

Department of Education: FY2008 Annual Report

Lehigh Valley Health Network

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FY 08 Annual Report

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Introduction

Our vision in the Division of Education is to provide the culture, environment and tools to support timely and ongoing solutions that meet the educational needs of people at Lehigh Valley Hospital and Health Network and the communities it serves.

- We promote collaborative efforts across the network pursuing excellence in education.
- We support the continuum of education from life-changing high school experiences to advanced professional continuing education.
- We seek to extend our educational solutions to our community and regional affiliate partners.

Our mission is to identify and deliver learning opportunities that enhance knowledge through the most efficient methods available. These learning opportunities enable employees and partners to provide superior patient care and contribute to employee competency, growth and development while supporting the organizational priorities of the institution.

While there is a hierarchical organization for the Division of Education, we have taken a matrix approach to projects and services versus reporting lines. This approach has enabled us to make use of efficiencies across programs while facilitating multidisciplinary collaboration. This organic approach is becoming pervasive through our major projects accelerating the innovation and outcomes we seek.

The Division of Education will continue our theme from FY08 moving into the 2009 fiscal year to *lay the foundation for the learning organization of 2012* through the use of emerging educational theory, methodology and state-of-the-art instructional technologies. You will see this theme reflected in our FY2008 accomplishments, future goals, and major grant requests. This theme is also evident in several substantial multi-year projects:

- Building the infrastructure and curriculum for incorporating simulation as a curricular and adult learning methodology
- Implementation of a new eLearning System
- Designing and developing the curriculum and content for digital medical eLearning
- Research, design, and initiation of a interdisciplinary faculty development program
- Continuation of an established intern program for regional college students

This will be realized through our diligent functional planning, assessment and the improvement of participant satisfaction, direct support of care management, continuous operations improvement, and building a robust learning infrastructure.

The Division of Education team members have an inbuilt need and ambition to strive toward greater challenges. These team members bring with them a work attitude and work ethic that creates a deeper commitment to our collective mission. Evidence of this can be seen in the following reports by functional sections. Each shows aggressive progress towards stated goals and noteworthy accomplishments for the year.

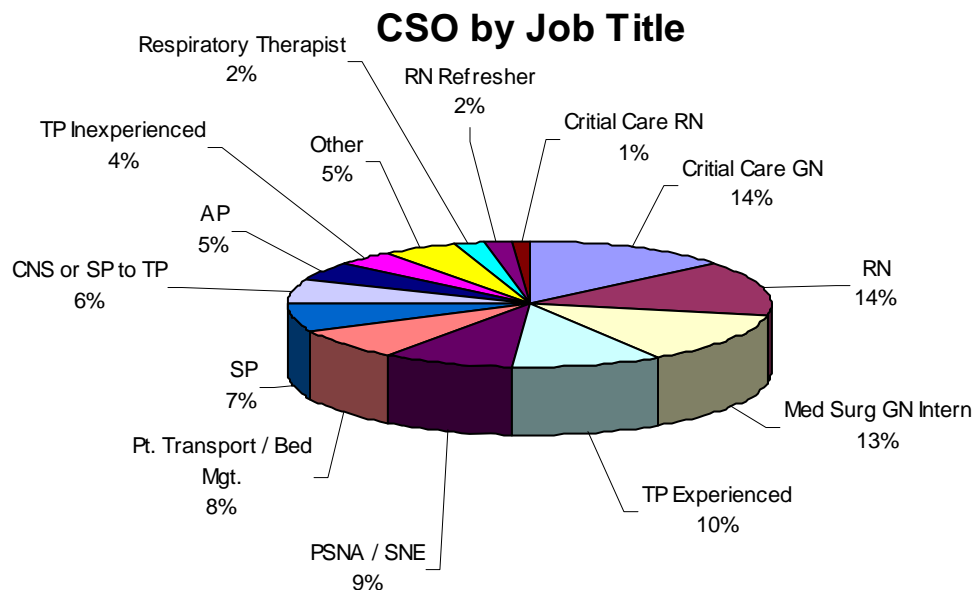
Clinical Staff Development

The Clinical Staff Development section within Division of Education provides Graduate Nurse Internships in critical care and medical surgical nursing, Registered Nurse orientation and development, orientation and training of Unlicensed Assistive Personnel, competency based education consultation, clinical product consultation and training, coordination of clinical affiliations and Student Nurse Programs, and consultation with continuing education conference planning.

Accomplishments:

Clinical Services Orientation:

- 1,037 newly hired staff through Clinical Services Orientation (CSO) for FY 2008, up 4% from FY 2007
- Over 1,150 classes to 22,471 students, logging over 155,000 instructional hours
- 208 new hires *just in the month of June!* through Clinical Services Orientation; this number surpasses the previous 4 years in which data is available
- 44% of new employees through these orientation programs are graduate or registered nurses
- 53% of participants are unlicensed personnel, accounting for the majority of the overall employee hires
- The remaining 3% are other licensed professionals such as respiratory therapists

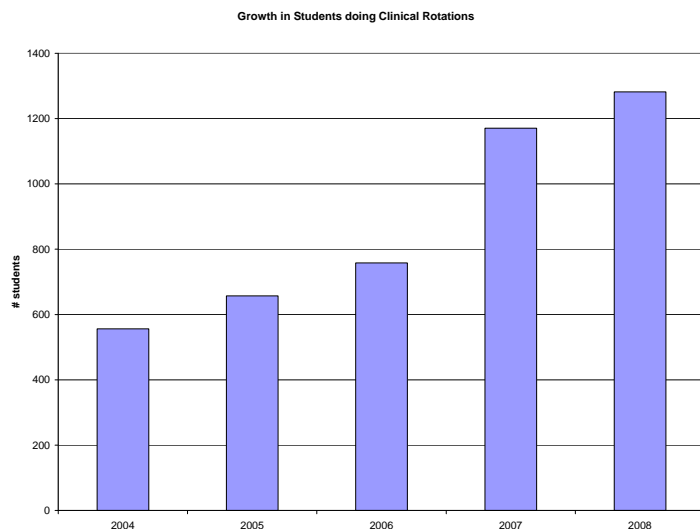


Student Nurse Externs

92% Best ever rate for Student Nurse Externs returning as GN's.

Clinical Affiliations:

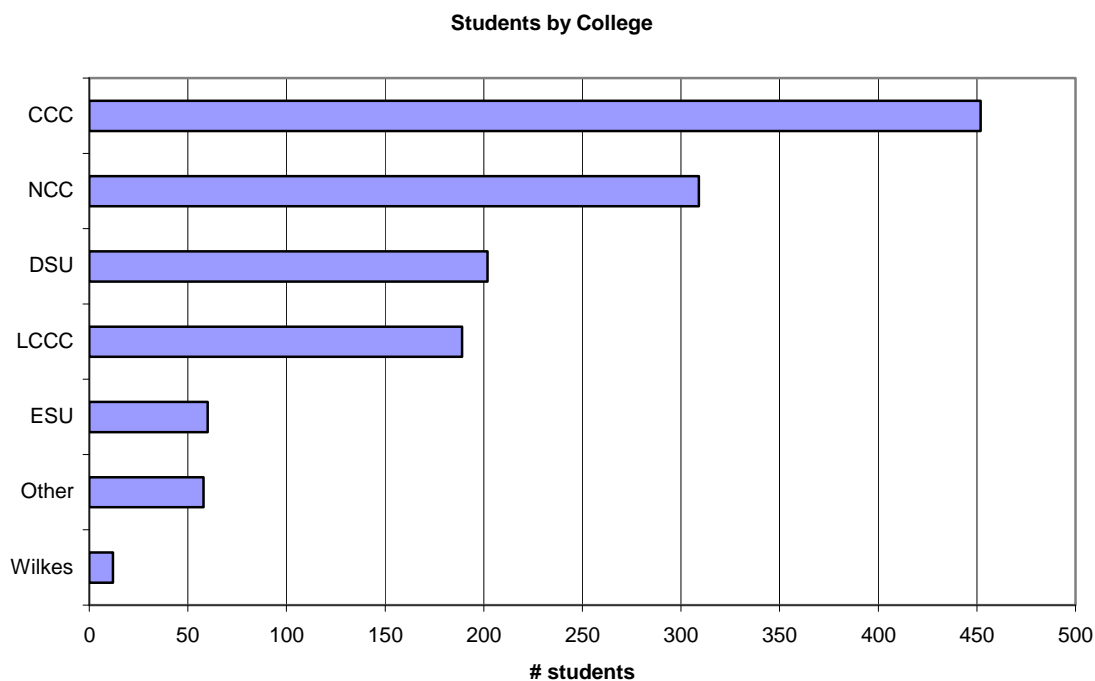
- 1,282 students using LVHN in 2008
- 9.48% increase in annual usage
 - 1,171 students in 2007
 - 758 students in 2006
 - 657 students in 2005
 - 556 students in 2004
- 5 key affiliates for nursing students (Cedar Crest College, Northampton Community College, Lehigh Carbon Community College, DeSales University and East Stroudsburg University).
- 46% of the 2007 Graduate Nurses hired at LVHN graduated from the key affiliate colleges/universities.
- 30 schools with students in clinical rotations between July 2007 and June 2008.



Affiliates for Clinical Students – active with students FY 2008

Arcadia – genetic counseling and physical therapy
 Bloomsburg University – speech therapy
 Cedar Crest College – nursing and nutrition
 Chestnut Hill – counseling psychology
 DeSales University –nursing
 Drexel University- psychology
 Eastern University- nursing
 East Stroudsburg University – nursing, cardiac rehabilitation, psychiatry, speech and sociology
 Edinboro University – speech therapy
 Gwynedd-Marcy – respiratory therapy, cardiovascular technology
 Kutztown University – nursing, speech therapy and social work
 Lackawanna College- vascular technology
 Lehigh Carbon Community College – nursing, medical and physical therapy assistants
 Lehigh University - psychology
 Lincoln Technical School – medical assistants and pharmacy technicians
 Marywood University – social work and nursing
 Millersville University – nursing and respiratory therapy
 Misericordia – nursing, physical therapy
 Moravian Theological Seminary – pastoral counseling

Muhlenberg – psychology
 Neumann College- physical therapy
 Northampton Community College – nursing and radiology technicians
 Reading Area Community College – respiratory therapy
 St. Francis University – occupational therapy
 University of Pennsylvania – nurse practitioner
 University of Pittsburgh - pharmacy
 University of Scranton – nursing and physical therapy
 West Chester University – nursing, graduate program
 Widener – physical therapy
 Wilkes University – nursing and pharmacy



Clinical Staff Development Staff Achievements:

- Karen Groller, MSN, RN, BC, CMSRN published “Orienting Nurses to a Vascular Nursing Specialty” in the December 2007 issue of Journal of Vascular Nursing.
- Fran Worman, MSN, RN, BC, CNPD obtained re-certification in Nursing Professional Development
- Karen Groller MSN, RN, BC, CMSRN and Laura Brown MS with Team Members: Kristy Arthofer BA; Tiffany Ellis RN; Edith Gray MSN, RN, CEN, PHRN; Lynne Harris MSN, RN, CCRN; Jeanne Manavizadeh BSN, RN, PCCN; Michaelene Panzarella MSN, RN; Tara Pendrak MSN, RN, CCRN; Mary Jean Potylycki MSN, RN-BC; Lynne Smith MSN, RN, PCCN & Lori Tyson BSN, RN “Embarking New Territories: Learning Cardiac Arrhythmias Outside the Classroom” Poster presentation at Drexel University Nursing Education Institute
- Edith Gray RN, MSN, CEN, PHRN and Christine Hafner RN, MSN presented “Asynchronous and Synchronous Learning: The Teaching Strategies for Success in

Critical Care Nursing Orientation.” Poster presentation at Drexel University Nursing Education Institute. Won 1st place poster in Staff Development category

- Jacqueline M. Gannon RN, BSN presented “Clinical Associate Program: Trumping the Nursing Shortage.” Poster presentation at Drexel University Nursing Education Institute.
- In a joint project with Cedar Crest College, Patricia Karo, BSN, MSED, RN, BC was third author of a presentation entitled “A Collaborative Preceptor Model for Senior Clinical Experiences: It’s a Win-Win-Win!” with Wendy J. Waldspurger Robb, DNSC, CNE, RN and Laurie Murray, DSN, RN Cedar Crest College. The oral presentation of the work is being presented in July 2008 in Singapore at Sigma Theta Tau International’s biannual convention.

Improvements:

New Technical Partners Education Track: The program for technical partner trainees

hires high school graduates into a course designed to provide them with the skill, knowledge, and ability to provide technical support at the bedside. This program, in collaboration with Northampton Community College (NCC), combines classroom and on the job training with educator and preceptor support. In the first year of the program, March 2007 through February 2008, 195 were trained through this new education track. For those who have completed training over 12 months ago, 86.9% have been retained, compared to the pre-program rate of 80.8% retention. Satisfaction data for both students and patient care services staff receiving the newly hired employees is positive. Through a grant from the Workforce Investment Board, \$72,911 was received to defray the costs while supplying skilled employees for the workforce.

<i>Retention Data 6 and 12 Months</i>			
	<i>>12 months from Date of Hire</i>	<i>>6 months</i>	<i><6 months</i>
# TPs	61	86	48
June 2008	53 86.9%	63 73.3%	45 93.8%
12 mos	58 95.1%		
6 mos	59 96.7%	66 76.7%	

Expanded Clinical Associates Program: The purpose of the clinical associate program is to increase the number of nursing student clinical rotations that can be offered by LVHN, to provide an opportunity for experienced nurses to explore the role of nurse educator, and to develop clinical teaching skills under the tutelage of experienced nursing faculty. Since Fall 2004, LVHN has implemented this program on several medical-surgical and two progressive critical care units. In FY07, this program was expanded network wide. The program was expanded from 18 students for academic year 2004/2005 to 63 students for academic year 2007/2008. Traditionally a program only utilized by Cedar Crest College, was extended to DeSales University for the first time this school year. With the assistance of a Pennsylvania Nursing Education Initiative put forth by Pennsylvania’s Department of Labor and Industry, a grant in the amount of \$99,243 was received for the Clinical Associate Program, with a Coordinator hired in January 2008. Additionally, the grant money was used to pay the Clinical Associate

stipends of \$1,000 per semester for their work with these students. Of the 83 students in the program who have graduated, 60% have been recruited to positions within the Network. From a professional development standpoint, 9 of the 15 Clinical Associates from the spring 2008 semester are pursuing master's degrees in nursing. As the grant was 1 year and budgets have been substantially reduced, the future of the program is currently being evaluated.

Casey Fink and the Graduate Nurse Medical Surgical Internship: The Casey Fink Graduate Nurse Survey© is a tool to help assess stressors as they effect the retention rates of graduate nurses. In FY 07, the Casey Fink methodology was piloted in the critical care internship program. In FY 08, the survey was expanded to the Medical-Surgical Graduate Nurse Internship program. A Professional Development series was created and occurs at 4, 8 and 12 month increments within the GN internship. This curriculum reflects the needs identified through the Casey Fink results and includes team building, self care, stress management, death and dying, critical thinking, ethical situations in clinical practice, professional growth, and work-life balance. The purpose of this redesign was to enhance retention, skill development and job satisfaction of new graduate nurses during their first year by incorporating skill development and socio-transitional models into the internship program.

Redesign of Basic Dysrhythmia Curriculum to eLearning Platform: Two modules of the basic dysrhythmia curriculum have been redesigned as eLearning courses. A traditional 2 day course that is conducted 10-15 times per year is being converted to a blended class featuring online and instructor-led sessions. The redesign will consist of moving 8 hours of traditional classroom activity to independent adult learning using our eLearning system, web links and games followed by an 8 hour workshop to validate knowledge and skills. The first eLearning modules were piloted in March 2008 classes with additional modules under development for roll out in August 2008.



Professional Student Nursing Assistant (PSNA) Program Redesigned: The PSNA program is an opportunity for college nursing students to work alongside a registered nurse to gain clinical experience during school breaks. In previous years, the orientation process involved 32 hours of classroom structure, taking precious time away from the students' clinical experience. With the use of eLearning, the orientation program was reduced from 32 hours to 16 hours of classroom education and 2-4 hours of computer based learning, based upon the students learning needs. The students piloted this new approach in December 2007 with favorable results. Following revisions, the summer 2008 PSNA's again used this blended learning approach during their orientation. 82%

of the 54 respondents rated the online learning program as either effective or very effective. Says one student “The online learning module was great because you could work at your own pace.”

