

AUTUMN
2013

NEW ENGLAND VERC

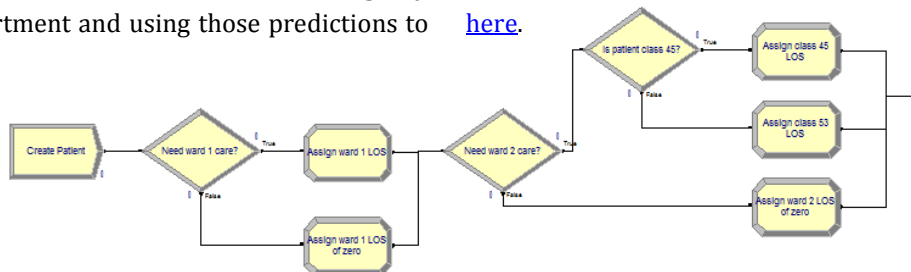


Generalizability: The Illusive Piece of Systematic Improvement

(Jordan Peck)

Engineers typically feel that spreading their results is an essential part of a true success. The key is taking a critical eye at their work and understanding that even if the exact results are not generalizable, some parts of the work are. This was the goal of an article recently published by New England VERC Engineer Jordan Peck and academic and VA partners. Jordan and his partners had previously published an article on assigning admission predictions to patients who enter the Emergency Department and using those predictions to

improve flow; in this subsequent article, the authors explored the potential to spread this predictive model to other hospitals. They found that, although the predictive model had to change to fit the unique characteristics of each hospital, the methodology and the potential application remained relevant. This deeper understanding of the “generalizability” of this work will help New England VERC spread the results effectively. For more information, the full article can be found [here](#).



In this research, a simulation was used to determine the generalizability of ED admission predictions at individual hospitals. The picture above shows just a snapshot of this complex simulation.

SQL courses

(Kristine DeSotto)

SQL is a programming language used to manage data from the Corporate Data Warehouse (CDW), which incorporates data from multiple sources throughout VHA into one standard database structure. These systems are increasingly being relied upon for reporting and data analysis across VHA, and give local users more flexible access to the data they need.

New England VERC is developing SQL courses in collaboration with the Office of Informatics and Analytics' Field Based Analytics (FBA) group. The objective of this course is to provide participants with the skills to write SQL queries to pull data from CDW as well as knowledge of database structure and best practices for pulling data. The virtual courses will be offered in early 2014 and will consist of two 90-minute sessions.

To learn more about the course, contact Kristine DeSotto, New England VERC Industrial Engineer, at kristine.desotto@va.gov.

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VA New England Receives Regional and National Recognition for Performance Excellence

(Courtney Scala Smith)



Dr. Mayo-Smith receives the 2013 PiPEX Platinum Award

This fall, VA New England Healthcare System was honored with the 2013 Platinum Performance Excellence Award from Partners in Performance Excellence© (PiPEX), a regional [Baldrige](#)-based award program serving Massachusetts and New York. In addition to the PiPEX Platinum Award, VISN 1 also received a national Baldrige site visit. Applicants were rigorously evaluated by an independent board of examiners in seven areas defined by the Baldrige Criteria: leadership; strategic planning; customer focus; measurement, analysis and knowledge management; workforce focus; operations focus; and results. VA New England was honored to be one of ten national applicants that scored high enough in performance maturity to be eligible for this prestigious site visit.

As part of its performance improvement system, VISN 1 conducts annual Baldrige-based organizational assessments to evaluate and accelerate progress toward the mission of providing exceptional health care and services to New England's Veterans. The Baldrige Criteria provide an integrated systems approach to organizational change, innovation, and sustainability, and reflect the leading edge of validated management practice.

In VISN 1, there is a commitment to excellence that is supported by a strong culture of improvement. Congratulations to all Medical Centers and staff, and thank you for your commitment to continuous improvement and performance excellence! For more information about the PiPEX award, the Baldrige Program for Performance Excellence, or our annual Baldrige-based organizational assessment, e-mail [Joanne Puckett](#) or [Courtney Scala Smith](#).

VISN 1 Releases Video Showcasing the I CARE Values and 5 "Excellences"

Click [here](#) to view a video released at the PiPEX 2013 Baldrige Best Practices Summit. The video showcases our entire Network and the tremendous efforts of VA staff in demonstrating our I CARE Values in caring for Veterans.

