



**THE SOCIETY FOR
HEALTH SYSTEMS**

**A Society of
The Institute of Industrial Engineers**

August 2004

President: Steve Escamilla

President-Elect: Carol Green

SHS offers Student Mentoring

IIE's Student Mentoring program is focusing on students interested in Healthcare! Students interested in healthcare can fill out the Mentoring Student Application Form and select "Health Systems" as their area of interest and be paired up with a mentor in this area. We already have quite a few mentors ready and waiting ... so sign up today for this great new member benefit!

Finding a mentor gives you a leg up as you make the transition from school to your chosen career. By partnering with a mentor from SHS, you'll get:

- A chance to verify what you have heard in school
- New contacts, new opportunities - extend your professional network
- Career guidance from an independent source
- A no-risk, professional sounding board for those difficult career choices
- A chance to get to know the giants of the field of IE
- An unparalleled opportunity to get sound career advice on how to get ahead and avoid common professional pitfalls
- A chance to make a lifelong friend and colleague

Apply online today at <http://www.iienet.org/forms/form.cfm?id=117> .

The student-mentor relationship is one of the most durable and rewarding professional relationships that both students and mentors will have in their careers. The IIE / SHS Student Mentoring Program has been developed to give student members a way to connect with mentors.

Practitioners

Give something back to the profession. We're looking for mentors for this program. Make a difference in a student's life and career ... become an SHS mentor.

Becoming an SHS mentor gives you:

- A chance to make a difference in a young person's life
- The opportunity to realize how far you have come
- Better understanding of the interests of young IE professionals
- An opportunity to give back to the profession as a way of thanking those who helped you
- A way to stay connected to your alma mater
- A means of making a difference to the IE profession and our professional society
- An opportunity to stay engaged with SHS
- A chance to make a lifelong colleague and friend.

Apply online today at <http://www.iienet.org/forms/form.cfm?id=114>

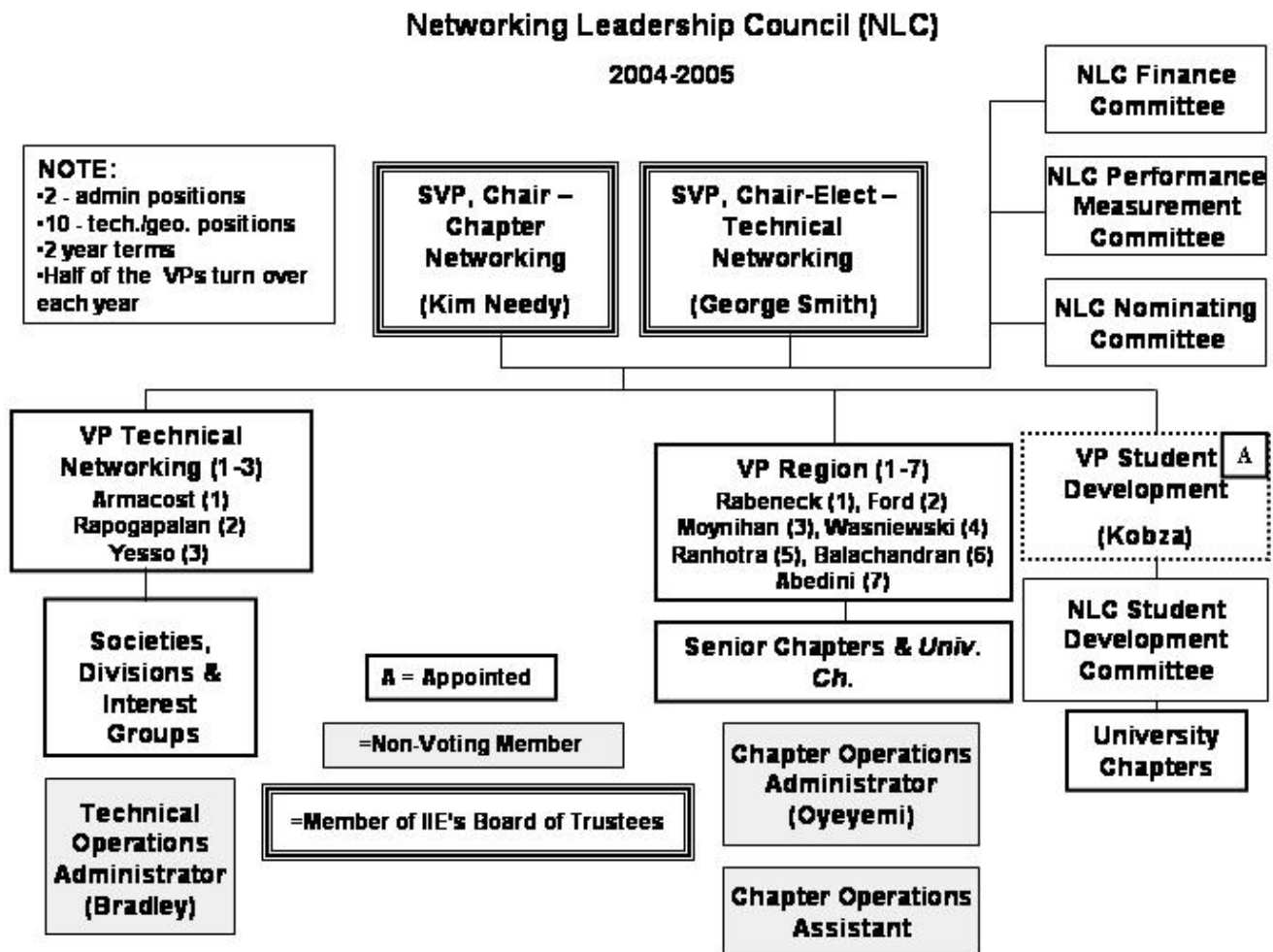
Questions? Contact Heather Bradley, 770-449-0461 ext. 116.

