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Student Number: 3020408

5/18/2025

Course Code: FAMH 4010A

Exploring Project Management Theories and Approaches

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Title: An Agile approach in Healthcare project Management

Introduction

Health is a rapidly changing, highly complex high stakes sector. Managing projects in this environment needs methodologies that are capable of adapting to changing requirements, varied stakeholder interest and tight regulation. Traditional project management methodologies such as Waterfall and Lean have generally served healthcare organisations in some cases and situations, but the rapid rate of technological development and changing patient demands require more flexible frameworks. With its focus on flexibility, collaboration, and incremental progress, Agile methodology represents an attractive up-and-coming path for healthcare project management. This article compares and contrasts Waterfall, Lean, and Agile techniques, three popular project management forms before zooming in on Agile as the one that best fits my processing preferences. Relying on real-life examples and most recent literature, I believe that Agile is beneficial for healthcare projects, although constrained I provide ways on how to break them.

Exploring the project management methodologies in healthcare

There's a wide range of healthcare projects whether it's EHR go-lives, redesigning patient flow, or rolling out a telemedicine platform. Historically there has been a tendency to default to the Waterfall methodology. Waterfall is a linear, sequential approach in which each of the steps-requirements, design, implementation, testing and maintenance must be completed before the next one can begin (Invensis Learning, 2025). This tactic is effective when project requirements are easy to define in advance and aren't expected to change much, like installing medical equipment or building a building. But healthcare projects are more and more about software development and process innovation, and requirements change as stakeholders get more data.

Lean is a methodology that was first applied in manufacturing but has been established in healthcare. Lean is based on the elimination of waste and the optimisation of processes *(workflows)* through the increase of efficiency (Polat, 2024). Lean Six Sigma marries Lean's cutting of waste with Six Sigma's data-driven quality improvements, is highly

popular for process-improvement projects like those to reduce how long patients wait or discharge takes.

Agile, on the other hand, is all about flexibility, incremental progress, and ongoing stakeholder interaction. Agile divides projects into smaller components or sprints that can be adapted to evolving needs and delivered in small incremental steps to add value quickly and frequently (Invensis Learning, 2025). I relate to that so much because healthcare is intrinsically dynamic clinical guidelines change, technologies improve, and patient requirements change. Agile is adaptive enough to accommodate these challenges and that is why I prefer it.

Why I chose the Agile methodology

I chose the Agile methodology based on personal experience and professional observation. In the higher education setting work in, many times projects kick off with requirements that are lacking clarity or are not fully drilled down to. For instance, when a hospital launched a new patient scheduling system, the first requirements were flawed for understanding all the clinicians' needs. Using a classical Waterfall to structure the work would have resulted in a final product that didn't meet expected by users. Agile would have provided feedback and a chance to change course sooner, reducing expensive rework.

Not only this, agile's focus on the spirit of collaboration and transparency creates a culture of shared ownership. The range of stakeholders in healthcare projects are wide-ranging from physicians, nurses, IT staff and administration to patients, each with their own views. The commitment to cross-functional teaming and frequent communication in Agile frameworks such as Scrum can only improve engagement in my opinion and will result in a better outcome.

The core benefits and factors of Agile in healthcare settings

There are four core values introduced in the Agile Manifesto, valuing of individuals, and interactions over processes and tools, working software over comprehensive documentation, customer collaboration over contract negotiation, and responding to change, preferring a plan summarise the agile manifesto 17 over following a plan, provide

the backbone of the Agile way (Polat 2024). These ideas are realised through a variety of methodologies:

- **Incremental Development:** Work is broken down into small sprints (usually 2–4 weeks) with working code at the end of each stage.
- **Ongoing Input:** Stakeholders are consulted on progress on an ongoing basis meaning feedback can be used to inform future sprints.
- **Adaptive Planning:** Review and amend plans based on new developments and evolving information.
- **Cross-Function Teams:** Teams built up of different fields of expertise, collaborating to achieve common objectives.

Benefits of the Agile methodology

Flexibility and Responsiveness: Agile allows for quick response to new clinical guidelines, regulatory updates or technology changes. For example, during the COVID-19 outbreak, we needed to hastily adopt telehealth. Agile's iterative process facilitated testing and refinement based on user feedback, enhancing usability and usage (Dobin & Lazar, 2020). **Increased Stake-holder Involvement:** Regular dealing with users will help ensure that the project fulfills genuine requirements. This is particularly important in healthcare, where the buy in of the clinician is key to technology adoption. **Risk reduction:** Teams deliver small pieces of work and start addressing any issues early and minimize the risk of larger, more expensive failures. **Better Quality:** Here too, test driven development / continuous integration during the sprints help keep up quality, which is even more important in software impacting patient safety.