Academic Collaboration to Analyze Telehealth Expansion

(Kyaani Robinson)

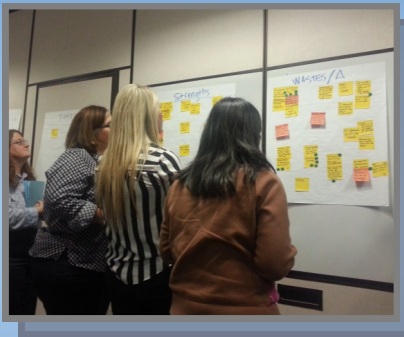
New England VERC has sponsored several student projects that have applied systems engineering analysis to the process of telehealth and its integration as a model of care. MIT graduate students conducted an enterprise analysis of the current state of telehealth in early 2012 and this was followed by a more in depth study of the implementation methods used to expand telehealth nationwide. VISN 1 telehealth leadership was then interested to evaluate the return on investment and overall benefits of telehealth locally for Video telehealth (CVT) and Store and Forward (SF) telehealth and is working with a team from Worcester Polytechnic Institute. Some telehealth benefits could be explicitly measured in dollar savings (tangible), including the cost of telehealth and non-telehealth encounters, veteran travel

reimbursement, unique telehealth staffing, and training costs. Quantifying other benefits for this analysis proved to be challenging due to the availability of data; this resulted in intangible variables, including patient access and satisfaction, decrease patient length of stay of hospitalization, and mortality rate. The team utilized a Decision Making Multiple Attributes method to quantify and evaluate these intangible benefits. One recommendation will be to investigate the variation that was found in cost per telehealth encounter between sites in the VISN. The results of this analysis will play a crucial role in VISN 1's decision making process on telehealth issues, as funding support transitions from national (T21) to local medical centers at the end of FY14.

Anticoagulation Improvement

(Angela Park and Tim Schmoke)

On November 19, 2013, the VISN 1 Improving Anticoagulation Care Team held their quarterly face-to-face meeting at the Providence VA Medical Center. Representatives from seven of eight medical centers were in attendance as well as representatives from research Center for Healthcare Organization and Implementation Research (CHOIR) and New England VERC. Those in attendance rotated through four breakout sessions: 1) Developing a Quality Assurance Plan/Using a Clinical Reminder, 2) Standardizing the Use of Novel Anticoagulants, 3) Standardizing Warfarin Prescribing and 4) Standardizing Technician Roles. Discussions throughout the breakouts were very productive and provided impetus for the project's next steps. Participants also spent time observing the operations of the Providence Anticoagulation Clinic



Attendees assess Providence's strong practices and opportunities for improvement

and were allowed the opportunity to provide feedback regarding strong practices and possible improvement opportunities. Teams also reviewed process maps from each site which depicted the follow up process for their anticoagulation clinic. This gave participants the opportunity to see how other sites operate and to provide feedback. To wrap up the day, there was a lively discussion regarding how to improve Time in Therapeutic Range (TTR). Many had great advice to offer, such as following the recommended dosing algorithm and holding monthly meetings to discuss complicated cases. It won't be long until the first site in VISN 1 meets the TTR goal of 70%!

Tools Developed By New England VERC

Virtual Meeting Tools

(Kristine DeSotto)

Virtual meetings can present many challenges for organizers, facilitators, and attendees. To help manage the many different components of a virtual meeting, New England VERC developed the following tools:

- Strong Practices for Virtual Meetings — provides tips from experienced facilitators in organizing and running virtual meetings
- Lync User Guide — demonstrates different features of Lync 2010, including setting up meetings, sharing content, and utilizing whiteboards and polls



Also available on our SharePoint site is a section on facilitating virtual meetings from *Facilitation With Ease* by Ingrid Bens and a session planning template developed by Cindy Huggett, a virtual trainings consultant.

Process Wait Time Calculator

(Jordan Peck)

New England VERC has developed a simple tool that staff can use when they are working on improving clinic flow. The tool, called a "Process Wait Time Calculator", uses queuing theory to determine the relationship between resources and the targeted wait time. Queuing Theory is a mathematical method to evaluate the flows within systems and make data driven decisions about the number of resources necessary to reach certain wait time goals. Alternatively, Queuing Theory can help set goals for reductions in processing time or variability while keeping staffing levels the same. These calculations work in the background of the Calculator, while a clinic manager adds in their particular data to get their results. It enables a non-technical manager to utilize more rigorous methods and improve the basis of decisions about staffing and wait times.