Kaysch Family Pavilion Ceiling Lifts: The Products Nurses were successful in supporting the Kaysch opening in terms of facilitating the equipment purchases, installations and training. A multimedia eLearning module describing ceiling lifts was created for use in training staff and ongoing orientation.



Improving Nursing Student Orientation: The Clinical Staff Development and eLearning team collaborated to create a student orientation CD to provide students with a review of essentials elements of their hospital orientation prior to coming on site for their clinical experience. CD's are distributed to clinical affiliates in advance to reduce on site education. This process saves valuable clinical experience time. When a CD is not provided, the materials can be accessed from the Division of Education website.

Online AACN Essentials of Critical Care Orientation: In FY08, the traditional classroom critical care course was replaced with a blended approach of online learning and skills workshops utilizing simulation. The curriculum was utilized by 145 critical care interns and RN hires as a blended learning class with computer based training and hands on workshops utilizing high fidelity simulation equipment. The ECCO program runs on an independent eLearning platform hosted by AACN. We are working to integrate the ECCO program into the LVHN eLearning System later this year.

Responding to Organizational Needs: In FY08, the Clinical Staff Development section was called upon to assist in several organizational needs as follows:

- Change in patient population and acuity to 4CP required 34 additional RN staff to be incorporated into the ECCO learning system.
- Showing flexibility and adaptability, we worked to provide the additional training necessary to properly care for this different patient population.
- With the addition of more stroke designated units, the need for a redesign of the education was needed and a collaborative effort between the clinical and educational services made it happen.
- As partnerships with area hospitals grow, additional training needs were identified as it relates to trauma for Pocono Medical Center.
- In collaboration with Trauma Services, a Trauma Nurse Course was taken on the road to service our neighbors in pursuit of Level III trauma accreditation.

Expansion of Departmental Metrics and Ability to Quantify Programmatic Costs: A database was developed in Clinical Staff Development to accurately track the number of yearly classes conducted and the number of students' annual attendance. Previously, this

Enhance Preceptor Program and Learning Partners: As greater numbers of non-traditional nursing students with less clinical experience attend Clinical Services Orientation there is a growing need for preceptor readiness. In collaboration with patient care specialists, unit preceptors and learning partners, Clinical Staff Development will assess, improve and evaluate current faculty development offerings to all precepting. We look to offer opportunities for professional growth and satisfaction, retention of experienced, skilled staff will be maintained. By offering “just in time” training, discussion boards and online resources, we hope to reinforce the number of preceptors and add to the talents of those who already participate.

Trends:

In an age of information overload, managing the systematic flow of information to staff will be critical. Changes are occurring at rates that exceed our ability to process and retain the new information. Training and resource management will be essential if we are to apply this new evidence to our clinical practice. An over-arching educational planning group is necessary to govern the distribution of training to staff, taking into account the amount of new information, the teaching methodology, the timing and the evaluation of the outcomes. It is our recommendation to convene an Education Advisory Committee, a multidisciplinary governing body, to manage the deployment of educational programs to staff in this age of change and information management.

- Institutional level governance of educational programs across the Network.
- A network wide educational plan.
- Use of new technology to distribute ever changing educational programs such as pod casts, eLearning, simulation, virtual classrooms and gaming for healthcare.
- Use of webpages, Sharepoint, shared drives and discussion boards as ways for virtual communities to share the latest in evidenced based practices in real time, outside of formal classrooms.
- Shift focus of training from mastery of the current body of materials to the ability to master the search for innovation and EBP as an element of lifelong learning.
- Faculty development so that the leaders in education are equipped to manage this transformation to lifelong learning in a clinical setting.

Goals:

Service: Develop relationships with DOE customers to include the college affiliates, PCS group, and nursing leadership in order to improve the overall image of services provided by Clinical Staff Development section.

- Establish a PCS Advisory Board to Clinical Staff Development section.
- Participate in college advisory boards representing LVHN.
- Conduct individual college meetings with deans of the four largest affiliates, seeking feedback & providing them with pertinent data regarding their school.
- Make at least three changes to operations based on PCS, PCOC or college affiliate feedback.

Quality: Redesign *Clinical Services Orientation* (CSO) programs, using eLearning as appropriate.

- Perform a front end analysis and formulate a redesign team for CSO.
- Develop the redesigned curriculum and begin to pilot one of the redesigned classes.

People: Enhance staff effectiveness through faculty development programs.

- Establish a process for effective feedback related to classroom teaching skills.
- Provide educational opportunities and practical skill application in the area of eLearning, and instructional design.
- Identify and facilitate training based on needs identified through the CSO redesign process.

Finance: Provide a cost/benefit analysis to more programs offered by Clinical Staff Development, utilizing metrics to determine ROI.

- Track and report costs related to Student Nurse Extern, PSNA, Technical Partner and Clinical Associate programs.
- Provide a complete cost analysis of the CSO redesign as part of the project implementation.
- Develop an audit function for the pass through accounts for orientation.

Growth: Increase the services provided by Clinical Staff Development as evidenced through departmental metrics and/or Scorecard.

- Develop a minimum of two departmental metrics that can be collected and trended over time.
- Demonstrate growth through increased productivity, expansion of services and an increase in program offerings.
- Conduct a staffing analysis to determine future needs within the department, consistent with growth.

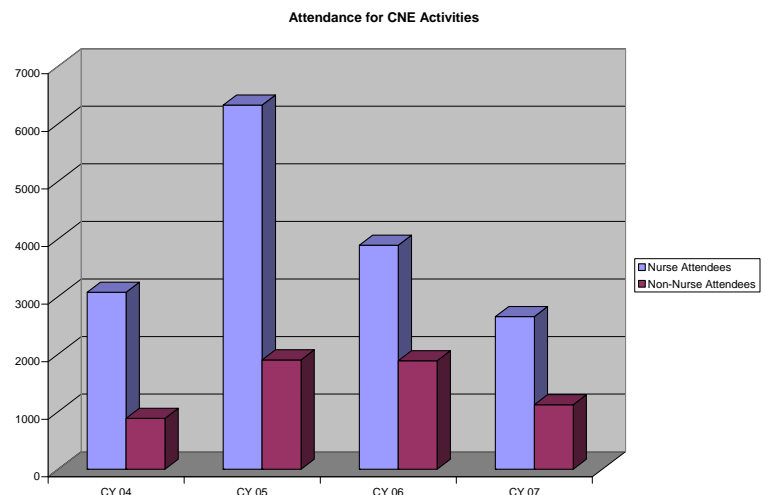
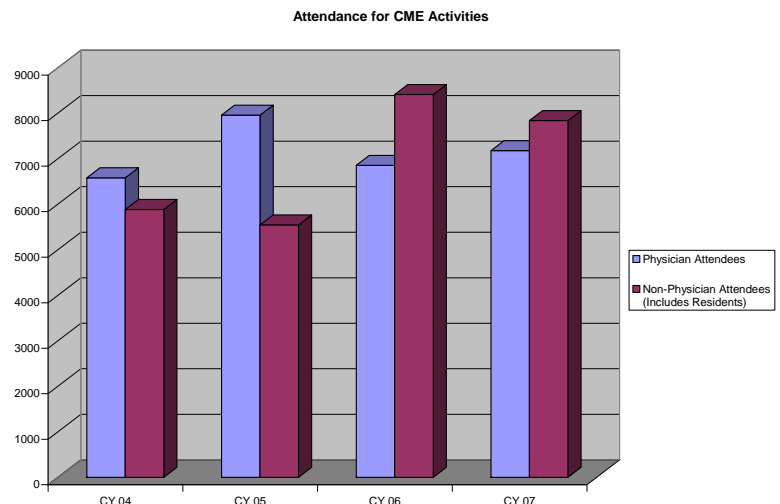
- 2nd highest non-physician attendance
- 3rd highest recipient of commercial support
- 3rd highest income other than commercial support
- 3rd highest expenses for activities
- 7 organizations offered more activities while only 4 offered more hours

Improvements:

Reaccreditation of CNE Program through 2011: Reaccreditation for approved provider status with Pennsylvania State Nurse's Association (PSNA) was a major project the first half of FY08. An extensive provider application and self-study report was submitted to PSNA and resulted in the program's successful reaccreditation for the maximum duration of three (3) years.

DOE Exemplary CME Program: The Pennsylvania Medical Society is sharing LVHN as an exemplary program available to share best practice, provide consultation and arrange for Joint Sponsorship credit to institutions seeking credit. Institutions interested in Joint Sponsoring activities may have been placed on probation, lack resources to support accreditation or may be new to the accreditation process. We currently have a pilot "learning alliance program" with Hazleton Hospital. We have been approached by two other hospitals. However we have declined extending the alliance program due to our limited resources.

Learning Alliance Pilot with Hazleton General Hospital: Continuing education credits for Hazleton General Hospital's CME program have been provided by LVHN through a Joint Sponsorship arrangement. The *Learning Alliance Program* has completed a 1 year pilot in FY '08. Hazleton staff report superior support, excellent consultation services, enhanced reliability, and better opportunities to incorporate best practice over previous Joint Sponsoring institution. As a result Hazleton has requested to extend their *Learning Alliance Program Agreement* through



FY '09. While the program model works, we are unable to extend it to other institutions due to limited resources. We will continue our relationship with Hazleton and continue to examine the resources needed reconsidering the support model used.

Expansion of CE Credit Offerings: When appropriate, all event planning teams are encouraged to plan multidisciplinary learning opportunities. Standard processes are in place to offer CE credit for nephrology nurses, pharmacists, physicians (MD and DO), registered nurses, respiratory therapists, social workers and speech-language pathologists, hearing scientists and audiologists.

New for FY'08: AOA Credit through Pennsylvania College of Osteopathic Medicine: A relationship to provide AOA credit for osteopathic physicians was established at the beginning of this fiscal year. Teams planning educational activities for CME are encouraged to consider offering AOA credit for participants. To date both the Regional Heart Center and General Internal Medicine Service Division have taken advantage of this opportunity. ***Observation:*** To obtain AOA credit for an activity at least 50% of the presentation time and 50% of the faculty must be DO presenters. This has been a deterrent for several teams. A few teams, however, have decided to increase DO presenters for their activity.

New for FY'08: Accreditation from American Speech-Language Hearing Association (ASHA): In July the CE team began a major accreditation project working with the Department of Speech and Audiology to apply for accreditation through ASHA. A thorough application was completed and submitted to the ASHA Continuing Education Board for approval. In December LVHN was approved by ASHA to offer continuing education activities for speech-language pathologists, audiologists and speech, language, and hearing scientists through December 2012.

New for FY'08: Act 48 Credit for Educators: Activities planned by the Department of Speech and Audiology will also serve as a pilot for Act 48 credit for educators through the Pennsylvania Department of Education. The program has been approved to be an Approved Professional Education Provider through April 2011. Activities submitted as part of the application from the Department of Speech and Audiology has been approved for Act 48 credit for educators.

Opportunities:

Incorporation of ACCME Updated Accreditation Criteria: Metrics and Analytics; Standardize Outcomes Measurement Into CE Process: To meet the new accreditation criteria, we must analyze changes in our learner's competence, performance or patient outcomes achieved. Standardizing our current evaluation methods and assessing the use of both audience response systems, eLearning System and HBI as instruments to provide roll-up reports of post-activity evaluations is needed. Presently, assessment of learning for Continuing Education is not routinely done beyond post-activity evaluation. Follow-up surveys (i.e. 6 months post activity) can provide valuable measurement of changes resulting from participation in continuing education.

Incorporation of ACCME Updated Accreditation Criteria: Integration of Exemplary Criteria to Enhance Performance and Quality Improvement: The ACCME has now defined 7 criteria for exemplary accreditation. These new criteria include integration of performance improvement, using non-educational strategies to enhance change, using education strategies to remove barriers to change, partnering with other stakeholders through collaboration, collaborating with the institutional framework for quality improvement and positioning the program to influence the scope and content of activities. We have established new representation from the CE team on the Quality Integration Team to meet this need. The CE team is documenting methods that departments already use to meet these criteria. We will be sharing ideas and suggestions with all activity planners. Activity requests that integrate performance improvement and quality improvement into education are increasing and planning of this type of activity is encouraged.

Diversification of Delivery Methods for CE: Most of the activities offering continuing education credit at LVHN are live, didactic presentations. Opportunities exist to expand the types of activities that can be offered for continuing education credit. Internet Point of Care learning, Performance Improvement credit, simulation and eLearning are all delivery methods that can offer diversity to traditional learning formats. CNE expanded in FY '08 to Grand Rounds formats including credit for Family Medicine and Psychiatry credit. However expansion to obtain credit for Journal Based and Case Based activities is also available. We believe that diversification of delivery methods is directly related to our need for a robust faculty development program.

Management of Project Requests for Continuing Education Events: The first half of FY '08 brought the successful establishment of standard planning process lead times and even distribution of events across the CE calendar. In the last four months of FY'08, the Continuing Education team has received an increase in requests averaging 3 new projects each week. If requests continue to come in at this rate, we will have 156 more programs to support than the previous year creating a demand for staff resources. With the recent increase in project requests, even distribution of events across the calendar is no longer sufficient to assure that all projects are assigned to CE coordinators (staff) upon request. The Continuing Education and eLearning team is collaborating to establish a standard project request process.

Web Conferencing and Archiving Capabilities for Grand Rounds: Providing access to participants who can not attend Grand Rounds activities in person is a planned enhancement of our eLearning System framework for FY '09. A project team has been assembled. The Family Medicine, Pediatrics and Obstetrics and Gynecology departments have been selected as early adopters of this technology. A pilot will be started the fall of 2008.

Conference Registration and Credit Reports Available Online: Conference registration and continuing education credit reports are presently processed via manual processes.

The Continuing Education and eLearning teams will be working to offer online registration to conference participants including payment processing, registration confirmations and reminders through the eLearning system. Also for FY '09, features to allow participants to access their continuing education credits on demand will be made available.

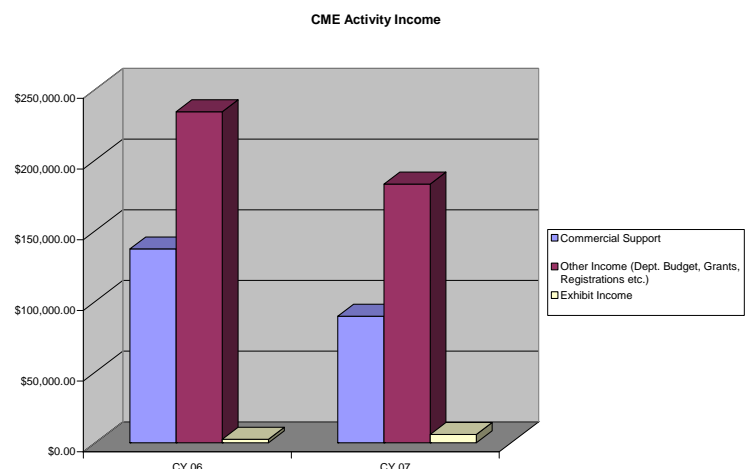
Continuing Education Calendar Posted Publicly: All continuing education events will be posted using the Active Data Exchange Calendar system. Convenient access to continuing education events available to participants outside LVHN will be possible. Using the new system will prevent duplicate entry and allow for integration with the flat panel monitor planned for installation outside of the Anderson Auditorium later this year.

Trends:

Stricter Guidelines to Obtain Continuing Education Credit: The ACCME has added criteria for providers of continuing education credit to meet in order to remain in compliance for accreditation. These criteria require that educational activities be designed to change learner's competence, performance or patient outcomes. Activities must also be developed in the context of physician competencies as defined by the Institute of Medicine, ACGME or ABMS Maintenance of Certification. A change in learner's competence, performance or patient outcomes must be analyzed as a result of the educational activity. As noted above, 7 new criteria have been created for those seeking accreditation with commendation. The new accreditation criteria were cited in the ACCME, ACPE and ANCC's response to the Josiah Macy Jr. Foundation report on *Continuing Education in the Health Professions: Improving Healthcare through Lifelong Learning*. The Macy report shared concerns about continuing education in the areas of: use of technology, delivery methods, lack of CE metrics and research, team based learning, quality improvement, assuring competency, accreditation system complexities and commercial interest.

Scrutiny Surrounding Influence of Commercial Support: Stricter guidelines for obtaining continuing education credit are not only rooted in the interest of quality improvement, but also the independence of continuing education from the influence of commercial support. In a press release from the U.S. Senate Committee on Finance, Senator Max Bacus shared concerns that the report on Drug

Company Grants for Medical Education showed some separation between medical education and marketing, but that the process was not 'clean enough.' Also, this June the ACCME released a call for comment based on the following statement: "The ACCME



Believes that Due Consideration be Given to the Elimination of Commercial Support for Continuing Medical Education Activities.” The proposal is that the commercial support of continuing medical education end. This may have substantial impact on our programs as our commercial based education grants has averaged \$95,000 annually for the last two years.

