VA-CASE

Quarterly Newsletter

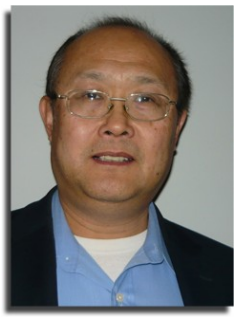
November 2012

VA-CASE receives first External Funding for Internal VA work

NSF-funded study to find efficiency models in VA patient-centered medical homes

Dr. Kai Yang and other VA-CASE Affiliate Partners were awarded a $552,000 National Science Foundation grant to find efficiency models for patient-centered medical homes (PCMH), a model emerging as a way to improve health outcomes by focusing services around primary care. This is our first external (non-VA funded) grant for internal VA work.

Dr. Yang, a professor of industrial and systems engineering at Wayne State University in Detroit, will collaborative with scientists from the University of Michigan and Dr. Neale Chumbler from the University of Georgia. They will study VA's patient -centered medical homes utilizing VA data, health systems engineering, statistics and health services science expertise to innovate PCMH by creating new business rules and operational procedures.



Yang said they'll study VA health services nationwide, working with VA's office of informatics and analytics. "We're going to use the data they have to analyze the workload for each patient, and we're going to model how to divide workload across team members," Yang said.

The project's aim is create adaptive statistical models that can predict workloads based on patient factors, and to create optimization models that help manage doctors' patient panels and staff levels. Yang and his team plan to develop algorithms for how the facility allocates work under varying factors and then create an app for administrators and doctors to track and manage their workloads and progress. Looking at the needs throughout a health system, Yang said, "You can bump up or lower down the patients each team will see."

> ***"We are going to use the data they have to analyze the workload for each patient, and we're going to model how to divide workload across team members"***

With about 150 medical centers and more than 650 outpatient clinics, VA is always striving to improve patient-centered care. VA is implementing the patient-centered medical home model in all of its primary care sites as part of its efforts to redesign its healthcare delivery by increasing access, coordination, communication and continuity of care.

Yang says that the models his team will create could lead to more streamlined care plans taking root in VA and other health systems. The project is called "An Allocation Model with Dynamic Updates for Balanced Workload Distribution on Patient-Centered Medical Homes."

Adapted from Government Health IT (http://www.govhealthit.com)

Inside this issue:

Staff Announcements	2
Awards	3
Completed Projects	3
Professional Development	4
VISN 11	5
PSI	5
Informatics	6
Collaboratives	6
VE-TAP	7
Purchased Care	7
Presentations	8

Staff Announcements

Welcome our New Employees!

Bryant Headley is working with the Purchased Care program as a Program Manager. Bryant has degrees in Business Management and Certified Project Management through George Washington University. Bryant is a Veteran of the first Gulf War and worked for Lockheed Management as a Senior consultant before entering the VA as a Project Manager.

Kathy Carlson is a Program Manager with the Purchased Care Program. Kathy is a certified clinical research coordinator with over 20 years of experience in clinical trials and investigator initiated studies in Radiology, Cardiology and Evidence-based Practice. Recently, she was the coordinating center manager of a stroke telerehabilitation study which took place at three VA Medical Centers.

Bruce Vannice is a Program Manager with the Purchased Care Program. Bruce served in the United States Marine Corps from 2006 – 2011 and was deployed to both Iraq and Afghanistan. He most recently worked in the heating and cooling business in which he supervised and served as a repair technician. Bruce earned his Bachelors Degree in Information Technology. He resides in Indianapolis with his wife and four children.

Angela J. Harris is a Project Manager with the Professional Development Program. Angie has served as Project Manager in VA Health Service Research & Development (HSR&D) since August of 2007. She has 11 years of experience as a project manager including working as a Research Compliance Coordinator for the Indiana University IRB, recruiting patients, assisting with grant writing, performing extensive literature searches, implementing survey research, and data collection.

As a part of her career growth and development, **Shruthi Musunuri** is now the Lead Engineer working on National projects with the Purchase Care group.

Some of Shruthi's previous work with VA-CASE includes Industrial Engineering (IE) Coach for the National Cancer Care Collaborative Generations II & III. Patient Alliance Care Team (PACT) Collaborative facility IE Coach, PACT Regional & National support engineer, IE for the National Surgical Flow Improvement Initiative. Shruthi was the lead in redesigning the National Head and Neck Cancer Care data tool. She is an IE representative for the PACT Toolkit series and also the co-leader in developing the Head and Neck Cancer Toolkit series for the VA.