IIE & SHS ... How Do They Relate?

The leadership of IIE & SHS work together to develop member benefits for you. But how exactly does SHS fit into the IIE leadership structure and how does that help you, the SHS member? IIE's primary goals are to support and promote the IE profession and serve the professional needs of individual members. SHS leaders ensure SHS contributes to these goals for members in healthcare.

George Smith, Senior Vice President Technical Networking, guides Steve Escamilla and the SHS Board in their policy decisions. George, who oversees the Technical Networking Board that is charge of all Societies, Divisions, and Interest Groups, is SHS's voice on the Networking Leadership Council (NLC) and Board of Trustees (BOT).

George and the other members of the Technical Networking Board are part of the NLC. The NLC establishes policy for, oversees, and supports operations of Societies, Divisions, and Interest Groups as well as local chapters.



SHS Student Paper Competition

Again this year, SHS will sponsor a student competition for papers demonstrating the use of Industrial Engineering tools in a health care environment. Like last year, a winner will be selected from both the Undergraduate and Graduate categories. Winners will receive a \$500 prize and up to \$750 for travel/lodging for the presenting author at the 2005 SHS Forum in Dallas.

Papers will be due by December 1 and must be 8-10 pages. As this is a student competition, papers co-authored by professors are excluded from the competition, but professor's assistance is welcome.

Watch the Newsletter for further details.

Questions with . . . Sue Hawkins

SHS Director 2004-2006

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What are your current position and responsibilities at Henry Ford Health System?

I am Vice President of Planning and Management Services. This is a new title in just the last couple of weeks, but I have been doing the job for a few months. I am responsible for both the Planning and Management Services departments.

The Planning department staff (currently 5 FTE) conducts certificate of need (CON) work, provides analysis support for business planning (demand analysis, etc), and helps keep our fingers on the pulse of the competitive environment. Planning staff members typically have a Master's in Health Services Administration with undergraduate degrees in either business or liberal arts. We are working on better coordination and alignment between Planning and Management Services—who should work on what? My other big responsibility is strategic planning and the link to operational planning and operational budgeting, all of which are undergoing changes which, I hope, will lead to better coordination across multiple areas of the organization. Earlier this year, we created and began publishing a monthly System dashboard report to help us track our progress toward strategic goals.