Pennsylvania State Board of Nursing Act 58: The State Board of Nursing targets the implementation of mandatory continuing education by October of 2008. Registered Nurses will need 30 hours of continuing education credit every two years for license renewal. Each nurse will have a full two-year cycle to complete their 30 hours of mandatory continuing education. The regulations are still tentative pending final approval and the PA State Board of Nursing will notify all licensed Registered Nurses once regulations are finalized.

Combined Accreditation Systems: The ACCME, ACPE and ANCC announced after the release of the Macy conference summary that they have drafted a proposal for *Joint Accreditation for the Provider of Continuing Education to the Healthcare Team*. This would provide one accreditation for providers of physician, nursing and pharmacy continuing education credits.

Goals:

Quality: Enhance ability of reporting on metrics and analytics by exploring HBI data tracking system.

- Improve process and throughput for evaluation of programs.
- Assess HBI capabilities and identify opportunities for data tracking and pilot use of HBI capabilities using existing evaluation data.
- Redesign evaluation tool and current data gathering mechanism to integrate with HBI.

Service: Expand credit type offerings for participants across the network.

- Recruit at least one team to pilot an activity for PI credit. Meet with team to discuss viability and resources needed.
- Explore possibility of point of care credit.
- Identify process requirements to designate credit along with project plans created for PI and/or IPOC projects.

Growth: Compare CE process, staffing, resources, programs etc. with other institutions, organizations and/or commercial consulting enterprises to identify areas for improvement and growth.

- Inquire about tools, tips, keys to benchmarking by making key touch points with appropriate LVHN staff.
- Create an interview template/format to ensure similar comparison across programs.
- Identify key benchmarking institutions and conduct interviews/site visits.

Finance: Collaborative team goal to promote virtual classroom participation in Continuing Ed activities.

- Provide oversight to pilot of a virtual classroom tool through the eLearning system.
- Develop a project plan and complete groundwork and testing steps required to pilot virtual classroom tool.
- Pilot of virtual classroom tool executed for grand rounds activities.

People: Collaborate with stakeholder partners across LVHN to identify opportunities to collaborate for continuing education.

- Use the Lateral Services Shadowing Program to understudy roles with promise to collaborate.

eLearning

Along with the infrastructure to administer and deliver traditional continuing education, Continuing Education & eLearning section is staffed with instructional media developers, e-learning designers and instructional technologists. This team collaborates on the development of multi media based learning products.

Accomplishments:

Completed e-Learning projects:

- **eLearning Platform Implementation (LMS/LCMS)** – This project consumed the majority of the eLearning Team’s time and resources over the last 9 months; July 1, 2008 “go live” date was successful, although anticlimactic. The real potential for the system will be the second and third phases of the implementation plan spanning the next three-years. The focus will now be on content development, providing rapid development tools to any employee’s desktop, introducing new system features, and faculty development.

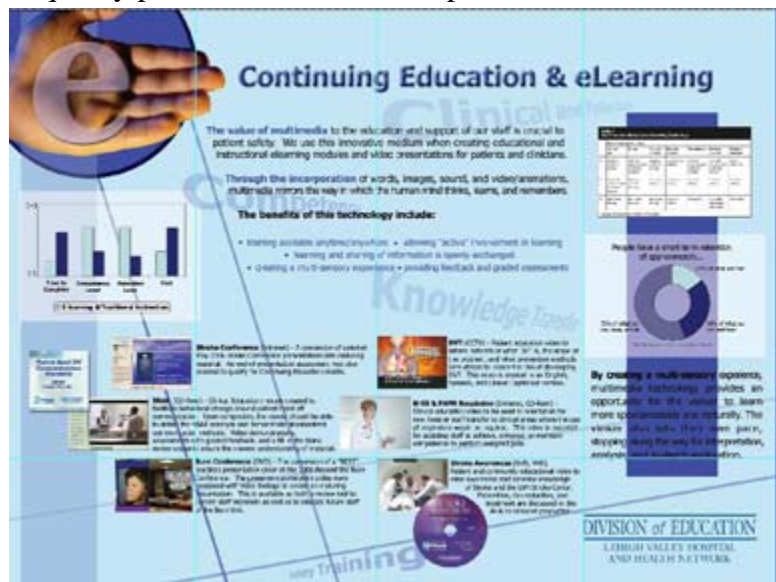
Welcome LVHVN LEARNER



- **eLearning Platform Virtual Tour** – video/animated guided tour providing new users an overview of the basic features available within the new platform.
- **Redesign of De ‘Medici Content** - The purpose of this major project was to provide new content for LVHN when asked to complete annual required training in FY09. Old courses were re-evaluated. Approximately 60% were replaced with licensed content and 40% were redesigned and developed in-house.
- **Central Lines** - A two-part eLearning module designed to introduce physicians, residents, nurses, nurse practitioners, and mid-level providers to the new procedures associated with the IHI Bundle. These modules will include assessments that will be scored and later tracked.
- **UTI: Issues and Resolutions** - eLearning module aimed at delivering collaborative, quality care to the patients at LVHN. Within this online training, the implications of Hospital Acquired Infections and identification of key components of the “Foley Bundle” are discussed.



- **Service Recovery** - An e Learning module that incorporates video scenarios demonstrating the use of effective communication strategies and service recovery techniques. This fifteen minute module has been created for all hospital employees to use as a model when handling a patient or visitor concern.
- **Family Medicine Residency Orientation Modules** – Four eLearning modules providing new residents an overview of the department structure, administration, locations, and research available.
- **Critical Care Course Distribution** – This project included putting their Critical Care booklets onto CD instead of printing each out and distributing to students.
- **SBAR for AICU** - This is the 4th eLearning module being created by the AICU PCS. The purpose of it is to create an AICU specific SBAR module for AICU RNs.
- **Effective Presentations** – eLearning module is directed toward anyone at LVHN who needs to learn how to deliver a quality presentation, from their performance to the tools they use.
- **Patient Safety Week Poster Presentation** – creation and display of a poster which provides an overview of the eLearning team services and screen shots from a few of our projects.
- **Safe Patient Movement** - This mixed media piece is aimed at teaching RNs how to use the new ceiling lift system. It includes demonstrations on how to use the various types of slings.
- **At Your Request Room**
Service Education for RNs- This mixed media piece combines a Sodexo video, user guide, FAQs and a post-test to teach RNs how to use the At Your Request Room Service program.
- **LCMS 3rd Party Content Vendor Evaluation** - This was a LCMS sub-project to evaluate the quality and design of 3rd party content vendors. A team of 16 evaluated content from 8 vendors and identified 4 that had quality content - accurate information and a relatively good design.
- **LCMS Early Adopter Identification** - This was also a LCMS sub-project undertaken by a group of 16.
- **DaVinci Center Medical Challenge** - This very large external project involved providing educational guidance to the DaVinci Science Center to develop the latest Mark J. Young Medical Challenge exhibit. A team of 5 worked with over 15 subject matter experts to gather information and create a meaningful exhibit on driving safety. This hands-on exhibit was opened to the public in October.
- **Revenue Cycle Education** -This eLearning module was designed for registrars at LVHN. In this eLearning module, registrars learn proper customer service techniques



and the correct formats and defaults to be used for all required fields. This project has a relatively small target audience. One primary subject matter expert from Revenue Cycle Education worked with us to complete this project.

- **Palliative Care** - A series of online modules for residents on various topics related to palliative care. Chapters were provided online for download. Post-tests for each chapter were completed online. Dr. Barraco worked with us as the subject matter expert on this project.
- **PSNA orientation** - A series of online modules for PSNA orientation that reduces the number of days required for the live classroom education. The PSNA orientation is now blended learning that combines online modules and live classroom education. We worked with two subject matter experts from the DOE to complete this project.
- **Creation of DOE Sharepoint Site** - the Sharepoint site provides an online resource for the Division of Education staff to share information and post common documents.
- **AICU Modules** - Arctic Sun, Cardiac, Sepsis - DOE coached the AICU PCS in the development of 3 eLearning modules aimed at increasing the proficiency of AICU RNs in all areas of critical care. Evaluations have indicated that the modules have increased proficiency and resulted in behavior changes among staff. As the PCS became more familiar with the process of creating these modules the effort on his part and the DOE decreased.
- **eLearning Instructional Design Module** - An interactive 15 minute e Learning module that provides an overview of basic instructional design principles to anyone interested in creating a course.
- **Mother Baby Brochure** -A six page letter designed to give new Mothers and their families an overview of the policies and services available on the Mother Baby Unit. The project included the Mother Baby Unit Parent Education Coordinator; subject matter experts from the Mother Baby Unit; and the D.O.E
- **SBAR Module; Resident Version** -was an extension of the original SBAR eLearning module for clinical staff. The Resident production is a mixture of 3 elearning modules containing 2 video vignettes.
- **Residency Graduation Multi-Media Support** - Graduation and "Candid" photo presentations - The DOE provided 2 resident photo slideshow presentations for display during and after Resident Graduation. One presentation showed each resident's LVHN photo and identifying information, the other showed "Candid" photos (taken by DOE) of residents.
- **Residency Recruitment DVD** - This project included the total production of eight, 7-minute videos (7 recruitment, 1 hospital overview, 1 welcome) which were compiled onto one master recruitment DVD. By producing this high quality DVD internally by the DOE, we saved over \$89,000 compared to a commercial production.



- **DaVinci Center Media Creation and Installation Support** - included producing and installing: four mock 9-1-1 phone calls, creating a user-friendly "Distraction" module presentation, and creating "Welcome" screens for 2 kiosks. Additionally, the DOE created 15 medical images (xray, CT scan, MRI) with identifiable information, and captured Distracted Driving example photos.
- **eLearning Internship** - opportunity was created for a Master's student from Bloomsburg University to join our team for one semester. The bulk of her internship focused on creating a Student Orientation CD-Rom for use by Nursing and Allied Health.
- **Code Orange Training Video**- This 30 minute video demonstrates approx. 20 techniques and 4 scenarios used by Behavioral Health personnel.
- **Distracted Driving Video** - A 12 minute Distracted Driver interview video was created for the EM/Surgery Distracted Driver committee. This video interviews several LVHN employees, paramedics, and a mother, all of whom have either provided medical support to victims or have been personally effected by distracted drivers. A/V support was also provided to this group in preparing their final presentation.
- **Airway Cart Training Video** - created for the Emergency Dept. This 7 minute video shows a scenario of how to properly utilize this important equipment.
- **Emergency Medicine SDOT Training Module** - "Standardized Direct Observation Tool" training module was created to provide case-based video scenarios so physicians and residents learn the importance of this tool. This video was filmed by EM staff and edited by the DOE.
- **Service Recovery** - An e Learning module that incorporates video scenarios demonstrating the use of effective communication strategies and service recovery techniques. This fifteen minute module has been created for all hospital employees to use as a module when handling a patient or visitor concern.
- **eLearning Made Simple Workshop** - This live, interactive workshop covers the basic steps for creating an online course. Topics include analysis, development and design. This workshop will be delivered periodically for anyone within the LVHN network interested in creating online modules.
- **SBAR for AICU** - This is the 4th eLearning module being created by the AICU PCS. The purpose of it is to create an AICU specific SBAR module for AICU RNs.
- **Effective Presentations** - This mixed production of eLearning and video is directed toward anyone at LVHN who needs to learn how to deliver a quality presentation, from their performance to the tools they use.

Projects that will carry over into FY09:

- **Arrhythmias** - A series of 12 online modules on arrhythmias to replace the existing live classroom education. After students complete the online modules, they will attend a live hands-on workshop. This course will have a large target audience of RNs and GNs. Two of the 12 modules have been completed.
- **CAPOE** (in last stage of pilot) - This online course is in the final stages of pilot testing. This eLearning course is directed to any LVHN professional who enters orders in CAPOE. It covers the most common errors made in the CAPOE system.

The course includes videos demonstrating the common errors and the correct procedures for entering medication orders.

- **Pediatric Critical Care** - This large project is aimed at new pediatric critical care nurses. An existing classroom course is being transformed to a blended model that includes eLearning and hands-on workshops. This project has been broken into phases due to its size and probably won't be completed until sometime in 2009 (calendar). The planning team will also apply to PSNA for credit hours
- **Trauma Nurse Course** - This very large project is aimed at trauma nurses. An existing 3 day classroom course is being transformed to a blended model that includes eLearning and hands-on workshops. This will position LVHN to partner with Level 3 trauma hospitals and offer this curriculum to professionals that are geographically dispersed. The team will apply to PSNA for credit hours, and the curriculum will meet the Trauma Systems Foundation standards as well. This project is estimated to complete in September.
- **Bariatric Surgery** - This video piece is directed toward prospective bariatric surgery patients who have completed their pre-surgery education. It will provide them with details on what to expect from their visit to LVHN - from registration through discharge.
- **Orthopedic Total Joint Replacement Video** – A 30 minute overview video of what patients should expect before, during, and after surgery.
- **Wound Identification and Care** - Project On Hold. Awaiting prioritization and resources. Outline rework collaboration underway between ES and SME,
- **LastWord for Medical Students** – Project On Hold. Awaiting prioritization and resources. Plan to develop I/S expertise to assume lead role.
- **Physician Discharge Instructions** - Project On Hold. Awaiting prioritization and resources. Plan to develop I/S expertise to assume lead role.
- **T-System Discharge Instructions** – Project On Hold. Awaiting prioritization and resources. Plan to develop I/S expertise to assume lead role.
- **Medication Safety** - Project On Hold. Awaiting prioritization and CSD resources.
- **Pediatric Critical Care Course** – Goal is to create a blended solution to replace current classroom training. This will also have PSNA continuing education credit associated with it.
- **Nutrition** - Create eLearning modules to provide consistent and timely training for residents and physicians on correct TPN and CAPOE entries for nutritional needs.
- **Restraints for Nurse Practitioners** - eLearning for Nurse Practitioners to support a new privilege. This project is on hold awaiting prioritization and resources.
- **Act 13 - Disclosure Skills** - This online course consists of a series of case scenarios that offer physicians and nurses "just-in-time" education. The videos demonstrate the proper techniques and communication skills to use when disclosing information. This includes ACT 13 events and ACT 52 events.
- **Pediatric Family Bereavement** – Currently there is a pamphlet for families and children that have experienced pediatric death. The team would like to follow-up with a DVD that includes more information.
- **SAFER** - Re-design of the former de'Medici course on sleep, alertness, and fatigue for residents.

- **PACU Waiting Room Video** - Informational video to be played in surgical waiting room for family members. This video will include information regarding the admission process, visitation, and what to expect during the immediate post operative period.
- **Helwig eLearning Modules** - conversion of current "*Advancing Diabetes Care in the 21st Century*" course and "*GN diabetes orientation*" into a blended learning solution that can benefit all levels of providers and the patients we serve. The knowledge level of health care providers regarding diabetes care and ability to provide education to patients is essential for quality patient care. This has direct impact on reduction of hospital costs, resources, and prevention of acute and long term complications.
- **Digital Library "Infomercials"** - creation of short digital video/graphic informational-commercials highlighting the various resources available through the Digital Library.
- **ICU eLearning Modules** - conversion of nine resident lectures into elearning modules.
- **Update Resident/Fellowship recruitment DVD** - create new recruitment videos for OBGYN, Neurology, and Breast Surgery for inclusion into the next LVHN resident recruitment DVD.
- **How to: Articulate** – Articulate is the selected “rapid development tool” that functions as a plug-in to PowerPoint. Additional enhancements to support Articulate Training.
- **How to: Use Audacity** - elearning module demonstrating the steps needed to record, edit, and enhance audio for podcast and online training use.
- **How to: Video Encoding** - elearning module demonstrating the steps required to encode video for inclusion in eLearning modules.

Community Contributions

- **reACTlv.com** - The 2008 Leadership Lehigh Valley Graduating Class through its project, reAct Lehigh Valley, is committed to generating social change by providing awareness and the resources to ACT on key social issues. The DOE eLearning team created the feature multi media presentation on their web site, www.reactlv.com.

Improvements:

Standard Operating Procedures: The DOE implemented a standard template to use when writing Standard Operating Procedures. The template provides a consistent format and layout for all SOPs created by the DOE. The template and all SOPs created by DOE members are housed on the DOE Sharepoint site.

eLearning System Governance: Committee convened to begin to address basic eLearning System governance issues including content development and publication protocols. Initial team membership composed of DoE CSD, DoE e-Learning team, DoE Continuing Education team, PCS Super User delegate, Training Manager and I/S Corporate Educator.

