate for workflow automation, our system design aimed to

optimise project management processes. SharePoint's list and document libraries, version control, and permissions management features were utilised to organise project-related data securely. At the same time, Power Automate's automation capabilities streamlined repetitive tasks such as notification alerts, approval processes, and task assignments [5].

The development process began with comprehensive requirements-gathering sessions involving key stakeholders from both clinical and technical teams. Requirements were documented and prioritized based on their criticality to project success. An agile development approach was adopted to iteratively design, develop, and test the help desk service. In the initial stages of the project, we began by deploying a simplified SharePoint-embedded Excel file during the lab testing phase. This approach served as a foundational tool for gathering feedback and eliciting requirements from both clinical and technical partners involved in the project. Through iterative user testing and engagement sessions, we gathered valuable insights into the specific needs and preferences of clinical and technical partners. Based on this feedback, we proceeded to modify and automate the system to align with the identified requirements and enhance its functionality. This iterative process involved the customization of SharePoint features and integration with Power Automate to streamline communication, data and document management, and workflow processes. By iteratively refining the system based on partners' feedback, we ensured that the final solution effectively addressed the unique challenges and requirements of the project, setting the stage for successful implementation in subsequent phases, like the Testing and Validation Units (TVU) phase.

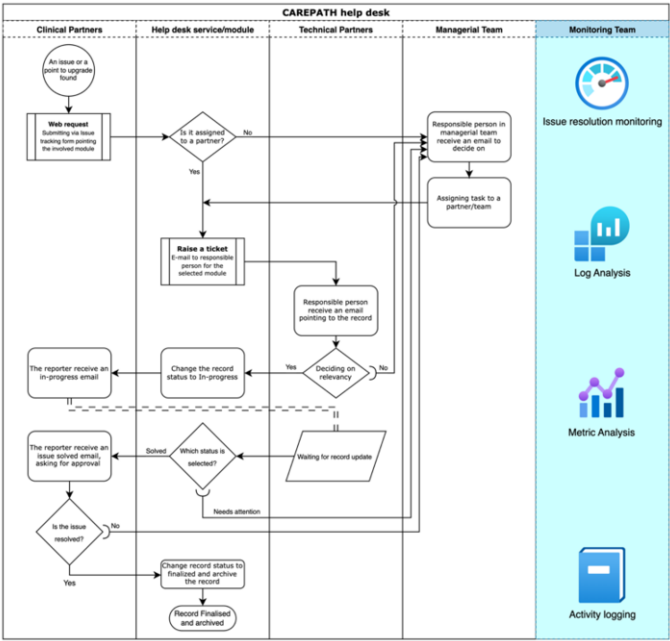


Figure 1. CAREPATH help desk workflow.

Regular meetings were held to review progress, gather feedback, and make necessary adjustments to meet evolving project needs. Finally, to ensure the successful adoption of the help desk service, comprehensive user training sessions were conducted for both clinical and technical staff, and training materials and user guides were developed to provide ongoing support and guidance for future use. Before final

deployment, the help desk service underwent pilot internal testing to validate its functionality and usability. Feedback from pilot users was collected and incorporated into the final version of the service.

Throughout the development process, iterative feedback loops and user testing sessions ensured that the help desk service met the specific requirements and usability expectations of stakeholders. Comprehensive user training sessions preceded the deployment of the service, ensuring smooth adoption and support for project teams.

The CAREPATH project help desk follows a systematic process to address user issues, provide support, and ensure system functionality. Users log issues through a dedicated SharePoint portal. The help desk team then triages tickets, categorizes them based on urgency and impact, and assigns them to the appropriate partner. Assigned partners assess the issue, perform troubleshooting, and attempt resolution. If necessary, issues are escalated to the managerial team for further investigation. Throughout the process, communication is maintained with users on status updates and resolution times. Resolution involves collaboration with relevant stakeholders depending on complexity. Detailed documentation of the issue, troubleshooting steps, and resolution are recorded for knowledge sharing, future reference, and identifying recurring issues. If user error caused the issue, training materials may be provided. Finally, after quality assurance confirms the resolution, the ticket is closed with user feedback captured. The help desk team continuously reviews and analyses tickets to identify patterns and opportunities for process improvement (Figure 1).

3. Results

During the lab testing phase of the project, the help desk system underwent rigorous testing to evaluate its effectiveness in improving coordination and streamlining processes. The results of this testing suggest that the help desk system is well-suited for implementation in subsequent phases. Comparative analysis of similar events before and after the implementation of this preliminary version of the help desk revealed significant improvements in key metrics. In particular, the gap between encountering an issue and reporting it by piloting partners was eliminated, and the duration from reporting an issue to its resolution by technical partners decreased by approximately one-third. These results signify a remarkable enhancement in efficiency and responsiveness within the project workflow. Furthermore, the number of emails required to follow the process decreased by more than half, indicating streamlined communication and reduced administrative overhead. Most importantly, the success solution rate without the need for rework on the same issue increased dramatically, highlighting the system's effectiveness in facilitating successful outcomes. These findings provide strong evidence supporting the implementation of the help desk system in the TVU phase of the project, with the potential for further improvements and optimizations as the project progresses.

Qualitative feedback upheld these findings, with involved partners reporting enhanced collaboration, improved access to project documentation, and increased accountability. User satisfaction through positive reception of the service, with over 80% expressing satisfaction with its usability and functionality. With the successful completion of testing in the lab phase, the service is now ready for implementation in the TVU phase. Despite challenges encountered during the transition, like integration issues and user acceptance, valuable lessons were learned, highlighting the importance of careful testing, proactive communication, and continuous refinement based on user feedback.

4. Conclusions

In conclusion, the development and implementation of a help desk service utilizing SharePoint and Power Automate have demonstrated significant benefits in enhancing communication and collaboration within healthcare ICT projects. Through streamlined workflows, improved document management, and automated processes, the help desk service has effectively bridged the gap between clinical and technical partners, resulting in increased efficiency, reduced response times, and improved outcomes.

Our findings underscore the critical role of help desks in healthcare ICT projects. By providing a centralized platform for communication and coordination, help desks facilitate seamless collaboration between clinicians, patients, caregivers, and technical partners, ultimately leading to improved patient care and project success.

Looking forward, the integration of help desk services into healthcare ICT projects opens promising avenues for further research and development. One key modification and plan to enhance the help desks is to enhance patient and caregiver engagement by expanding the scope of services from partners involved in the project to include end users. Additionally, integrating advanced technologies including artificial intelligence and machine learning can automate decision-making processes and provide predictive analytics, thereby improving business processes and healthcare platform management. Scaling up the help desk services across diverse healthcare settings and customizing them to meet the unique needs of different patient populations and care environments is another important area of focus. Finally, long-term evaluation of help desk services on healthcare ICT-based project management, patient outcomes, healthcare delivery efficiency, and overall project success can give us better insight. Embracing these future directions will enable healthcare organisations to leverage digital innovation effectively, driving positive change and delivering better outcomes for patients and caregivers alike.

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