Professional Practice Model

Source of Evidence 1

Describe and demonstrate how nurses develop, apply, evaluate, adapt, and modify the Professional Practice Model

Components of the PPM

Development of Patient/Family Centered Model of Care

The patient and family have been at the forefront for many years at Vanderbilt as has our interdisciplinary collaborative practice care delivery model. Patient/family centered care has been adopted throughout the Medical Center in all areas of practice. Actual and deliberate focused work on this approach to care began in 1995 in Children's Hospital. Terrell Smith, RN, MSN, Director, Patient and Family Centered Care lead that successful work which was only one of the many underpinnings of the success of Children's Hospital as we know it today.

When Terrell began the work of Patient and Family Centered Care for the adult hospitals and clinics in 2005, it was also the time – Elevate - and the original 5 Pillars (People, Service, Quality, Growth, and Finance) were introduced as a strategic framework upon which to build our annual goals and measure performance. Accomplishment of goals supporting patient care initiatives, both by the organization and individual employees would be rewarded and recognized, thus, building a strong culture of developing, adapting and evaluating our approach to patient and family centered care.

Terrell's leadership in this work involved all levels of nursing and all members of the health care team. Her work with the individual unit/clinic/department councils was instrumental in defining current patient/family focused practices and identifying opportunities for improvement.

Over time, the components of the model have evolved as health care has changed and patient care and nursing practice have changed at Vanderbilt. More about the involvement of the patient/family in care planning and delivery is outlined in *EP 4.*

Application of the Model

Over time involvement of the patient/family as the focus of care has grown. Examples include:

- Nurses involving patients and families in interdisciplinary rounds

- Nurses involving patient and families in shift reports
- The establishment of patient and family Advisory Councils
- Having a patient/family member as a member of the Quality/Patient Safety Committee
- Interactive TV System (Skylight) for patient education and improved access to services
- Nurses giving family members the education/tools to call for the Rapid Response Team

Evaluation of the Model

Indicators used for evaluation of the model include (each of these are reported on and data is provided throughout the document). Nursing staff are involved in the evaluation processes through their area based board or staff meetings. They also participate in other committees which evaluate our delivery of nursing care.

- Nursing Sensitive Patient and Quality Indicator outcomes which include NDNQI as well as organizational and unit specific indicators *(Data in OO 23 and examples provided throughout this document)*

- Patient Satisfaction Data – provided by PRC (*Data in 00 26 and data and examples in EP 35 and 35 EO and throughout the document)*

- Nursing Satisfaction data (both NDNQI RN Satisfaction and Staff/Faculty Satisfaction Data through HR Solutions) *(Data in OO 12 and examples throughout the document)*

- University Health System Consortium 2009 Quality and Accountability Performance Scorecard for Patient Centeredness – ranked number one in the consortium for 2009 [*EP1-Exhibit A-1-UHC Ranking*]

- Patient/family focus groups have also been conducted by nursing leadership. Examples include Women's Services, Vanderbilt Psychiatric Hospital, Vanderbilt Eye Institute, Heart and Vascular Institute.

- The Executive Chief Nursing Officer regularly attends and participates in the Patient and Family Advisory Council which offers her monthly, direct interaction with patients and families in an environment conducive to conversation and reflection on their experience of care at the Medical Center

- Nursing research studies (*Throughout the document and concentrated in NK)*
- Use of resources for evidence-based practice *(Throughout the document and concentrated in NK)*

- Involvement of staff in professional activities, such as: VPNPP Advancement, achieving certification, taking advantage of tuition reimbursement, participation in Front-line Leadership Program *(Information provided in SE, EP 20 and throughout the document)*

- Advancements in integrated technology that support the practice of professional nursing, such as: quality dashboards, MyHealth at Vanderbilt

Adaptation and Modification of the Model

"Patient and Family Engagement"

In their autonomous role as patient advocates, the direct care nurses are able to access from the many resources available to then what they need to provide patient-centered care.

Our current work with the model is around "patient and family engagement". In June, 2010 we had an interdisciplinary Design Shop led by Terrell Smith RN, MSN, to discuss how we will continue to move forward in "patient and family engagement". Staff determined that the engagement of the patient/family in their healthcare is the next step toward safer and improved outcomes. Our goal is to intentionally change how we collaborate with patients and families – to truly make them a member of the interdisciplinary team.

Current involvement by patients/families through councils, serving on various committees, such as Medical Center Quality Council, new space design, and others is a first step. The questions we are currently trying to address which will advance and possibly change our model include:

- Clear communication on why patient/family participation and collaboration is important.

- How to access patient/family readiness to participate/collaborate?

- How do we really validate and record patients' understanding?

- How do we involve the patient and family in mutual goal setting?

Our work in patient/family engagement is new and developing. Although our patient/family centered care approach has served us well, we believe we will begin to see more

improvement in patient safety and quality outcomes as we work toward creating a true collaborative relationship with those we serve. [*EP1-Exhibit B-1-Patient & Family Update for CEEC*]

In 2009 there were over 54,000 patient visits in which the patient had limited English proficiency. From our Nursing Ethics Survey *(discussed in EP 23 and NK)*, the number one ethical issue was providing care for English language learners. The number four ranked issue on the survey was caring for patients with different cultural and ethnic beliefs about health care. Based on the results of this survey, a clinical-enterprise wide Cultural/Linguistics Council was established to address the many issues of delivering patient and family centered care to a diverse patient population. Chaired by the Director of Patient and Family Centered Care, the Council has community representation, nurses, an interpreter, physicians and an ethicist. Cultural competency training has been incorporated into the general orientation of the staff.

As we planned for the Critical Care Tower, the practice model (focus on patient/family) influenced the actual design of the building. In addition to thoughtful planning for the patient space and nurse work space in the rooms; dedicated space was designed into the rooms for increasing family presence and participation. This included sleep space and a bathroom for the family member. Visiting hours are open and a support person can stay in the room 24/7. Evidence based practice was incorporated into the critical care orientation regarding the importance of family presence during hospitalization and the positive clinical effects such as decreased blood pressure, decreased intracranial pressure and a decrease in fall rates.

Shared Governance

Development

As discussed in SE 1, we have had a shared governance structure at Vanderbilt since the late 1970's. The initial premise of shared governance has not changed as our structures and processes have evolved over the years. Through our shared governance work we are vested in:

- Involvement
- Ownership
- Accountability
- Openness and honesty
- Decisions being made close to the work

We continue to have training and development for the leaders and the staffs who serve as co-chairs of the unit/clinic/department based councils. As new areas open, the Director of Shared Governance works with those areas to make sure shared governance is the base from which they work.

Application

At the point-of-care level, the inpatient boards are co-chaired by direct care nurses. The majority of the core members of the boards are nurses and care partners. However, many of them have other members of the interdisciplinary team as regular attending members and/or they are invited members when interdisciplinary issues are discussed. Other members of the interdisciplinary team also bring practice issues to the boards.

In the clinics and departments where there is a greater ratio of other disciplines as core members of the team, the boards are more interdisciplinary from the beginning. This also includes physicians.

Evaluation

We continuously evaluate our shared governance structure in a number of ways:

- Results of staff satisfaction surveys
- Membership/attendance of staff at committees/councils/task forces
- Attendance at the four entity staff nurse councils
- CNO breakfast conversations
- Examining shared governance as part of recruitment/retention structure

We also have a more formal process where we assess the strength of shared governance in each of our entities in alternate years: inpatient in 2009 and 2007 (including VUH, VCH and VPH) and outpatient clinics (VMG, DOT, Franklin) in 2008 and 2006. This evaluation process consists of structured interviews with unit/clinic board chairs and their managers. The questions are designed to measure the six essential elements of a shared governance board:

- Regular meetings
- Staff member chair
- Formal agenda

- Consensus decision-making
- Charter
- Ground rules

We also use the Group Cohesion Scale, a short 6-item survey that reflects feelings of cohesion (e.g. belongingness. The Decisional Involvement Scale (DIS; Havens & Vasey, 2006) measures staff nurses' actual to preferred involvement in decisions related to the work environment, such as staffing, recruitment, and unit governance. These evaluations have been conducted annually since 2004, allowing us to assess change over time.

The results of these shared governance assessments are shared/discussed at several points. First, through the Shared Governance Committee, then the Be the Best Steering Committee. *(See details in TL)* These two groups have the responsibility for broad overview assessment of our shared governance structure across the enterprise. Most importantly, the results are shared with the entity specific leadership, staff nurse council and unit/clinic. Each unit/clinic receives a targeted report for their area that provides a detailed analysis. [*EP1-Exhibit C-1-UB Assess 4E 2009*]

From these results, decisions can be made about targeting resources to work with a specific team. The Director of Shared Governance can conduct a more in-depth assessment to determine the exact needs and what education and/or development needs to occur. The ultimate responsibility for keeping shared governance on track rests with the entity leadership, managers and staff.

The most recent shared governance assessment was in the Fall of 2009 for the inpatient areas. [*EP1-Exhibit D-1-BTB Minutes, UB Assess 2003-09]*] Only one unit surveyed did not have a strong unit board at this time. There had been a leadership turnover and the new leader was getting the unit board structure re-established. Other conclusions are listed below:

- Unit boards continue to function well with 40% of them having 5/6 essential elements
- Group cohesion and satisfaction remain high and stable
- Gaps between actual and preferred decisional involvement remained stable

One of the areas for improvement identified in both 2008 and 2009 was the gap in the staff nurses' desire to be involved in professional recruitment activities such as interviewing prospective staff nurse candidates. In response to this gap, the Nursing Education and

Professional Development Department negotiated greater access to Targeted Selection workshops given by Human Resources. This has supported a greater number of direct care nurses to complete this training on developing and asking interview questions.

Adaptation and Modification

Each year our physical campus and our staff numbers increase and the practice of nursing at Vanderbilt evolves, therefore, we are challenged to adapt our shared governance structures and processes to keep pace. We are continuously searching the literature and connecting with like organizations, but most frequently find ourselves in a pioneering space.

During the 2008 Nursing Staff Bylaws Convention, the direct care nurse representatives from across the enterprise voted to have 4 separate staff councils (one for each entity) as opposed to one staff council for the organization. This came directly from the staffs that were involved in our one staff council and identified a need to have a larger group of "like" representatives to discuss "like" concerns. This change has been a welcome and good one for us.

The entity CNOs are part of their respective staff councils. In addition the direct care nurse co-chairs of each council, the entity CNOs and the Executive CNO meet once a quarter for the Nursing Staff Council Cabinet. This is the forum for discussion of entity-wide issues.

Communication Challenges

We have been faced with the task of how we bring groups together for education, training and shared governance activities when they are literally miles apart. Using some of the new technology, such as "Skype", private social networking avenues, and shared computer drives has proven helpful. Supporting staff and leaders in this manner serves more than one purpose; maintaining involvement and decreasing travel time.

An excellent example is the LifeFlight staff. LifeFlight has several helicopter bases out in the surrounding communities in order to put them closer to potential patients. Additionally, if when a shift is on duty, rarely would they have the opportunity to "gather" for a meeting. They have developed an electronic system for getting unit board business accomplished.

Professional Practice Model

Source of Evidence EP 1 Empirical Outcome

Describe and demonstrate the result(s) of applying the Professional Practice Model. Include two (2) examples related to nursing practice, collaboration, communication, or professional development activities.

As we continue to improve patient access and outcomes and decrease costs, application of the Professional Practice Model evolves. As part of our shared governance structure, nursing plays a key role in developing and implementing initiatives around patient/family centered care.

Back to Patient Focus with Telephone Triage Nurses in the Cancer Access Center

Purpose/Background:

All cancer patients, especially those undergoing active treatment for their disease frequently have issues that arise between their office visits and need to call with questions. Several issues impeded the delivery of patient centered care and quality outcomes for our cancer patients when they called the Cancer Clinic. Problems included: timeliness of return of phone calls; appropriate triage of phone calls to the correct provider; varied use of treatment protocols; and continuity of follow-up after phone calls from one provider to another.

Another issue for the Cancer Center was patient volume. As the only NCI designated Cancer Center in TN and our surrounding service area, our referral base is large. Getting the referring provider to the right place was a challenge, particularly without multiple transfers and possible loss of calls. Also, community and outlying area patients called for information on treatments offered at Vanderbilt and possible research protocols; with the same possibility of being transferred multiple times or having their call dropped.

Initially, The Cancer Access Center was developed to streamline patient and physician access to:

- schedule appointments
- provide convenient, direct communication with referring physicians
- provide more real time communication for patients/families with nurses

Nursing Triage is part of The Cancer Access Center. The goals for nursing triage are to:

1. Provide consistent management of patient/family concerns

2. Provide improved symptom management

A consistent approach is provided through a dedicated team of nurses who use evidence-based protocols to address patient concerns and provide symptom management. One of the key issues in this work is that patients are given a choice and can choose to speak to a nurse or not.

Another goal was to create consistent documentation, using tools that serve to support the 'hand-over' of care from triage nurses to other members of the health care team.

Methods:

A group of oncology nurses led a team that worked on the development of triage protocols to be used by the nurses answering patient calls. Based on the history of phone calls, knowledge of the most frequent problems cancer patients encounter and collaboration with key physicians; a list of the most common chief complaints was developed. This group started with this list of the most common chief complaints and developed evidence-based protocols to address them. The list of chief complaints included:

Table EP 1 EO – 1: Complaints

Bleeding	Fatigue
Constipation	Fever
Diarrhea	Mucositis
Dysphagia	Nausea and Vomiting
Pain	Rash/Skin Irritation

To develop the protocols, the team reviewed evidence from the following resources:

- The National Comprehensive Cancer Network
- National Cancer Institute
- National Institutes of Health
- American Society of Clinical Oncology

- Society of Surgical Oncology
- Oncology Nursing Society
- Society of Gynecologic Oncologists
- American Association of Thoracic Surgery
- American Cancer Society
- American Nurses Association

The protocol format was designed to be consistent from protocol to protocol to assure ease of use by the nurses and to provide consistent information. Emergent, urgent and supportive nursing assessments were defined in each protocol to provide guidelines as the nurse spoke with patients on the phone. The format includes:

1. Outcome Goal
2. Statement
3. Definition
4. Procedure
5. Emergent Nursing Assessment
6. Urgent Nursing Assessment
    a. Chemotherapy
    b. Radiation
    c. Surgery
        i. Pre-op
        ii. Post-op
7. Supportive Nursing Assessment
8. Nursing Intervention
9. Notify Provider to Obtain Order as Needed
10. Documentation
11. References

Physicians were then asked to review all the protocols and provide input. Upon completion, the Executive Chief Nursing Officer (Marilyn Dubree, MSN, RN, NE-BC) and the Chief Nursing Officer/Chief Operating Officer (CNO/COO)(Margaret Head, RN, MSN, MBA) for the VMG met with the group to review and ask questions to validate the process. The final step was to obtain signatures from the lead physician in each clinical area as well as the CNO/COO of VMG and the Nursing Administrative Director for the Cancer Center (Carol Eck, RN, BSN, MBA).

See Table below.

Table EP 1 EO – 2: Participants

Kay Armstrong	RN 3, OCN	Medical Oncology
Ann Hankenson	RN 3, BSN	Medical Oncology
Beverly Puckett	RN 3, BSN, OCN	Medical Oncology
Karen Pinkard	RN 3,	Thoracic Surgery
Daphne McGavic	RN 2, MSN	Medical-Surgical-Radiation Oncology
Lynetha Verge	RN 3, OCN	Medical Oncology
Melinda Smith	RN 2, OCN	Medical Oncology
Elisa Bryant	RN 2, OCN	Medical-Surgical Oncology
Samantha Ripptoe	RN 2	Medical Oncology
Beth Hardeman	RN 2, BSN	Surgical Oncology
Debbie Brandle	RN 2, OCN	Hematology- Stem Cell Transplant
Cristina Salajanu	RN, MSN, OCN	Nurse Manager, Hematology/Stem Cell Transplant
Debbie Preston	RN, BSN, OCN	Nurse Manager, Cancer Clinic
Linda Dial	RN, MN, AOCN	Nurse Educator, Cancer Patient Care Center
Katherine Wright	RN 3, BSN, OCN	Medical Oncology, Cool Springs, VICC
Katie Madison	MSN, RN, AOCN, NE-BC	Nurse Manager, Cool Springs, VICC
Leah Atwell	RN, BSN, OCN	Nurse Manager, Cancer Infusion Center
Sheryl Redlin-Frazier	RN, MSN, OCN	Consultant, Nursing Education and Professional Development
Teresa Knoop	RN, MSN, AOCN	Clinical Nurse Specialist, CIP
Jennifer Woods	RN, BSN, MBA, MHA	Operations Engineer, Vanderbilt Performance Improvement Office
Cancer Physicians		

Outcomes:

These calls represent patient issues/concerns that were handled real time at the point of service that might have otherwise gone for hours unattended.

We are monitoring the volume of calls for abandonment rate. The abandonment rate target goal is 5 % and is defined as "a call where the call is dropped or not received". This is due often to the caller hanging up before someone answers. This is measured weekly and adjustments are made based on data such as to add staff or alter hours of operation.

In December, 2.0 FTE nursing positions were added based on the abandonment rate and the number of calls that were not being answered (rolled over to a scheduler phone line) per day. When the average rollover rate per day increases to 50 plus calls, we are able to provide an additional RN.

The call statistics below are from January 2010 through August 31, 2010 and reflect the focus, teamwork and dedication of this process change to provide improved patient centered care. The data represents approximately 30,000 patients who had their questions answered promptly leading to better access to care for our patients.

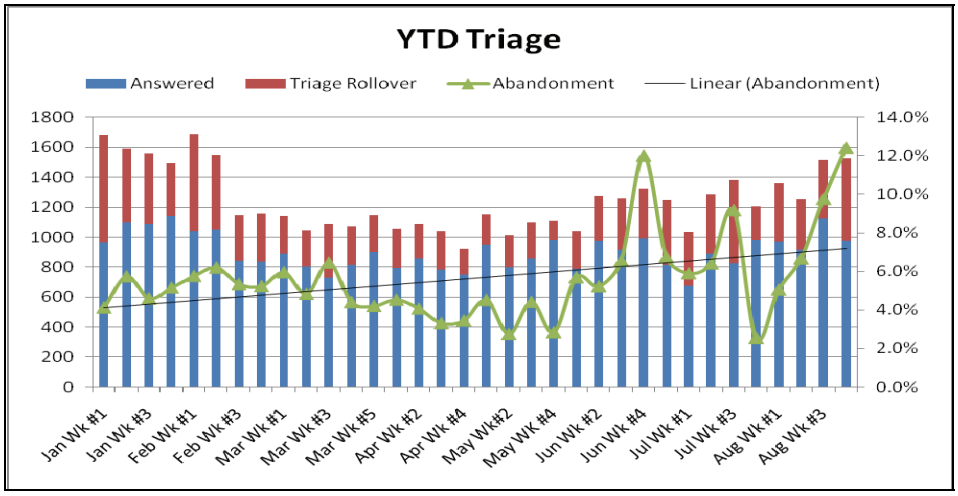
The 5.7% abandonment (dropped call) rate indicates that patients and caregivers have a high level of service. Prior to the Access Center opening, the abandonment rate fluctuated between 20% and 60% depending on the day of the week. We currently have 7.25 FTEs Cancer Telephone Triage Nurses. The average nurse can handle up to 40-50 calls per day.