DOE Technology website: This intranet website provides the information needed to effectively use the technology and equipment available in the Division of Education 1247 building facilities. Additional online tools will include advanced interactive components to further assist staff and visiting colleagues on the usage of the Division's technology as well as provide "Tips & Resources" for developing presentation content.

DOE Technology Training Sessions: Multiple live sessions were scheduled to demonstrate the usage of new technology available to DOE staff in our 1247 facilities and provide an opportunity for staff to ask questions. Focus of the session was on the teaching and learning process mitigated by instructional technologies.

Asset Report Process Improvement: Enhanced identification, tagging and tracking of equipment belonging to the Division of Education.

Digital Signage Display Implementation: Design and installation of a LCD flat panel display located outside the LVHN-CC auditorium. Develop the process and procedures for managing and scheduling of the display. This display will be used in lieu of the various bulletin boards that were previously located throughout the first floor of Pool and Anderson buildings. The panel will provide Physicians, Nurses, Staff and Patients with information on educational activities and events. This project will be collaboration between the DOE, Marketing, Public Affairs and Information Services.

Opportunities:

SPPI Implementation: Collaboration in a division-wide assessment to identify resources, tools, and processes that will reduce waste and standardize process and technology improvements.

Lawson Implementation: With the planned replacement of PeopleSoft with Lawson we have the opportunity to tighten the integration between the eLearning System employee database and HRIS records. This provides the opportunity to examine several inefficient and faulty hiring and on-boarding processes that depend on the creation of a new employees HR record. This also provides the opportunity for Human Resources and Information Services to examine our eLearning System as an integrated tool in the Performance Management process.

Supporting Simulation Efforts: Provide assistance to the Simulation Team in researching and indentifying audio-visual technology to support clinical skill development.

Digital Signage Display Implementation: Design and installation of a LCD flat panel display located outside the LVHN-CC auditorium. Develop the process and procedures for managing and scheduling of the display. This display will be used in lieu of the various bulletin boards that were previously located throughout the first floor of Pool and Anderson buildings. The panel will provide Physicians, Nurses, Staff and Patients with

information on educational activities and events. We are collaborating with Marketing and Public Affairs.

Trends:

Serious Gaming (Gaming with a Purpose) – Game technologies are driving significant health and health care improvements. A new national initiative was launched this year to support studies that explore why and how game’s influence health and to promote evidence-based design in health game development. The e-Learning team will closely follow the *Serious Gaming* trend and associated research projects examining interactive games that teach and reinforce patient-safety concepts in a novel way.

Adaptive Learning - Adaptive learning focuses on educational environments that are responsive to learners as individuals. The National Research Council's *How People Learn (HPL)* framework refers to this quality as being learner centered. Adaptivity relies on recognizing individual learner differences and understanding how different learner situations can influence progress towards successful outcomes. Adaptive learning is important because it enables the use of modular components to customize learner-centric learning environments. In FY09 the e-Learning team will begin to explore this concept as it relates to the need to provide multiple competency levels of the same subject matter to suit various audiences based upon job code; for example TPs vs CNAs and RNs. Our new eLearning System supports adaptive course and assessment design.

Goals:

Service: Collaborative DOE effort to assess and prioritize eLearning platform features, enhancements & clinical activities.

- Ensure the eLearning *multi-phase implementation plan* is defined and documented.
- Lead the development of a survey tool to poll stakeholder community on eLearning platform satisfaction.

Quality: Develop an understanding of performance improvement (SPPI) project goals and learning objectives, and then incorporate these into project selection criteria and use to guide scoping, planning and design of eLearning and Continuing Education activities.

- Identify at least one service line to assess and measure within the eLearning and Continuing Ed teams.
- Identify at least one team project process where performance improvement methodology can be used to gain efficiencies.
- Identify at least one DOE Leadership process that can potentially be streamlined to improve efficiencies.

People: Work with staff to plan, market and execute community health care events. Meet community needs and represent LVHN by providing departmental support in various venues. Support at least 3 community events.

Finance: Collaborative goal to promote Continuing Ed and eLearning activities and to generate opportunities to improve service line profitability.

- Provide oversight to multi-departments: Kasych marquee and Anderson display project; ensure mapping of user interface requirements to software selection.
- Participate in design of automated process to drive Continuing Education calendar events to display.
- Ensure eCommerce requirements collaboration between eLearning and Continuing Education teams.

Growth: Collaborate with stakeholder partners across LVHN to continue to grow an understanding of departmental roles, responsibilities and common ‘touch points.’

- Use the Lateral Services Shadowing Program to understudy team member roles both internal and external to the Division of Education.
- Participate in at least one DOE internal Lateral Services Shadowing experience; at least one LVHN external department Lateral Services Shadowing experience; and at least one other internal or external Shadowing experience.

Medical Education Development

As an accredited member of the Nation's Council of Teaching Hospitals of the Association of American Medical Colleges, LVHN has an established history of providing high quality education programs to developing healthcare professionals. Specifically, graduate medical education (GME) has been a valued tradition for more than a half-century at our hospital.

Accomplishments:

Currently, LVHN trains 203 physician residents in 17 ACGME, AOA, and ADA accredited and non-accredited residency, specialty and fellowship programs. LVHN has approximately 400 physician faculty. The Medical Education Development (MED) section in the Division of Education provides institutional oversight for the administration and development of these programs through the Graduation Medical Education Committee (GMEC), program development, academic development, faculty development and administrative functions. In addition, MED administers the youth education programs, which enroll over 700 youths annually.

- 203 residents FY09
184 residents FY08
182 residents FY07
185 residents FY06
175 residents FY05
- 70 visiting residents FY08
68 visiting residents FY07
94 visiting residents FY06
87 visiting residents FY05
- Major affiliate: Penn State College of Medicine Hershey Medical Center
- ACGME accredited (MD): Cardiology, Colon/Rectal Surgery, Family Medicine, General Surgery, Internal Medicine, Obstetrics/Gynecology, Plastic Surgery, Surgical Critical Care, and Transitional Year.
- AOA accredited (DO): Emergency Medicine, Family Medicine Internship LVHN-17th, Internal Medicine Internship LVHN-CC, Traditional Internship LVHN-M,
- ADA accredited: Dental LVHN-M, LVHN-17th

Physician Residency Programs:

- Dental Medicine
 - LVHN-M
 - LVHN-17th
- Emergency Medicine
- Family Medicine
- General Surgery
- Internal Medicine
- Obstetrics and Gynecology
- Osteopathic Internship
 - LVHN-CC
 - LVHN-M
 - LVHN-17th
- Transitional Year

Specialty and Fellowship Programs:

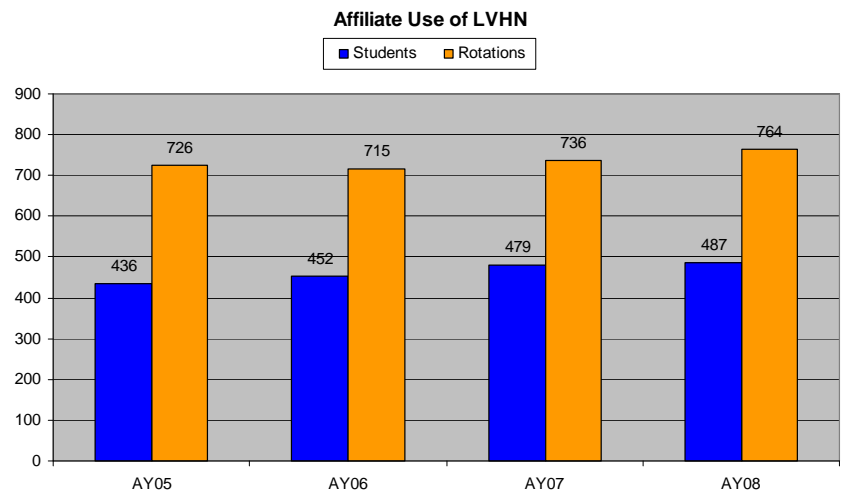
- Cardiology
 - Colon and Rectal Surgery
 - Hematology/Oncology *
 - Surgical Critical Care
 - Plastic Surgery
 - Pulmonary Critical Care *
- (*Sponsored by Penn State)

- Two re-accredited programs in FY08: Surgical Critical Care (5yrs) and OB/GYN (4yrs)
- Five reviewed programs in FY08: General Surgery, Plastic Surgery, Transitional Year, Osteopathic Internship-CC, and Emergency Medicine.
- Two internal reviews in FY08: Cardiology Fellowship and Colon/Rectal Surgery

Strategic Partnerships in Medical Education

Medical schools and accreditation bodies require medical students and physician assistant students to rotate at designated teaching hospitals for clinical rotations (or clerkship). A clinical (or clerkship) rotation is typically 4-6 weeks in length. Below are the number of students and rotations over the last 4 years: LVHN is a Regional Medical Campus of Penn State College of Medicine Hershey Medical Center. LVHN offers all

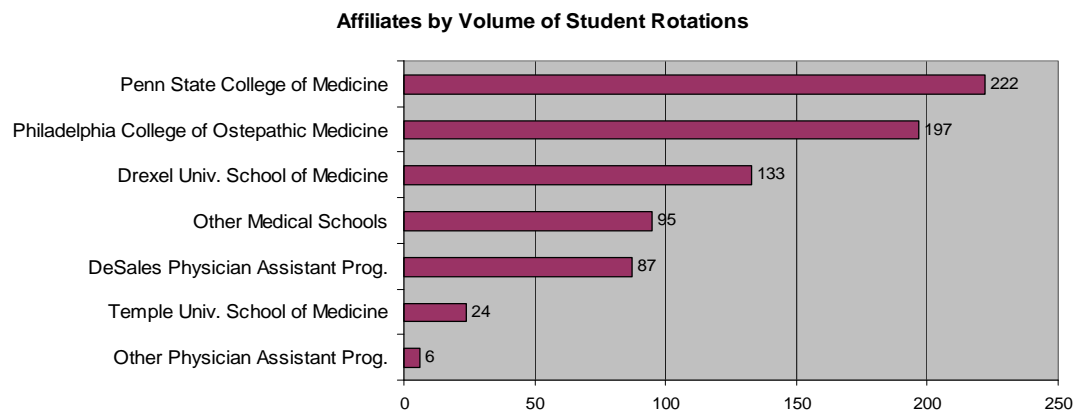
required, core clerkship rotations for 3rd year medical students which include Family Medicine, Internal Medicine, OB/GYN, Pediatrics, Psychiatry, and Surgery. LVHN also offers over 40 elective clerkship rotations for 4th year medical students. Below is a graph that highlights the number of students and clinical rotations per affiliate in FY 08.



Graduate Medical Education FY08 Match Results

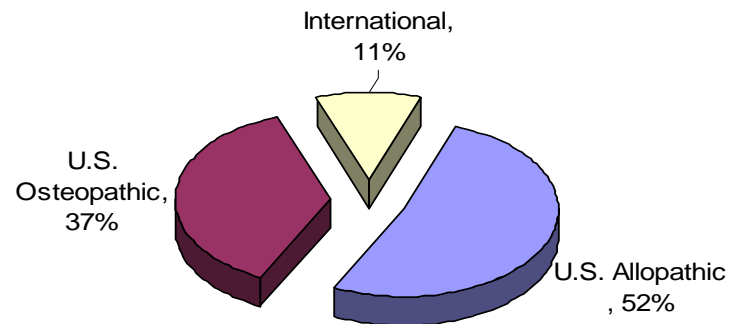
Graduate Medical Education programs posted another successful year in terms of quality of resident applicants, selection and fill rate in the national match

process. Of note are the following outcomes of our FY08 match. Data represents demographics of the incoming class.



Combined Allopathic/Osteopathic Match

- 73 total positions available
- 73 filled (includes 3 scrambled)
- 52% from U.S. Allopathic schools
- 37% from U.S. Osteopathic schools
- 11% from International medical schools



Allopathic Match (NRMP)

- 51 total positions available
- 51 filled (includes 3 scrambled)
- 75% from U.S. Allopathic schools (8% or 3 students from Penn State College of Medicine)

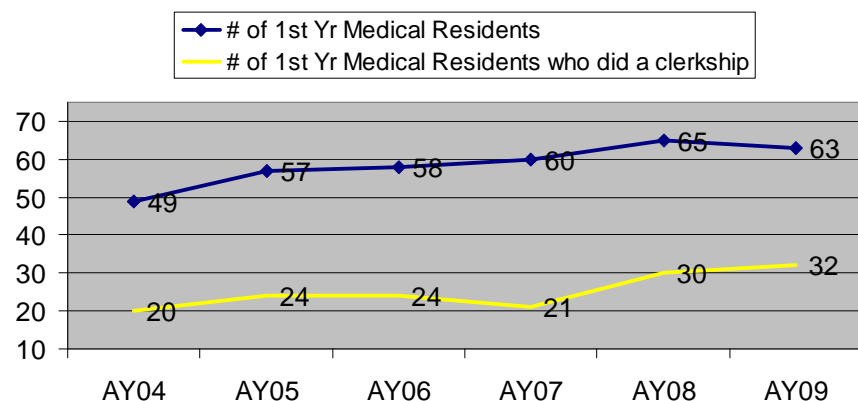
Match from Allopathic/Osteopathic Medical Schools

- 40% Non-PA based
- 60% PA-based
 - Philadelphia College of Osteopathic Medicine (11)
 - Jefferson Medical College (6)
 - Temple University School of Medicine (5)
 - Lake Erie College of Osteopathic Med (5)
 - Penn State College of Medicine (3)
 - Drexel University School of Medicine (3)

LVHN Clerkship Rotations

44% of matching residents (n=32) did at least one clerkship at LVHN. These residents did a total of **91**

rotations (25 third year clerkships and 66 fourth year electives). These data help our Clerkship Council track the impact of clerkship education on resident recruitment.

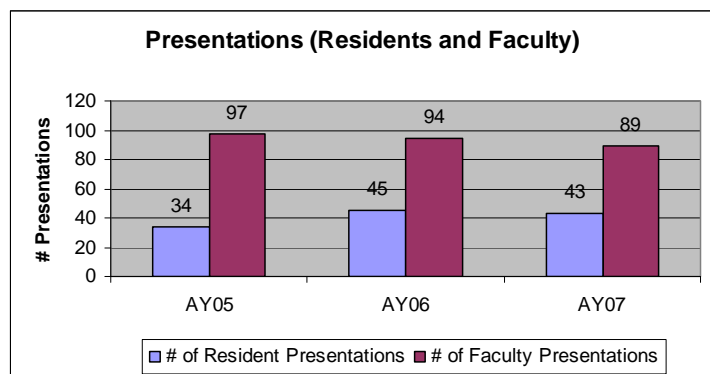
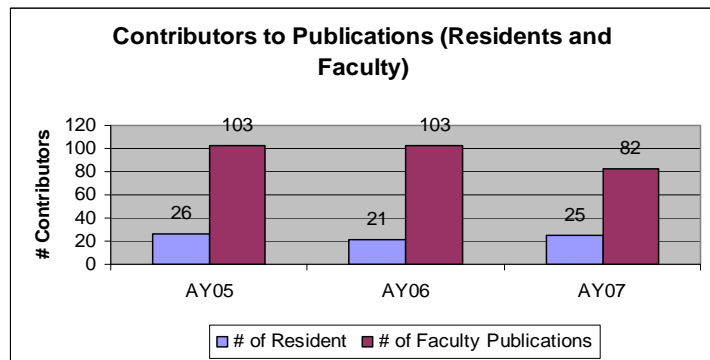


Graduation Medical Education Scholarly Activity

GMEC also advocates for an environment that promotes scholarly activity. Each program provides opportunities for residents to participate in research or other scholarly activities. The responsibility for establishing and maintaining an environment of inquiry and scholarship rests with the faculty, and an active research component must be included in each program, per ACGME Common Program Requirements.

To enhance scholarly and research activity, residency programs develop a customized curriculum for residents around their specific interests. Fundamental concepts of research and scholarship are woven directly into the implementation of the individual project. Below are two charts that illustrate the number of resident and faculty publications and presentations from academic years 2005-2007.

Publications included peer-reviewed journals and book chapters. Publications with both resident and faculty authors were counted once in each category.

