



FROM URGENCY & EMERGENCY TO ORDER & INFORMATION

Project Management Best Practices for a
Complex Development Challenge

John Z. Mennone, Senior Consultant, EKI



About the Author

John Mennone is a senior consultant for EKI. His role over the near 10-year course of this innovation story is unique. Mennone started the Chicago Health Alert Network (HAN) project on the client side as Program Director and Infectious Disease Epidemiologist for the Chicago Department of Public Health. He is the author of seven scientific publications and has a Master of Public Health degree from the Yale School of Medicine. He was a part of the team overseeing the creation, implementation and management of the new secure communications system. Today he is project management and business analyst expert at EKI who managed the Chicago HAN re-engineering effort. Here he offers his unique insight into both sides of this complex project management story — the client's side and the solution provider's side.

What sparks innovation and advancement? Sometimes it's competition, other times necessity. It could be chance — an experiment with an unexpected result or an astonishing inspiration. The Health Alert Network (HAN), is an innovation born out of a time of national tragedy that has evolved into a cutting-edge communication and collaboration vehicle. Electronic Knowledge Interchange (EKI) has been supporting the Chicago Department of Public Health (CDPH) throughout the development and enhancement of the local Chicago HAN.

A technology project with so much momentum, so many good intentions and a diverse, dedicated and enormous network of stakeholders presents unique challenges. In this article, John Mennone of EKI, who today spearheads ongoing re-engineering projects for HAN, shares his insights into the challenges of project managing a sophisticated re-engineering initiative and provides several best practices learned during this important, high-profile initiative.

How the HAN Began

In the wake of successive terrorist attacks in 2001, all sectors of the American government were analyzing their abilities to react to and communicate in times of crisis. The September 11, 2001 terrorist attacks and the Anthrax attacks that soon followed had the public health community and its partners focused on a daunting mission. Bioterrorist attacks and any other health threats (such infectious disease outbreaks) that might reach American soil would be detected first at the local level. For local health departments nationwide, it meant they needed to gain the ability to respond with great speed and order.

To help the public health community accomplish this considerable goal, the Health Alert Network (HAN) was established by Centers for Disease Control and Prevention (CDC) in partnership with the National Association of County and City Health Officials (NACCHO),

the Association of State and Territorial Health Officials (ASTHO) and other health organizations. The mission of the HAN project is to ensure “each community has rapid and timely access to emergent health information; a cadre of highly trained professional personnel; and evidence-based practices and procedures for effective public health preparedness, response and service on a 24/7 basis.”

While the HAN project is a national one, local public health offices and networks are responsible for developing the features and tools that drive their systems. The CDPH selected EKI in 2002 to help plan and build the Chicago HAN, which was successfully launched in 2003.

An Unrivaled Project Management Challenge

In 2008, EKI was again asked to join the CDPH in an effort to improve the Chicago HAN and expand features and capabilities to support this tool, which had rapidly become the central information resource— not just an emergency alert system — for the Illinois healthcare community. EKI was tasked with overseeing this rapid re-engineering project, which would restructure the system on a new platform to support an even larger user base and to increase the usability, scalability and marketability of its features.

While the technology goals of the re-engineering project were ambitious, they paled in comparison to the challenges of project managing the system rebuild. At the time, the Chicago HAN already had a broad, active user community throughout the state. The project itself was a high-priority project for stakeholders across the Illinois health sector, including health departments, the city of Chicago, hospitals, clinics, labs, medical research organizations, emergency responders, the FBI and more. EKI was given a timeframe of eight months to oversee the pivotal upgrade and the additional challenge of keeping costs low and efficiency high during the migration to a new portal. Today's Great Recession, after all, had just begun.

Embracing a No-Surprise, Share-All Approach

Balancing the common combination of tight deadlines and numerous requirements as well as the unique challenges of the project's profile and a wide base of stakeholders, EKI found itself in new and exciting project management territory. Over the course of the project, EKI learned a valuable, successful approach in bringing sophisticated projects to bear: **reveal all, reveal often and eliminate surprises.**

While much of the fun in bringing new innovations to market is the big-reveal of the solution and its functions, EKI made sure this project was handled using the opposite approach every step of the way. Absolute transparency was embraced and, as a result, the project was completed on time with users and stakeholders confident in the quality and capabilities. As the story of this project's evolution will show, EKI's determination to remove surprise and uncertainty from this collaborative development initiative became one of the central project management tenants that allowed this complex project to succeed in a timely, cost-effective manner.



Chicago HAN 1: Features & Success

Launched in 2003, the first iteration of the Chicago HAN was a strong success that required little tweaking before 2008. Although the system was first designed to manage emergency communication, its purpose and functionality evolved into a broader collaboration tool that is used across the city's healthcare community. The features that define the Chicago HAN include:

- **Alerting & Call Down Technology** – A state-of-the-art, call-down application coupled with a third-party telephony system for rapidly and securely delivering messages (voice, text, e-mail, fax, etc.) to thousands of health professionals and officials in mere minutes.
- **Device Configuration, Preference and Secondary Contact Features** – Rich personalization capabilities that allowed users to carefully select not only how they are reached (voice, text, e-mail, fax, etc.) but also how often and by which security protocol.
- **Sharable LDAP Directory** – A flexible and deep address pool uniting a wide range of health professionals and organizations.
- **Private Inbox** – Dedicated e-mail access for each user.
- **Document Management & Archive** – System for managing the critical paperwork and documenting the alerts and health issues affecting the city and state population.