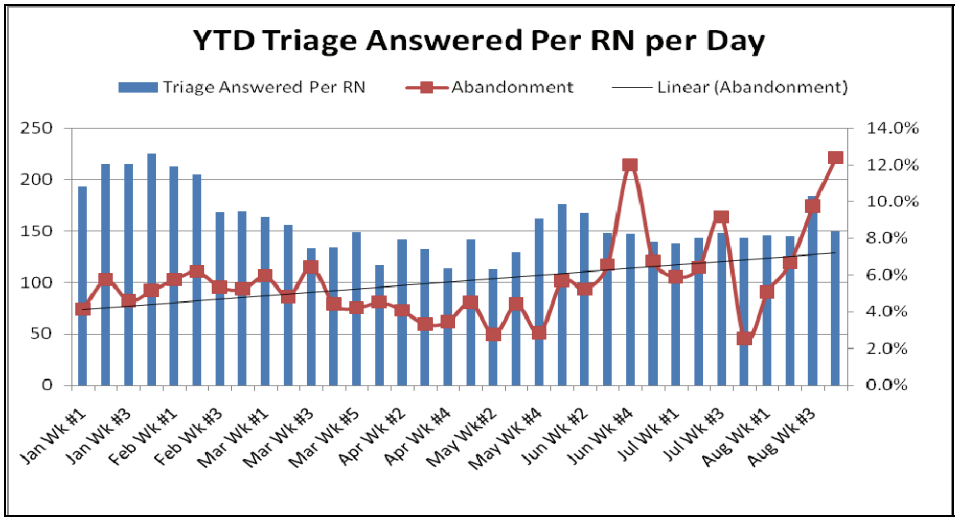
We are still trying to determine the percentage of calls that we believe should be handled by the Triage Nurses, thus not sent on the clinic provider or clinic RN. We estimate that between 40% and 60% of calls can be handled by the telephone triage nurse. In August, we saw about 26% of the calls being handled by the telephone triage nurse compared to around 16% being handled by the triage nurse in December. [*EP1EO-Exhibit A-1-Cancer Center Nurse Triage Protocol*]

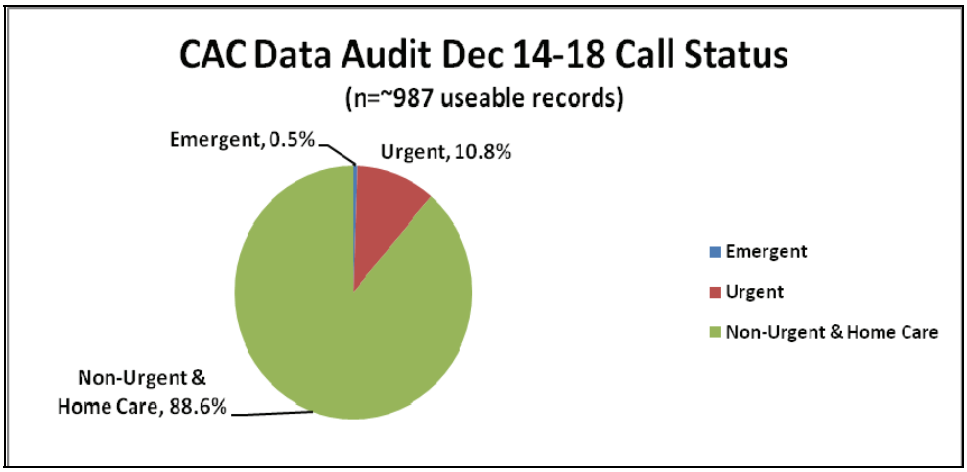
Table EP 1 EO - 3: Cancer Center Nurse Triage Calls January 2010 – August 2010

Cancer Center Triage Nurse Calls	
Total # of Incoming Calls YTD	29,051
Total Inbound & Outbound Calls YTD	50,720
Average # Incoming calls per day	250
Average # of calls per day per RN	31.6
Average speed of answer – *wait time*	30 seconds
Average Time per call	14 minutes & 58 seconds
Average Abandonment Rate – *dropped calls*	5.15%

Graphs EP 1 EO – 1- 3: Cancer Nurse Triage Results YTD







Patient experiences…

Cancer Access Center Telephone Nursing Triage service opened in November 2009. Within the first month, calls were answered without delay and nurses were able to address patients' concerns right away.

- One patient stated, "*I called and hung up 3 times thinking I had dialed the wrong number. When I called the fourth time I decided to ask for help, so at least someone could direct me to the right place*." He continued, "*I think what you are doing is a wonderful thing*."

- A Central Appointment Scheduler (CAS) received a call from the lab technician regarding a critical lab value. A week prior the CAS would have sent a message to a clinic nurse's message basket and would page the nurse. This week the CAS was able to put the nurse who was sitting next to her on the phone to immediately asses the call, and send the appropriate information to the provider, follow-up with patient, providing excellent care in real time.

- A non-English speaking patient called the Access Center just before 5pm. He was experiencing severe pain, which was being translated to the nurse through a friend, whose communication in English was limited, stating "*strong pain, strong pain*". The patient had undergone an extensive abdominal surgery two weeks prior. Following her assessment, the nurse determined the patient needed to be evaluated by the emergency department. On follow-up the next day, we learned the patient had been experiencing appendicitis; he was transferred to VUMC for emergency surgery.

Changes in Patient Satisfaction at VPH

Problem/Background:

Since PRC has been conducting our patient satisfaction phone calls, VPH patient satisfaction scores were very low and reflected dissatisfaction with 'overall quality of care', 'helpfulness of treatment plan' and 'nurses caring and understanding'. Discussion about this problem and how to resolve was challenging, due to the patient population itself. Was their hospitalization voluntary or mandatory, were they unhappy with being discharged (still wanting the security of hospitalization), could changes in medication panel affect their outlook, or would required changes in their lifestyle post-hospitalization affect their responses.

The threshold target set for VPH based on PRC data is 'At or above the 70th Percentile'. The interdisciplinary team was interested to explore the options to see if there was a way to improve the patient satisfaction scores. Based on positive antidotal comments from patients/families, the team considered, "*are we asking the wrong questions*", or "*do we just need a better way to measure psychiatric patient satisfaction*"?

Methods/ Approach:

The team worked with our in-house PRC data experts for information on other PRC Psychiatric Hospitals that had high PRC scores. Two nurse managers visited one of the top ranking PRC comparative group hospitals to learn about best practices that had been shown to influence PRC scores.

Based on that information, the team developed the following action plan:

Discharge Phone Calls:

- Began May 1, 2010
- A VPH staff member Registered Nurse personally calls discharged patients to discuss how the patient is doing. [*EP1EO-Exhibit B-1-Discharge Phone Call Record VPH*] The target time frame for calls is 48-72 hours post discharge. When the managers round, they complete the top portion of the form. The nurse who discharged the patient, then pulls the form and completes the call.
- They ask the patient if they are having any problems or concerns and also check on their medications and follow-up appointments. The caller encourages the patient to give feedback to help improve patient care.
- The staff, supervisors and managers receive immediate feedback which gives them the opportunity to highlight the positive comments, or address and correct concerns.

- Recognition letters are sent to all staff members who are named specifically in the feedback from the discharge phone calls.

- The clinical information are collected and logged for follow-up. The nurse caller will direct questions as they are identified, to the appropriate clinician. The feedback collected is given to the Chief Administrator (Bill Parsons, Ph D) and the CNO (Avni Cirpili, RN, MSN). Discussion occurs through the shared governance structure and the data is monitored for trends. As this is a new project, data collection and analysis are too new to see trends yet.

Administrative Coordinators:

- A nursing leadership role which has been added to the interdisciplinary team. The Administrative Coordinators provide a valuable resource to problem solve with staff and intervene to resolve patient concerns immediately. The Administrative Coordinators are present in the hospital from 9 pm to 7 am daily. This provides overlap for evening shift and coverage for night shift.

Faculty Members:

- VPH has recruited new faculty members who are now seeing almost all the VPH patients that has resulted in a virtually closed staffing model. Having all patients have a on-site provider helps us to address issues more quickly and provide a better continuum of care.

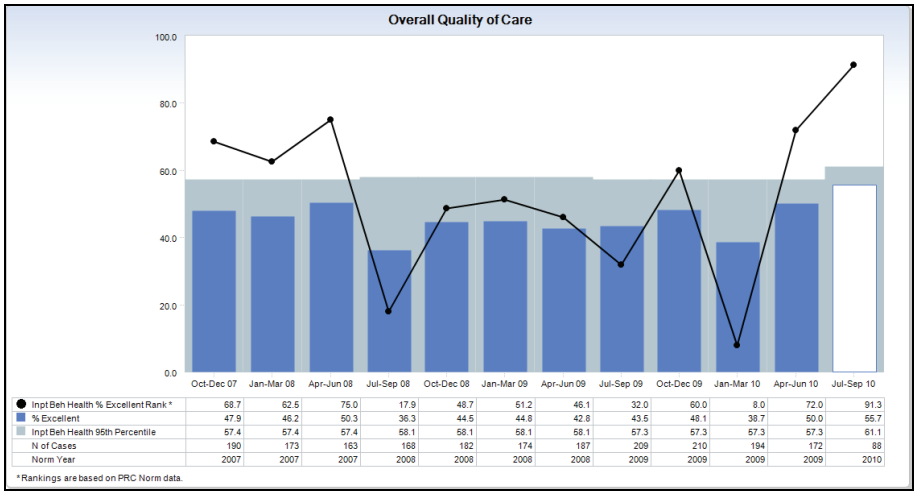
Table EP 1 EO – 4: Participants

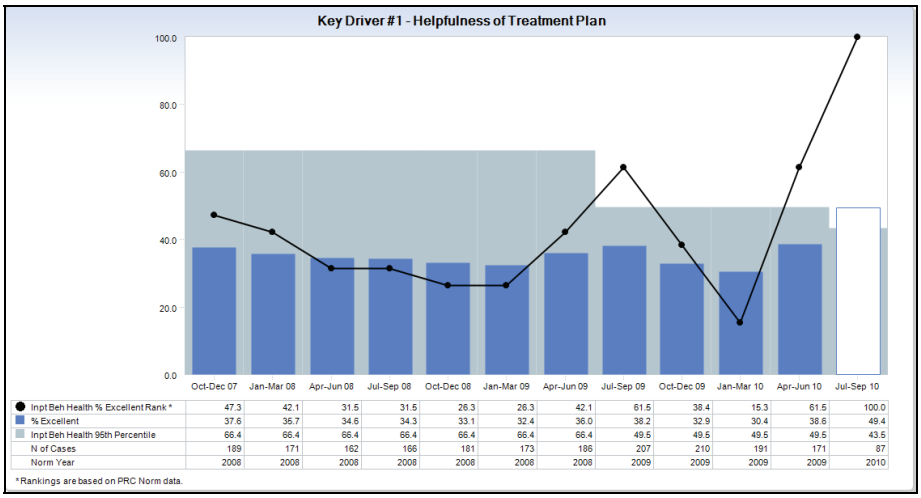
Lori Harris	RN, BSN	Nurse Manager
Jon Comer	RN, BSN	Nurse Manager
Carol Terrell	RN 3	Direct Care Nurse
Debra Evans	RN	Direct Care Nurse
Bill Parsons	Ph D	Chief Administrator
Avni Cirpili	RN, MSN	Chief Nursing Officer
Harsh Trivedi	MD	Executive Medical Director/Chief of Staff/ Associate Professor of Psychiatry

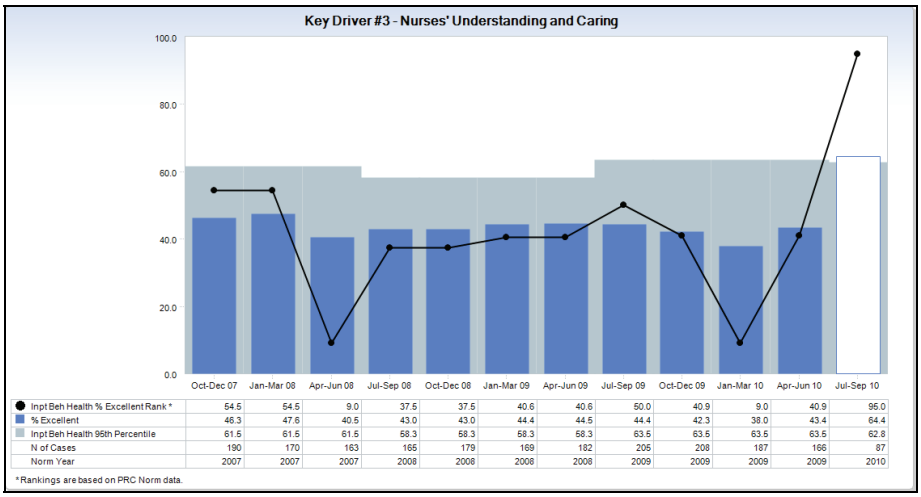
Outcomes/Impact

Patient Satisfaction achieved threshold for the first time ever in 4th QFY10. (see below) Several clinical issues have been identified that allowed nursing to resolve issues that may have impacted outpatient care. Some of these issues have included: preauthorization of medication and potential conflict with follow-up appointments. During two phone calls, the nurse was able to connect the inpatient provider with the patient who had been experiencing an exacerbation of symptoms. Appropriate care was then provided for patient safety.

Graphs EP 1 EO 4 - 6: VPH PRC Patient Satisfaction Results







VCH

Problem/Background

The number of patients presenting to Children's ED has grown significantly over the last 4 years, particularly during the winter months. Length of stay times for low acuity patients during winter months averaged 170 minutes per visit. Inpatient holds were lasting several hours and transfer times once rooms were patient ready could take 4-5 hours. There were also trust issues between the ED and the inpatient areas. Staff questioned if rooms were being held and not released when they were ready.

Methods/Approach

With the patient as the focus, an interdisciplinary team began to analyze the multiple issues that affected long ED stays to improve patient throughput/flow for our patients. The team identified two goals:

1. Reducing the length of stay for low acuity patients in the ED from 170 minutes on average to 80 minutes on average. Reducing the LOS for low acuity patients improves patient safety and satisfaction, relieves overcrowding, improves employee morale and lowers cost.

2. Reducing the time from discharge of patient to next patient in room from 400 minutes on average to 90 minutes on average. This improves patient safety and satisfaction, reduces ED overcrowding, improves employee morale, reduces costs.

Processes included:

- A Strategic Analysis of patient type and mix for the ED and how it was going to change over time
- Development of fishbone diagram to visually look at barriers
- Engagement with entire VCH team to develop alternative models to address throughput and overcrowding. The brainstorming of ideas was done via open sessions--10 or more sessions with 2 to 5 staff each.
- Execution of changes by the people who live the process every day
- Support to develop metrics/control methods from outside informatics company
- Specific nursing meetings to identify barriers to successful patient throughput and ideas for improvement

Table EP 1 EO – 5: Participants

Kate Copeland	RN, BSN	Nurse Manager, PEDS ED
Jill Obremskey	MD	Instructor, PEDS ED
Vicki Jones	RN, BSN	Nurse Manager, 8th floor VCH
Debbie Gardner	RN, BSN	Nurse Manager, 7th floor VCH
Mary Tharpe		Manager, PEDS ED Registration
Derek Anderson	BSc	Director, VCH Operations
Direct Care Staff	Nurses & Care Partners	PEDS ED, 7th & 8th floor VCH
Pediatric Physicians		PEDS ED

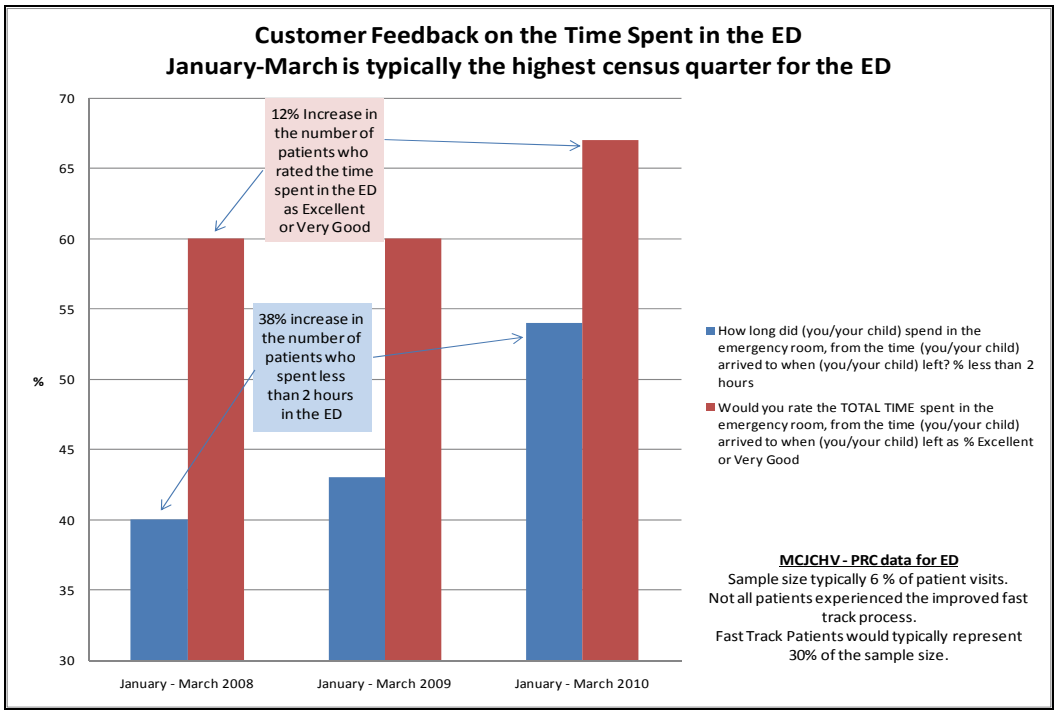
Outcomes

1. LOS times reduced from 170 to 80 min during fast track operation for low acuity patients
2. ED patient transfers to inpatient rooms from assignment now closer to 1 hour.
3. Improved patient satisfaction in the ED