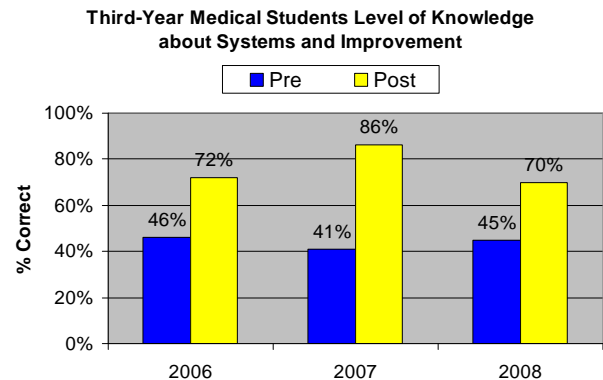


FY08 National and Regional Presentations by MED Staff

- Association of American Medical Colleges (AAMC) - Oral Presentation Title: *Benchmarking and Transparency: Quality Improvement Practices for Clerkship Enhancement* - JP Orlando, M.Ed, MS
- Association for Hospital Medical Education (AHME) - Oral Presentation Title: *Achieving GME Institutional Competency by Facilitating an Effective Internal Review Process* - Kimberly Cornwell
- Penn State College of Medicine Annual Clerkship Meeting - Oral Presentation Title: *Engaging Medical Students in Healthcare Systems and Improvement* – JP Orlando, M.Ed, MS and Jay Baglia, Ph.D
- Accreditation Council of Graduate Medical Education (ACGME) - Poster Presentation Title: *Improving Resident Knowledge of Patient Hand off Communications Standards* and Poster Presentation Title: *Institutional Physician Resident Curriculum for Central Venous Catheter Access*
- Institute for Healthcare Improvement (IHI) - Poster Presentation Title: *Institutional Physician Resident Curriculum for Central Venous Catheter Access*

Improvements:

Penn State College of Medicine: Healthcare Systems and Improvement Curriculum: The administration at Penn State College of Medicine identified a deficiency in their first and second year curricula. There was no formal education regarding systems or quality improvement. Subsequently, Penn State College of Medicine asked Lehigh Valley Hospital and Health Network to develop a one day, annual course for third year medical students on systems and systems improvement as part of their Island Curriculum.

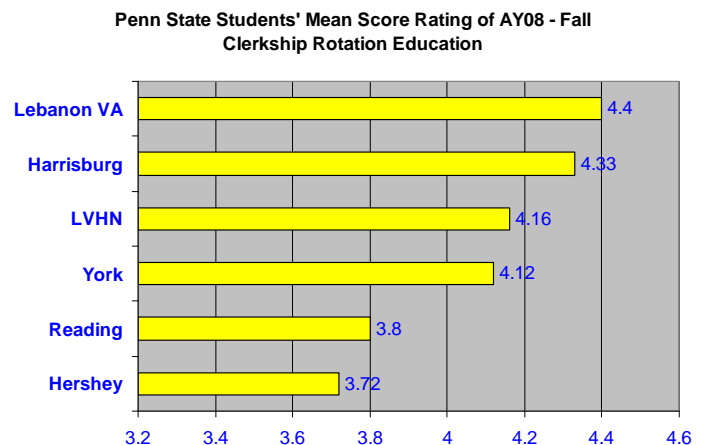


Sample of Medical students' comments about the course:

- *"Very interesting activities; made me think about what will be expected of me."*
- *"Patient performance was very powerful and helped me feel what a patient might be going through."*
- *"I never realized how creative our class was."*

Clerkship Recruitment Visits: The Clerkship Council coordinates and organizes regular recruitment visits to local medical schools. In FY08, Council members made visits to the following medical schools to deliver formal presentations to students about LVHN's clerkship and residency programs. These visits have increased LVHN's visibility among medical school and their students while also helping students better prepare for their clerkship rotations.

- Penn State College of Medicine – Over 100 second year medical students
- Drexel University School of Medicine – Over 75 second year medical students
- Temple University School of Medicine – Over 50 second year medical students



Clerkship Student Evaluations: Student evaluation data is reviewed regularly. Each clerkship director receives evaluation data regarding their experience. The Council reviews and compares data from our internal student evaluation survey and from data provided to us from medical school affiliates. As a bulk of our students comes from Penn State College of Medicine, we are interested in how we compare to other clerkship sites. Typical areas for improvement reference feedback/teaching skills, opportunities to work with patients and having clear expectations.

Clerkship Teacher of the Year Awards: In the 1st Quarter of FY08, 68% of medical students completed our internal evaluation survey. Survey results help the Council to assess and improve student education but also are the primary mechanism for selecting the Teacher of the Year Award presented at Resident Graduation. FY 08 Award Receipts were:

- | | |
|---|---------------------------------------|
| ▪ Jeffrey Mathieu, MD – Family Medicine | ▪ Richard Mazzaccaro, MD - Pediatrics |
| ▪ Jeffrey Debuque, DO – Internal Medicine | ▪ David Schwendeman, MD - Psychiatry |
| ▪ Kristin Friel, MD – OB/GYN | ▪ Scott Beman, MD – General Surgery |

Resident Satisfaction Survey: The Graduate Medical Education Committee (GMEC) is an advocate for resident satisfaction. The purpose of our resident satisfaction survey process is to assess and improve the learning environment for our residents. In addition to residency programs receiving data on their learning environment, this survey helps GMEC comply with ACGME Institutional and Common Program Requirements. As a follow-up to the action planning process, the Designated Institutional Official and Director of Medical Education Development meet with each program's residents. A report is submitted to each director should any uncovered issues emerge.

Resident Satisfaction Survey FY08 Results: 130 residents from nine GME programs participated in the survey including: Cardiology, Dental Medicine, Emergency Medicine, Family Medicine, General Surgery, Internal Medicine, LVHN-M Osteopathic Internship, Obstetrics/Gynecology, and Transitional Year. Below are key observations and findings regarding overall resident satisfaction.

	FY 2007	FY 2008
Participation Rate	76%	71%
Overall Satisfaction	3.98	3.90
Desire to Work at LVHN after Residency	4.24	3.69

Top 5 Mean Scores:

- I would recommend LVHN to a friend or relative who needed care.
- I'm proud to tell others that I work for LVHN.
- I would recommend LVHN's residency program to medical students.
- My program director holds everyone in our residency program accountable for their work.
- In my residency program, we have the equipment and supplies necessary to do our jobs well.

Bottom 5 Mean Scores:

- I trust my program director.

- The attending physicians take my education seriously
- Within duty hours restrictions, my residency program operates at 100% efficiency.
- LVHN's physicians consistently treat my co-residents with courtesy and respect.
- LVHN's benefits package meets my needs.

Greatest increase in satisfaction from FY07:

- Within mandated service and duty hours restrictions, my residency program operates at 100% efficiency.
- LVHN has developed work/life policies that address my needs.
- In my residency program, we have the equipment and supplies necessary to do our jobs well.

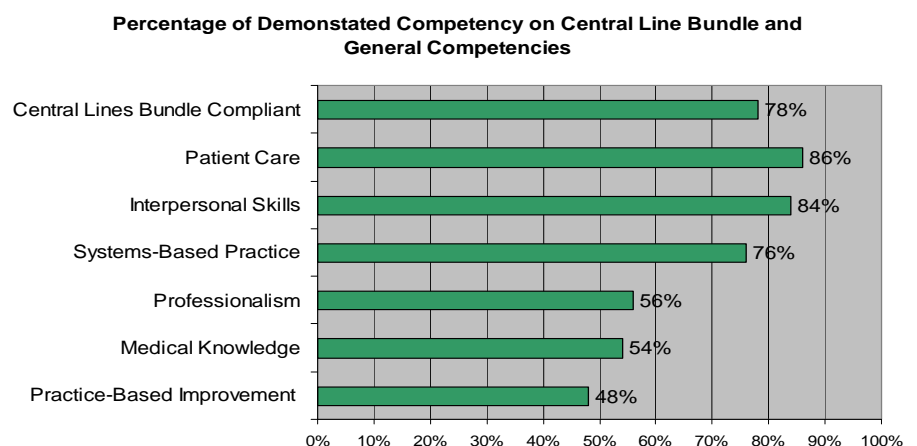
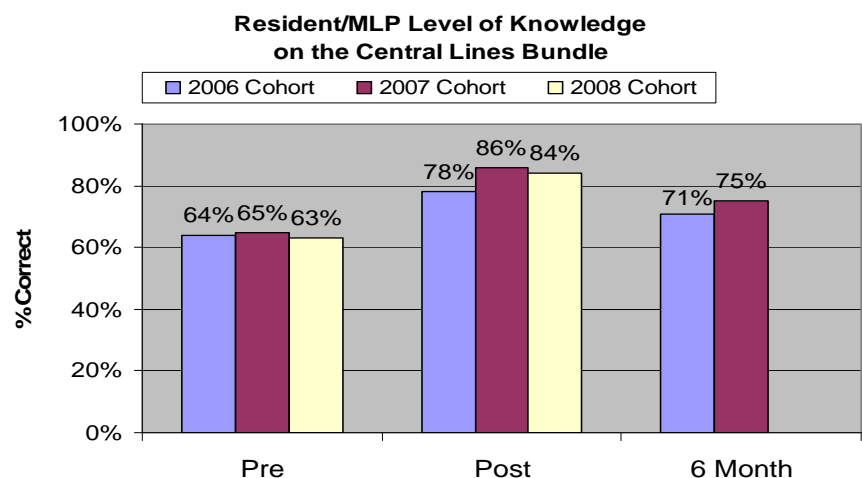
Greatest decrease in satisfaction from FY07:

- Desire to be working for LVHN after residency.
- My program director shares all the information my co-residents and I need in order to feel part of the LVHN team.
- My program director listens to my co-residents in our residency program.

Resident Education in Patient Safety and Quality: Central Lines Resident/MLP

Simulation Course: GMEC is also an advocate for ensuring resident education in patient safety and quality. The purpose of this GME initiative is to prevent catheter-related bloodstream infections by educating residents and mid-level providers on the five components of care in the Institute for Healthcare Improvement (IHI) Central Lines bundle. The course includes a half day simulation

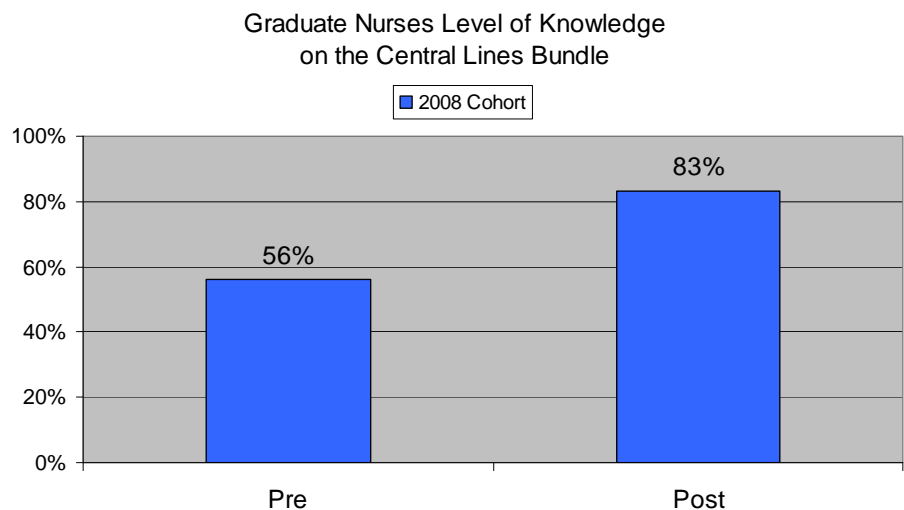
portion during which the residents and mid level providers are able to perform central line insertion on all three anatomical sites with mannequins, use sterile technique, use ultrasound for target vessel verification, perform the time out verify, and receive a



checklist based competency evaluation. Since 2006, the course has generated statistically significant increases in participants' knowledge base of central lines techniques and the IHI central line bundle. A total of 167 residents have gone through the course.

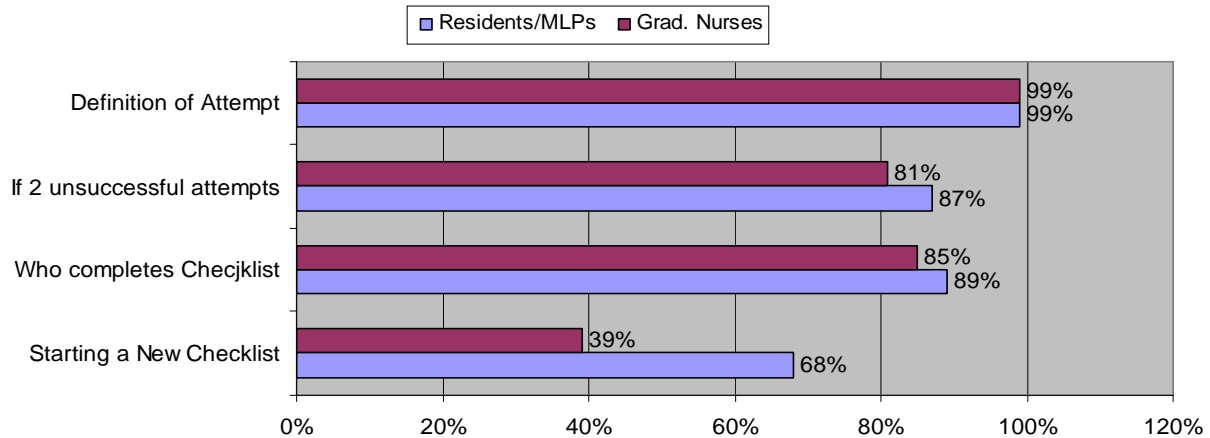
Demonstration of Competency: In 2007 and 2008, smaller group sizes gave each participant up to 50% more time to practice and receive feedback on placement technique and demonstration of the IHI central lines bundle. In 2008, these practice sessions were followed by formal performance checks to ensure demonstration of procedural and patient safety competency, including demonstration of the ACGME general competencies within the procedure, and bedside collaboration with nurse education leaders present. 43 physician/nurse faculty participated in these practice sessions. Below are data on residents/MLP's performance outcomes.

Central Lines Nursing Education: Clinical Staff Development section in the Division of Education includes an introduction IV workshop for all graduate nurses at part of their onboarding process. Education on the Central Lines Bundle was included in June 2008 IV workshops to prepare nurses for their roles and responsibilities before, during and after the procedure. A pre/post test was included to assess the initial 42 graduate nurses' level of knowledge as a result of the learning intervention. Similar to the evaluation process in the Resident/MLP Simulation Course, a 6-month check-in will follow to assess the sustainability of knowledge and to identify areas for improvement.



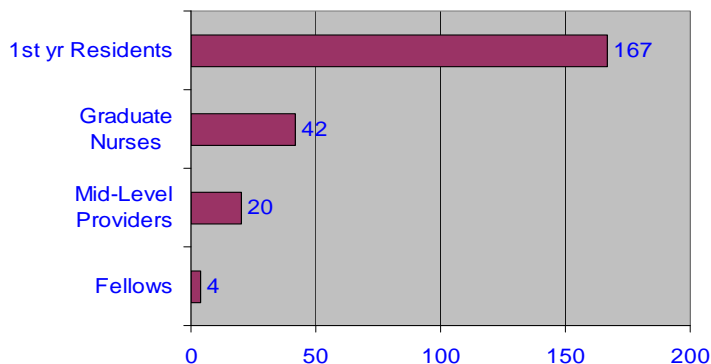
Bedside Collaboration for Patient Safety: The IHI Central Lines Bundle encourages bedside collaboration before, during and after the procedure to ensure patient safety. Both resident/MLP and graduate nursing tests included four similar items. When compared, these items help to assess resident/MLP and graduate nurses level of understanding regarding their individual roles and responsibilities during a central lines procedure. Results of this kind of comparison identify areas for improvement in future learning and readiness interventions.

Understanding of Roles and Responsibilities during Central Lines Procedure



As of 2008, a total of 233 participants in the Network have gone through formal instructional and/or simulation training focused on eliminating infections and complications from Central Lines. Below is a graph of the number of participants receiving formal central lines training.

Number of Participants Receiving Formal Central Lines Instructional and/or Simulation Training: 2006-2008



Ensuring Competency and the Reduction/Elimination of Infections from Central Lines: To achieve higher levels of performance on central lines, the Division of Education and Department of Quality and Patient Safety collaborated on an institutional initiative. In FY08, a multidisciplinary group assessed current practice and evidence from the literature to update current hospital protocols related to line insertion and maintenance. Implementation of these new protocols started in April 2008. In addition, the

multidisciplinary group was charged to consult on the design of a registry. The purpose of the registry is to “stitch” together fragmented databases and data elements enrich operator feedback, PI, education, and research efforts regarding infections from central lines. This central lines registry is also being designed as an early warning system that will automatically alert the hospital system to high risk lines.