Management Services is the management engineering area for HFHS. Everything in Management Services is done on a request basis. Management Services performs operations analysis, implementation support, facilitation, and statistical and financial analysis for leadership and physicians across the System. Recently, we've seen a number of projects focusing on revenue cycle improvements, in addition to assisting with new information system selection and implementations. More and more, we are called upon to assist with project management in addition to our more traditional analysis roles.

Like many ME departments, we have helped the organization implement rapid cycle/lean improvement techniques since the mid-1990's. Our efforts have come under the name PICOS (General Motors) and Continuous Improvement Workshops (Daimler-Chrysler). We are just launching a major new improvement project in our primary care physician practices, where our role will include process analysis and redesign, data collection and measurement, facilitation, and design of improvement.

Management Services has fourteen staff members right now (11.3 FTE), yet only half are IEs. We have staff with engineering, nursing, operations management, consulting, finance, and planning backgrounds. I

think the diversity is very important. I think our department may be a little bigger than other hospitals' programs, although the System as a whole is quite large. We support our flagship hospital—Henry Ford—Hospital, two community hospitals, a psychiatric hospital, physician offices, retail services and our practice plan.

In both departments, we tie our work to our strategic plan, so the focus of our projects is going to change from year to year. We are probably involved in close to 50 projects right now. I believe that our relatively stable department sizes demonstrate that we have fans in the hospital who see our value.

What is your educational background?

I have an IE degree from the University of Michigan. I started working immediately after graduation at Henry Ford Health System and have been here 18 years now. I have an MBA which I earned at night. Over the years I've had various roles, including analyst, physician practice manager, and department director.

What is your role in the Society?

Last year I was on the conference committee with Stephanie Unger. I was a conference track coordinator, which was a lot of fun. I enjoyed working with the committee and presenters and was energized by the Forum. I am currently a Director on the Board. I used to work with Munna Kachhal, Past President. Munna recommended I run for Director, which I'd actually been thinking about for years. I was very excited by what I see the current Board trying to do—really creating a unique identity for SHS and management engineering in general, and communicating this identity to the membership and beyond. SHS is about supporting the profession and demonstrating the value of Management Engineering to health care.

For both recruitment and advocacy reasons, I am working with IE programs at our local universities, providing ME case studies for IE courses and making presentations that help grow awareness among IE students that working in health care is an option. We're located in the heart of Motor City, where students are very familiar with the option of working in manufacturing, but few have considered working in a service industry, much less health care. I am always amazed by how many students contact me after a presentation to tell me how excited they are that health care is a career alternative for industrial engineers. As another way to keep in touch with industrial engineering students, I have volunteered for SHS' mentoring program.

What are the most important things going on today in industrial engineering applied in healthcare?

First, I think there are specific project topics that are newer to industrial engineering. There is a focus on hospital throughput—getting patients through quicker and at a lower cost. In addition, there is more of an emphasis on improving the revenue cycle, which requires learning about reimbursement, deduction rates, HIPAA, and many other topics. Another huge area for ME departments is in evaluating new technology, including clinical systems. For example, most new systems require us to consider “Where is the patient in this? How to do you capture information from human sources? When does the information need to be available? How do you get it there at that time? How does it interface?” More and more we are being called upon to be the voice of the process.

Second, I believe there is a growing need for project management and implementation support in healthcare projects, and management engineers are a great source. In the ME department at HFHS, we have probably doubled the amount of work we do related to project management and implementation since I started here. It has become a much larger part of our repertoire to help a team implement changes—tracking progress, figuring out what's needed, and then helping make it happen. Keeping people on task and demonstrating the value of their input are both incredibly important. These are classic project management techniques, but continued development of these skills among ME staff is important.