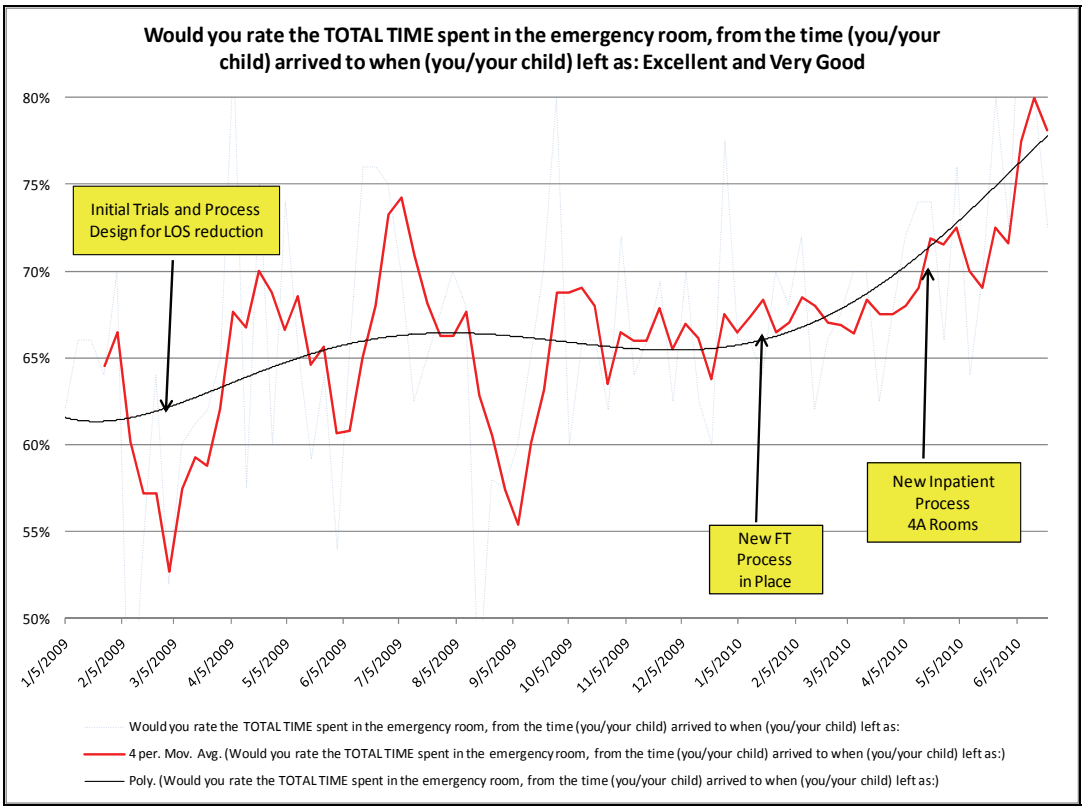
These improvements in processes have contributed to improvement in the quality of care by getting patients to inpatient areas where the staff are better prepared to address their problems and maintain continuity of care. Open ED beds up for other patients and get less acute patients out of the hospital setting.

See Graph below.

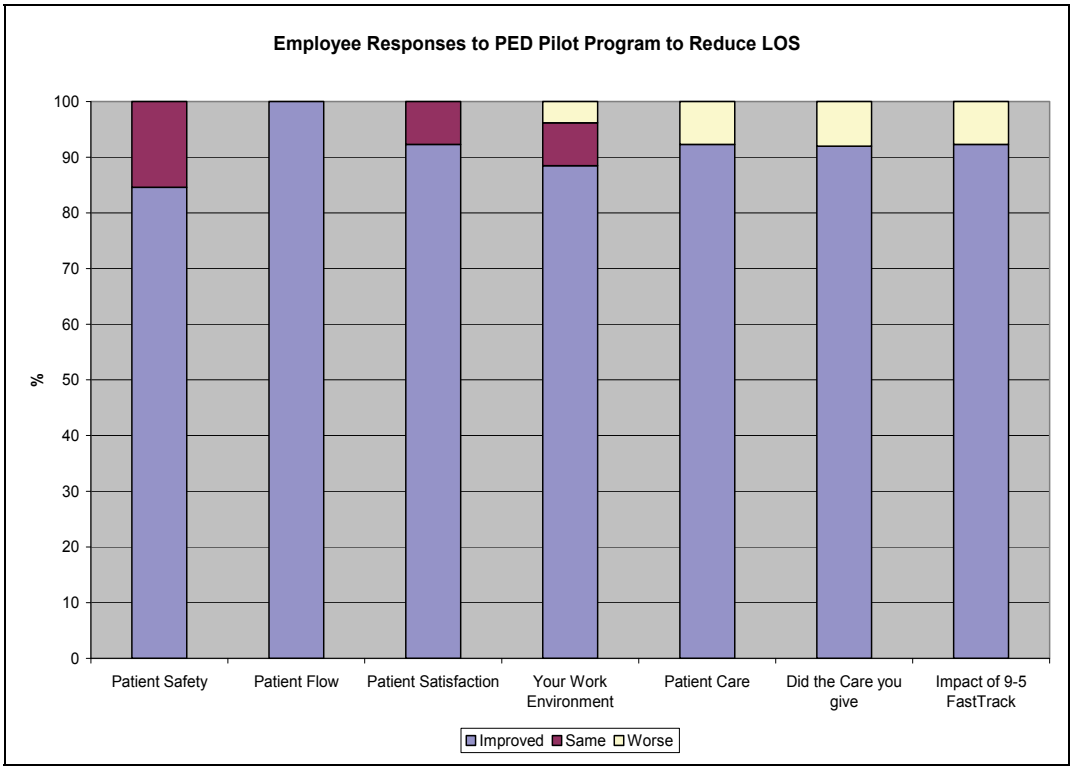
Graph: EP 1 EO – 7: Customer Feedback PEDS ED Comparison Jan – March 08, 09, 10



Graph: EP 1 EO – 8: Customer Feedback PEDS ED Comparison Jan – '09 – June '10



Graph EP 1 EO –9: PEDS ED Staff Response to Pilot Program to Reduce LOS



Women's Partnership with Community Services to Better Serve our Patients

Purpose/Background

Many of the women that deliver at VUMC are eligible for the Womens, Infants, Children's program (WIC). WIC provides federal grants to States for supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and non-breastfeeding postpartum women, and to infants and children up to age five who are found to be at nutritional risk.

The problem was that when patients were discharged, many of them were not following up to receive the services. Reasons included transportation, language challenges, potential lack of understanding of need and lengthy recovery periods.

Methods/Approach

With involvement from physicians, nutrition services, nursery, NICU, labor and delivery, case management, IT, and post partum, we were able to offer in-hospital registration for WIC, and ensure that mothers receive vouchers for food and formula before leaving the hospital. This process new mothers immediate access to the available resources.

The initial suggestion that we offer WIC vouchers in-house came from one of our resident physicians, Dr. Bryant, who promoted the idea as part of her Resident Project. Dr. Bryant took her suggestion to Susan Wallace, who was part of the Administrative Team at Children's Hospital.

An interdisciplinary team (involving Women's and Childrens) was formed and met monthly in order to achieve our collaborative goals.

- Nutrition Services provided a work area for the WIC representatives to process their paperwork and print vouchers.

- IT support (Tina Kurtz) worked with us to make changes with how we enter data in HED (electronic documentation system).

- The unit management team worked together to educate staff about assisting with form completion and HED documentation, since specific data on the application forms is critical to the enrollment process, and can only be obtained from the medical record.

Once we began the process, we recognized the need to change our practices in order to guarantee that all data was available for the form completion. Frequently, the nurses had to page the physicians to order a postpartum lab that is not routinely completed on all patients. The lab value, however, is required for WIC enrollment. We found problems with the process: delays in the labs being drawn, in results being recorded on the application by nursing, and in the vouchers being printed. As a result, many patients were still being discharged prior to receiving their vouchers.

To address the issues, a new protocol and additional order were created. The new order was added as an option for the physicians to select when they approve all other post partum orders. The nurse can order the lab test, per protocol, based on the patient's desire to enroll in WIC. The protocol provides specific guidelines for nursing to determine who should receive the lab test, which is now available on eDocs (electronic repository of protocols, patient teaching materials, etc).

 if pt is enrolled or plans on enrolling in wic: per protocol obtain postpartum pcv x 1 prior to discharge.

We also had to make a change in our StarPanel chart to include a question about WIC for our patients. See below.

This is a snapshot of the previous screen in Star Panel:

Income/benefits information:
Employed: [X] yes no
Enrolled in:
[X] WIC Social Security income
Families First/AFDC food stamps

We added as below:

"*Are you interested in receiving information about the WIC program for you and your infant? Y/N*"

Table EP 1 EO – 6: Participants

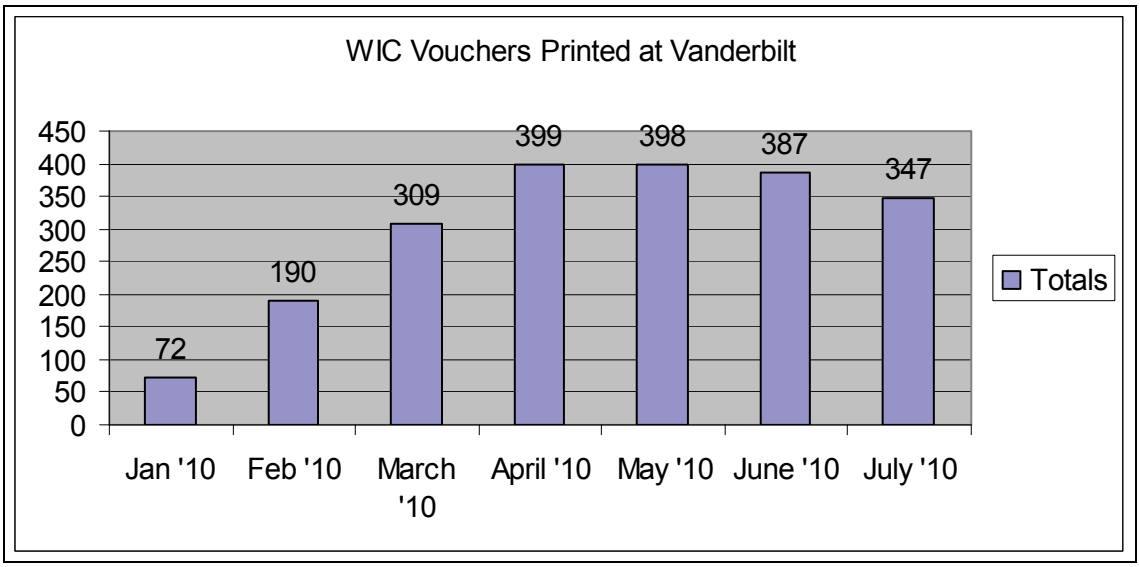
Dr. Bryant	MD	OB Resident
Susan Wallace		VCH Administrative Team
Greta Fowinkle	RN, MSN, CCM	Director, Case & Utilization Management,

		VCH
Chris Biesemeier		Director, Clinical Nutrition, Nutrition Services
Sandy Smith	RN	Assistant Manager, L & D
Brooke Stacey	RN, BSN	Assistant Manager, Center for Women's Health
Marlee Crankshaw	RN, MSN, DNP	Director, NICU & Nursery
Debbie Meloy	RN	Assistant Manager, NICU & Nursery
Bonnie Parker	RN 2	NICU & Nursery
Anisha Fuller	RN	Nurse Manager, OB/GYN
Jenny Harmon	RN	Assistant Manager, OB/GYN
Joann Jones	RN, MSN	Case Manager II, Women's
Ruth Whittinghill	RN, BSN	Case Manager I, VCH
Franchelle Truett	RN, MSN	Case Manager II, VCH
Renita Holmes	RN, MSN	Case Manager II, VCH
Kelly Whipker	WIC Representative	Department of Health

Outcomes:

The results have been an increase in patient enrollment and voucher availability prior to discharge, and a decrease in the disruptive phone calls to physicians for additional orders, and time saving for the nurses.

Graph EP 1 EO – 10: WIC Vouchers printed at Vanderbilt 2010. (Note that much of July was not covered by WIC representatives, due to scheduled vacations.)

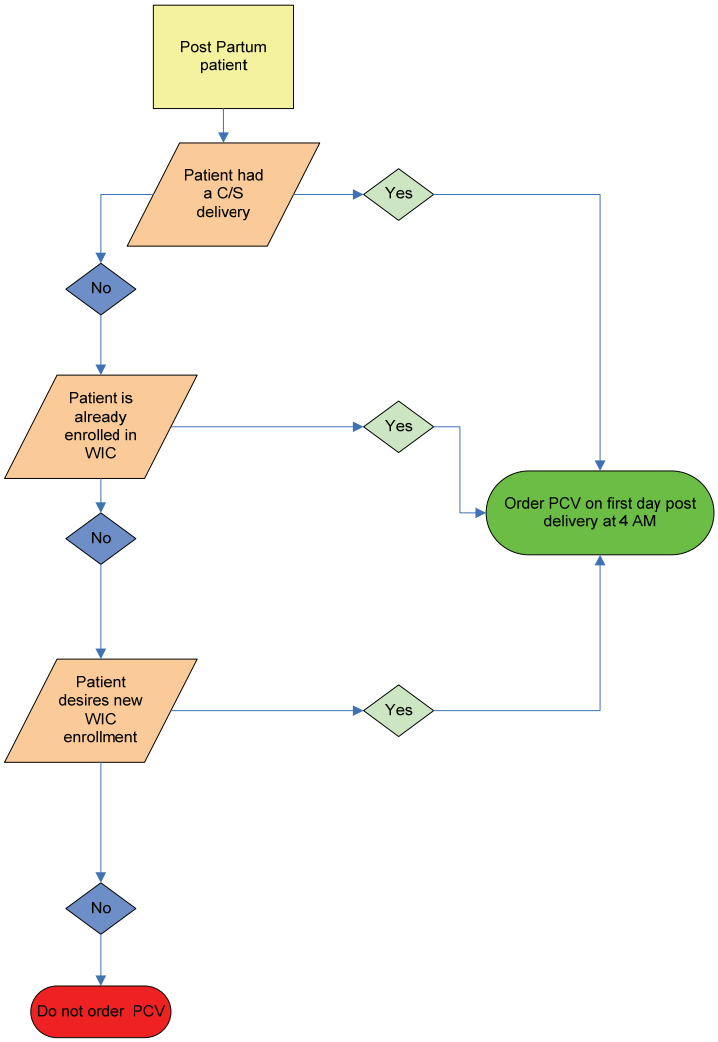


See Graph below – WIC Ordering Protocol.

Graph EP 1 EO – 11: WIC PCV Ordering Protocol

VANDERBILT UNIVERSITY MEDICAL CENTER

WIC PCV Ordering Protocol



The purpose of this protocol is to provide federally mandated documentation of PCV results for pts that want to apply for; or are enrolled in WIC (Special Supplemental Nutrition Program for Women, Infants and Children).

Created 7/1/2010

Professional Practice Model

Source of Evidence 3

Describe and demonstrate the structure(s) and processes (es) that include direct -care nurse involvement in tracking and analyzing nurse satisfaction or engagement data.

Tracking, analyzing and addressing nurse satisfaction data is a priority for nursing leadership at VUMC. In our rapidly growing and changing environment, we strive to understand and support the needs of nurses at all levels. Involving direct-care nurses in these processes has been critical to our success in affecting change based on their needs.

The two main satisfaction surveys we use are a community/staff/faculty (all staff at VUMC) survey and the National Database Nursing Quality Indicators (NDNQI) RN Satisfaction Survey with the Practice Environment Scale (PES) and Job Enjoyment Scale. We are now administering the surveys in alternate years. In 2009 our community survey vendor changed from Morehead to HR Solutions. Our last HR Solutions staff/faculty survey was in September 2009 and the NDNQI RN Satisfaction survey was in October 2008. Our next NDNQI Survey is in August 2010. Throughout the year, we do "pulse" surveys on various topics which give us immediate information to address specific issues. The "pulse" surveys may also be for specific entities and/or groups of nurses. Special attention is paid to try to avoid "survey fatigue". *Our complete survey results are provided in Organizational Overview – Exemplary Professional Practice -Question 12.*

Tracking and Analyzing Nurse Satisfaction Data

As discussed in Question 1 under Structural Empowerment – Professional Engagement, Vanderbilt Nursing has practiced shared governance since the late 1970's/ early 80's. Our nursing shared governance structure is the vehicle by which direct-care nurses are involved in tracking and analyzing nurse satisfaction data. Nursing leadership is responsible for sharing the data and developing action plans based on discussion and feedback at all levels.

We are a transparent organization and nursing satisfaction data is reported in various formats and venues. Data is provided in electronic format by the following categories:

- Overall VUMC nursing
- Entity (VUH, VCH, Clinics, VPH, Heart Institute, Cancer Center, Women's Services, etc.)
- Patient Care Center (Medicine, Surgical, Neurology, etc.),
- Individual unit, clinic and department
- Other "cuts" of the data as requested

This provides nursing with several ways to track and analyze the data and the data is evaluated at each of these levels for different purposes.

The Nursing Executive and Administrative Boards do a high level broad analysis of the nursing satisfaction data for the entire organization. Nursing Leadership Boards of each of the entities and Patient Care Centers analyze the data for their entity. In addition, at the entity level each of the four staff nurse councils analyze the data for trends related to adult, pediatric, clinic or psychiatric nurses and compare their data to the other entities, overall organizational data and benchmarks.

As is the backbone of our shared governance program, we believe best results are accomplished when the data is tracked and analyzed at the closest point of contact; individual unit, clinic and department. From the point of contact level (unit/clinic/department), change can be implemented as needed or recommendations can be directed to the Patient Care Center or entity level. From that point, recommendations can be made to the Nursing Executive or Administrative Boards and then on to the organizational level if needed.

As stated above, detailed data for nursing satisfaction is located in OO 12. The table below provides a summary of the results for nursing by Dimension and our compares to the RN National Norm and Magnet Hospital Norm from HR Solutions. The numbers represent the percentage of staff who responded favorably to the questions in that dimension. The comparison is for registered nurses only.