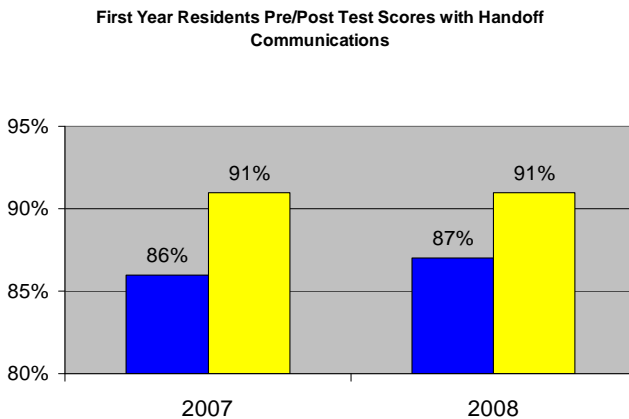
Achieving Business Impact: In calendar year 2007, 49 patients acquired central line infections in the Network (equals 1% infection rate). Based on evidence from the literature, these infections cost our Network between \$180,000-\$1.4 million in additional costs. As state and federal Medicare bodies are no longer reimbursing hospitals for these

additional costs, the impact of these unbudgeted expenditures translates into higher healthcare costs and lower margins. On the other side of the “financial coin”, these 49 central line infections contributed to 550 days in excess of our ALOS. As a result, our Network was unable to admit approximately 100 more patients and prevented us from collecting over \$500,000 in additional revenues, when applying our Average Revenue per Patient metric of \$5,200 per admitted patient. In addition to patient safety, an objective of the central lines learning initiative is to improve these business costs and enhance institutional capacity.

Improving Resident Knowledge of Patient Hand-Off Communications Standards:

According to an Institute of Medicine report, communication failure between caregivers is the root cause for 60% of reported sentinel events. In response to this report and in

alignment with ACGME Outcomes Project, Phase 3, the Division of Education designed, developed and implemented an e-learning module. The e-learning solution was designed to instruct and evaluate all first year residents on the knowledge and application of Patient Hand-Off Communication Standards.



Before starting their orientation, 70 first year residents were asked to complete an e-learning module on Patient Hand-Off Communication Standards. The

module included pre/post assessments and four video/audio interactive course lessons that included assessment and instruction on: a) Rational for Standard Communication, b) Hand-Off Communication, c) Explanation of SBAR Methodology, and d) Review of Scenarios.

Evaluation was conducted before and after the course, and at a six-month interval. Post-course scores showed improvement in residents’ knowledge of Patient Hand-off Communications Standards (*see graph to the right*). For 2008 the curriculum team is reviewing course design to improve effectiveness, evaluation, and methods for assessment of resident knowledge and competency.

Resident Patient Safety and Quality Improvement Officer: In order to demonstrate patient safety and quality improvement advocacy in resident education, GMEC created a resident patient safety and quality improvement officer for participating in selected network wide QA/QI meeting activities. This 2-year appointment will be mentored by the Senior Vice President, Quality and Patient Safety. The resident selected, Gregory Kainz OB/GYN PGY-2, will provide resident representation at selected network quality improvement and patient safety forums, will complete a quality improvement project

with expectation of a presentation and/or publication, and will report quarterly to GMEC on resident activities on quality improvement and other institutional committees.

Resident membership on Quality Improvement and Institutional Committee:

Currently, 27 residents are members 20 quality improvement and institutional committees. Resident involvement in institutional projects and committees has provided additional perspectives on problems and contributed to their resolve much like the residents' participation earlier this year during two Discharge Improvement Sessions. 20 residents participated in these sessions and contributed over 35 ideas for discharge improvement.

GME Growth Plan: Several new programs will start in Cardiology, Geriatrics, and Neurology programs. In total, GME programs will grow by 24%. The *Cardiology Fellowship*, a new allopathic fellowship, was successfully accredited by the ACGME and

Residency/Fellowship	New
Cardiology Fellowship	12
Geriatrics Fellowship	3
Neurology Residency	6
Pediatrics (visiting)	1
Psychiatry (visiting)	3

successfully recruited 4 fellows who started July 1, 2007. Four additional fellows started July 1, 2008. The *Geriatrics Fellowship*, a new allopathic fellowship, is sponsored by the Department of Medicine and is working to ensure compliance with programmatic requirements, specifically those related to

scholarly activity of faculty, before submitting their application to the ACGME Geriatrics Resident Review Committee. In November, the *Neurology Residency*, an allopathic residency, also sponsored by the Department of Medicine, submitted their application for residency to the ACGME Neurology Resident Review Committee. This group is scheduled for an accreditation site visit October 30, 2008. The Department of *Pediatrics* is currently exploring relationships with existing pediatric residency programs to fill their allotted slot. The Department of *Psychiatry* is currently exploring relationships with existing psychiatry residency programs with Drexel University and Penn State Hershey Medical Center to fill their allotted slots. *Emergency Medicine* is an existing osteopathic program, through the Department of Emergency Medicine, is applying for allopathic accreditation, giving them "dual" residency status. Emergency Medicine submitted their Program Information Form earlier this year and had a site visit in December from the ACGME Emergency Medicine Resident Review Committee. Follow-up to their site visit will occur in August 2008. *OB/GYN*, an existing allopathic program, through the Department of OB/GYN, has successfully recruited an additional resident who started July 1, 2007. *General Surgery* also an existing allopathic program, through the Department of Surgery, received a site visit from the ACGME General Surgery Resident Review Committee. General Surgery will receive notification of their re-accreditation and ability to recruit additional residents in FY09. Finally, the *Transitional Year*, an existing allopathic program, through the Department of Medicine, successfully recruited an additional resident who started July 1, 2007. Status of their re-accreditation will be received in FY09.

Enhanced Resident Orientation Process: by creating orientation e-modules for Library Services, Pharmacy, Nutrition, Risk Management, Medical Records and Safety departments. Rather than using valuable on-site time, we required completion of these modules one month prior to their first day of orientation. Post-test results and module evaluations indicated that residents were more likely to remember this information by giving it to them ahead of time and through audio e-modules than formal presentations on an already overloaded orientation day.

Opportunities:

New Fellowship Programs: Opportunity for LVHN to have accredited Palliative Care Fellowship, Geriatrics Fellowship, Neurology Residency, Dual-accredited Emergency Medicine Residency and Physician Assistant Hospitalist Fellowship programs. Not only will these new education programs contribute to LVHN's teaching mission, but they will allow the Network to expand service lines and enhance patient care.

GME Program Expansion: Opportunity for LVHN to expand service-lines and enhance patient care and teaching scope through GME programmatic expansions in Cardiology, Emergency Medicine, General Surgery, OB/GYN, Pediatrics, and Psychiatry.

Faculty Development: Opportunity for LVHN to enhance physician/nurse/mid-level provider recruitment efforts and satisfaction levels by formalizing faculty development programming and offering these programs through multiple learning modalities (i.e. E-Learning, Simulation, Professional Practice groups, WebX, etc). By providing formalized faculty development programming, LVHN will also enhance learner satisfaction, knowledge, attitude, and skill levels.

Medical School Partners: Opportunity for LVHN to enhance partnership with medical schools and mid-level provider undergraduate programs. School and program enrollments are increasing and, as premier academic community hospital, LVHN is positioned as an attractive partner.

Trends:

Resident Duty Hours: In 2007, the Institute of Medicine (IOM) formed the "Committee on Optimizing GME Trainee (Resident) Schedules To Improve Patient Safety" to examine current evidence on medical resident schedules and healthcare safety and to develop strategies to enable optimization of work schedules to improve safety in the healthcare work environment. There is concern that the current 80 hour work restriction will be decreased despite the fact that this relatively new restriction has not thoroughly examined for impact on education and patient care. The committee is expected to deliver a report in 12 months and DOE will follow-up with a synthesis of their findings and how a reduced duty hour week will benefit and challenge LVHN's ability to delivery high quality resident education and patient care.

Physician Workforce Growth: Citing growing evidence of a national physician shortage, in 2006, the AAMC (Association of American Medical Colleges)

- Update and prepare institutional review document and submit to IIR.
- Design a project plan and process for responding to IIR recommendations.

Growth and Finance: Continue to facilitate implementation of GME Growth Plan and support the development of Physician Assistant (PA) Education Program.

- Improve the profitability of GME programs by updating GME Growth Plan and communicating it to all stakeholders.
- Design a project plan and process in preparation for accreditation submission PA Hospital Fellowship and/or Palliative Care Fellowship.
- Submit program information form to accreditation body (ex. PA Hospitalist Fellowship and/or Palliative Care Fellowship).

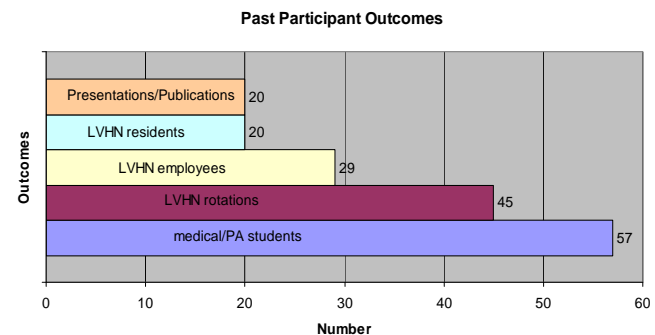
Youth Education Programs

Youth Education Programs are part of the Medical Education Development section of the Division of Education. Our Youth Programs have had over 1,500 students participate since 2005 with outstanding participant and parent evaluations.

We measure the success of our programs using indicators ranging from their popularity, to participant satisfaction, to network return in terms of recruitment. Taking a sample of 650 past participants we know that:

- More than 29 have been hired at LVHN
- More than 57 have enrolled in affiliated medical or PA schools
- 45 have completed rotations here
- 20 have returned to LVHN as residents
- More than 20 student research projects have been presented at conferences or published in journals

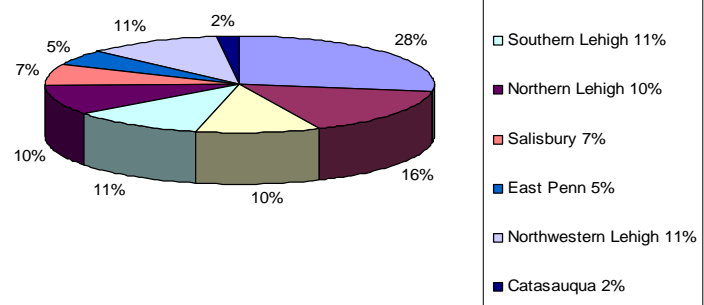
These outcomes have been achieved at a total cost of less than \$200 per student. The targeted audience for our work is primarily high school and undergraduate students. Each youth program shares the common goal of increasing the exposure of young people to potential careers in health care. Below is a summary of each youth program's demographics and outcomes.



Accomplishments:

Emerging Health Professionals: Offered by the partnership of LVHN, Lehigh Career & Technical Institute, and Penn State Lehigh Valley, this dual-enrollment program combines college-level science courses, honors health curricula, and observation in a health care setting. The program is designed for high school seniors interested in any area of health care and allows them to explore careers while also preparing them for post-secondary education. Results of our most current alumni survey include:

**Emerging Health Professionals:
Percentage Student Participants
from Each Lehigh County School District**



Student Satisfaction

- 96% agree/strongly agree they have a better understanding of the healthcare field.
- 88% of students would like to work at LVHN.
- 92% of students would want to return for clinical rotations, residency, etc. at LVHN.

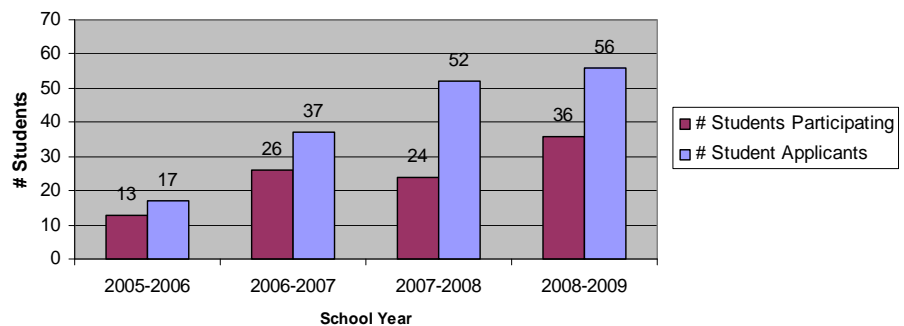
Influence on Career Choices

- 93% are currently enrolled in post secondary education.
- 33% of all students have chosen either Biology or Chemistry as a major area of study.
- 33% of all students have chosen to major in Nursing.
- 89% attend college within the Commonwealth.
- 96% expect to graduate by 2011.
- 19% participated in a previous LVHN program during 2005-2007.
- Medical school and nursing were listed most often for future educational/career goals.
- Participants stated that the shadowing component and opportunity to observe many areas of practice was very beneficial.
- Participants also stated that the program helped to solidify their career decisions.

Academic Preparation

- 92% of all students agree/strongly agree they are more prepared for college or a career after having participated in the LVHN component of the program.
- 88% of students agree/strongly agree they were more prepared for college after having taken courses at Penn State.
- 78% agree/strongly agree they are more prepared for college or a career after taking the LCTI course.

**Emerging Health Professionals:
Total Student Applicants/Participants**

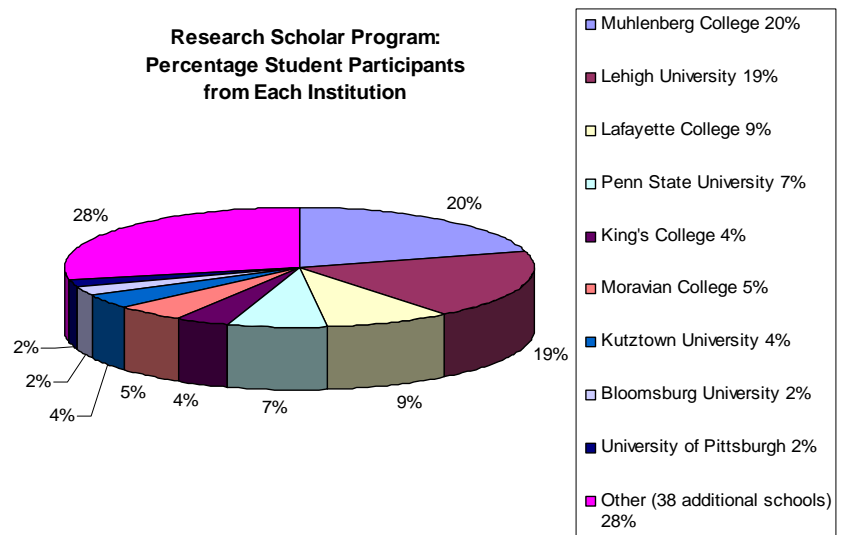


Research Scholar Program:

Offers educational research opportunities for undergraduates in a variety of clinical and non-clinical settings, while also providing valuable assistance to LVHN departments. The program includes fall, spring, and summer sessions.

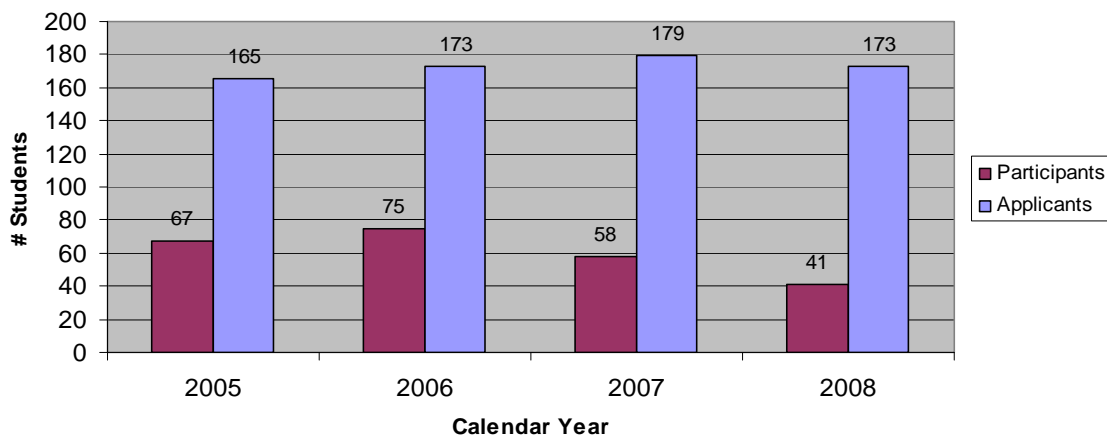
Mentors for the program are individuals from all levels of the hospital network seeking assistance with critical research and other projects. Mentors also tend to be individuals interested in stimulating the development of the next generation of professionals. Mentors include physicians, nurses, researchers, administrators, mid-level managers, coordinators, etc.