The Collaborative Program hired several Wayne State contractors this quarter - Xiongfei Shu and Xiaoyu Ma to support the Specialty Care FY13 project and Jihan Wang to support Surgical Flow Improvement Initiative (SFII) FY13.

Congratulations to our Graduates!

Rob Morgan graduated in May, 2012 with a degree in Computer Information Technology. He will continue his work with the VE-TAP/ IVN group as a clinical applications programmer.

Keith Henry graduated in May, 2012 with a degree in Computer Information Technology. He will continue his work as a project manager for the Professional Development Program.

Jeff Bailey graduated in May, 2012 with a degree in Computer Information Technology. He works full-time in the Informatics Program.

Josh Rose graduated in May, 2012 with a degree in Computer Information Technology. He works full-time in the Informatics Program.

VA-CASE Awards

Informatics
The VA-CASE Informatics Program was awarded ~$1M for Hi2 Usability Analytics. This program will directly support the Hi2 Team-Facing and System-Facing components of workstream B. VA-CASE will provide a needs analysis, user-driven requirements iteration and development, EHR usability analysis and development of performance measures to support integrated, parallell usability analysis within the HMP platform's operational use.

Lean Program
The VA-CASE Lean Program was awarded ~$600,000 to implement the Lean Management System Deployment Model across additional VA facility pilot sites in FY13. This program is an expansion of the current Indianapolis Lean Management System/Lean Sensei program to other VA facilities nationally. Site selection has occurred, with deployment initiated in Q1FY13.

Purchased Care
The VA-CASE Purchased Care Program was awarded two key proposals, totaling more than $4M for FY13/14. The goal of the first proposal, Non-VA Care National Standardization (NVNS), is to standardize the execution, management and oversight of eleven Non-VA Care Programs. VA-CASE will collaborate with the CBO NVNS Project Team and Purchased Care Business Stakeholders with NVNS project planning, implementation and technology transition.

For the second proposal, VA-CASE will provide clinical consulting services to CBO-Clinical Business Systems to support enterprise-wide deployment of the Non VA Care Coordination (NVCC) model, ensure VHA clinical standards of practice are met within the future state non-VA care clinical and claims processing software (Health Claims Processing (HCP), and ensure alignment between NVCC and HCP clinical business processes.

VA-CASE Completed Projects

- **Surgical Flow Initiative Improvement (SFII)** All the 40 RPIW RPIW1 and RPIW2 (20 sites) have been completed. Currently the 20 teams are working on 441 PDSAs (197 from RPIW1 and 214 from RPIW2). There are currently 153 (78%) completed PDSAs for RPIW1 and 31 (n=15%) for RPIW2. The Monthly team calls (3 teams present their work every month) have been well attended and well received. Teams are very engaged and excited during their presentation and they all are expressing the benefits of the RPIW. Many of the VA-CASE Lean Facilitators were on the road for much of the summer to support this initiative,

- **IVN 2.0 released and installed at Indy and Danville** Now working through schedule to deploy to other facilities. MOU revised draft sent to NAGE for final review and approval. MOUs for other 5 unions approved. Permission granted from VA Labor Relations Office to proceed with IVN Implementation in all facilities except ones where NAGE is active until such time as the MOU is signed by NAGE leadership. Continuing information exchange and support with V1, V8, V9, V10, V11, V12, V15, V18, V22, and V23 facilities. Continuing site implementations at 32 facilities. Continuing on-site support in V11 facilities. Continuing work with V11 SPS Chiefs in VOC Cycles to include feedback and improve functionality. Working on the IVN Daily reporting to include UML Diagrams and Help desk software identification. Presented IVN 2.0 to Amarillo and Houston leadership for implementation.

- **The final Virtual Learning Session 3 for the Pilot Specialty Care Collaborative** was conducted during the week of September 18—21. It was an overall success. Analysis of the Assessment Scores and PDSA data for the 3 access reports are complete and have been submitted to the National Planning Team, the Medical Team and the Surgical Team. SCC FY 13/14 will be planning to invite 150 teams to participate and VA-CASE will have 6 IES to support this project. We are currently in the process of recruiting two additional IEs to support this SCC FY 13-14 where the first learning session (1 of 6) will begin in December 2012.