Table EP 3 – 1: 2009 HR Solutions Staff/Faculty Survey Summary Results for VUMC Nursing Staff

Dimension	RN National Norm (47 Org)	Magnet Hospital Norm (20 Org)	VUMC RN 2009 Score (2,358)	*VUMC APN 2009 Score (308)	* VUMC Research Nurse 2009 Score (260)	* VUMC LPN 2009 Score (124)
Dimension 1: Overall Job Satisfaction	73 **	71	84	87	90	84
Dimension 2: Pay Satisfaction	38	34	38	48	52	44
Dimension 3: Benefits Satisfaction	47	57	69	80	83	72
Dimension 4: Supervisory Consideration	67	65	75	75	81	74
Dimension 5: Communication	62	59	77	78	82	71

Dimension 6: Human Resources/Personnel Policies	55	58	71	78	76	72
Dimension 7: Concern for Employees	50	51	65	65	68	64
Dimension 8: Training and Development	65	65	82	77	82	75
Dimension 9: Strategy/Mission	62	65	81	84	87	74
Dimension 10: Management Index	63	61	71	72	80	71

*** No norms available at this time**

**** Numbers represent the percentage of staff who responded favorably to the question (possible total 100)**

Action Plans and Examples:

Action plans are required for each unit/clinic/department; essentially by each leader. These are completed electronically and are signed off by the one-up manager/supervisor. Action plan progress is monitored through the same shared governance structures as the survey data are analyzed and tracked.

Nursing Leadership Top Issue

Satisfaction with salary has been a top issue on our last couple of surveys. On a routine basis, VUMC conducts community market survey analysis of salaries and adjusts as deemed appropriate. Our most recent nursing salary market analysis was initiated by the Executive CNO and the Nursing Executive Board. An outside consulting firm, Buck Consultants, conducted a comprehensive review of compensation across the Medical Center which included local, regional and national benchmarking. They also looked at issues around best practices for items, like bonuses and specialty pay.

A proposal for addressing nursing compensation has been developed at the time of this writing (July, 2010) and is being reviewed by the Nursing Executive Board for implementation this fiscal year (2011).

VUH Inpatient Women's Services

This inpatient Women's Services scenario serves as an example of how we involve direct-care nurses in the process of analyzing and addressing staff satisfaction. Although the scores were above the benchmarks for the unit, discussion starting at the Women's Services Patient Care Center Meeting level down through the unit board/staff nurse level indicated a

need for clarification of a few of the HR Solutions survey scores [*EP3-Exhibit A-1-Women's PCC Minutes 03-12-09, EP3-Exhibit A-2-Women's OB-PCC Minutes 04-07-09, EP3-Exhibit A-3-L & D Minutes 03-17-09, EP3-Exhibit A-4-4 East Charge Nurse Minutes 04-14-09*]. A five question Survey Monkey was developed by 4 East (OB/GYN) nursing leadership to better identify the issues and actions needed [*EP3-Exhibit B-1-Community Survey Feedback Survey Monkey*]. This was also helpful in reaching staff that could not be present during initial discussions. The tables below show the actual scores from the survey and a broad summary of the how the questions lead to clarification and assisted in the development of action plans [*EP3-Exhibit C-1-4 East Community Survey Action Plan 2009, EP3-Exhibit C-2-L & D Community Survey Action Plan 2009*]

Table EP 3 –2: 4 East (OB/GYN) 2009 HR Solutions Staff Survey Results

DIMENSION	SCORE *	MAGNET NORM
Overall Job Satisfaction	85%	71%
Pay	43%	34%
Benefits	45%	57%
Supervisory Consideration	87%	65%
Communication	78%	59%
HR/Personnel Policies	70%	58%
Concern for Employees	70%	51%
Training/Development	83%	65%
Strategy Mission	85%	65%
Management Index	83%	61%

***Numbers represent the percentage of staff who responded favorably to the question (possible total 100)**

Table EP 3 –3: 4 East (OB/GYN) Staff Satisfaction Follow-up

Community Survey Question	Survey Monkey questions assisted leadership in clarifying employees Community Survey Responses	Examples of action plan items to address specific issues identified by the direct-care nurses on 4 East (OB/GYN)
Senior leaders frequently visit my department.	Defining who the staff identified as senior leadership for the purpose of improving communication and	*To increase direct communication between the staff, faculty, and the Women's Patient Care Center's Physician and Nursing Leadership, Town Hall Meetings were developed and held on Jan 5, 6th and 7th 2010 and June 21, 22, July 1st, 2010 to share outcomes, strategic direction and to get feedback from staff on plans and concerns. Town Hall meetings will be held

	rounding	twice a year. *Senior nursing leadership to attend staff meetings on a quarterly basis (Robin Mutz attends quarterly; Nicole Herndon attends monthly) *Posted an organizational chart with the names and photos of senior leadership (Administrative Director & Assistant Admin Director; Nursing Management and respective Medical Officers – Chair, Vice Chair, & Unit Medical Directors) in the break room & on unit bulletin board [*EP3-Exhibit D-1-Women's PCC Organizational Chart*].
The necessary material and equipment are available when I need to perform my job.	Determining what equipment and materials were needed to support staff in patient care activities	• Develop processes for reporting equipment repairs needs, inadequate supplies and supply delivery issues. Red tag notification system was implemented in February 2010. Staff notifies the manager or Assistant manager of supply needs, and they work with the service center to have items added to par levels, as needed. • Work with unit staff and Service Center staff around new processes. One example of this is the silver dressings. In June 2010, additional sizes of silver dressings and shapes were available, and the ANM was able to have them added to the cell, rather than the service center. This change occurred over a couple weeks, and has helped facilitate the nurse's ability to meet the patients' needs more quickly. • Ordered an additional blood pressure monitor (Feb. 2010) for the unit, thermometers (Feb 2010), and speaker phones (June 2010) for use with the phone interpreter service. The speaker phones were requested to help the nurses communicate with the patients without having to interrupt their work flow by having to go find a speaker phone or have to pass the handset back and forth to the

		patient. It also allows for the patient's support person to hear the information at the same time.
There is reasonable consistency between departments in how Human Resource policies are administered and followed.	Identifying specific human resource policies which were confusing or appear to be handled inconsistently.	• Routine review of at staff meetings –particularly new and/or changes (the staff requested specific clarification of the attendance and pay practice policies) Attendance, Pay practices, Hours of Work policies were reviewed with an HR representative present for clarification at the Unit Board meeting Jan. 2010. These policies have been consistently applied, and staff has adjusted. As issues arise, the staff is redirected to the policies and the need for consistency is reinforced.
N/A	Determining how to improve overall job satisfaction	• Reviewed the current staffing models to determine if the model criteria and variances support optimal staffing levels. Based on nursing feedback, changes were made in how the CP is assigned to patients. Rather than having a static number, their assignments are based on patient acuity and department census. Patients are assigned to the CPs by taking into account their location and acuity. This was a change from the old model where the most difficult patients were assigned CPs, and some patients weren't assigned at all. • Improved communication regarding salary analysis process by discussing at unit board. • Develop career development plan with each of the staff. During staff evaluations in April 2010, qualified nurses were encouraged to advance through the VPNPP process. 2 have achieved RN3 since the survey, and four additional nurses are working toward that goal.

Clinics/VMG Examples:

VMG Nursing Staff Council

At the February and March 2010 VMG Nursing Staff Council, Margaret Head, RN, MSN, MBA (VMG CNO/COO) discussed the results of the nursing results from the HR Solutions Staff/Faculty Satisfaction survey [*EP3-Exhibit E-1-VMG NSC Minutes 02-03-10, EP3-Exhibit E-2-VMG NSC Minutes 03-03-10*]. Issues identified included; pay/benefits and senior leadership rounding. Margaret was able to share information about ongoing work with community salary comparisons and entire compensation structure for VUMC. Other ideas were discussed which support/enhance compensation such as; certification support and conference attendance. A commitment was made in the area of senior leadership rounding and assuring that staff can identify senior leaders who are rounding.

MCE Cardiology Clinic

Workload was an issue in the evaluation of the HR Solutions staff satisfaction results for the Cardiology Clinic. Nursing leaders facilitated discussion with every nurse and technician in the clinic [*EP3 Exhibit F-1-Summary of Community Survey Feedback 01-12-10, EP3-Exhibit F-2-MCE Cardiology Assignment Minutes 02-24-10, EP3-Exhibit F-3-MCE Cardiology Staff Meeting Minutes 04-14-10*].

The tables below show the satisfaction survey scores and provide examples of the issues identified and action plan items to address.

Table EP 3 –4: MCE Cardiology Clinic HR Solutions Staff Survey Results

DIMENSION	SCORE *	MAGNET NORM
Overall Job Satisfaction	72%	71%
Pay	42%	34%
Benefits	71%	57%
Supervisory Consideration	61%	61%
Communication	64%	59%
HR/Personnel Policies	53%	58%
Concern for Employees	50%	51%

Training/Development	54%	65%
Strategy Mission	69%	65%
Management Index	60%	61%

***Numbers represent the percentage of staff who responded favorably to the question (possible total 100)**

Table EP 3 – 5: MCE Cardiology Clinic Staff Satisfaction Follow-up

General topic issues identified in staff discussions around workload	Staff identified and implemented solutions
Staffing: The clinic has three different FTEs allotments – 0.8, 0.9, and 1.0. Coverage is an issue due to the occurrence of routine overtime for coverage.	• Coverage was addressed as needing more depth • All positions per staff request are now either 0.9 or 1.0 • An RN assignment scheduling committee has been implemented to address the issues of self-scheduling. • Other issues are being identified and addressed.
Work Hours: Flexible work hours	Work Hours Policy reviewed. Staff wrote ground rules for using flex time for consistency and continuity of patient care.
Education, training and development opportunities	Process of making assignments and how to prevent negative impact on workload.
System/process inconsistencies: How assignments are made and the subjective (work styles) and objective data (panel sizes, days in clinic, etc)	• Meeting monthly regarding staff progress with instituting self coverage and assignment adjustments. • Working with clinic re-design team • Added extended RN position

[*EP3-Exhibit G-1-MCE Cardiology Action Plans*]

Children's Hospital Example

The Hematology/Oncology Services (inpatient and outpatient) at Children's Hospital actually had scores on the 2009 HR Solutions Staff/Faculty Survey that were comparable to or higher than the national comparisons from the survey company HR Solutions [*EP3-Exhibit H-1-Hem-Onc Community Survey Results*]. The results were presented to the staff and leadership of the areas. Discussions in those venues brought attention to one particular question that was below the "Best in Class" benchmark score provided by HR Solutions.

The question was "The person I report to encourages me to try new ways of doing my job", which falls under the Management Domain. Their score was 60% of staff answering this question positively as opposed to 65% overall in VUMC and 67% for "Best in Class" benchmark. The brainstorming among staff and leadership lead to the development and submission of an action plan for improvement in this area. The focus of the plan is on increased visibility and reward and recognition. The tables below show the scores from the survey and the action plan submitted.

Table EP 3 – 6: VCH Hematology/Oncology Service 2009 HR Solutions Staff Survey Results

Dimension	6A/B	Clinic	Division	VUMC *Total	Magnet Hospital Norm	Best in Class
Overall Job Satisfaction	97%	84%	58%		71%	86%
Pay Satisfaction	37%	27%	31%	48%	34%	54%
Benefits Satisfaction	83%	65%	77%	78%	57%	77%
Supervisory Consideration	88%	79%	55%	78%	61%	79%
Communication	87%	75%	49%	76%	59%	75%
Human Resources/Personnel Policies	82%	79%	73%	73%	58%	76%
Concern for Employees	74%	64%	38%	66%	51%	68%
Training and	95%	79%	57%	78%	65%	78%

Development						
Strategy/Mission	87%	63%	55%	81%	65%	82%
Management Index	83%	77%	48%	76%	61%	

***Numbers represent the percentage of staff who responded favorably to the question (possible total 100)**

Table EP 3 - 7: VCH Inpatient Hematology/Oncology 2009 Satisfaction Survey Action Plan

Client Name : Vanderbilt University Medical Center	**Total Number of Action Plans : 1**
Survey Name : 2009 Faculty/Staff Survey	

1. Action Plan by Dimension				
Group :	Roll-up for Children's Hospital Pods 6A & 6B reporting to Connie Ford			
Manager :	Connie Ford			
Action Plan		**This Group Score**	**Total Organization Score**	**Compared To Rest Of The Organization**
Management Index		83%	76%	
Created Date:	02/09/2010			
Start Date:				
Last Modified Date:	02/09/2010			
End Date:	02/09/2010			
Completed Date:				

Outcome Statement:	Our opportunity lies in sustaining "best in class" scores. We will accomplish this by focusing on visibility and reward and recognition.

Recommendations	Implementation Date	Person(s) Responsible	Status
1. Allow employees to suggest ideas and solutions to current departmental problems.	Recurring	Management team	Not Completed
2. Communicate face-to-face whenever possible, especially when delivering constructive criticism.	Recurring	Management team	Not Completed
3. Conduct regular staff meetings.	Recurring	Management team	Not Completed
4. Create a plan for regularly rewarding employees for positive performance.	Recurring	Management team	Not Completed
5. Ensure that performance feedback is specific and includes suggestions for how to improve.	Recurring	Management team	Not Completed
6. Practice Management By Walking Around (MBWA).	Recurring	Management team	Not Completed
7. Praise employees publicly for positive behaviors and actions.	Recurring	Management team	Not Completed
8. Require all supervisors to write a set number of thank you notes to staff members each quarter.	Recurring	Management team	Not Completed

Status:	Accepted
Rating:	
HR Rating:	

VPH Example

Although VPH had excellent overall and individual unit scores for nursing, when the Child/Adolescent staff reviewed the data, they wanted to do some work. The work was around improving staff understanding of the strategy and mission of both VPH and the Vanderbilt organization. The percentage in agreement for Child/Adolescent was 75% and for the organization it was 81%. The table below is the Action Plan for VPH Child/Adolescent Unit.

Table EP 3 – 8: VPH Child/Adolescent 2009 Satisfaction Survey Action Plan

	This Group Score	Total Organization Score	Compared To Rest Of The Organization
Strategy/Mission	76%	81%	-4%
Start Date:	02/23/2010		
Last Modified Date:	02/02/2010		
End Date:	12/29/2010		
Outcome Statement:	Staff will have clearer understanding of the mission of VPH and the strategies involved in future plans/goals of the organization Will be able to express what role/expectation they have for themselves and how that meets the needs of the organization. Education and updating o information will be done regularly by management group.		
Action to be taken:			

	Recommendations	Recurring	Implementation Date	Person(s) Responsible	Status	
					Incomplete	Complete
304684	**1.** All employees should share their views of the strategy/mission during staff meetings and how it relates to them and their job responsibilities.	No	03/25/2010	Employees on Child , Adolescent and	(X)	( )
304683	**2.** Ensure reasoning behind decisions, as well as decision itself, are communicated in a formal announcement. If unable to release reasons, inform employees of such.	No	04/15/2010	Ro Wallace, Administrative Staff as appropriate	(X)	( )
304685	**3.** Communicate the organization's strategy/mission during town hall meetings.	Yes	Recurring	Bill Parsons, Administrator and other staff as appropriate	(X)	( )
304686	**4.** Research relevant informative articles and distribute to all staff.	Yes	Recurring	Ro Wallace and Nursing Staff	(X)	( )
304679	**5.** Announce the new training opportunities available to employees through management and through postings in communal areas.	Yes	Recurring	Ro Wallace	(X)	( )
304680	**6.** Communicate and make available training opportunities to employees.	Yes	Recurring	Ro Wallace	(X)	( )

304681	**7.** Announce through management and postings the new training opportunities available to employees.	Yes	Recurring	Ro Wallace	(X)	( )
304682	**8.** Establish management forum for ongoing communication /discussion regarding strategy/mission and its status.	Yes	Recurring	Ro Wallace and Management Team	(X)	( )
Status:	In-Progress					
Comments by Admin:	1 .02/23/2010 -					

VUH 6 North Neurology Unit

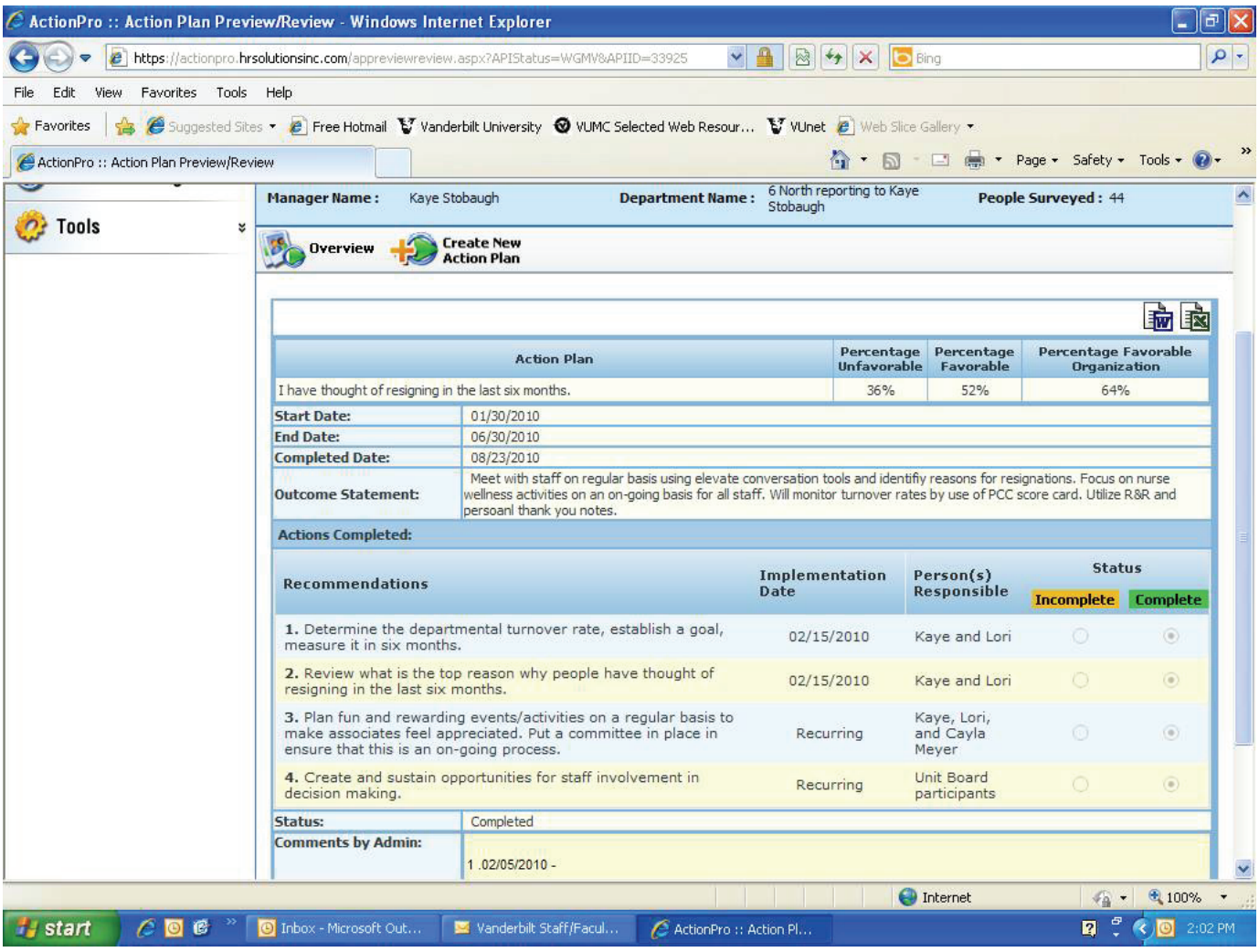
The Neurology Unit staff looked at the issue of their unit's response to the question about leaving the unit. In monitoring their turnover rates, they have identified that they have a high number of staff who transfer to the ICUs. While this is keeping the staff at Vanderbilt, it does create turnover for 6 North. The group decided that they did not want to change their support of nurses moving to the ICUs. They also did not want to change the support of working the staffing schedule around class schedules for staff, which can also lead to staff moving to new roles within the Medical Center such as NP, etc.