**Research Scholar Program:
Percentage Student Participants
from Each Institution**



The departments they represent span a wide range of network services, including: surgery, medicine, emergency medicine, pediatrics, family medicine, psychiatry, obstetrics/gynecology, finance, human resources, education, and marketing/public affairs.

**Research Scholar Program:
Total Student Applicants/Participants**



Health Care Career Discovery: Offers combined interactive classroom learning and observation in a health care setting to high school and undergraduate students.

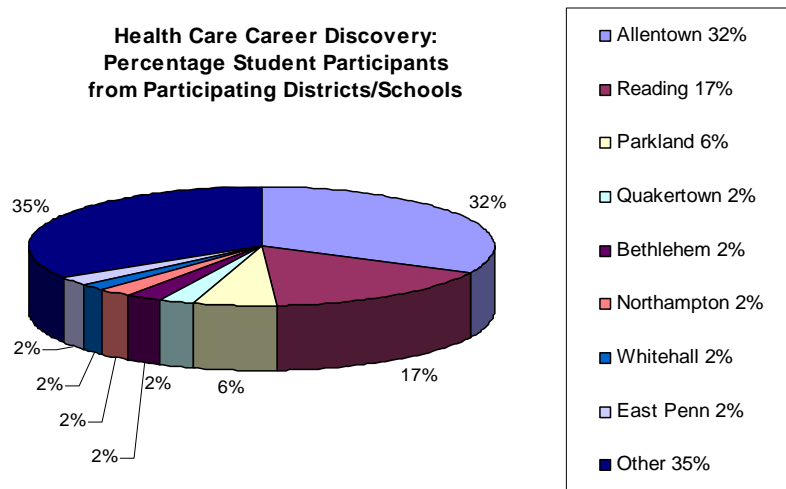
Presentations coordinated by the Division of Education offer clinical departments the

venue to present to students, with evening presentations offered monthly during the school year. Shadowing in departments is coordinated by the Division of Education for any students interested in learning first-hand through supervised observation about careers in health care. Of a sample of HCCD student evaluations analyzed from the 2007-2008 school year:

- Participants rated the program an average score of 4.8 (5=excellent, 1=poor) for the question: “What is your overall rating of the HCCD Program at LVHN?”
- 100% of students would recommend the HCCD program to others.

In FY08, we expanded the program to Northampton County school districts.

**Health Care Career Discovery:
Percentage Student Participants
from Participating Districts/Schools**



Shadowing/Observations: Linked with the Career Discovery program, short-term shadowing and observation opportunities match students with LVHN staff willing to share a first-hand look at careers in clinical or non-clinical areas.

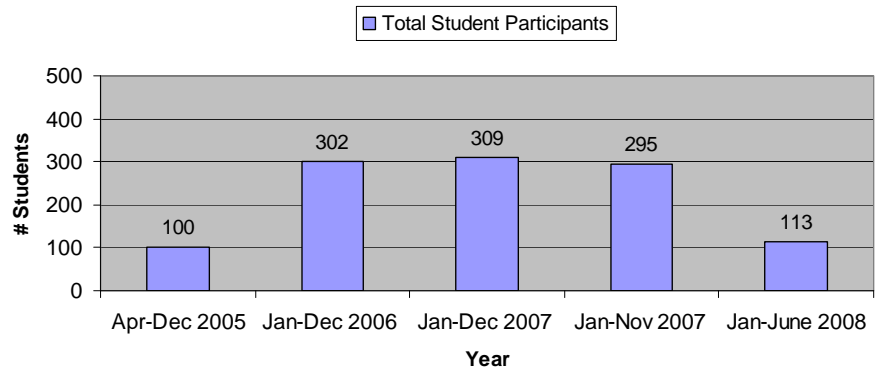
Improvements:

Youth Relationship

Management:

We have developed two issues of our email-based youth education newsletter which will be released this summer and fall. This e-newsletter serves to update students on opportunities within the network, as well as to provide yet another source of valuable career-oriented information. We expect to use this e-newsletter as a tool for maintaining contact with students as they begin their college and professional careers.

**Shadowing:
Total Student Participants**



We have also began incorporating alumni of our programs into events currently offered. We are planning alumni-specific events for the future. Currently we are using the student database to collect and maintain pertinent data on student participation, and we have begun utilizing this database to track the effectiveness of our programs in recruiting and retaining these students in health care and specifically at LVHN.

Opportunities:

Relationship Management: We are in the process of developing additional student tracking and relationship management methods, including periodic follow-up evaluations for past student participants such as the EHP alumni survey piloted this year.

Program Evaluation: Two additional questions have been added to program evaluations in order to gauge overall satisfaction with programs and participants' interest in working at LVHN based on their educational experiences.

Emerging Health Professionals Program: We hope to expand this program to Northampton School District. So far the Bethlehem Area Vocational-Technical School has been unresponsive to our offer. We have been encouraging students and parents to make their school principal aware of their children's interests.

Library Services

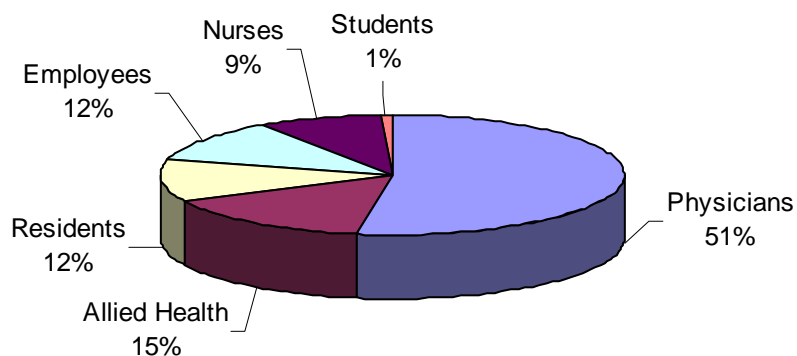
Library Services offers comprehensive information services to meet the needs of the hospital's inpatient and outpatient programs, its educational and research activities, administration, and healthcare consumers.

Services

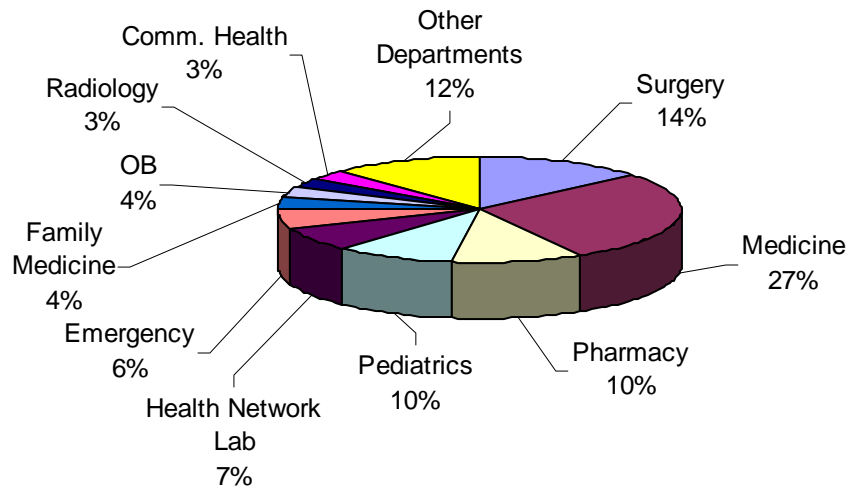
- Literature Searches
- Information Literacy Instruction
- Online Research and Evidence Based Databases
- Interlibrary Loans
- Literature Alerts to Patrons
- Electronic Book and Journal Access
- Patient, Family and Consumer Education Resources

Accomplishments:

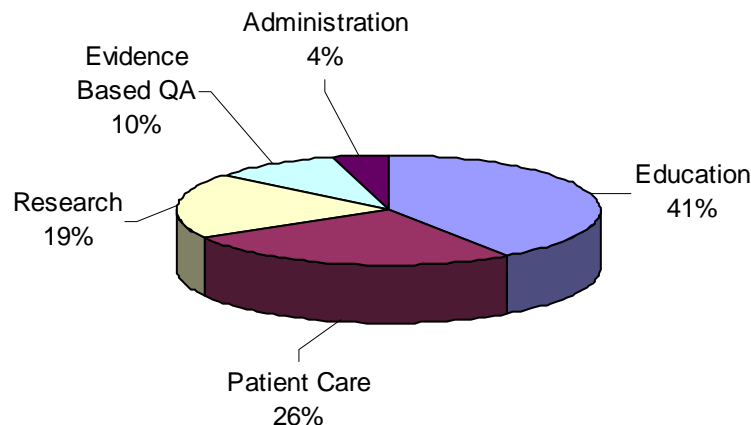
Who Uses Our Services



Departments Served



Reported use of information



Usage of Electronic Library Resources: Interlibrary Loan (ILL) Outcomes Project July-Dec, 2007 (Total Number of ILLs = 683) Since space constraints and cost prohibit a library from providing all information to its patrons from its own collection, libraries share information with each other. We conducted a six month retrospective study of our patrons' use of our ILL services to determine whether the requests were reflective of our mission to provide information for patient care, education, research and administrative functions and to confirm that our services were provided to a variety of patron types. While the majority of ILLs were requested by physicians, our results demonstrated that the library staff served all members of the healthcare team. In the future, a follow-up study needs to be conducted to determine whether the requestor changed their treatment or diagnosis based upon the information we provided and whether they actually presented this information in an educational program.

Support and Evidence at the Point of Care in *Medical Reference Services Quarterly* and Magnet Again! Librarian's Role in Collaboration to Maintain Magnet Status was published in the *Journal of Hospital Librarianship*. v. 8 #1, 2008 p. 72-79. Schwartz, Linda Matula and Iobst, Barbara J.

Digital Library IAIMS Summary:

The first target goal of the LVHN IAIMS communication plan included conveying the project vision to participants, stakeholders, leadership and LVHN community, providing outreach activities to public and corporate collaborators and gathering information about the informatics environment through a survey. The following activities demonstrate the accomplishments of the digital library domain:

- Development of a resource guide to assist users in selecting appropriate knowledge-based resources
- Formal demonstrations of resources reached 393 individuals
- Marketing handouts were distributed to 1,808 individuals
- 570 individuals have participated in formal classes on evidence-based practice
- 21 articles have been published in in-house publications covering specific knowledge-based information resources
- Paper presentation at the One Hundred and Seventh Annual Meeting of the Medical Library Association: *Planning for the Integration of the Digital Library, Clinical Decision Support and Evidence at the Point of Care (EPOC)* by Linda Matula Schwartz, Information Specialist, and Barbara Iobst, MLS, AHIP, Director of Library Services
- Article based on MLA paper presentation is pending publication in *Medical Reference Services Quarterly*
- Librarian participated in a panel discussion at Lehigh Valley Hospital Research Day 2007: Knowledge Mastery...Improving Patient Outcomes, October 1, 2007.
- Outreach sessions have been held for 72 local college students at DeSales and Cedar Crest College
- LVHN Librarian will be collaborating in NLM grant # 1G08LM009376-01A1: Librarian Infobutton Tailoring Environment (LITE) with principal investigator: James Cimino, MD.

The Digital Library paid close attention to the issues that surfaced in the IAIMS grant needs assessment. The following responses were initiated to address specific issues:

Issue	Response
Internal lack of awareness of resources	Development of Digital Library webpage and logo for branding purposes Articles in staff physician, nursing and resident newsletters
Lack of knowledge on how to use the resources	Lit Search Classes, demonstrations of Digital Library Resources, Resource Guide

	for selecting appropriate KBI tools
Appraisal of KBI tools	Development of methods to assess and compare resource usage for selection and retention of useful tools
	Examination of KBI tools to support not only EPOC but also quality assurance particularly in regard to core measures
Education on the concepts of InfoMastery and the resources available to support it	Sponsorship of InfoMastery course Development of a combined Digital Library/EPOC committee to carry the principles of InfoMastery and Knowledge Translation into the future
	Pending development of an LVHN InfoMastery curriculum and supportive elearning modules
	Development of both general and individually customizable resources to support current awareness as a fundamental principle of InfoMastery
Outcomes Measurement	Examination of methods to obtain data measuring how KBI resources contribute to evidence based practice, quality improvement, core measures and residency competencies.

Digital Library team was an active participant in the development of the NLM Testing and Evaluation Grant. Unfortunately the grant will not be funded.

Improvements:

Tracking Library Contributions: A database is being developed that incorporates LVHN employee and physician publications. *EndNote* is being used to identify and download citations for these publications. These publications will be compared with library services provided to determine the library's contribution to stated outcomes.

Conversion of The Nursing Scanner: Switched from a paper product to an electronic format to eliminate paper waste and for ease of distribution. The process of developing links to the current issues was developed. RSS (Really Simple Syndication) web-feeds are being utilized to identify new content and emails are being sent to subscribers monthly alerting them to new content.

Opportunities:

Building Library Service Metrics: *RefTracker* is a computer package that can track the amount of time required to render a particular library service and the cost of rendering the service. We plan to begin using this for FY09. Library staff has been trained and completed a 3 month pilot of phase 1 which entailed collecting a subset of statistics. The vendor is assisting us with customization to meet LVHN needs.

eJournal Resource Management – Trends; Insight; Recommendations: In this process all library staff is involved to some extent in the selection, ordering and payment of the resources, and maintaining web links in a variety of places to provide seamless access of over 3500 electronic resources to library patrons through the digital library services home page. This process will be flow charted and monitored as part of LVHN’s System of Process and Performance Improvement.

Trends:

Knowledge Translation at the Point of Care: Healthcare providers, patients and care givers need ready access to comprehensive evidence based information to help improve outcomes, reduce costs, and shorten length of stay. The internet has created new opportunities for librarians to develop systems that are readily accessible at the point of care. Seamlessly integrating information resources such as *First Consult/Procedures Consult, Dynamed, the Cochrane Library, Essential Evidence Plus, BMJ Clinical Evidence* and *Natural Standard Complimentary and Alternative Medicine* at the point of care can allow for knowledge transfer without disrupting the care provider workflow. Places such as Vanderbilt, Intermountain Healthcare, and Geisinger are partnering with the above vendors to help enhance patient care by accelerating the adoption of electronic health records and encouraging the use of evidence based medicine and other forms of best practice.

Knowledge Translation...study of the organization, retrieval, appraisal, and uptake of knowledge from research: Simple publication of information – no matter how important – isn’t enough. It has to be adopted and used to make an impact. Getting quality information to the point of care – to the point of need – is vital. Donald A. Lindberg, MD, Director of the National Library of Medicine speaking at the National Library of Medicine Biomedical Informatics course in June 2008 reviewed NLM’s goals for 2006-2016 as delineated in the report, “Charting a Course for the 21st Century.” These goals include the vital role of libraries “to facilitate information transfer” via “advanced electronic representations of biomedical knowledge in conjunction with electronic health records.” Increasingly, as biomedical research is transformed into interactive, multimedia publications, the granularity of these digital publications will allow them adjust to user learning styles and preferences. New interfaces are under development that will “understand a specific user’s information need and deliver a concise and appropriate response that is readily understood by that user.” EHR projects are occurring at VA, Kaiser, Mayo, Intermountain, and Group Health.

- Promote evidence based literature searching for physicians, residents, and others through the development of elearning modules for the Information Mastery course.

Patient, Family and Consumer Education

The Patient, Family and Consumer Education section is dedicated to addressing specific outcomes concerning acute and chronic health care management, health status, quality of life, knowledge, and the ability of individuals to function and manage their symptoms across a lifespan continuum. Through the implementation of research, education, technology, print media, and partnerships with health care teams and advocacy groups, patients, families and consumers will become empowered to assume more responsibility in the management and maintenance of their health.