Professional Development

Lean Sensei Program

VA-CASE has very successfully developed and implemented a Lean learning program throughout the VA. The focus of the Lean education program was to develop a group of people that could participate in and lead successful Lean projects on the facility or VISN level. Some of the early adopters of Lean thinking are now ready for the next generation of Lean, enterprise-level Lean thinking. Success in enterprise-level Lean means moving beyond the application of Lean tools and methods on a project level, and instead achieving an integration of the Lean approach with the development and deployment of formal management systems to drive cultural transformation throughout the organization.

The VA Center for Applied Systems Engineering (VA-CASE) conducted a review of healthcare organizations widely characterized as highly successful Lean organizations. Among these organizations, VA-CASE found several common components related to the enterprise-level deployment of Lean Management Systems:

- Large-Scale, System-Level Improvement Efforts managed through multiple, concurrent **Value Streams** (inch-wide and mile deep)
- Small-Scale, Unit-Level Improvement Efforts, managed through **Continuous Daily Improvement** efforts (mile-wide; and inch deep)
- Leadership Development conducted through **Lean Training and Sensei Programs**
- A systematic approach to managing **Strategic Deployment** efforts throughout the organization, achieved through Hoshin Planning.

These organizations discovered that effective Lean integration at the enterprise level required a fundamental shift away from management (executive and mid-level) to the front-line staff as the primary problem solvers within the organization. As Kim Barnas stated in her 2011 outline of the implementation of Lean Management System within ThedaCare, "managing in a Lean environment requires an almost completely different approach to day-to-day and hour-to-hour management."
Leadership and management often required training, coaching and mentoring to develop effective management practices that could support an empowered front-line staff in daily problem-solving. This mentoring was often accomplished through the use of an external *Lean Sensei.*

Master Teacher - Lean Sensei
Rather than merely studying an organization and delivering recommendations, the Lean sensei works with senior leaders and mid-level managers to provide mentoring and assist them to effect change as part of an organization's Lean Enterprise Deployment.

The role of the sensei within the Enterprise-level Lean Deployment included providing feed-forward information based on a specific vision for the organization's Lean deployment. This was in stark contrast to a feedback approach often used by coaches. The role of the sensei was not to tell the participants what to do, but to transfer knowledge and learning in order to enable the sustained transformation of the organization.

"Success in enterprise-level Lean means moving beyond the application of Lean tools and methods on a project level, and instead achieving an integration of the Lean approach with the development and deployment of formal management systems to drive cultural transformation throughout the organization"

Moving Forward
VA-CASE has identified several sites, nationally, that are ready to move forward with Enterprise-Level Lean Deployment. The model used in this program will be to assign an Executive and a Value Stream Sensei to work with each of the sites. Jamie Workman-Germann has met with several of the identified sites to begin the deployment process. After the initial meetings, Russ Cech, George Ponte, Brian Poynor, Deanna Suskovich, Philip Swearingen, Vicki Amon-Higa and Jamie Workman-Germann will serve as Lean Senseis for the program.

Lean Education Events

Course	Number of classes	Number Enrolled	Locations
Yellow Belt	12	97	VISNs 7, 16, 17, 19, 23 Columbia, SC, Louisville, KY, Hampton, Durham, NC, Indianapolis, IN, Memphis VAMC
Green Belt	7	36	Oklahoma City, OK, Salem, St Louis, MO, Marion, San Diego, CA, Nashville, TN
Black Belt	6	22	Richmond, Salem, Chillicothe, OK, Oklahoma City, OK, Denver, CO

Other Professional Development Accomplishments

- **LOI:** Deanna Suskovich presented the last LOI session for VISN 9. Evaluation and wrap up will continue throughout September.
- **IAA:** George Ponte lead and facilitated Round 3 Class Session 4 held on September 11-14 in Phoenix, continued work on the SOW for FY 13, Round 4. George will be the Program Manager for Round 4 and VA-CASE will provide a Project Manager.
- **CPAC (Consolidated Patient Accounting Center):** Deanna Suskovich is the Program Manager for CPAC. A small working group including Jay Chandra and Ken Rennels, among others, has begun work on development of the educational materials for the CPAC Black Belt Lean/Six Sigma course.
- **VA-IDEA:** Jeff Fahner and Russell Jacobitz presented a Clinical Reminder course for CACs.