Time to Expand & Simplify

After five years of successful use and adoption by the Illinois healthcare community, expansion was needed. Urgent health events, such as the H1N1 outbreak, showed that many more health organizations needed to be actively integrated into the system, not only to ensure the best emergency communication but also to simplify and centralize information management and communication capabilities.

While the first Chicago HAN iteration offered communication and information management capabilities, they were not being as widely used as hoped. A dramatic increase in the Chicago HAN's ability to scale and an overhaul of the portal to make it highly user friendly for the healthcare community were the top priorities of the re-engineering effort. EKI's core objectives were to:

- Make the application easier to use
- Make the application more marketable across CDPH, throughout the city of Chicago and to other health departments
- Update the base technology of the application
- Increase the user base
- Increase the buy-in and support from CDPH management
- Ensure the CDC grant is maintained or increased
- Reduce yearly maintenance and support costs

A Flexible, Highly Functional New Portal

One additional challenge to the already complex re-engineering project was a portal technology switch. EKI conducted a comprehensive review of portals across the marketplace to identify a solution that would greatly increase scalability while keeping costs low. The extensive review of 12 platforms resulted in a recommendation of LifeRay — the free, Web-based, open source JAVA portal. LifeRay met all the administrative toolset requirements for Chicago HAN and the opportunity to reduce development time and costs.

Project Management Rigor from Day 1

With no time to spare in the eight-month timeframe for the re-engineering, the project management stakes could not be higher. No time could be wasted, no miscommunications between the EKI development team and the CDPH technology and management teams could occur. With that in mind, EKI built a project management plan that was documentation and communication rich.

Presenting Planning & Assessment Work

Every phase of the project was kicked off with an integrated team presentation and meeting. The EKI team of three (the project leader, one architect and one programmer) presented in person a detailed plan to the CDPH stakeholders and technical team. This began with a “Re-Engineering Assessment, Planning & Execution” proposal, which detailed every step of the approach EKI would take. The goal was to ensure that before any action was taken, EKI gave the entire client team the information needed to understand what was going to happen, when and why. While this approach took time from both teams up front, it was essential to avoid project derailments that can happen when a key stakeholder is surprised by part of the process.

EKI worked to make every presentation extremely informative and simple so that meetings focused on the steps, objectives and requirements. Only after the client team was in agreement that the proposal presented was headed in the right direction, did the EKI team move forward. The major EKI presentations to the client and stakeholders included:

- Assessment, Planning & Execution Strategy Presentation
- Assessment Results & Recommendation Strategy Presentation
- HAN Re-Engineering Architecture Plan & Roadmap Presentation
- Project Plan Overview Presentation

Modular Development

Once plans and recommendations had been presented and approved, EKI began a fast-paced development process leveraging a modular develop strategy. Keeping the pace quick but the quality high, the modular development approach meant that team members were able to work independently on different subsystems. While code for individual subsystems was being tested and reviewed, development in other subsystems continued. It was a fluid, fast-paced process that always centered on quality; subsystems were frozen for quality review while development continued elsewhere.



The modular approach was also a strategic asset in terms of project management. It gave EKI the ability to provide detailed progress reports to the technology experts within the CDPH who were eager to monitor progress and ensure the highest level of quality for a system that would need to integrate at a high level with their core operating platform. EKI was able to bundle updates on the portal's subsystems and summarize overall progress, giving technologists the insight they needed while helping EKI stay on top of quality.

Regular “Reveal” Sessions

EKI went far beyond updating the project plan and sharing development milestones in managing its client's expectations and project insight. Once a week, the project manager met with the technology team to discuss progress and developments in person, to answer questions and gather feedback.

In addition, EKI hosted meetings that included all stakeholders — business leaders, technology teams, third-party partners (such as telephony provider MIR3) and the EKI development team. In these expanded meetings, EKI would demonstrate exactly where the project was to date. Functionality was demonstrated and everyone could look at the system and where it was at. These reveal sessions completely tore down any project and information barriers between collaborators and ensured that everyone was moving forward in the development cycle together. No one was racing ahead and no unrealistic expectations were possible.

Third-Party Coordination

One of the most challenging project management tasks in the re-engineering process was properly integrating third-party stakeholders — from technology partners to other health departments and government organizations. To solve this challenge, EKI expanded the reach of its project management updates and meetings. In addition, the very detailed project plan was widely shared and regularly updated for all stakeholders. The added transparency ensured that deadlines, which depended on content or resources from third-party participants, were met.

