

CASE STUDY ON SCRUMBAN ADOPTION

KEY TAKEAWAYS

Introducing Scrumban to support the Service Lines at Northwestern Medicine resulted in:

- Greater flexibility to respond to urgent requests.
- Visibility of work
- Flow Metrics that provide predictability
- Better development team throughput
- More satisfied development team members and customers

INTRODUCTION

Northwestern Medicine is a leading academic healthcare system with hospitals and clinics across Chicago and the surrounding suburbs. The organization employs over 4,000 physicians and scientists and provides care to patients across a wide range of specialties.

THE CHALLENGE

In recent years, Northwestern Medicine had been struggling with long development cycles for modern technologies and applications needed to serve patients and providers. Teams were charged with both development and support work. Work was siloed by application causing handoffs to be opaque. Features often took 6-12 months to complete. Developers felt removed from understanding end user needs. Business leaders lacked visibility into day-to-day progress.

The main drivers for adopting agile at Northwestern Medicine include project complexity, organizing appropriate development teams with clear roles, and dealing with frequent changes in priority needed to serve patients.



INDUSTRY

Non-profit Organization Management

PROFILE

Northwestern Medicine is the collaboration between Northwestern Memorial HealthCare and Northwestern University Feinberg School of Medicine around a strategic vision to transform the future of healthcare. It encompasses the research, teaching, and patient care activities of the academic medical center.

Northwestern Medicine is anchored by Northwestern Memorial Hospital, the only Illinois hospital on the national Honor Roll for twelve straight years as ranked by U.S. News & World Report, 2023 – 2024.

FOUNDED

2009

WEBSITE

https://www.nm.org/

To address the need for appropriate development teams that avoided handoffs, Northwestern Medicine chose to organize development teams by Service Lines that were aligned to business functions. Examples of service lines include Primary Care, Pharmacy and Laboratory.



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Some Northwestern Medicine IT development teams in other areas were successful using Scrum. However, for the new teams that were organized by Service Line, Scrum was found to be too limiting. The intake of work was too unpredictable and much of the time spent planning the two-week sprint was wasted because of changes that occurred continuously throughout the sprint.

To increase agility, Northwestern Medicine decided to pilot a Scrumban approach for the Service Line Teams.

THE SOLUTION - SCRUMBAN

Scrumban combines aspects of Scrum and Kanban into a hybrid framework. It provides structure through sprints and Scrum events while leveraging Kanban's visualization, continuous replenishment metered by work-in-progress (WIP) limits and capacity allocation.

Scrumban teams at Northwestern Medicine use 2-week sprints. Each Scrumban team has a product backlog that contains plannable user stories and requirements as well as emergent work, which the Product Owner prioritizes. Each sprint has an allocated capacity for plannable items and one for emergent items. During sprint planning, the team commits to finishing a set of prioritized plannable work and currently known and prioritized emergent work up to a pre-defined percentage of the sprint capacity. The remaining available capacity guides the team on how much emergent work they can pull throughout the sprint.

A Kanban board is used to visualize work in various stages of completion (e.g., Backlog, In Progress, Testing, Done) and limits WIP to focus on flow and completion.

During the 2-week sprint, Scrumban teams use Daily Scrum meetings as an opportunity to collaborate and support each other. Each team member discusses what they intend to complete that day, any blockers they are facing, and any assistance they may need. The team then moves to replenish the board with any urgent emergent work up to the available capacity. If no capacity is available, the Product Owner guides the team on the next steps. Teams rely heavily on the Kanban board during the daily meetings.

A Product backlog refinement session is held at least once per sprint. During backlog refinement, the Product Owner, and representatives of the development team refined prioritized product backlog items in preparation for the next sprint. The group strives to have at least one sprints worth of items refined and ready to be picked up by the team in the backlog at any given time.

At the end of a sprint, the development team holds a review meeting where stakeholders are shown completed work/increments that meet the "definition of done". Feedback is incorporated into the next sprint.



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The final activity in each sprint is the retrospective. The retrospective provides each development team the opportunity to inspect and adapt its process. Action items are added to the next sprint.

The Scrum Masters facilitate events and coach the team on process.

IMPLEMENTING SCRUMBAN

The rollout path included the following activities:

1. Service Line Identification and Team Formation

A cross-functional Scrumban team was formed for each Service Line that included: 1) A Product Owner that speaks to the business needs and priorities, 2) a Scrum Master who coaches team on the process, and 3) a Development team consisting of developers, analysts, architects, and operations specialists.

2. Initial Product Backlog Formation

Current customer and support needs were consolidated into a product backlog. The Agile support personnel worked with the Product Owner and Scrum Master to create an initial product backlog for training and Sprint 1. The Product Owner then began meeting with stakeholders to create a prioritized product roadmap and backlog of required features and technologies.

3. Team Workshop

The team, including the Product Owner and Scrum Master, were trained in Scrumban processes. The workshop included live backlog refinement and culminated with the actual sprint planning event for the first sprint.

During the workshop, the team developed their team working agreement, including norms and behaviors, definition of ready, definition of done, how work would be added to the backlog and sprint, and how conflicts and escalations will be resolved, among other items.

4. Initial Support

Agile coaches provided leadership and mentoring for the team as they executed the Scrumban events throughout the duration of the first sprint. For subsequent sprints, the agile coaches gradually reduced their direct involvement, enabling teams to find their own flow.

5. Coaching

Scheduled and drop-in coaching was provided to the team until they reached a steady state.



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Visualization was a key enabler for the Scrumban Teams. Each team used an online Kanban board to track progress from backlog to done and limit work-in-progress (WIP). This provided transparency to see bottlenecks. WIP limits ensured focus on finishing items before starting new ones.

RESULTS

After several sprints, the pilot development team saw promising results:

- Cycle time from request to delivery was reduced and continued to trend downwards
- Increased predictability coupled with increasing throughput
- Increased visibility into status through the Kanban board
- Tighter alignment between technical staff and business needs
- Faster feedback and ability to re-prioritize based on lessons learned

By working in cross-functional teams guided by business priorities, the team could focus and deliver tangible value quickly. The combination of Scrum structure and Kanban flexibility and visualization proved effective.

Based on the success of the pilot, Northwestern Medicine began rolling out Scrumban to more development teams. Customizations were made based on learnings from the pilot.

After 6 months, Scrumban practices had been implemented by over a dozen development teams across the IT department. Northwestern Medicine reported higher satisfaction from business partners and was able to release new patient-facing technologies faster than ever before.

Northwestern Medicine continues to scale Scrumban, customize the approach per team, and leverage new strategies to enhance outcomes. But the core elements of cross-functionality, visualization, and a focus on working software remain central to the framework's success.

Learn More About Northwestern Medicine at: <u>https://www.nm.org</u> Learn More about Vitality Chicago Inc. at <u>https://VitalityChicago.com</u>