VISN 11 Accomplishments

- **Homelessness**—Through our VISN 11 Systems Redesign efforts, to date, we have reduced the time it takes for a homeless Veteran to secure permanent housing down to 73.72 days.
- **Fleet Management** — Successfully completed the second part of the Fleet Management project to streamline the process of acquiring VISN 11 fleet vehicles.
- **VISN Office Huddle Boards** — Received 22 improvement ideas for implementation. Utilized a virtual prioritization questionnaire to ask VISN staff to prioritize using PICK chart. Five improvement ideas are in process of implementation.
- **Patient Flow** — developed a facility tracking sheet structure for non-VA admissions.
- **No Harm** — working to standardize/operationalize the Hand Hygiene Process via a SharePoint application which is an interim step until the iPads are provided.

Planning, Strategy and Innovation Accomplishments

- **EVOLVE** — The EVOLVE Integrated Project team charter was reviewed and concurrence was received to build the project management infrastructures necessary for VA-CASE, based on VA-CASE needs. Planning and development of the infrastructure will be team-based and guided by an internal VA-CASE integrated project team.
- **EVOLVE New Employee RPIW** — The charter for the New Employee RPIW was created and is under review by the co -sponsor and other Associate Directors. Once approved, the New Employee RPIW will be activated.
- **Consult Tiger Team** — Kristen Colwell was assigned to chair a Tiger team to develop national and local reports and related processes and training to improve the Agency's performance on unresolved Consults.
- **PMIS/PMIRS** — PSI teamed up with the Proquis Enterprise QSV Contractor to assess the capability of Proquis to create a strategic planning dashboard populated from a Program Management Information System.

VA-CASE Informatics Program

Health Informatics Initiative (Hi2)

VA-CASE is involved with the future health management platform team providing computer usability reporting, development of performance measures, and plans for use within design builds or procurements. By gathering healthcare user needs, desires, and activities future projects and planning will improve end-user and stakeholder experiences with a health management platform. This accomplishment will provide improved ease-of-use of the Veteran patient's medical record allowing clinicians and providers to better focus on the delivery of care, and less on the mechanics of an electronic healthcare record during interactions with a patient. VA-CASE has partnered with the VHA Office of Informatics and Analytics, Health Informatics, Transformation Initiative 16 Health Informatics Initiative (Hi2).

In conjunction with our Health Informatics Innovation (Hi2) partners, Valerie Curtis leads Task 1 that includes performance of a usability analysis, needs assessments/gap analyses, and development of potential performance measures that are based in user-centered design concepts and needs, which could be applied to and resolved by the implementation of a Usability Analytics platform. VA-CASE team includes Jason Saleem, Scott Russell, Darin Ellis, Kyle Maddox, Stephanie Adams, Chris Hughes, Drew Allen, Anna-Maria D'Ambrosio, Joan Savage and Gail Edwards.

"This will allow providers to better focus on the delivery of care and less on the mechanics of an electronic healthcare record".

Kristen Colwell leads Task 2 in supporting and organizing the performance of a Needs Assessment report that will build into formal procurement planning documents for Requirements and Software specifications reports to be utilized in future Usability Analytics development or procurements. VA-CASE team includes Valerie Curtis and Gail Edwards and our Hi2 partners.

Other Informatics Accomplishments

- **TBI iOS application:** Human Computer Interaction (HCI) observations ongoing by Kyle Maddox with the research assistant in HSR&D. Study has 30 patients recruited and application feedback continues to be obtained. OIT moratorium on apple devices reviewed in team meetings. Wayne State University contract for analysis expires this month. (Josh Rose, Jeff Bailey, and Valerie Curtis).
- **Health 4 Heroes iOs application:** National Innovations have downloaded the application for testing and verification along with code review for standards of OIT. HCI usability testing to begin at Indianapolis when we receive the devices.

Collaboratives Program Accomplishments

- **Specialty Care Collaborative (SCC)** – Pilot Phase — Analysis of the Assessment Scores and PDSA data for the three access reports is completed.
- **INtervention for Stroke Performance Improvement using Redesign Engineering (INSPIRE)—** This is a joint project with QUERI—Indianapolis. VERC-INSPIRE research on the assessment of the impact of coaching: Interviews were transcribed, scrubbed and the data is currently being coded and prepped for analysis.
- **Aligning Transitions of Care for Post-Stroke Patients with Hypertension** — VA-CASE will serve as a consultant to help design the voice of the customer interviews and train interviewers.
- **Academic Partnerships** — Dr. Vincent Duffy, Purdue on research projects. Dr. Barrett Caldwell and students in the Capstone Program to work on project at Roudebush. Dr. Yang, Wayne State, working on logistics to get funding to create a Veterans Engineering RESEARCH Center.