Third, I am seeing a change from ten to twenty years ago in the characteristics needed to be a successful ME. New characteristics include very strong facilitative skills—someone who can interact with different

parties (none of whom report to the facilitator) to get them to move in the right direction. This takes a special kind of finesse and a certain level of credibility and history. Credibility can come from a degree, experience, or positive relationships with the affected parties. Physicians are quick to be skeptical—they need to be able to see progress and see it quickly. Another characteristic needed today is tenacity. You need to be able to drive something even in the face of barriers and sometimes without the visible support of administration. Most projects need someone who has the ability to say “Let’s go. Why are we behind? How can I help you?” IEs need to be positive and respectful, but persistent. Some of this comes from experience; some of it comes from an individual’s DNA.

Something that is the same today as it was 15 years ago is that you have to be a quick learner. You have to be able to go into an area you have never heard of and learn what is going on. Learning about the revenue cycle process or any other new area is no different from learning about radiography, the operating room, or any other healthcare area when you don’t have pre-existing expertise – it just takes time, effort, and good listening skills!

Today we need to diversify the team a little bit more—create a balance in our project teams so we have all of the elements covered – expertise, operational familiarity, and even different work/behavior styles. We need to involve the new graduates for the latest techniques, computer knowledge and academic strength, and involve the experienced IEs for their credibility and their ability to shape the development of new staff. It makes a great marriage if we have people from a variety of points on the continuum.

What do you see the society doing about these?

SHS has a role in helping people develop the skills and characteristics needed today and to educate on the newer topics. The Society’s conference provides new tracks relevant to these topics. Last year the conference did that with a focus track on the emergency department. This year the conference will hold a focus track on the operating room. Next year’s focus track might be the revenue cycle. The conference needs to educate on new ways to influence without necessarily having formal authority (Emotional Intelligence literature calls this “indirect influence”). The Society is preparing members for the growing involvement with technology project management and implementation support through a joint membership with HIMSS. SHS is helping members team up with new and upcoming graduates by working with universities and student chapters. Debbie Flint, Board Director, is growing the student mentoring program. The Board is listening to its membership. This was clear from the feedback session at the Forum. It is also clear from the responsiveness of the listserve. There is a lot of energy on the Board of SHS, and that’s exciting.

SHS Board to Meet

On September 18-19, the SHS Board will gather in Birmingham, AL for its annual strategic planning meeting to reflect on activities undertaken over the past year and to consider new initiatives to improve the value of SHS membership. The Board would love to hear from you about anything you’d like discussed at this meeting. Please email President Steve Escamilla (steve_escamilla@att.net) or the SHS Newsletter feedback address (shsweb@iienet.org) with your thoughts or comments.

SHS 2004 Bylaw Voting Results

Thirteen changes were recently proposed to the Society for Health Systems Bylaws. These changes were proposed to bring the bylaws current with the member benefits SHS offers as well as the technology not available when the bylaws were last updated. The majority of the changes passed with 95 to 100% approval.

The changes fell into four categories: Technology-related, SHS Journal-related, Committees / Board positions, and Membership.

Under Technology-related, the online Member Directory provides a roster of SHS members. The continuation of the SHS Web site is now ensured by the bylaws and web-based balloting makes elections easier to administer and easier for most members to participate in.

Because we no longer publish the SHS Journal, the Subscribing membership, the Publication Policy Board, and the Editorial Policy Board were all removed.

The most significant changes took place under Committees / Board Positions. The Education Committee was replaced with the Conference Committee, and the Communications Committee and Student Committees were added. The Secretary position was removed and the Vendor Liaison position was added.

And finally, the Honorary membership now allows the SHS Board more flexibility in recognizing members who have been of great service to the field or SHS.

For a detailed list of the changes and the votes, as well as the updated bylaws, go online to <http://shs.iienet.org/public/articles/index.cfm?Cat=239> . If you have any questions about this, contact Carol Green at carolgreentx@aol.com.