What the group decided to do and put in their Action Plan was to:

- Provide observation experiences for the nurses who might be considering moving to the ICU to make sure the nurses' realized the skill level needed. The staff member can develop a plan for increasing their skill level if that is needed if they are not ready to move to the ICU.
- Begin to further analyze their turnover rate and all the top reasons given.
- Further in bed into the Neuro Unit the principles of shared-decision making, committee work and learning activities for the staff.

Below is a copy of the actual plan.

Table: EP 3 – 9: VUH 6 North Neurology 2009 Satisfaction Survey Action Plan



VUH 9 South Surgical Unit

When the 9 South unit board discussed their survey results, one question stood out for them – "The person I report to encourages me to try new ways of doing my job." The result the team wanted was – "Staff recognize that suggestions for trying new / different ways of being successful in a job are always welcomed / encouraged. The plan was developed by leadership and staff.

Plan Developed:

1. Increase communication overall with staff

    - Email "Friday Communication"
    - Informal "sit downs" in break room
    - Continue rounding
    - Open-door policy

2. Be receptive to change. When issues are identified, the staff are to be engaged to helping to identify a workable solution.

    - Example: Uninterrupted meal breaks. Staff did not like the idea of have assigned times for meal breaks. Staff developed the solution to having uninterrupted meal breaks by implementing a buddy system. Each staff member would hand off their pager to a buddy when going to lunch. Trialed buddy system for one month and the system worked well. Since that time, when staffs enter the break room for lunch with their pagers, they are

reminded by their peers to hand over their pagers. This was an example of a successful outcome.

VUH 7 North Cardiology Unit

The unit board and leadership wanted to address two specific questions from their 2009 Staff Satisfaction Survey. See below:

1. Staff will have what they need and if they don't, they will know how to get it quickly.

    - In January 2010, the unit purchased a Doppler, four – finger sensors, and created five rolling vital sing carts that included five thermometers, ten oral probes and 15 BP cuffs.

    - The telemetry upgrade solved the root of the concern when the number of Telecoms went from five to 18.

2. Senior leaders frequently visit my department. While senior leaders do round routinely on the unit, they identified more opportunities for the staff to have face time with senior leaders.

    - Monthly safety rounds now bring a different executive leader to each department which increases exposure as they speak directly to the staff.

    - Deb Chamberlain, RN, BSN, MBA, Assistant Administrative Director, attends charge nurse meetings and Robin Steaban, RN, MSN, Administrative Director has attended staff meetings with safety road show. Additionally staffs are attending safety focus groups and operations council conducted by senior leaders.

Table EP 3 – 10: VUH 7 North Cardiology 2009 Staff Satisfaction Survey Action Plan

Action Plan	This Group Score	Total Organization Score	Compared To Rest Of The Organization
The necessary materials and equipment are available when I need	62%	80%	-18%

to perform my job.	
Created Date:	01/29/2010
End Date:	01/29/2011
Completed Date:	08/13/2010
Outcome Statement:	Staff will have what they need and if they don't they'll know how to get it quickly.
Action to be taken:	

Recommendations	**Implementation Date**	**Person(s) Responsible**	**Status**
Develop a reporting mechanism to communicate the need for equipment repairs.	2/3/2010 12:00:00 AM	Todd Griner	Completed

Status:	Completed
Comments by Admin:	1 .02/08/2010 - Was this the only piece of their feedback that really required an action?
Comments by User:	1 .08/13/2010 - During January 2010 we purchased a Doppler, four finger sensors, and created five rolling vital sign carts which included five thermometers, ten oral probes, and 15 BP cuffs. The telemetry upgrade solved the root of this complaint whis was not having enough Telemons. The number went from five to eighteen.
Rating:	

Action Plan	**Percentage**	**Percentage**	**Percentage**

	Unfavorable	Favorable	Favorable Organization
Senior leaders frequently visit my department.	36%	55%	48%

Created Date:	01/29/2010
End Date:	01/29/2011
Completed Date:	08/13/2010
Outcome Statement:	staff will be aware that they are visited frequently
Action to be taken:	

Recommendations	Implementation Date	Person(s) Responsible	Status
Remind staff of executive visits in the Employee Newsletter.	Recurring	Todd Griner	Completed

Status:	Completed
Comments by Admin:	1 .02/08/2010 - Can we formally schedule my attendance at least twice a year at charge nurse meeting and qtrly at staff mtg? Give me dates and I'll have Melanie put on my calendar as nonnegotiable. thanks
Comments by User:	2 .08/13/2010 - Monthly Safety Rounds bring a different executive leader to each department monthly increasing exposure. They are speaking directly to staff. 1 .08/13/2010 - Deb Chamberlain attended Charge Nurse Events and Robin Steaban brought safety road show to staff meeting. Additionally staffs are having increased exposure to Robin and Deb through attendance in safety focus groups

	and operations council.
Rating:	

VUH 3 & 4 Round Wing Colorectal/General Surgery

Discussion in the unit board about their 2009 Community Survey results identified the issue of – the need for more support during the night shift, particularly medical receptionist support, since the charge nurses and staff nurses were performing clerical duties after 10 pm as well as providing patient care.

Based on this feedback Mike Daly, RN, MSN, APN, Assistant Administrative Director and Cindy Childress, RN, BSN, MBA, Manager, worked with finance to secure MR support for the night shift 7 days a week. To date, they have hired one MR and are interviewing for the second position.

Table EP 3 – 11: 3/4 Round Wing 2009 Staff Satisfaction Survey Action Plan

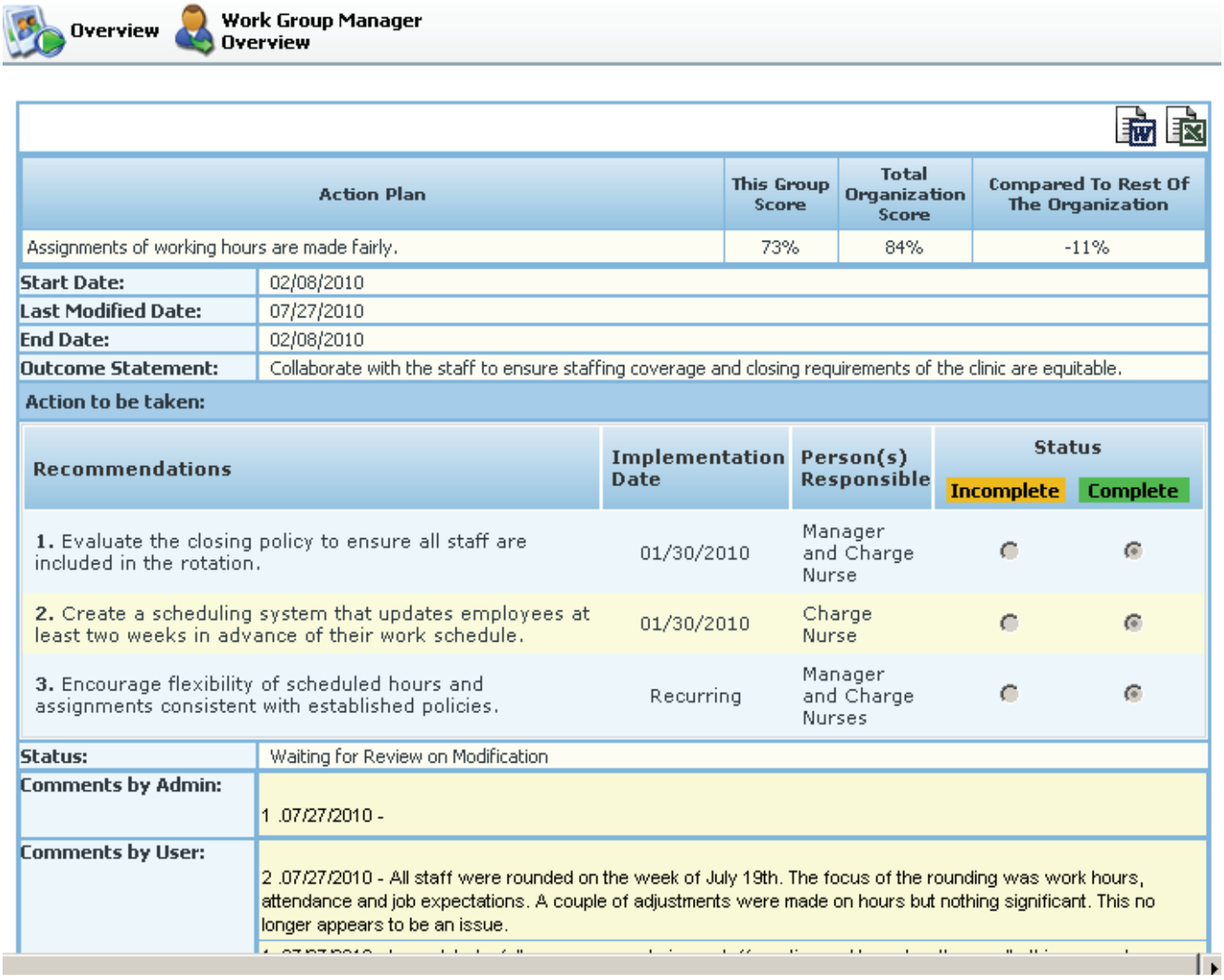
Action Plan	**Percentage Unfavorable**	**Percentage Favorable**	**Percentage Favorable Organization**
Enough people are available in my work group to accomplish the necessary workload.	42%	42%	60%
Created Date:	01/08/2010		
End Date:	07/30/2010		
Completed Date:	08/23/2010		
Outcome Statement:	Pt care will be supported by the correct number of team members and adhere to staffing models while supporting safe and effective pt care		
Action to be taken:			

Recommendations	Implementation Date	Person(s) Responsible	Status
Care partner vacancies monitored to ensure adequate support for pt care	1/1/2010 12:00:00 AM	Cindy Childress Mike Daly	Completed
Staffing model revised for 2010-2011 to support need for MR and educator support	7/1/2010 12:00:00 AM	Cindy Childress Devin Carr Anne Underhill	Completed

Status:	Completed
Comments by Admin:	1 .02/05/2010 -
Rating:	

Below are some examples of other Action Plans that were submitted in response to the 2009 HR Solutions Staff/Faculty Survey Results.

Tables EP 3 – 12 & 13: Children's Outpatient Clinic Examples



Overview | Work Group Manager Overview

Action Plan	This Group Score	Total Organization Score	Compared To Rest Of The Organization
Assignments of working hours are made fairly.	73%	84%	-11%

Start Date:	02/08/2010
Last Modified Date:	07/27/2010
End Date:	02/08/2010
Outcome Statement:	Collaborate with the staff to ensure staffing coverage and closing requirements of the clinic are equitable.

Action to be taken:

Recommendations	Implementation Date	Person(s) Responsible	Status: Incomplete	Status: Complete
1. Evaluate the closing policy to ensure all staff are included in the rotation.	01/30/2010	Manager and Charge Nurse	○	◉
2. Create a scheduling system that updates employees at least two weeks in advance of their work schedule.	01/30/2010	Charge Nurse	○	◉
3. Encourage flexibility of scheduled hours and assignments consistent with established policies.	Recurring	Manager and Charge Nurses	○	◉

Status:	Waiting for Review on Modification
Comments by Admin:	1 .07/27/2010 -
Comments by User:	2 .07/27/2010 - All staff were rounded on the week of July 19th. The focus of the rounding was work hours, attendance and job expectations. A couple of adjustments were made on hours but nothing significant. This no longer appears to be an issue.

Action Plan Administrator

Manager Name : Layle Kenyon **Department Name :** Roll-up for Children's PCC reporting to Layle Kenyon **People Surveyed :** 194

Overview **Work Group Manager Overview**

Action Plan	This Group Score	Total Organization Score	Compared To Rest Of The Organization
My coworkers are friendly and helpful.	85%	89%	-4%

Start Date:	02/10/2010
End Date:	06/30/2010
Outcome Statement:	Employees feel that their coworkers are helpful

Actions Completed:

Recommendations	Implementation Date	Person(s) Responsible	Status: Incomplete	Status: Complete
1. Implement team building exercises with external or internal support for areas exhibiting low scores in these areas.	Recurring	CHOC Managers	◉	○
2. Utilize 30, 60, and 180 day rounding tools to assess and provide early intervention regarding staff relations for new hires.	Recurring	CHOC Managers	◉	○
3. Identify and address on-going and recurring problems with employees through one-on-one meetings with the manager.	Recurring	CHOC Managers	◉	○

Status:	Saved Plan

Professional Practice Model

Source of Evidence 3 –Empirical Outcome

Describe and demonstrate that nurse satisfaction or engagement data aggregated at the organization or unit level outperform the mean, median or other benchmark statistic of the national database used. Include participation rates, analysis, and evaluation of data.

Nursing satisfaction survey detailed data results are in Organizational Overview – Exemplary Professional Practice – Question 12. The structures and processes that involve direct care nurses in tracking and analyzing the data are outlined below.

Purpose and Background

Tracking and analyzing nurse satisfaction data is an important part of our leadership strategy for retention and creating an environment that is conducive to the professional practice of nursing. Input and decisions regarding work-life and patient care are best made at the level of the direct care givers. We utilize two surveys; NDNQI RN Satisfaction Survey and an overall VUMC staff/faculty survey, administered in alternate years. We have switched our commercial vendor from Morehead to HR Solutions.

Methods and Approach

The methods for administrating the surveys were described in Organizational Overview – Exemplary Professional Practice – Question 12. In summary, our methods which support this philosophy include:

- Surveys are web-based, anonymous and administered over a 3-4 week period
- No incentives are given for survey participation
- Data results are initially provided to leadership
- Leaders at all levels review and analyze the data
- Leaders share/discuss data at leadership meetings, patient care center meetings, staff meetings, unit/clinic/department board meetings and nurse staff council meetings
- Action plans are developed with direct care nurse input
- Recommendations/ actions may be initiated at the point-of-care level or forwarded as needed
- Progress with action plan goals is monitored/evaluated at intervals depending upon the action items

Participants:

Participation Rates

Historically, we have had excellent response rates from the nursing staff for satisfaction surveys. This has provided us with ample information for review and comparison. The following tables show the VUMC participation rates.

NDNQI RN Satisfaction Survey

We have been participating with the NDNQI RN Satisfaction Survey since 2007. Our last survey was 2008. The 2010 survey is currently underway (August 2010). We have been pleased with nursing participation in the past. The table below shows participation rates. We were not discouraged in our drop from 85% to 73% for two reasons: our number of nurses increased significantly and we did two surveys in the same year, which we have now changed. The 2010 response rate was 74% with yet a larger N. The results of the 2010 survey we will not have until the end of October.

Table EP 3 EO – 1: VUMC Nursing Participation Rates for NDNQI RN Satisfaction Survey

VUMC			NDNQI Compare
Year	**RN Response Rate**	**Number Eligible RNs**	**Overall Response Rate**
2007	85% (1,838)	2,579	70%
2008	73% (2,012)	2,908	68%
2010	74% (2,288)	3,240	67%

HR Solutions

2009 was the first year we used HR Solutions for our VUMC staff/faculty survey. HR Solutions is a national firm that provides employee satisfaction survey and other like services. http://www.hrsolutionsinc.com/ While they have a significant number of health care clients, they also have a large number of non-health care clients. This was of interest to us in choosing them in order to see our comparisons for the overall organization with other companies as well as other hospitals. Many non-hospital organizations have excellent best practices in relation to employee satisfaction and engagement and we want to learn about those and see how we compare. Vanderbilt is among their list of clients that show Best In Class for employee engagement.

They do provide benchmark comparisons for dimension results, but not for participation rates. We were pleased with nursing participation rates based on previous numbers from the Morehead Survey and our increasing numbers of nurses at Vanderbilt. Our next VUMC staff/faculty survey is targeted for 2011.