Practical application of the Agile methodology in healthcare settings

Development of the Electronic Health Record (EHR) System

A big-city hospital used Agile Scrum to create an EHR system from scratch. At first, healthcare providers grappled with one-size-fits-most offerings that didn't optimise to

their processes. With the Agile development methodology, the team developed in sprints, delivering working features and clinic feedback into each iteration. Polat, (2024) that led to a well-used EHR system that had met user requirements, the system improved documentation accuracy and clinician satisfaction.

Implementation of the Telehealth Platform

During the initial phase of the Covid-19 crisis, a community health network had an urgent need to implement telehealth. Agile helped the IT team develop a working minimum viable product (MVP), then iterate on features, such as appointment scheduling, video quality and patient data security, in response to the needs of patients and providers. This flexibility assisted in bridging the gap of care throughout the various lockdowns (Dobin & Lazar, 2020).

Clinical initiative tools

An interdisciplinary team employed Agile to design decision support tools integrated within clinical processes. Inclusion of physician, nursing and IT representatives in sprint reviews of the tools guaranteed they were usable and compliant with regulations. Through iterations, the diagnostic accuracy improved, and medication errors lessened (Invensis Learning, 2025).

Limitations and critiques of the Agile methodology in healthcare

Compliance and Documentation Needs: Healthcare-related projects must adhere to extremely stringent regulations, including HIPAA and GDPR, requiring documentation and validation. Agile's stance on minimal documentation can come into conflict with such requirements (Dobin & Lazar, 2020).

Cultural Resistance: Organisations in the healthcare sector usually have a traditional organisational and operational culture that goes against Agile's team-led self-organizing and collaborative approach.

These limitations can be addressed proactively by prioritizing projects most likely to lead to the greatest impact on patient outcomes and institutional objectives so that time, people, and money are spent where they can do the best. The strategy-driven prioritisation process

also reduces the energy lost to spreading resources over too many initiatives, none of which can be properly executed. Digital collaboration technologies (e.g., project management software i.e., Jira, Trello, video conferencing systems, and shared document repositories) can significantly improve communication and coordination among remote healthcare teams and stakeholders. They've enabled real time feedback and transparent and effective decision-making, which translates to less foot shuffling and fewer lengthy, in-person meetings. Focused project selection, coupled with the power of technology-enabled collaboration, allows health systems to maximise resources, all while driving stakeholder engagement and preserving momentum around key projects

Resource constraints: Agility demands dedicated multi-disciplinary teams with high stakeholder engagement, which may not be possible in an under-resourced healthcare organisation.

Shortcomings of the Agile Methodology

To address these obstacles, the use of hybrid PM methods has attracted increasing attention. The combination of Agile and traditional methodologies, such as Waterfall or PRINCE2, provides opportunities to encompass fundamental documentation and comply with regulations, and at the same time adapt the working schedule and estimate of Agile (Dobin & Lazar 2020). For instance, a staged Waterfall approach can be implemented for early-stage regulatory acceptance, followed by Agile sprints for an iterative development and test.

Cultural resistance can be tackled with leadership backing, Training and clear communication around how Agile will benefit staff. Adoption Mindset change: Change management processes can transform mindset and improve teams to follow Agile philosophy (Polat, 2024).

Conclusion

I believe that Agile methodology is a game changer for healthcare project management, one very fitted to the industry's many complex challenges and changes. Unllike conventional, inflexible frameworks, Agile welcomes change, encourages teamwork, and provides value in small increments, a necessity when patient care and safety are at stake.

Practical demonstrations of Agile principles are realised through example of adaptation of EHR systems, deployment of telehealth platforms and development of clinical decision support tools. Although there are obstacles (regulatory and cultural among others), they are not insurmountable and can be addressed through hybrid approaches and proactive change management.

Eventually, healthcare institutions embracing Agile will come out ahead with increased project success, customer satisfaction, and patient care. As the health market is revolutionised, adapting to this new trend in how medicine is produced often means embracing Agile a flexible, human-focused framework that falls in line with the values and needs of the industry.

References

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