In Depth – A Case Study

Editor's Note: Karen Martin was one of the highest rated presenters at the SHS Annual Conference. The article below is a follow-up to her presentation, *Patients and Widgets: A Manufacturing Approach to Improving Healthcare Delivery*.

Kaizen Events: Achieving Rapid and Dramatic Improvement through Focused Attention and Team-based Solutions

By Karen Martin, Principal, Karen Martin & Associates

Introduction

Kaizen is a tool originally developed by Toyota to foster continuous improvement within its highly successful business model, the Toyota Production System (TPS), which has served as the foundation for what we refer to as Lean Enterprise in the United States. While TPS was borne from Taiichi Ohno's study of Henry Ford's production process and U.S. grocery stores and guidance from noted quality expert W. Edwards Deming, the Kaizen approach to implementing improved processes is uniquely Japanese.

The word Kaizen, which is loosely defined as *improvement for the better*, is derived from Japanese root words, "kai," which means *to change or break apart* and "zen," which means *goodness or betterment*. Kaizen Events – also referred to as Kaizen Blitzes – are three- to five-day focused events during which a cross-functional team studies a process to identify waste and implements improvements to eliminate the root cause of the waste, generating rapid and often far more dramatic results than those typically obtained from traditional improvement methods. While originally embraced by manufacturing, Kaizen Events are now being used by industries of all types, including healthcare, and in organizations of all sizes to implement rapid change.

Kaizen Events provide an excellent return on investment, in terms of both money and people. A properly planned and executed event typically provides measurable improvements ranging from 30-80% in one or more of the following six aspects of organizational performance:

- Reduced costs
- Increased revenue/improved cash flow
- Faster throughput/turnaround times

- Higher quality
- Greater customer satisfaction
- Greater workforce satisfaction

Kaizen Events are remarkably effective in producing rapid dramatic results because they rely on:

- Small work teams
- Focused attention on a problem
- Input from all functions involved with or touched by the process
- Rapid decisions and implementation
- Leadership buy-in
- Innovative training methods

Another advantage of Kaizen Events is that they are typically structured as low-cost activities. The phrase “creativity before capital” describes the general spirit of a Kaizen Event, where the Kaizen Team is chartered with a measurable objective to eliminate process waste without expending much, if any, capital. This model holds several advantages over the all-too-common occurrence of organizations that prematurely jump to costly solutions, such as automation, to a process problem before they’ve eliminated the fundamental waste that’s causing the problem. In cases like these, organizations are left with a faster, unsound process and a budget bleeding from ill-spent resources.

The organizational impact and magnitude of results achieved from a Kaizen Event is dependent on several keys to success:

- Leadership Commitment
- Workforce Communication/Education about the Approach
- Selection of the Process to be Improved
- Composition of the Kaizen Team
- Event Planning
- Event Execution
- Event Follow-up

Leadership Commitment

Holding a successful Kaizen Event begins with leadership commitment. Leaders must have a basic understanding of the Lean approach to continuous improvement, buy-in to the philosophy and commitment to make themselves and resources from across the entire value stream available to the Kaizen Team as needed.

For a successful Kaizen Event, the team members must be 100% dedicated to the Event, sequestered from their daily work. Back-ups must be put in place for team members who carry out important functions that can’t be placed on hold for the duration of the Event. The structured degree of focus and team commitment is one reason why Kaizen Events are so effective.

The team must also be empowered to make it’s own decisions – after, of course, consulting with appropriate resources, considering legal and regulatory issues, etc. To help the leadership gain comfort with this arrangement, the Kaizen Team typically holds several briefings throughout the Event with the executive sponsor and the leaders of the upstream and downstream areas that will be impacted by the change. These meetings enable the leadership to ask the “what if’s” associated with the proposed process changes and provides the Kaizen Team the opportunity to educate the leadership on process discoveries and reasons for the proposed changes.

Workforce Communication/Education About the Process

Holding regular Kaizen Events creates a cultural shift in organizations whereby implementing rapid change becomes the way the organization operates on a daily basis. But in the transition period between operating the traditional way and embracing the Kaizen approach, the workforce needs to be adequately prepared for Kaizen Events.