A screenshot of the "Process Wait Time Calculator" web application. The interface includes a header with the tool's name and a note that an asterisk denotes a required field. It is divided into two main sections: "Describe Your Process Area" and "Describe Your System Area". The "Process Area" section contains three numbered questions with input fields: 1. "What is flowing through your area? (eg. Patients, Documents, Phone calls, Scopes, etc.)", 2. "What is your resource? (e.g. beds, nurses, doctors, etc.)", and 3. "How many (define resource type in Step 1) do I have?". The "System Area" section contains four numbered questions: 4. "Time Unit For Arrivals" (with a dropdown menu), 5. "I know this many (define type of entity in Step 1) arrive per (define time units in Step 3) on average:" (with a sub-question 5a for standard deviation), 6. "Time Unit For Service" (with a dropdown menu), and 7. "I know it takes this many (define time units in Step 6) until the (define items Step 1) is serviced:" (with a sub-question 7a for standard deviation). At the bottom, there is a button labeled "Click Here to Calculate Waiting Time".

Diabetes System of Care

(Kristine DeSotto)

New England VERC and VISN 1 clinical and research staff have collaborated to develop a Diabetes System of Care, a model to identify improvements in quality, patient experience and outcomes. The work included a literature review, data analysis, and provider interviews, and an MIT student group utilized lean enterprise analysis to determine opportunity



areas within the System of Care. From this work, three pilot projects were chartered.

The first project focused on the percent of diabetic retinal screenings completed on time, which relies on open access to eye care services. At

the start of this project, the level of access for this screening was unknown. In collaboration with Office of Rural Health's GeoSpatial Outcomes Division (GSOD), three maps were developed. The *Geomapping for Eye Care Services* final report for this project, including maps, and lessons learned from using this method, is available on the New England VERC SharePoint site.

The second project also focused on the retinal exam for diabetic patients. Chart reviews, interviews, and an analysis of the clinical reminder for the diabetic retinal exam were completed and include a list of failure modes, or ways a process can fail to provide expected results. As a result of this project, New England VERC has published the *Failure Mode Analysis for the Retinal Exam for Diabetic Patients* final report and a guide to *Understanding and Analyzing Clinical Reminders*.

The final project was completed in collaboration with VISN 1 Clinical Informatics with guidance from VISN 12's Dr. Mark McConnell. The project team developed a report to identify the percent of diabetic patients at risk for hypoglycemia. This web report has been transitioned to VISN 1 Primary Care and a clinical reminder to help identify these at-risk patients is being developed. A final report for this project will be completed this Spring.

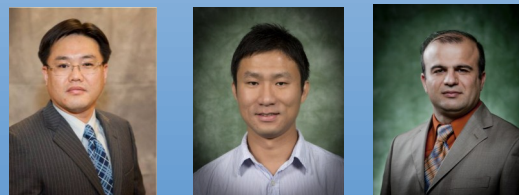
New England VERC Seminar Series

(Angel DeJong)

New England VERC resumed its Seminar Series on November 8. Dr. Sangwon Yoon, Dr. Mohammad Khasawneh, and Dr. Chun-An Chou spoke about their research at Binghamton University. First, they explained how a variety of data mining techniques can be used as patient risk prediction models. Then they showed how these models can be used to forecast the probability that a patient would be readmitted to the hospital within 30 days. Applying these research findings in VA hospitals would improve care to Veterans, since the likelihood of them returning to the hospital would decrease. Reducing readmissions would also result in cost savings, and these additional funds could be used to improve other areas of the hospital.

The next Seminar Series topic is "Diabetes E-Consults for Primary Care: Barriers and Recommendations", and will be presented by Dr. Pratik Parikh and Dr. Jennie Gallimore from Wright State University. The seminar will be on Friday, December 13 from 12:00 to 1:00 EST.

Email NewEnglandVERC@va.gov to be added to the Seminar Series mailing list.



Dr. Sangwon Yoon, Dr. Chun-An Chou, and Dr. Mohammad Khasawneh; professors at Binghamton University