Table EP 3 EO – 2: VUMC Nursing Participation Rates for HR Solutions VUMC Staff/Faculty Survey

Survey	VUMC Nursing Participation Rates
Morehead 2008	1,884 (76%)
HR Solutions 2009	2,358 (~79%)

Outcomes (Analysis and Evaluation):

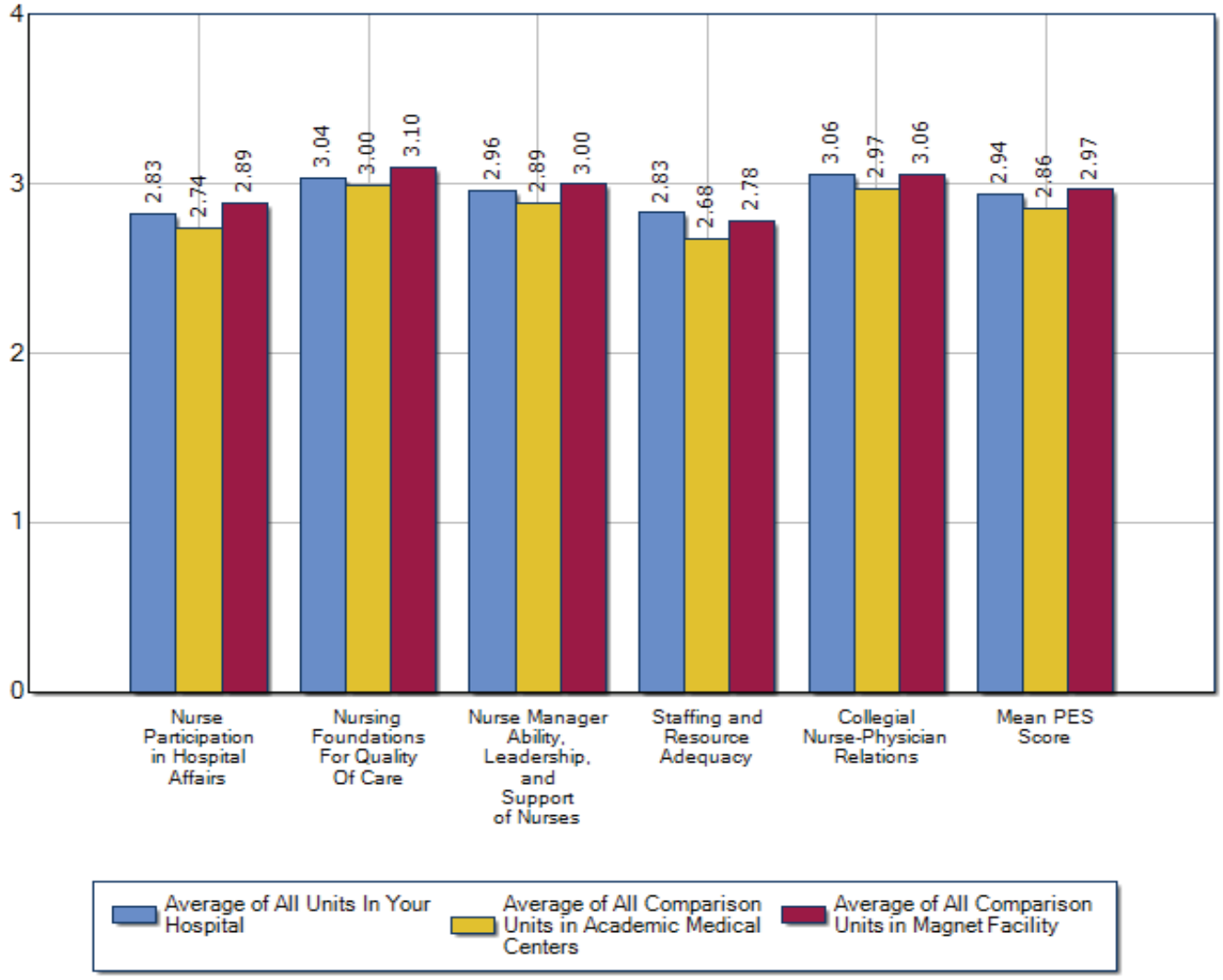
NDNQI RN Satisfaction Survey 2008

For the Practice Environment Scale (PES), 46 of our 69 identified units (66%) scored above the benchmark of the mean for Academic Hospitals and 36 out of 69 (52%) scored above the benchmark of the mean for Magnet Organizations.

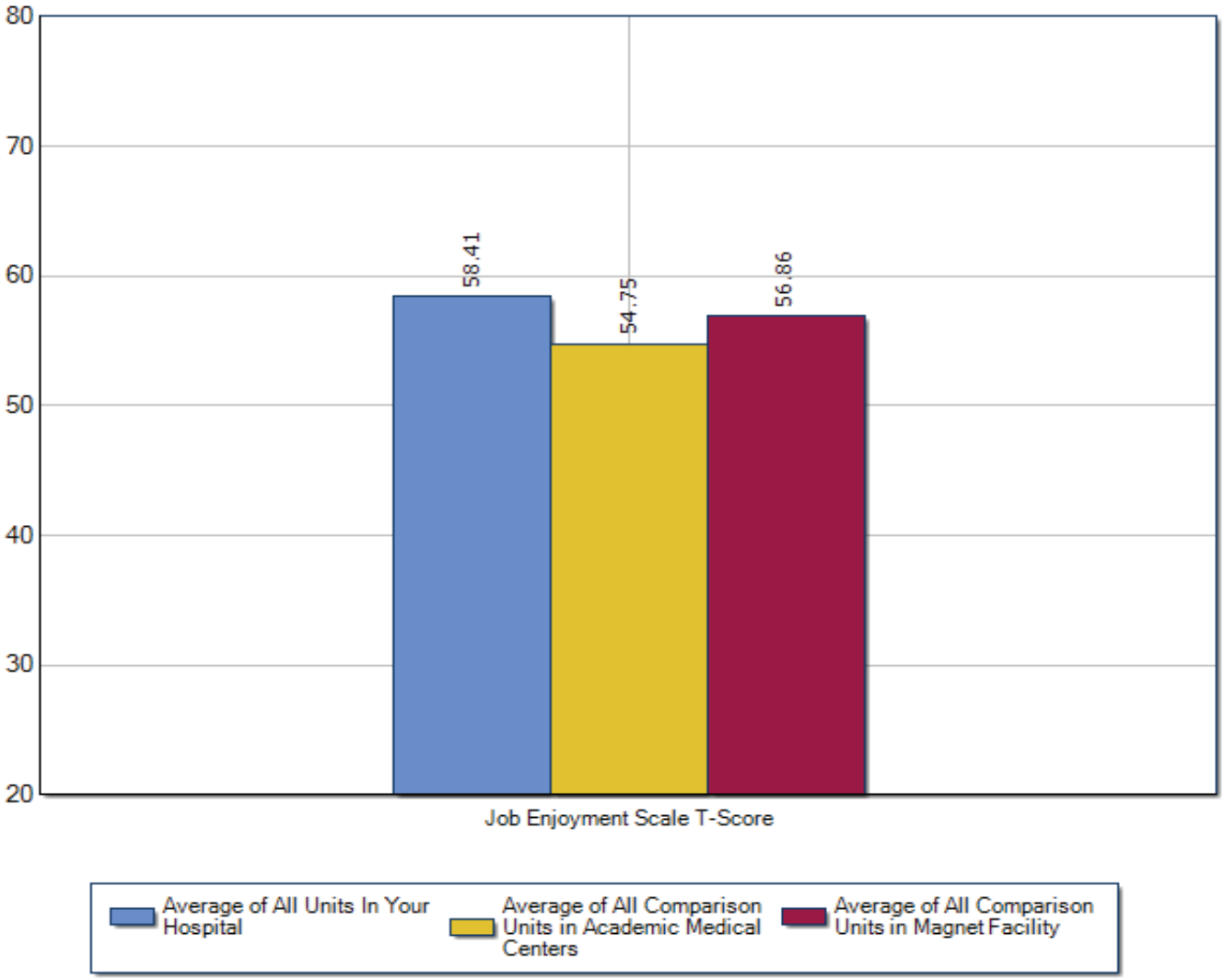
For Job Enjoyment (Job Satisfaction) Score, 50 of 69 (72%) scored above the benchmark of the mean for Academic Hospitals and 49 out of 69 (71%) scored above the benchmark of the mean for Magnet Organizations.

Below are the tables that show total VUMC nursing results for the 2008 NDNQI RN Satisfaction Survey for PES and Job Enjoyment. Vanderbilt scores were higher in all areas than the benchmarks.

Graph EP 3 EO – 1: VUMC Nursing results for 2008 NDNQI RN Satisfaction Survey – PES



Graph EP 3 EO – 2: VUMC Nursing Results for 2008 NDNQI RN Satisfaction Survey – Job Enjoyment



HR Solutions 2009 Staff/Faculty Survey

Overall

The 57 questions in this online survey are grouped into 10 dimensions as shown in the results in Organizational Overview – Question 12 and EP 1. The score represents the percentage of staff who responded favorably to the question. Comparatives include HR Solutions database RN National Norm and their database for Magnet Hospital National Norm. No comparisons are provided for each of the 57 questions. Due to the differences between the Morehead and HR Solutions surveys, a crosswalk is not possible, so for this survey, we have our first year of data.

The 10 Dimensions are:

1. Overall Job Description
2. Pay Satisfaction
3. Benefits Satisfaction
4. Supervisory Consideration
5. Communication
6. Human Resources/Personnel Policies
7. Concern for Employees
8. Training and Development
9. Strategy/Mission
10. Management Index

In all 10 Dimensions, VUMC RN Scores are significantly higher than the RN National Norm and Magnet Hospital Norm comparisons. For this survey, there is no overall accumulated score. All dimension scores were at or above 65% except for pay satisfaction which was addressed in EP3. The highest score at 84% rated favorably was Overall Job Satisfaction. Entity scores were comparable.

Table EP 3 EO – 3: 2009 HR Solutions Staff/Faculty Survey Summary Results for VUMC Nursing Staff

Total VUMC Nursing – all Categories

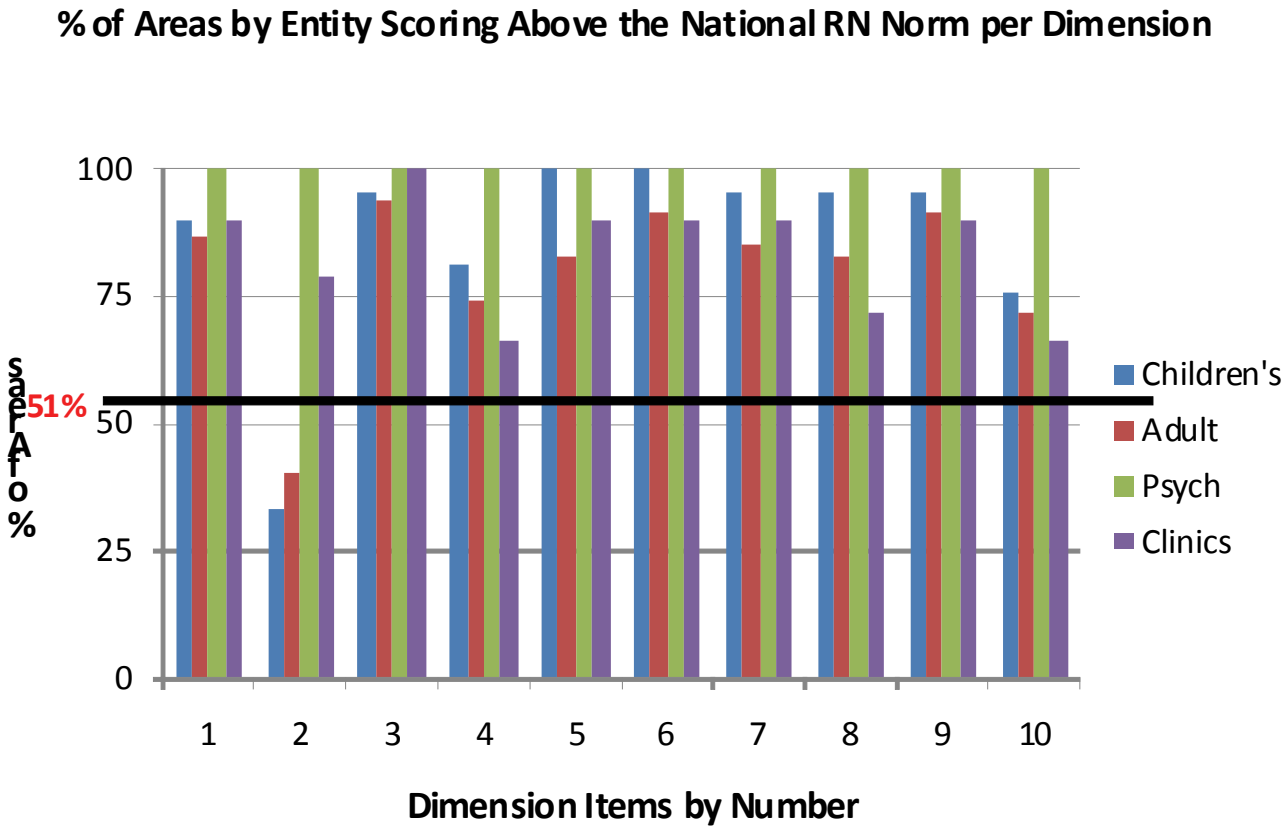
Dimension	RN National Norm (47 Org)	Magnet Hospital Norm (20 Org)	VUMC RN 2009 Score (2,358)	*VUMC APN 2009 Score (308)	* VUMC Research Nurse 2009 Score (260)	* VUMC LPN 2009 Score (124)
Dimension 1: Overall Job Satisfaction	73 **	71	84	87	90	84
Dimension 2: Pay Satisfaction	38	34	38	48	52	44
Dimension 3: Benefits Satisfaction	47	57	69	80	83	72
Dimension 4: Supervisory Consideration	67	65	75	75	81	74
Dimension 5: Communication	62	59	77	78	82	71
Dimension 6: Human Resources/Personnel Policies	55	58	71	78	76	72
Dimension 7: Concern for Employees	50	51	65	65	68	64
Dimension 8: Training and Development	65	65	82	77	82	75
Dimension 9: Strategy/Mission	62	65	81	84	87	74
Dimension 10: Management Index	63	61	71	72	80	71

*** no norms available at this time**

**** Numbers represent the percentage of staff who responded favorably to the question (possible total 100)**

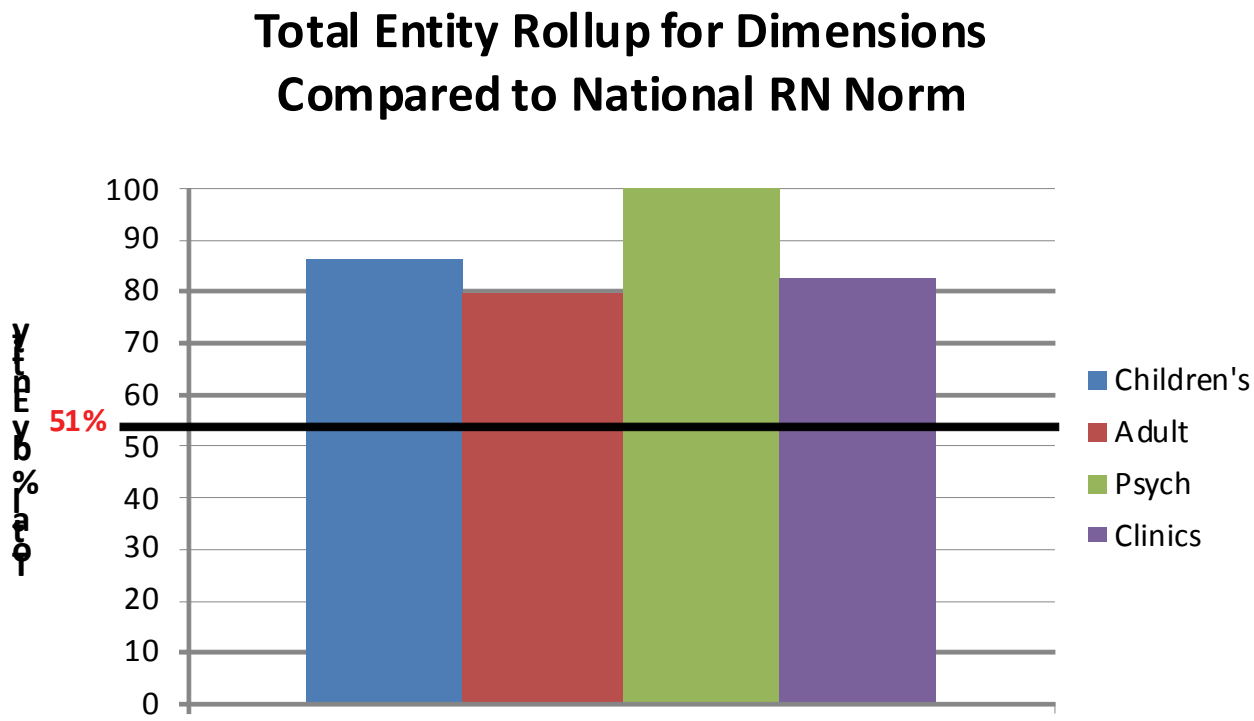
As shown in the two graphs below, for the four Vanderbilt entities (VUH, VCH, VPH and Clinics), well over 51% of the units scored above the benchmarks in the 10 Dimensions. Individual unit/clinic/department level data is shown in OO 12.

Graph EP 3 EO – 3:



51% Magnet Requirement – majority of areas must out perform selected benchmark mean for indicator

Graph EP 3 EO – 4:



51% Magnet Requirement – majority of areas must out perform selected benchmark mean for indicator

Care Delivery System(s)

Source of Evidence 4

Describe and demonstrate the structure(s) and process(es) of the Care Delivery System involve the patient and/or his or her support system in planning and delivery of care. Provide at least two (2) examples of a plan of care that included a patient and/or family member involvement.

Our Professional Practice Model (PPM) is based on patient/family centered care. For that work, Vanderbilt Medical Center was referenced in January 2009 by the Pickler Institute as a leader in Patient and Family Centered Care among academic medical centers [*EP4-Exhibit A-1-January 2009 Pickler Institute Report-VUMC*]. This success is also grounded by our highly visible shared vision, and clearly defined Credo behaviors.

In our interdisciplinary collaborative approach to care delivery, the patient/family are key members of the health care team, involved in decision-making through all aspects of planning, delivering care, discharge and follow-up. Direct care nurses lead the interdisciplinary team at the point of patient care. Nurses utilize the PPM and the interdisciplinary care delivery system to individualize the plan of care to meet the special needs of each patient and family.

Multiple factors and initiatives support the ongoing involvement of patient/families in the care planning process. Examples include:

- Orientation (shared vision - CREDO Behaviors)
- Philosophy of Nursing as outlined in our Nursing Bylaws
- Definition of Evidence-Based Practice
- Patient-Family Centered Care Culture
- Patient-Family Advisory Councils
- Open visitation and inclusion of families in rounding
- Family Initiated Rapid Response Team Calls Program
- Web Based Patient portal called *My Health at Vanderbilt*
- Case Management Model

Credo Behaviors

Credo behaviors are introduced during orientation and are measured each year in employee evaluation feedback/conversations. At Vanderbilt Hospitals and Clinics, we are committed to excellence. Our credo guides our work and our interactions with colleagues, patients and visitors and our credo is who we are.

We provide excellence in healthcare, research and education.
We treat others as we wish to be treated.
We continuously evaluate and improve our performance.

Our six credo behaviors:

- **I make those I serve my highest priority.**
- **I have a sense of ownership.**
- **I conduct myself professionally.**
- **I respect privacy and confidentiality.**
- **I communicate effectively.**
- **I am committed to my colleagues**

Philosophy of Nursing

Nursing Bylaws are referenced and presented as supporting evidence in OO 11 and SE 1. Below is an abbreviated summary of how our Nursing Philosophy supports patient/family centered care.