At a minimum, five elements need to be communicated broadly:

- Why is the organization pursuing change?
- What the organization expects to gain from the Kaizen approach
- How a Kaizen Event is structured
- How the workforce will be affected
- To whom they should direct their feedback regarding the Kaizen approach

The most effective way to educate the workforce on the Kaizen Events is to provide training on the Lean Enterprise/Lean Healthcare approach to continuous improvement, particularly if the training includes a simulation that clearly illustrates the benefits. The greater the workforce's understanding of the approach, the more support the organization will receive for its efforts. Greater support for the approach yields greater organizational results.

Before each Kaizen Event, a communication should go out to the entire workforce letting them know which process is being improved, soliciting ideas for change, and asking that they do whatever it takes to assist the Kaizen Team should they ask for help. The rapid and intense nature of Kaizen Events requires this level of input and teamwork from all involved.

Selecting a Process for Rapid Improvement

Not all processes are good candidates for Kaizen Events, but most are. The essential trait is that the process is narrow enough in scope to allow adequate measurement of the current state and improvement within a short time frame. Even with proper scoping, a process selected for improvement may need to be even more narrowly defined after the Event begins. The Kaizen philosophy is two-fold: 1) incremental improvements often lead to quantum results, and 2) if you wait for the perfect time to improve a complex process, it'll never get improved.

It's best if the organization has drawn a Value Stream Map for each of its product/service families (i.e. ED, OB, med-surg, psych, etc.) because the VSM provides the visual means for determining the greatest obstacles to flow for the organization. The VSM then serves as the strategic planning tool for prioritizing process improvements and planning Kaizen Events.

Selecting the Kaizen Team

A Kaizen Team is comprised of six to eight core team members. Additional staff serving as process consultants may be brought in as needed, but only at the team's request. Core team members must include a representative sample of *the people who actually do the work*, as they are the ones who know best how to improve the process. Management may be included on the team, but only if they serve as active members and view their role as equal to any other team member. Within a Kaizen Team, rank has no privilege and there is no veto power from outside the team. For the greatest degree of success, the team should also include at least one pair of "outside eyes" to contribute objectivity to the targeted process. Selecting the core team is potentially the most important Event planning activity. Careful consideration of team candidates will ensure that no function involved in or touched by the process is left out and that the team consists of people who are both independent thinkers and team players.

Pre-Event Activities

Creating the Kaizen Charter is the most critical of the planning activities associated with a Kaizen Event. The Charter, which serves as the blueprint for the Event, includes:

- The process being improved (often listed in terms of which process blocks from a value stream or process-level map are being studied and improved)
- Kaizen Team members
- Additional resources that will be needed (people, supplies, limited budget)
- Date, time and location
- Measurable objectives
- Current state issues to be considered
- Potential barriers to improvement
- Boundaries/limitations
- And a preparation to-do list

Executing the Event

Kaizen Events typically last three to five days. If the selected process has already been mapped at a micro level, the Event can be shorter and focus on prioritizing and implementing improvements. But for most Kaizen Events, mapping the process is part of the current state discovery phase that kicks off a five-day Event. Since Lean in general and Kaizen Events specifically typically focus on eliminating waste to reduce throughput/turnaround time and improve quality, it's critical that the process-level map include time and quality-oriented metrics.

After the process-level map is drawn that reflects the current state, the creative part of the Kaizen Event kicks in – brainstorming about potential improvements. Creating a prioritization grid can be helpful in determining which improvement ideas will be easiest to implement and will yield the greatest benefit.

Once the improvements are selected, they are designed and implemented – *rapidly*. The most important part of the implementation phase is training workers on how to execute the new process. Given the short timeframes of most Kaizen Events, innovative training solutions are often needed, especially when a large workforce and/or shift work is involved. Training occurs *during the course of the event* because the day after the Event concludes, the process is performed the new way *across the board*. Ideally, the Kaizen team implements the improved process early enough in the event to allow time to observe the new process so necessary adjustments can be implemented within the scope of the event. This isn't always possible for administrative processes. In these cases, the team must at least test the improved process by performing a walk-through.