Accomplishments:

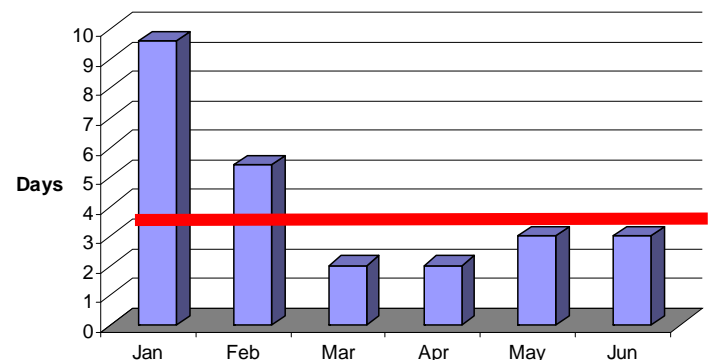
Patient Education Ordering Process:

	Total Number of Education Pieces Requested	Percentage of educational pieces that are filled, distributed, and entered into the database	Percentage of educational pieces that are filled distributed and NOT entered into the database.
January	4,305 pieces	36%	64%
February	4,950 pieces	99%	1%
March	4,437 pieces	100%	0%
April	4,323 pieces	100%	0%
May	4,537 pieces	100%	0%
June	4,237 pieces	100%	0%

Average Length of Time to Fill an Order:

This does not take into consideration the time it takes to update the database. Only reflects the time frame from when the order was received, filled and distributed to the consumer.

- 3 days is our target!



Percentage of Units Using the Correct Forms/Process:

- Correct Forms:
January 44% February 60% March 65% April 59% May 66% June 78%
- Incorrect Forms:
January 5% February 21% March 6% April 7% May 6% June 5%
- Phone/Email/Fax:
January 51% February 19% March 29% April 34% May 28% June 17%

**Request were made by a majority of non-inpatient units (Pastoral Care, Nutrition, Hospice, ET, PT)*

Customer Profile Survey Results:

In an effort to better understand our internal customers, we sent out a survey targeting Patient Care Services. A similar survey will be conducted in 2nd quarter FY09 with the

residents using New Innovations. Results of these surveys are being used to implement new support services for patient education.

- 41 responses
- 71% have been in their PCS role 0 – 3 years
- 59% do NOT have a Patient Education Committee on their unit
- Of the 41% who do have a PE Committee, 60% involve the entire care-team, not just RN's
- 73% rely on the DOE Patient Family and Consumer Education section for resources
- Of the 23% who seek supplemental sources, the internet is cited most frequently
- 60% have developed their own education resources at one time in the last 3 years; 40% have never developed their own
- 68% do NOT assess the literacy or health-literacy level of their patients
- 46% report being involved in education related services to the community outside the inpatient setting
- 95% indicated a need for continuing education offerings concerning patient education

Improvements:

Updating Administrative Policies: Policies addressing patient and family education were last reviewed in June of 2003. During the last 5 years there have been many network and regulatory changes related to patient and family involvement in relation to self care management of chronic disease, the relevancy of health care education and positive health outcomes, and access to care (avoiding health care disparities for the underserved and those with limited English proficiency). Based on these changes the following policies were reviewed / revised and updated in the Administrative Policy Manual.

- Patient, Family and Consumer Education Policy
- Authorized On-Line Patient Education Policy

Improving Operational Efficiency: The current process for ordering, filling and distributing patient education literature to clinical units in both the inpatient and outpatient setting lacked efficiency and contributed to staff and customer dissatisfaction. During the month of January 2008, a baseline survey was conducted to determine the root causes contributed to delays in filling requests. Patient Education Coordinators were assigned to the Patient Education Literature Room two days a week. In addition to filling order request two mornings a week, the coordinator provided feedback to the print shop and addressed back order issues on high volume pieces. Timely reminder Emails were sent to key stakeholders on both the inpatient and outpatient clinical units. Update of all order forms and feedback to the clinical units not utilizing the correct forms was provided with instructions on how to access the correct form on the Intranet.

- Reduce phone, fax, and email orders by 20% of baseline value.
- Improve the amount of time to fill orders from 9.6 days to 3 days

KRAMES On-Demand: In March 2007, project managers from Nursing Informatics formed a steering committee and began the development of the web based program “KRAMES On-Demand”. The program was approved for the direct purpose of

improving the documentation of patient and family education in the clinical departments in response to Joint Commission requirements. The DOE Patient, Family and Consumer Education section first involvement with the program began in January 2008. We are responsible for the maintenance of patient education material uploaded onto the KRAMES software and assist specialty areas and clinical units with determining the need to customize select pieces authored by KRAMES. In addition we have developed Standard Operating Procedures, reformatted adding over 1000 custom pieces and provided one on one education with Patient Care.

Closed Circuit Television: “The Patient Channel” The current features shown over the three LVHN patient ed channels were purchased anywhere from 1998-2005. All 58 titles are up for review and the contract to broadcast over CCTV is expired. Based on current research, the cost of replacing these titles and renewing the broadcast contract with the vendor is approximately \$11,000. Other concerns include the tedious and out of date process for reviewing content; patient and family dissatisfaction with the scheduling of programs; older titles are not closed caption, there are no written transcripts, and very few are available in Spanish; and the I/S hardware supporting the broadcasts are no longer supported by the manufacturer. As a result a task force was assembled. We investigated the current contract with GE Healthcare for a satellite broadcast entitled *The Patient Channel*. This is also covered in our current GE contract through 2010.

Improving Access to the Patient Education Material Website through the Division of Education Home Page: Reliable data from existing databases within the Patient, Family and Consumer Education section is outdated. The intranet site that houses the Patient Education Material Site was developed over 10 years ago. The operating system and server of this web site was not supported by Information Services. Maintenance of the Patient Education webpage (found on the DOE Homepage) was put on hold for two years due to the absence of a manager. Building this site currently presents a conflict due to the demands and resources needed to construct and deliver the first phase of core curriculum for the Learning Content Management System scheduled for July 1, 2008. ETA is winter of 2008.

Opportunities:

Consultation Opportunities: According to the Institute of Medicine, nearly half of all American adults have difficulty understanding and using health information. People with low health literacy are often less likely to comply with prescribed treatment and self-care regimens; fail to seek preventive care and are at higher (more than double) risk for hospitalization; remain in the hospital nearly two days longer than adults with higher health literacy; and often require additional care that results in annual health care costs that are four times higher than for those with higher literacy skills (2008 Partnership for Clear Health Communications). Our ability to consult is limited by our labor budget. We continue to examine alternative models to provide support services addressing these issues.

Patient Education Health Information: The first phase of the KRAMES roll out to

and improving self care measures in an effort to reduce risk for re-hospitalization after discharge.

- Collaborate with Patient Safety and Risk Management to form a Health Literacy Task Force.
- Provide a patient education newsletter on a quarterly basis to health care providers across the network.
- Commit to developing continuing educational offerings to physicians and nurses related to health literacy assessments.

Multidisciplinary Simulation: *Pediatric Mock Code Blue* began in December '07 with significant DOE support for collaboration with pediatrics that turned into 20 mock codes (2 codes per day) run at the EDs of all three sites, and the Peds Floor, as well as additional codes at pediatric nursing education day. Approximately 106 learners participated. There is ongoing qualitative data review to look for potential system error producing conditions as well as improvements to remedy them. There is also ongoing quantitative data review in place to examine response time for equipment availability. The *OB Crisis Scenario Training* began in March '08 with the DOE consulting for program development and assessment and involved in maternal code scenario development.

Development of Simulation Personnel: The Medical Director for Simulation, Simulation Nurse Specialist, and the Simulation Research Assistant, attended the Academic Emergency Medicine Simulation Consensus Conference in Washington, DC. This conference was also attended by Dr. Kristin Friel from OB/Gyn and Dr. Eric Bruno and Dr. Mike Weigner from Emergency Medicine. Dr. Bond served on the planning committee for this conference, moderated a breakout session, and led one of the writing group efforts. The Simulation Nurse Specialist, Debbie Arnold, attended the 12th International Nursing Learning Resource Centers Conference that was focused on the use of simulation for nursing education.

Opportunities:

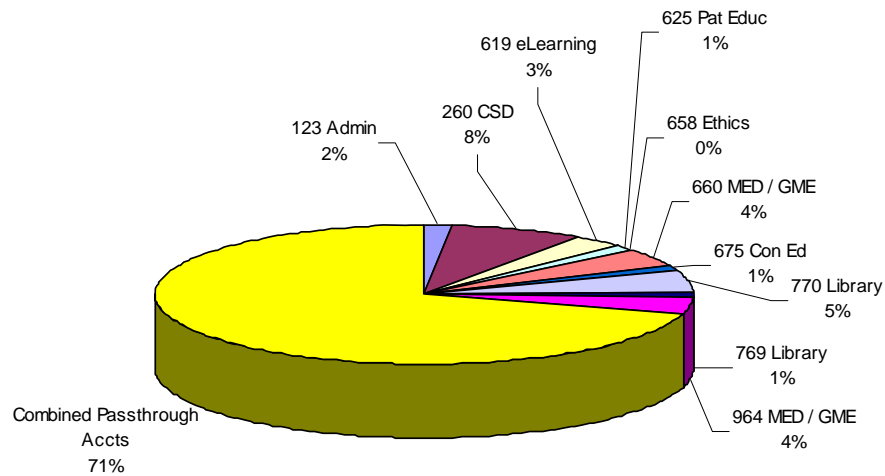
Perioperative Safety Course: Early planning commenced for a multidisciplinary course focused on safety in the perioperative setting that will incorporate teamwork skills. We have begun the planning process of identifying stakeholders, identifying team members from DOE and Dept of Surgery, and clarifying learning objectives. The scope of the project, resources required, and content expertise needed are currently being evaluated. Likewise, potential evaluation strategies are being discussed.

Standardized Patient Program Development: A Pool Trust letter of intent for program development was submitted by the simulation team in conjunction with the medical educators, Dr Jay Baglia and Dr. Elissa Foster. The purpose of this program is to create a standardized patient (SP) program at LVHN that would support the educational efforts of multiple departments in graduate medical education and nursing education.

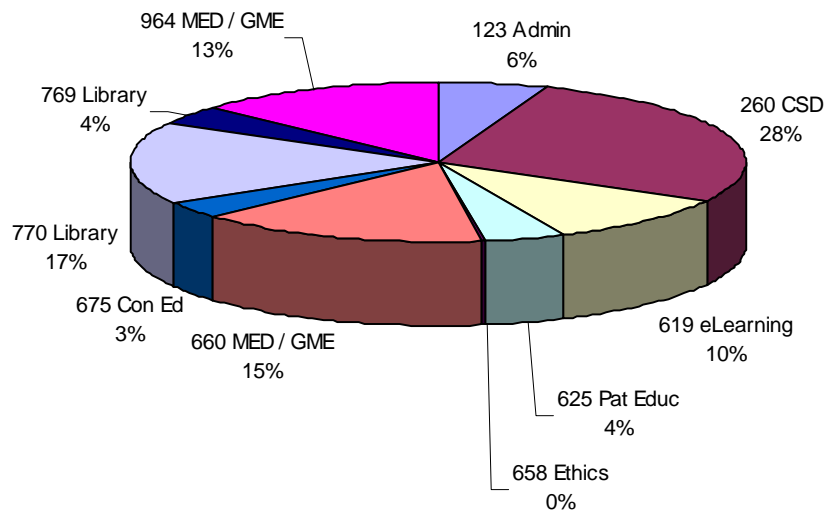
- Creation of a coordinator position to organize the logistics of an SP program.
- Creation of budgeted time for medical educators to train the standardized patients and create a video that speeds their orientation.
- Creation of budgeted time for the medical educators to facilitate the learning experience with SPs.
- Integration of SPs into simulation based education.

Trends:

ACGME Core Competencies: The ACGME is supporting the development of specific measurable competencies for residents. The DOE has supported this through the MED/GME section and the Simulation team efforts in support of procedural simulation at



Graph: Total annual budget (\$15.95 million) distributed as a percentage per DOE cost center



Graph: Total annual budget (\$4.7 million) distributed per DOE cost center WITHOUT pass-through accounts showing

- In total the Division of Education's expense represent less than 3/10ths of 1% of hospital total expenses.

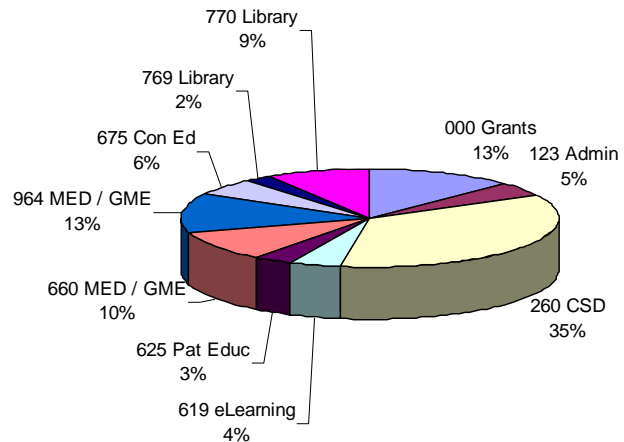
FY 08 July 1 - Jun 31, 2008	Actual Wages Paid	Budget Wages	All-Other Actual Expenses	All-Other Budget	Total Operating Expenses	Total Budget	Variance
Operating Accounts							
02 660 - Med Ed (GME)	213,097	302,435	380,780	385,849	593,877	688,284	(94,407)
21 964 - Div. Ed (GME)	292,263	497,617	113,247	105,240	405,510	602,857	(197,347)
02 675 - Cont. Education	107,166	124,980	27,615	36,149	134,781	161,129	(26,348)
02 619 - E-Learning	109,022	143,821	246,889	340,446	355,911	484,267	(128,356)
02 625 - Patient Education	92,319	90,577	75,472	100,385	167,791	190,962	(23,171)
02 123 - Div. Ed Administration	133,685	245,711	81,845	23,700	215,530	269,411	(53,881)
02 658 - Ethics Program	0	0	24,622	19,690	24,622	19,690	4,932
02 260 - Nursing Education	786,041	1,122,903	293,300	148,833	1,079,341	1,271,736	(192,395)
02 770 - Library Services	185,796	185,482	405,292	598,334	591,088	783,816	(192,728)
21 769 - Library Services	62,561	62,463	98,603	107,004	161,164	169,467	(8,303)
Subtotals	1,981,950	2,775,989	1,747,665	1,865,630	3,729,615	4,641,619	(912,004)
Pass-through Accounts							
02 264 - CC Internship	3,320,000	4,107,678	0	0	3,320,000	4,107,678	(787,678)
02 256 - Nursing Svc. Mandatory	105,200	305,711	0	0	105,200	305,711	(200,511)
02 254 - Clinical Svs. Orientation	4,566,600	5,678,901	0	0	4,566,600	5,678,901	(1,112,301)
21-260- Nursing Svc. Education	78,700	88,683	0	0	78,700	88,683	(9,983)
21-601- Orientation Nursing	882,600	1,095,836	0	0	882,600	1,095,836	(213,236)
Subtotals	8,953,100	11,276,809	0	0	8,953,100	11,276,809	(2,323,709)
Total	10,935,050	14,052,798	1,747,665	1,865,630	12,682,715	15,918,428	(3,235,713)

\$436,500 additional expenses that were not budgeted (estimated):

- 1247 Cleaning Services 21,000 Feb 18 - Jun 30
- 1247 Property Lease 50,500 Feb 18 - Jun 30
- Non Hospital Agreements 65,000 Feb 01 - Jun 30
- Clinical Services TP Program 300,000 Jul 01 - Jun 30

I am glad to report that retention has not been a factor. However stress levels, anxiety, and job dissatisfaction increased both in staff and management positions due to the number of vacancies impacting work loads, and goal attainment.

Graph: Distribution of Labor as a Percentage by Cost Center (includes grant funded positions)



Recruitment

20% average vacancy during FY08 open positions as a percentage of approved labor budget. Recruiting qualified individuals was our biggest challenge. The DOE positions require a unique mix of knowledge, skills and abilities; spanning clinical specialty, educational theory, instruction and curriculum, development and educational psychology, technology and leadership. This is further combined with a search for solid foundation in customer services, consultative practices, and solid project management skills. An analysis of qualified candidates who turn down interviews or decline offers points to non-competitive salary/benefits offers compared to those of industry. We have been working with Human Resources to address job grading. However progress has been extremely slow. Combinations of these factors have led to unusually long recruitment cycles.

Performance

Given our collective temperament it is easy for us to be self-critical, always focused on what is yet to be accomplished and what we can do better. All factors considered, the Division of Education demonstrates:

- A clear sense of purpose
- Ambitious performance on goals
- Work approaches that are efficient and effective
- Mutual acknowledgement of our joint accountability towards a common purpose in addition to individual obligations to their specific roles
- Complementary skill sets, and at times interchangeable skills

The Division of Education team members have an inbuilt need and ambition to go after bigger challenges and they bring with them a work attitude and work ethic that creates a deeper commitment to our collective mission. Evidence of this is clear, in this report, of