> "… Nursing embraces the responsibility to provided patient centered, high quality, and cost effective nursing care for all patients and their families. … We are guided by a philosophy that recognizes the inherent worth, dignity and uniqueness of every individual. We promote participation of patients and significant others in decisions regarding the patients' health care and work toward their optimal level of wellness…"

Definition of Evidence-Based Practice

Our definition is - **"**Evidence-based practice is the integration of best research evidence with clinical expertise and patient values." (Sackett et al. 2000) (From VUMC Nursing Research Website http://www.mc.vanderbilt.edu/root/vumc.php?site=vanderbiltnursing&doc=9019

Culture of Patient-Family Centered Care

Many initiatives contribute to the success of our culture of patient-family centered care. Key to our strong commitment is a role dedicated to these efforts – Terrell Smith, RN, MSN is the Director of Patient/Family Centered Care [*EP4-Exhibit B-1-Director Job Description*]. Terrell provides ongoing shared vision and operational coordination for patient-family centered care through The Department of Patient and Family Centered Care. Her work with nurses and the other members of the interdisciplinary team crosses the enterprise and covers many facets. The Department was created to enhance the ability for patients and families to take an active role in health care decisions by creating and maintaining an environment that:

- is supportive for patients and families
- optimizes safety, quality of care, service, dignity and respect by strengthening partnerships between patients, families, and health providers
- optimizes patient and family engagement in health care knowledge and decision making by providing access to health information

Patient-Family Advisory Councils

A cornerstone for the work around patient-family centered care is the Patient and Family Advisory Council structure. Currently there are six councils:

- Vanderbilt University Hospital and Clinics Council (VUH/TVC) which meets monthly
- One Hundred Oaks Council (outpatient focus) which meets monthly
- Eskind Diabetes Center Council which meets quarterly
- Internal Medicine Council which meets quarterly
- Vanderbilt Children's Family Advisory Council which meets monthly
- Vanderbilt Children's Patient Advisory Council which meets monthly

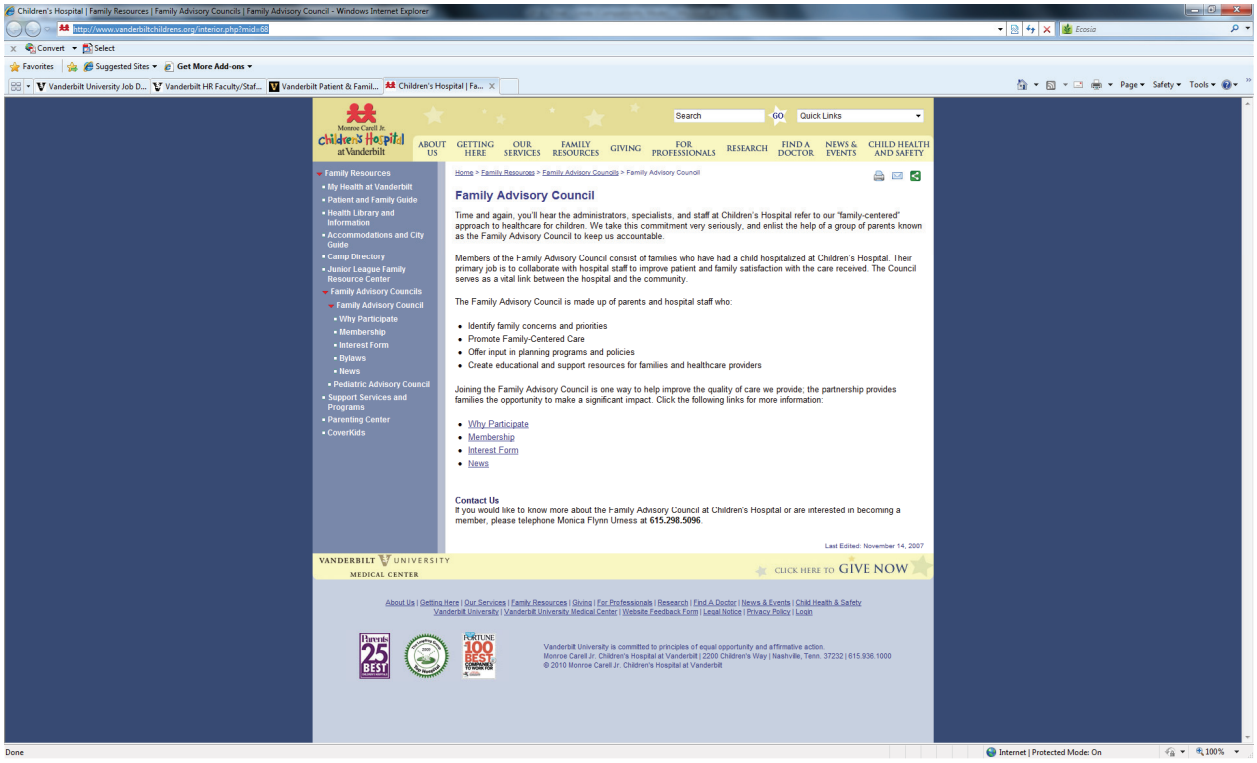
A website serves as a resource to patients and the council members. To view a video and agenda/minutes go to the member section and type in the password: VHCouncil, OHOCouncil).

http://www.vanderbilthealth.com/centeredcare/

TABLE EP 4 - 1: Screen Shot of Vanderbilt Patient & Family Care Website

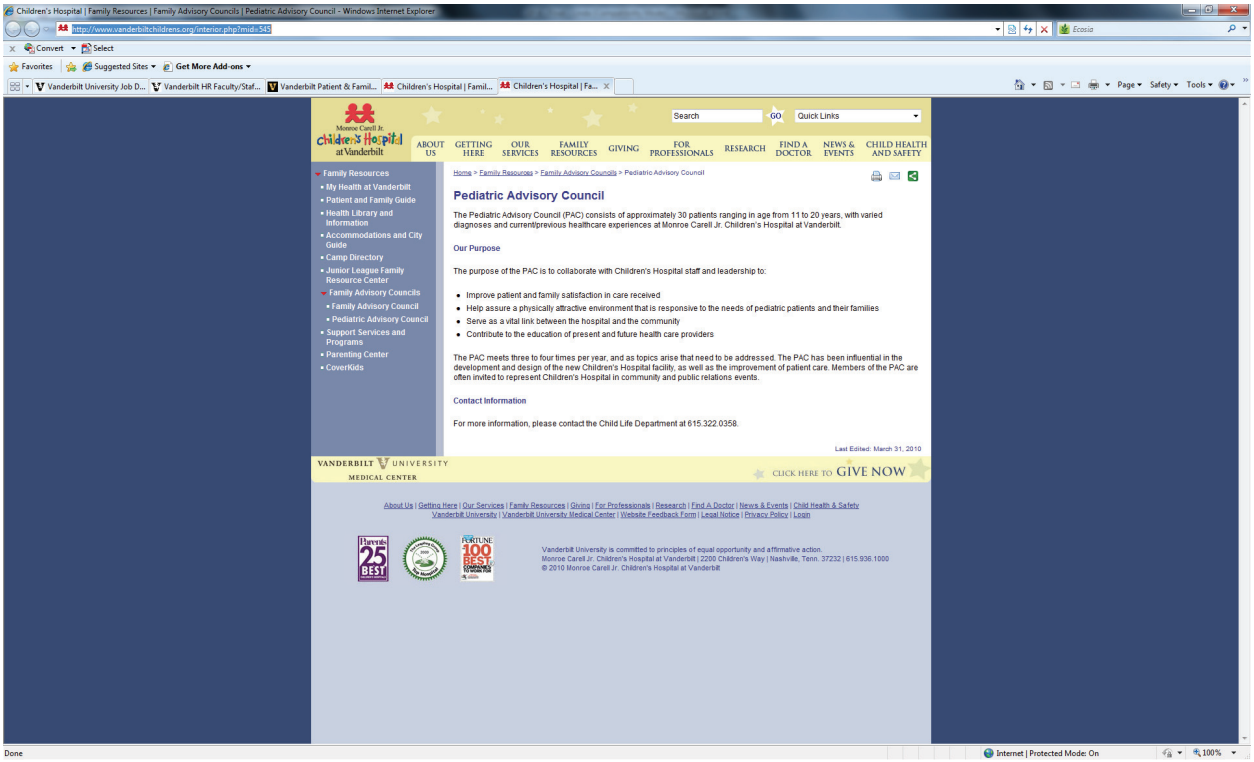
http://www.vanderbiltchildrens.org/interior.php?mid=68

TABLE EP 4 - 2: Screen Shot of Vanderbilt Patient Advisory Council Webpage



http://www.vanderbiltchildrens.org/interior.php?mid=545

TABLE EP 4 - 3: Screen Shot of Vanderbilt Patient Advisory Council Webpage



Serving as advisors, patients and families guide us through our efforts to make Vanderbilt more patient-centric. One of their many undertakings has been their involvement with our patient education goal of making information easier to read and understand. They partnered with the clinical enterprise to approve the surgical and procedural template that was used to revise all surgical consents to a 5th grade reading level. The improvements included more white space, larger font and more photographs. The Councils have also been involved in the design/function of new space and our campaign for partnership for safety.

Trauma Survivor Network

Direct care nurses from the trauma service, along with the Director of Patient/Family Centered Care, trauma unit nurse manager, family members of patients and physicians collaborated to create the Trauma Survivor Network. This program provides on line support for families of trauma victims as well as peer mentoring support and other information critical to assist a family during this time of crisis. Nurses serve as the first educators for the patient family about the Trauma Survivor Network and how it can provide help and support for them [*EP4-Exhibit C-1-Trauma Survivors Network Newsletter Dec 09*].

http://www.vanderbilthealth.com/traumasurvivors/

Inclusion of Families in Rounds

Beginning with the Trauma Unit, many areas now include families in rounding with the interdisciplinary team. Direct care nurses are critical to the rounding process and help educate families about their roles and provide follow-up. As leaders in the development and provision of the interdisciplinary plan of care, having families involved in rounds supports nurses to develop a stronger partnership in the execution of the plan.

Open Visitation

The opening of the Critical Care Tower (CCT) in November 2009 *(complete story in NK 9 EO)* saw the advent of open visitation for our critical care units. The rooms in the critical care tower are also designed to provide three distinct work spaces; unique space for the health care team and patient and family. In addition, each unit in the CCT has two distinct family waiting rooms - one that provides for television and interaction and another that provides for quiet reflection [*EP4-Exhibit D-1-House Organ Nov 09*].

Family Initiated Rapid Response Calls

We understand that when a family member suspects their loved one's condition is rapidly deteriorating, their instincts are often correct. Initiated in August 2009, the Family Initiated Rapid Response Team program supports family members to activate a call to dispatch the rapid response team. Using the same mechanism a staff member would, a family member

can dial 1-1111 from the patient's room. The Family Advisory Councils worked with us to craft language for this initiative.

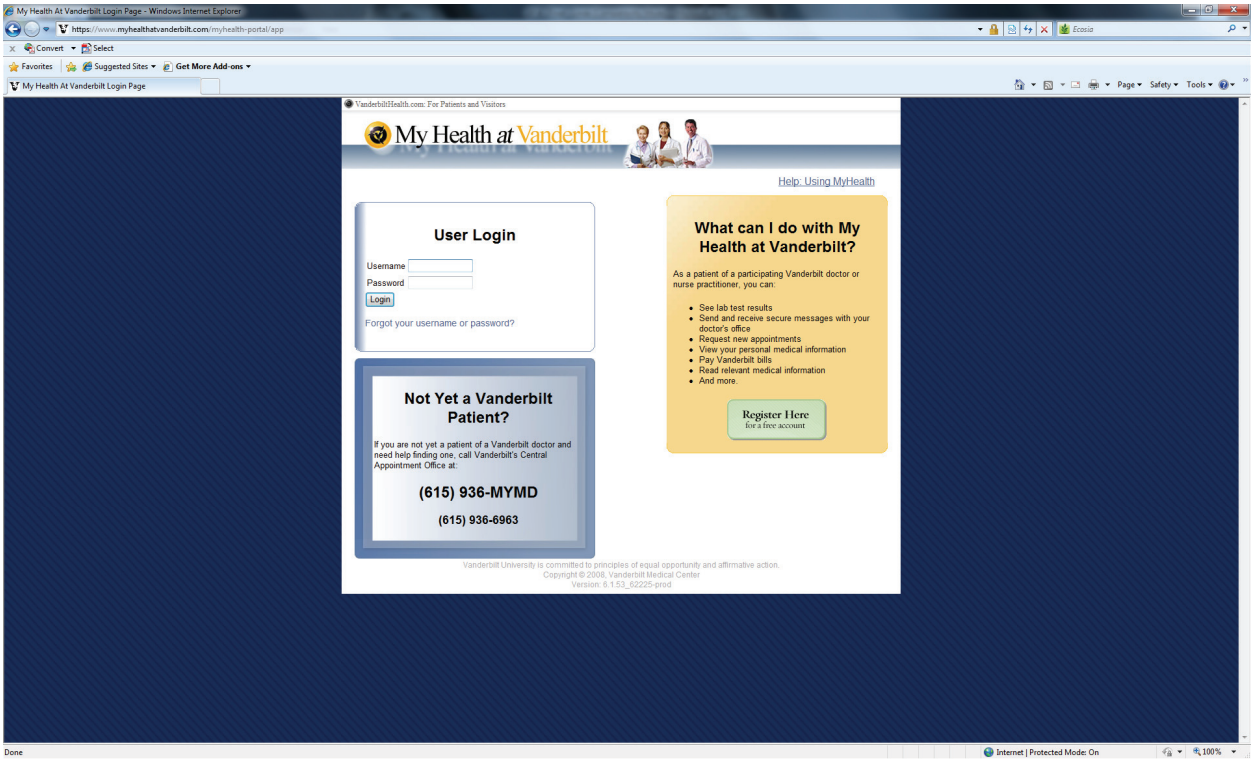
Initial fears that the system would be abused have been unfounded. We found that rather than abusing the system, the vast majority of family members respect it like they do calling 911 at home. Our Patient Handbook, written with the Patient/Family Advisory Councils contains information about Family Initiated Rapid Response Calls and other information about "partnering with us for safety" [*EP4-Exhibit E-1-Patient* Handbook]. See examples of the family education for Family Initiated Rapid Response Calls [*EP4-Exhibit E-2-Children's FIRST family edu material, EP4-Exhibit E-3 Adult RRT edu material*].

My Health at Vanderbilt

My Health at Vanderbilt is a free secure web-based electronic system that supports communication between patients-families and health care providers. The idea for this form of communication came from our clinic nurses, who now monitor this site within their respective clinics. This tool provides for more timely communication between the health care providers and patients; with nursing being the first line of response.

https://www.myhealthatvanderbilt.com/myhealth-portal/app

TABLE EP 4 - 4: Screen Shot of My Health at Vanderbilt Website



Patients and designated support persons can:

- See lab test results
- Send and receive secure messages with their doctor's office
- Request new appointments
- View personal medical information
- Request prescription refills
- Pay Vanderbilt bills
- Read relevant medical information
- And much more

Nursing Based Case Management Model

Vanderbilt Case Management structures and processes are designed to support patient/family in the planning and delivery of care from admission and after discharge – across the continuum [*EP4-Exhibit F-1-VUMC Case Management Model, EP4-Exhibit F-2-VUMC Case Management Model Detail*]. Per Case Management's Standard for Service Delivery [*EP4-Exhibit F-3-Standard for Service Delivery April 2009*] patients are at the center of all services delivered. Direct care nurses in collaboration with the health care team are responsible for the plan for

nursing care and Nurse Case Managers (NCM) and Social Workers (SW) assist with complex discharge needs to help ensure continuity of care. As members of the team, Financial Counselors (FC) assist patients/families to access their eligible financial resources, including charitable care. Throughout all aspects of the care continuum, patients/families are critical members of the decision-making process [*EP4-Exhibit F-4-Patient-Family Focused Discharge Planning Standard Aug 2009*].

(Complete Medical Records for all examples available on site)

"In Nursing's Own Words"

Vanderbilt University Hospital (VUH) and Vanderbilt Clinics (VMG/TVC)

This is an example where local and national health care professionals teamed with the patient and family to create the plan of care that the patient wanted. V was a 26 year old with a new diagnosis of melanoma. At the time, V and her husband were living and working in another country teaching English. The patient had family living close to Nashville, so on their return to the US, she was admitted to Vanderbilt. Her work-up determined that she had severe metastatic disease. Emergency surgery was performed to address spinal cord compression and several other surgeries followed.

The health care team worked with various pharmacies and other outside resources to provide indigent care for V. As per her wish, she was able to leave the hospital and return only for short treatment periods. This assistance included living arrangements close to the Medical Center and transportation.

As it became apparent that V would not recover from her disease, the care was shifted to palliative and end-of-life. V shared with the healthcare team that she had a dream to see the west coast in a recreational vehicle (RV). This was her birthplace and the area of many childhood memories for her. She wanted to share this with her husband who had never seen the area. From donations and much coordination with family and a broader health care team in Tennessee and California, this wish was made into a reality.

V had her dream fulfilled and saw the west coast in an RV from Portland, Oregon to LaHoya, California. V died peacefully in LaHoya under the care of a local hospice team and with her family at her side. V lived 75 days from diagnosis to the peaceful end of her life. Thanks to

the interdisciplinary health care team that listened and included the patient and her family in the plan of care, V was able to have her last wish come true.

Vanderbilt Children's Hospital (VCH)

A 19 year old, 6'4" young man with autism was scheduled for surgery. Two months prior to his planned admission, the health care team, including an autism specialist, worked with the parents to develop a pre and post-op plan of care. His father worked in Louisiana and due to the agreement that both parents were needed during this time, a letter of medical necessity was sent to his employer to secure leave. The team also met daily with the family during his hospitalization.

One of the most significant challenges was the patient's ability to comply with post operative activity restriction for no weight bearing on the operative leg. Due to his size and past interactions with his mother, the team determined that for safety he should be admitted to a rehab facility post-operatively.

For his eventual return home, the family and the team identified the following needs:

- a hospital bed
- a ramp for the home entrance
- a removable brace for improved and safe mobility
- care assistance in the home
- attendance at school

Because the team planned with the family in advance, these needs were addressed and arranged before the patient was admitted.

As with all good planning, flexibility is needed. As it turned out, the patient's mother had to have a surgical procedure the week before her son which could not be postponed. His mother developed post operative complications and was not able to assist in the patient's care.

Due to pre-planning and involvement of both parents, the patient's father determined that he and his son were doing well together and he would prefer to care for him at home. The health care team was in agreement and the patient was successfully discharged home 10 days after his surgery.

