

HMO Tufts Health Plan Revamps IT Processes Improves project delivery, cuts software defects
News Story by Thomas Hoffman

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A three-year effort to drive continual IT process improvement has helped Tufts Associated Health Plans Inc. dramatically increase the number of IT projects delivered on time and on budget while helping it pare the number of initial software defects.

The health maintenance organization's IT process improvement initiative "started with a business need," Tricia Trebino, senior vice president and CIO, said this month. "We certainly were having projects where our processes weren't as tight as they needed to be."

As a result, some IT projects prior to 2004 required rework and were delivered late and/or overbudget, she said.

Tufts Health Plan has achieved dramatic improvements in its software development processes since it began to adopt in 2001 the Capability Maturity Model Integration (CMMI) methodology with the help of Boston-based Keane Inc., said Dennis Todisco, director of IS quality management services. CMMI was developed by Carnegie Mellon University's Software Engineering Institute (SEI).

From 2003 to 2004, the HMO's IT organization experienced a 25% decrease in software defects. And last year, its IT department completed all eight of its major IT projects on time, according to Todisco.

"We're light-years away from where we were four or five years ago," said Trebino.

One in a Handful

The HMO was appraised by ProcessWorks Inc. in Rockville, Md., under the auspices of the SEI, as CMMI Level 3 certified in December. Only a handful of U.S. companies that aren't IT consultants or vendors have attained that level of process maturity, according to the SEI Web site.

"A lot more companies are moving to [CMMI] Level 3 or higher, which is a good level to be at," said Joe Zuccheri, executive vice president at The Casey Group, a Parsippany, N.J.-based consulting firm. He didn't know how many nonvendor firms in the U.S. have achieved Level 3 certification.

The Tufts Health Plan effort has been less about achieving Level 3 status than about driving continual IT process improvement, said Todisco. "The main goal has been to improve our IT processes one brick at a time," he said.

Officials concede that the results haven't necessarily come easily. The company's 300-person IT department had already been process-oriented prior to embarking on its CMMI journey, making use of methodologies such as the Information Technology Infrastructure Library, said Todisco.

"One of the most difficult environments to introduce new processes into is a software engineering shop," said Todisco, because programmers tend to have very individualistic approaches to software development.

To help drive acceptance of the CMMI methodology, Trebino tied its adoption to compensation for certain IT workers. "We needed everyone to embrace it," she said. Since Tufts Health Plan was attempting to adopt CMMI Level 3 within three years while still running day-to-day IT operations, Todisco and Trebino also set up release management forums and discussion groups for IT workers.

"We told people that if there was something they were doing under the new model that didn't make sense to them that they should tell us and we would stop it—so long as the processes stayed close to the basic tenets of CMMI," said Todisco.

A turning point came when a growing number of IT workers began to see how the processes were helping reduce the time and effort needed to develop software and manage IT operations, said Trebino.

"It's like learning a new language," said Joseph Imbimbo, vice president of information systems at the HMO. "At first you translate it in your head. After a while, you do it instantaneously."

CMMI Works

Tufts Health Plan has received the following benefits from its CMMI initiatives from 2003 to 2004:

■ **25%** decrease in software defects identified in testing

■ **9%** decline in production issues (these are global or systemic problems in its production environment)

■ **7%** decline in change requests (these are changes to its production environment)

■ **All eight** of its major IT projects delivered on time in 2004

Sidebar: Comparing Methodologies
News Story by [Thomas Hoffman](#)

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Before Tufts Health Plan began incorporating the CMMI methodology into its IT processes in 2001, the HMO had adopted other IT process methodologies.

They included the Information Technology Infrastructure Library (ITIL), a European methodology for providing best practices to IT infrastructure services, as well as ISO 9000 for IT security and the Program Management Body of Knowledge, said Dennis Todisco, director of IS quality management services at Tufts Health Plan.

In some respects, CMMI is similar to ISO 9000 in that IT workers and managers can continually monitor and self-assess each quality process they use, according to Todisco. But CMMI is different from some other quality methodologies in that it's non-prescriptive, he explained.

At this point, Tufts Health Plan doesn't have any plans to progress from Level 3 to Level 5 CMMI certification, the highest level under the SEI's CMMI methodology, said CIO Tricia Trebino.

"We're not sure if the investment would generate the returns," she said, adding that the HMO's IT organization will likely examine various Level 5 processes to see how those could further enhance its IT processes.

Todisco said it's difficult to quantify the cost of attaining CMMI Level 3 certification, since most of the costs were related to documentation and because Tufts Health Plan has multiple business agreements with Keane Inc., the consultant that helped with the initiative.

-- *Thomas Hoffman*