VE-TAP Accomplishments

- **Interactive Visual Navigator (IVN)** — User interface revision efforts progressing into coding and build for IVN 2.0. Developing SQL reports for IVN 2.0, along with coordinating parallel development efforts with Wayne State University. Completed preliminary testing of IVN 2.0 Admin Management functions. Continuing to generate and review WIMs in preparation for IVN 2.0 release. Continuing information exchange and support with V1, V8, V9, V10, V11, V12, V15, V22, and V23 facilities. Continuing site implementations at 32 facilities. Continuing on-site support in V11 facilities. Continuing work with V11 SPS Chiefs in VOC Cycles to include feedback and improve functionality. Working on the IVN Daily reporting to include UML Diagrams and Help desk software identification. Presented IVN to POC from RTLS program Management Office.
- **RME NRT Decision Support System** — Continuing to work on Input Distribution automation development. Maintaining steady progress with the CDW and VINCI request process. Continuing working with testing the NRDT KIOSK. Continuing Testing & Evaluating of OR, GI, and PACU data input sources and input distributions and conducting sensitivity analysis on input distributions with simulation models. Completed model matrix, will begin working on calculation of estimates. Continuing Web App development of new clinic models. Data collection continues from VSSC ICU and Radiology cubes for use in models. Working on data pull from CDW for patient movement file. Continuing to work on combining EDIS and CDW data. Working with Detroit SR and Leadership to provide a PACU simulation module and dashboard.
- **OIA PACT Provider Panel Model** — _Full data access with CDW in place. Initial model constructed and refined. Model passed initial verification. Expanding model based on discussion with PACT group.

Purchased Care Accomplishments

- **Health Benefits Appeals** — Team members initiated weekly customer feedback meetings related to the development of a web-based, database tool for tracking health benefit appeals. Team members demonstrated the basic format and functionality of the tracking tool related to the following database pages: create record, review appeal, status update, C-file request and decision update.
- **FBCS Optimization** — Conducted trainings with the VISN 15 Marion and VISN 12 Fee Unit on the optimized processes for the clinical review of claims and distribution and processing.
- **CBO Purchased Care Business Systems Management Clinical Programming Consulting** — Extensive research was completed to prepare for the development of standardized Non-VA Care templates for newborn care and geriatric and Extended Care (GEC). Dr. Daggett and Amy Vannatter-Dorr met with the VHA CBO Purchased Care project team to outline priorities which include: the Geriatric Extended Care standardized templates for Bowel & Bladder, Adult Day Care, Community Nursing Homes, and the Dental template.
- **Dialysis Project** — Development of the Home Dialysis Make/Buy tool is ongoing. Dr. Lightner is continuing work on an automated solution to the collection and transmission to CMS of clinical data. Ed Englehart is researching the development of construction-related documents to include in a standardized deployment package. Metrics and data collection instruments/ methods are being finalized in the domains of clinical performance, access to care, quality of life, patient and

VA-CASE
VISN 11 VA Center for Applied Systems Engineering

Richard L. Roudebush VA Medical Center

1481 W. 10th Street,
Indianapolis, IN 46202
317-988-1268
Candace.Kingma@va.gov

Presentations

National HSR&D/QUERI Conference, Washington DC, 19 July 2012

- Developing Tools to Assist VA Policymakers in Decisions on "Making" or "Buying" Care
  Nancy Lightner, Salomeh Keyhani

- Designing, Implementing and Evaluating Successful Toolkits in the VA
  Balmatee Bidassie, Neale Chumbler, Anju Sahay

AHFE International 2012, 4th International Conference on Applied Human Factors and Ergonomics, San Francisco, CA, 21-25 July 2012; Presentations

- Human factors considerations for a reusable medical equipment reprocessing support system
  Nancy Lightner, R. Ellis, Serge Yee, Kai Yang and Will Jordan

- Using computerized technician competency validation to improve reusable medical equipment reprocessing system reliability
  Kai Yang, Nancy Lightner, Serge Yee, M. Fard and Will Jordan

- Management of medical equipment reprocessing procedures: A human factors/ system reliability perspective
  R. Ellis, M. Fard, Kai Yang, Will Jordan, Nancy Lightner and Serge Yee

- Human factors evaluation of medical equipment reprocessing instructions
  R. Ellis, Serge Yee, Nancy Lightner, Kai Yang and Will Jordan

National Veterans electronic Health University (VeHU) virtual event

- Presentation
  Jeff Fahner, Russell Jacobitz, and DeRon Walker