Creating a "30-day list" is the final step in Event execution. The 30-day list lists any additional activities that must be completed to sustain the change and includes who's accountable and the deadline for completion.

A team celebration (preferably of their choice) typically concludes the Event. Due to the intensity of the Event and the camaraderie that's established during the Event, it's important to celebrate the team's success. Kaizen Events are very hard work, but they should also contain an element of fun.

Post-Event Activities

To spread enthusiasm for the Kaizen approach organization-wide, communicating the team's success is vital. When employees experience directly or learn through communication how quickly change can occur compared to how the organization may have operated traditionally, it generates the enthusiasm and support needed for future events.

However, sustaining change and continuing to reap the benefits of improvements are two of the greatest challenges in any change effort. For this reason, 30- and either 60- or 90-day audits are recommended to

assess how the process performs as compared to the Event's stated objectives and the future state predictions the Team makes during the Event. In addition, the 30-day list must be managed to assure that the final activities necessary for a sustainable change have been completed.

And then it starts all over again...Kaizen is about *continuous* improvement.

Summary

The power of generating rapid and dramatic improvements through Kaizen Events results from the focused attention and cross-functional teamwork that defines the Kaizen approach. Gone are the days in which management, management engineers or outside consultants dictated how a job should be performed or a process improved. Gone are the days of establishing process improvement teams that spent weeks, months or years studying a process problem and recommending improvements that were never implemented. Kaizen Events offer a proven method for generating the rapid, dramatic and sustainable results that the current healthcare marketplace demands.

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Project Management Tips & Techniques

Contributed by Regi Wahl, Management Engineer, Fletcher Allen Health Care

What can Project Management offer Management Engineers?

Management Engineers are generally involved in complex work efforts that change the way people do things. When successful, their efforts result in more efficient processes, financial gains, and satisfied employees and customers. Project management offers the Management Engineer a consistent and repeatable approach for planning, managing, tracking, and reporting on complex work efforts. It also offers best practice tools and templates that Management Engineers can use to save time, present a professional image, and help make their initiatives and projects more successful.

Tip of the Month: The Never Ending Project

If you're like me, you probably enjoyed the movie, *The Never Ending Story*. In the movie, a little boy visualizes the fantasy story as he's reading. The book's character has a quest to stop "The Nothing," which is the enemy in Fantasia and represents the gradual disintegration of imagination and fantasy.

As a Management Engineer, you may have encountered one or more never ending projects. The project just never seems to come to an end. After a while, it's hard to motivate even the most optimistic team members, including yourself. And more importantly, new projects are not getting your attention. Using the core project management processes can help you avoid these situations. The Project Management Institute (PMI) defines the following basic project management processes.

- **Initiating:** Authorizes the project or phase.
- **Planning:** Defines and refines the objectives and selects the best course of action to attain the project's objectives.
- **Executing:** Coordinates the people and other resources to carry out the plan.
- **Controlling:** Ensures that project objectives are met by monitoring and measuring progress regularly to identify variances from the plan so corrective action can be taken when necessary.
- **Closing:** Formalizes acceptance of the project or phase and brings it to an orderly end.

When initiating and planning a project, identify the project processes with your primary sponsors and stakeholders and use the processes as the framework for the overall project. It helps to better define the project up front and establish expectations for ending the project. This allows project sponsors, team members, and stakeholders to communicate more consistently and focus the project on completing the defined objectives. So don't let "The Nothing" get into your project. Use some imagination at the beginning of the project to define what constitutes the end.

Contact Us

Got something you'd like to see in a future newsletter? Curious as to how you can help us make this newsletter a reality each month? Do you have a question, concern, or a need to lavish praise? Send us an email: shsweb@iienet.org