Five Project Management Best Practices

To the EKI team, the re-engineering project established a new, more open project management approach that allowed for a record-setting pace and unprecedented collaboration with all stakeholders. While the open approach risked the chance of the EKI team slowing down to keep clients informed, the balance of a modular development approach with set milestone meetings and technical updates ensured the right information flow and quality assurance excellence.

For businesses looking to glean project management best practices from the re-engineering project for their complex development challenges, EKI offers the following insight:

- **Choose an SME to Lead the Team** – An important advantage of the re-engineering project was the senior leadership of the project manager who was a medical expert with an extensive healthcare industry background coupled with technology know-how. In addition, the project

manager had worked on the client side of the original launch, which meant he brought legacy, industry and infrastructure knowledge to the project.

While that kind of expertise cannot always be matched to a project, it's an important reminder that having a highly knowledgeable professional lead the project is critical to its success. The project manager should not only be knowledgeable in technology and project management, but fluent in the industry and business challenges. A project manager is not simply a coordinator who walks a project from start to finish; he or she is the project driver whose knowledge and skills set the pace, tone and quality standards for the project and its success.

- **No Surprises** – Let go of the image of Steve Jobs on a giant stage unleashing the “next big innovation.” Rather than dazzling clients with a jaw-dropping final product, focus instead on sharing technology and progress milestones often. For EKI, this approach has given clients a powerful sense of ownership throughout the development life cycle. Keeping clients closer to the project keeps their commitment to its success strong, which in turn means deadlines are met, information sharing goes both ways and communication is easy.
- **Weekly Development Team Meetings** – If you have to move fast as a development team, you must be in synch. EKI held weekly development team meetings and, during the most intense periods, twice weekly meetings to ensure milestones were being achieved, issues were being addressed and quality was of the highest caliber.

The key to regular meetings was to make them highly efficient by prioritizing the information shared. Rather than a general recap of progress, EKI organized its internal development meetings by...

- **Detailed, Shared Project Plans** – For EKI, the project plan used in the re-engineering effort was essential in managing both workload and client expectations. Keeping everyone on the same page, the detailed project plan was organized to educate clients on the timing and priority of tasks. For example, the project plan identified both critical path and long cycle-time tasks, ensuring critical path items are given more time, consideration and attention. The tasks with long cycle times are begun early to ensure they are completed on time. Meanwhile, tasks that involve other teams (e.g., client's financial team) are always planned to take longer than expected since turnaround times from parties outside of EKI's control can take longer.

The extreme level of timing and task detail in the project plan meant a great deal of work for the EKI team, but it saved valuable time throughout the development life cycle. Both the client organization and EKI team had one master document to keep track of progress and the timing required for their contributions. This led to efficiency not only in managing time but also in managing meetings as all participants worked from one central information source.

Any project manager will tell you that a successful project will teach you many lessons in how to do it better the next time. For EKI, the big project management lesson of the re-engineering effort was to be more detailed in the early planning process. Early on in the project, EKI worked



to get careful sign off on all phases of assessment and planning, but the project plan was still evolving and not detailed in nature. Greater detail at this early stage would have given the entire team a better understanding of the time needed to gather certain information and develop key pieces. Based on this lesson, EKI has refined its early project management planning approach to ensure the extensive project details are laid out at the beginning rather than risking any hard discoveries once the project has begun.

- **Over-Organized is Good** – Because several aspects of the re-engineering project required the tight coordination of various business departments, healthcare resources and outside vendors, being organized and detail-oriented was not enough. Project management had to elevate to a clockwork standard in which information was updated and flowing at all times. The key to this über-organizational standard was excellence in all documentation including project plans, requirements documents and roadmaps, which were all essential in keeping stakeholders on the right page and reminding all team members of the ultimate goal — a revamped portal able to serve and support the urgent and daily communication needs of a large and growing community of healthcare workers, emergency respondents and government resources.

The Chicago HAN Today

The re-engineering effort was completed in July 2009 and immediately was put to work on its first powerful test: the H1N1 outbreak. The system has allowed for expansive urgent and non-urgent communications to flow easily and strategically, while building a valuable library of health resources for the ever-expanding healthcare community. For an increasing number of organizations, the Chicago HAN is becoming exactly what the U.S. government envisioned: a broad, networked community of health experts and resources able to immediately, informatively and methodically respond to the threats and challenges of modern life.

About EKI

Electronic Knowledge Interchange (EKI) is an accomplished IT consulting firm that delivers award-winning program management, collaboration, compliance and systems integration solutions. Driving innovation for many of the world's largest, most sophisticated businesses and government institutions, EKI is known for the superior experience and knowledge of its consulting teams who dramatically elevate the quality, increase the utility and ensure the results of the solutions it provides. EKI helps businesses and government institutions resourcefully and intelligently solve a wide range of complex challenges through technology systems and solutions that deliver significant, measurable results. EKI is an IBM Premier Business Partner and Microsoft Gold Certified. It is the proud recipient of the city of Chicago's Preferred IT Supplier designation five years in a row, four Best in Government awards and four national Best of the Web awards.

To learn more, please contact (312) 236-0903 or visit www.eki-consulting.com.