Vanderbilt Psychiatric Hospital (VPH)

A patient was admitted to the Adult Unit of VPH, who required a lift to transfer him from bed to wheelchair. The particular lift needed was not available through our equipment distribution or for rental from the community. After obtaining permission, the patient's father was contacted and he offered to bring the patient's portable lift for use during his hospitalization. In addition, the patient and father also decided that some of his other medical supplies could be brought in and used during the hospital stay.

The patient's father brought the portable lift and once it was approved for use by our Biomedical Department, he instructed the staff on the use of the lift. Due to the size and limited mobility of the patient, the use of the patient's personal lift supported patient and staff safety. Additionally, the father was a main care giver for the patient and this "hands on" approach facilitated communication and supported the patient and family to identify and address the issues that had brought the patient into our care.

Care Delivery System(s)

Source of Evidence Number 7

Describe and demonstrate the structure(s) and process(es) used to engage internal experts and external consultants to improve care in the practice setting.

Internal Experts and Consultative Services

VUMC nurses at all levels have easy access to a variety of internal experts and consultative services which provide support in improving operations, patient care and outcomes. The autonomous nature of the practice of professional nursing at Vanderbilt supports nurses to independently contact the resources they need. These experts also sit on various committees and task forces throughout the Medical Center. In addition, teams/committees already in existence may determine the need to utilize internal experts/consultative services for assistance or an internal group of experts may be appointed to identify/solve a problem. Examples of internal experts and consultative services include, but are not limited to.

Table EP 7 – 1: Examples of Internal Experts and Consultative Services for VUMC Nurses

Roles	Expert Services
Nurses in advanced and specialty roles	Advanced Practice Nurses; Wound/ ostomy, continence nurses; Certified diabetes specialty nurses; Certified chemotherapy nurses; Infection control experts; Stroke coordinator; Rapid Response Teams; Transplant Coordinators, IV and PICC Therapists
Registered Nurse 4's on the units/clinics	Per job description are expected to act as mentor for other nurses: [*EP7-Exhibit A-1-Job Description RN 4*] 1) According to unit and VUMC standards, uses, documents, and mentors others in the application of the nursing process to plan, deliver and evaluate goal focused individualized, safe, age specific care for all patients including those with complex pathophysiological and psychosocial needs. 2) Mentors staff on coordination of comprehensive age-

	specific continuum of care planning for all patients. 3) Serves as a consultant and multidisciplinary team leader in developing, evaluating and revising comprehensive, individualized, age-specific teaching plans for all patents (including non-compliant, resistant, or complicated patients and/or those with significant barriers to learning).
Designated Charge Nurses	Per Job Description: [*EP7-Exhibit A-2-Job Description Charge Nurse*] 1) Acts as a clinical resource for novice staff members as well as assisting experienced staff in problem-solving skills for complex patient care situations.
Nurse Educators	Clinical experts in their assigned areas and per job description: [*EP7-Exhibit A-3-Job Description Nurse Educator*] 1) Acts as a consultant and liaison with area staff and leadership to promote agreed upon Patient Care Standards. Interprets policies and procedures to clinical staff. 2) Acts as a clinical leader and provides education for staff on clinical standards.
Nursing Case Managers	Clinical experts in their assigned areas and in outcomes management and discharge planning – per job description: [*EP7-Exhibit A-4-Job Description Case Manager*] 1) Provides coordination of patient discharge activities for appropriate patients, to be consistent with hospital discharge goals and policy 2) Guides nurses and health care team in use of pathways, teaching records and order sets 3) Provides education to nurses/ health care team in case

	management practice, clinical areas of expertise and changes in health care environment
Unit/Patient Care Center based nursing quality consultants	Registered nurses who provide oversight for population specific quality activities, such as cardiology, critical care, etc. They act as resources for the direct care nurses in regard to the development, implementation and evaluation of organizational strategies to improve clinical, service and financial outcomes within an evidenced – based practice framework.
Informatics System Support Nurses and other staff	Experts in the use of our clinical informatics systems and serve as educators, coaches and mentors for staff in the use and best practices implementation of electronic systems that support and enhance patient care. (*detailed information provided in NK 9 and NK 9 EO)*
Clinical Practice Committee	Serves as an expert body for the oversight of clinical practice and the development and policies and procedures based on evidence and best practices
Center for Clinical Improvement (CCI) Nurses and other staff	CCI serves as a resource for the evaluation of clinical practice based on quality data and assists to evaluate practice based on current evidence. Also assists with event analysis and in implementing change based on outcomes and evidence. Please see example of use of CCI Consultants below.
Nancy Wells, RN, DNSc, FAAN Director of Nursing Research	Expert in the development of questions and studies to evaluate current practice based on evidence. *(Details in NK 4)*
Eskind Biomedical Library's Clinical Consult Services	Specialist in the Biomedical Library who will conduct and/or assist in literature searches and in the search for specific documents and or answers to questions*. (Details in NK 4)*

Unit/Service Based Clinical Pharmacists	Pharmacists who are service based for a specific patient population and offer expert consultation on specific medications, side effects, etc.
Palliative Care Consult Service (Team)	Interdisciplinary Team that provides assistance in dealing with end-of-life issues for staff and patients/families. May be accessed by nursing as decisions are made to proceed with supportive care only.
Ethics Consult Service	Service open to all staff that will answer questions and /or provide guidance around any real or perceived ethical questions or conflicts. *(Details in EP 23)*
Geriatric Consult Service	Interdisciplinary Team that provides assistance in dealing with geriatric patients and their special needs.
Evidence-Based Medicine Nursing Specialists	Nurses who work in the development of evidence-based pathways and order sets and who can assist staff in literature searches for evidence-based practice answers. *(Details in NK 4)*
Pastoral Services	Hospital-based clergy educated staffs who assist with spiritual and other identified needs of staff and patients/families.

Processes that support staff in the use of internal experts and consultative Services

In addition to the nurses having access to contact internal experts and consultative services, embedded in their daily work flow are a number of processes that expedite the use of internal experts and consultative services. The table below provides some examples.

Table EP 7 – 2: Processes that support the use of internal experts and consultative Services

Nursing Activity	Associated Processes
Falls Assessment	When a fall assessment is completed on patients and they are determined to be "at

	risk for falls"; the protocol initiated for falls prevention prompts for a physical therapy consult [*EP7-Exhibit B-1-Falls Risk Assessment Adult, EP7-Exhibit B-2-Falls Prevention Protocol Adult, EP7-Exhibit B-3-Falls Risk Assessment PEDS, EP7-Exhibit B-4-Falls Prevention Protocol PEDS*].
Pressure Ulcer Risk Assessment	1) Nutrition Braden sub-score shows up on the dietician's dashboard and triggers a complete nutrition assessment 2) Based on specific Braden Score and for Stage 3 & 4 and un-stageable ulcers, the order set prompts for a Wound/Ostomy or Plastics consults 3) Based on Braden Score, there is a "advisor" that has a bed selection tree algorithm for choosing a specialty bed 4) For assessment of Stage 1 & 2 pressure ulcers – with the pressure ulcer prevention and treatment protocol there is an actual recommended product ordering chart [*EP7-Exhibit B-5-Pressure Ulcer Flow Chart, EP7-Exhibit B-6-Pressure Ulcer Product List, EP7-Exhibit B-7 PU Prevention & Treatment Adult, EP7-Exhibit B-8-PU Prevention & Treatment PEDS, EP7-Exhibit B-9-Pressure Ulcer Products, EP7-Exhibit B-10-Bed Selection Tree – Adult, EP7-Exhibit B-11-Bed Selection Tree - PEDS*].
Palliative Care Consult Service Prompts	When the decision is made for the Withdrawal of Life Support – written guidelines call for the Palliative Care Consult [*EP7-Exhibits B-12-Withdrawal of Life Support Policy-Nov 08*, *EP7-Exhibit B-13-SICU Comfort Care Orders Sets*].

Geriatric Practice Guidelines (developed through the ACE Steering Committee)	A nutrition consult is triggered (if the patient is not already being followed) for a registered dietician, if the patient: 1. is not tolerating the type or amount of tube feeding 2. is losing weight 3. Has poor wound healing 4. Has a change in nutritional status 5. Needs nutrition education and discharge diet instructions 6. has poor food intake
Diagnosis specific pathways	Within the Nursing Plan of Care there is a section for consults such as social work, physical therapy, occupational therapy, etc. [*EP7-Exhibit B-14-Diagnosis Specific Pathways-Protocols*].
Diagnosis specific Protocols	Within the protocols themselves are triggers for specific related internal consults Example: Early Mobilization Protocol for the MICU triggers a Physical Therapy Consult [*EP7-Exhibit B-15-Diagnosis Specific Pathways-Protocols*].
Infection Control Experts	Utilized in various arenas to develop evidence-based protocols for management of central line placement to prevent blood stream infections and management of Foley catheters to prevent catheter associated UTI, etc. Specific Example: Medical Intensive Care Unit (MICU): Utilized the infection control experts (Kathie Wilkerson, RN and Dr. Tom Talbot) to develop a plan for decreasing C-diff diarrhea *(Complete story and data in EP 7 EO)*

Example: Use of Internal Experts – 9 South Surgical Step-down

In August, 2009, 9 South had a low percentage rate for compliance with hand hygiene. With Claudette Fergus, RN, BSN from CCI, we developed a Plan for 9 South that was implemented in November, 2009. Our plan included observations of hand hygiene compliance on 9 South. Using available data, during the unit board we talked with staff about the focus on hand hygiene and got their perception of hand hygiene compliance on 9 South. When we shared the actual observation data, they were surprised at our low percentage of hand hygiene compliance.

Agreement was made and we had required hand hygiene in-services for all 9 South staff. In addition, we put the following initiatives in place: "Staff Huddles" where each shift (at 8:15AM and 9:00PM) staff gather at the Charge Nurse desk to discuss hand hygiene and other quality initiatives. During this time, the Charge Nurse also shares hand hygiene observation results with staff and emphasize peer accountability. They are reminded to provide real-time remediation by politely asking anyone not observing adequate hand hygiene to please foam in and out each time.

In addition to huddles, we ask that each staff member pass their pager off for five minutes during their shift and round on the unit observing hand hygiene. Again with these rounds, remediation can be provided if inadequate hand hygiene is witnessed. We started to experience a positive trend in the hand observations for 9 South.

Table EP 7 – 3: Hand Hygiene Results for 9 South Surgical Step-down

Month	Oct. 2009	Nov. 2009	Dec. 2009	Jan. 2010	Feb. 2010	Mar. 2010	Apr. 2010	May 2010	Jun. 2010	Jul. 2010	Aug. 2010
9 South Hand Hygiene	63%	69%	84%	87%	94%	90%	67%	90%	67%	93%	100%

Compliance											

In April, we saw a decrease in our compliance rate. In evaluating our instances of non-compliance, all surrounded medication administration involving the workstations on wheels. Laurel Balthaser, RN and Jenny Ledbetter, RN from 9 South examined the work flow of "hand hygiene meets AdminRx." Administering medications with AdminRx requires contact with computer, patient, and patient medications multiple times during the process. Because of contact made between computer, patient and patient medications, the hands must be sanitized multiple times during the process. After evaluating the process and discussing issues with staff, Laurel and Jenny prepared two staff education posters. The posters were placed in the break room and demonstrated, with pictures, process work flow. A poster was made for patients on isolation and patients not on isolation.

Initiatives used on 9 South in an effort to improve hand hygiene compliance have been rolled out to other areas of the hospital. Laurel Balthaser now serves on the Hand Hygiene Committee as the Unit Expert from 9 South.

External Experts and Consultants

Senior leadership at VUMC, nursing and non-nursing, recognize and support the need to identify and obtain external experts and consultants to advise us about operations, improvements and patient care. The structure and process is multifaceted. A team/committee that is in place may be trying to address a particular issue or make improvements or a problem has been identified and a team/committee is then appointed to define a solution.

The first steps are always to clearly define the problem/need and look at the evidence. Based on the outcome of those steps, the group may determine we have internal experts who can address the problem or that external consultants are needed or a combination of both. Regardless, these teams/committees are interdisciplinary with nursing at the table. Executive sponsors/champions (senior leadership) are responsible for supporting the work and working with the teams to secure the resources they need.

A listing of examples of external experts and consultants used in evidence-based practice and research is in Organizational Overview – Source of Evidence 28. The Table below provides examples of specific use of external consultants in various roles to improve care in the practice setting. EP 7 EO provides detailed examples with outcomes of the use of internal and external consultants.

Table EP 7 – 4: Use of External Consultants to Improve Care in the Practice Setting

External Consultants	Example of Services Provided
Product Vendor Nurses	Sage 1) Assisted in the development of a new bathing protocol and provided specific products requested by the staff into a "bathing bundle" 2) Assisted in the development of a new oral care protocol for mouth care and provided specific products requested by the staff into a "mouth-care kit"
Disease Specialty Organizations	Nursing staff contacts organizations like Muscular Dystrophy Association, American Cancer Association, etc. to assist with resources and education for patients and families.
Tennessee Donor Services	Protocol Triggers call to TN Donor Services who work with Medical Center staff to initiate discussions with family members and support process for potential and/or actual organ donation [*EP7-Exhibit C-1-Policy 20-10.29 Organ Donation After Cardiac Death*].
Specialty Bed Nurses	Various companies, such as KCI, work with nursing teams to identify specialty beds to assist in pressure ulcer prevention and reduce falls risk [*EP7-Exhibit C-2-Spriit Select Bed Request (MEOC)*].
American Heart Association	Partner for information related to cardiac resuscitation
Various Hospital and Consortium Organizations	United HealthCare Consortium (UHC) Child Health Corporation of America (CHCA)

	Multiple others

Table EP 7 – 5: Specific Examples of Use of Outside Consultants

Vanderbilt Psychiatric Hospital	• Utilized expert representative from Vanderbilt Kennedy Center on Autism to provide information to the staff on how to provide appropriate interventions for patients with autism. They also provided information for staff on resources for parents/families of patients with autism. • Utilized representatives from local organization to provide education on Asperger's syndrome to help staff better understand that patient population [*EP7-Exhibit D-1-Evaluation for Asperger's Syndrome Event*].
Falls Prevention Committee	• Currently working with specialty bed company – KCI – on the use of "low beds" to prevent injury from potential falls [*EP7-Exhibit D-2-Spirit Select Bed Request (MEOC)*].
Clinic Redesign *(Details in EP 7 EO)*	• Partnered with outside consulting company – North Highland – to initiate complete clinic redesign and changes in processes and care delivery.
"In The Zone" (*Details in SE 1 EO)*	• Children's Hospital in collaboration with CHCA revamped their method of how nurses administer medications improve medication safety delivery and prevent adverse drug events.
VMG Anti-coagulation Clinic (*details in EP 7 EO)*	Partnered with outside vendor to combine two different phone based anticoagulation clinics each using different tools into one clinic with evidence based tools and protocols for the management of anticoagulation therapy for patients across

	the Medical Center.
OB Services	Insurance Carrier (CAN) performed an OB Risk Management Assessment at our request. Interviewed all staff and providers to identify any barriers to providing quality care and patient safety. These interviews and chart and policy reviews, yielded recommendations. Nurses could articulate how to evoke the chain of command for concerns about patients, however, they were not clear how to elevate those concerns about the attending physician. Using staff and charge nurse input, a chain of command policy and algorithm was created. This policy has been reviewed with all staff for outpatient and inpatient OB Services and is available to them [*EP-7-Exhibit D-3-Chain of Command Policy and Algorithm*].

Care Delivery System(s)

Source of Evidence 7 Empirical Outcomes

Describe and demonstrate two (2) improvements in the practice setting that occurred as a result of the use of internal experts or external consultants.

VUH - Medical Intensive Care Unit (MICU) Uses Internal Consultant to Decrease Infection Rate

Purpose and background:

For a six month period the C. Diff diarrhea incidence rates per 1,000 patient days were above the set threshold for the MICU. The MICU patients were the perfect population for this condition; many are immunocompromised, receiving potent antibiotics, and tube feedings. For some patients, getting this organism and this condition was part of their disease and treatment processes, but for others they were the recipient of cross-contamination. Staff of all disciplines and physicians were being observed going into isolation rooms without appropriate personal protective equipment (PPE). In addition, the staff/physicians did not feel comfortable confronting others when protocol was breached. The same mop head was being used in all rooms, regular and isolation rooms – no changing out after cleaning the floor in a contact isolation room. Supplies stored in patient rooms were not always being discarded after the discharge of an isolation patient.

Methods/Approach

After discussion at the Unit Board meeting, the manager of the MICU, Julie Foss, RN, MSN, NE-BC contacted Infection Control. During meetings with Infection Control, MICU leadership, staff and Medical Director identified some steps to be taken. Further discussion of this problem and possible solutions took place at an MICU Unit Board meeting that included the MICU Medical Director and the Medical Director of Infection Control. The staff participated in flushing out the action plan to get this problem under control.

Part of that plan was for the MICU Manager and Manager of Infection Control to meet with Environmental Services (EVS) after hearing the staff nurses comments about observed infection control practices of the EVS staff. The MICU manager and assistant manager along with Infection Control practitioners were invited to attend EVS staff meetings to discuss evidence based infection control best practice and to engage the EVS staff as members of our MICU team to help us get this under control.

We also did education, including an in-service presented by Dr. Talbot, the medical director of infection control, to make sure that all staff and physicians working in the MICU were aware of this organism and the interventions that were needed when the organism was present to prevent cross-contamination. Flyers were posted with background information and action steps. The Friday Communication newsletter and Unit Board minutes included the action plan and rationale for it. Each month the infection rates for the unit were posted to help the staff stay informed of our progress in getting this problem controlled.

Table EP 7 EO – 1: Participants

Julie Foss	RN, MSN, NE-BC	Manager, MICU
Dixie Taylor	RN, BSN	Assistant Manager, MICU
Kara Gordon	RN, MSN	Nurse Educator, MICU
Art Wheeler	MD	Medical Director, MICU
Todd Rice	MD	Associate Medical Director, MICU
Critical Care Fellows	MDs	For MICU
Tom Talbot	MD	Direction, Infection Control
Kathie Wilkerson	RN	Infection Control Practitioner
Mike Jolley & Neil Masters		Directors, Environmental Services
MICU Unit Board		
MICU Nursing & Clinical Staff		

Outcomes and impact

The outcomes included the following practice changes:

- If a test is ordered to rule out C. Diff on a patient with diarrhea the patient is to be placed on contact isolation immediately (previous practice was to wait for the test results). For patients with positive C. Diff results they stay on contact isolation for their full MICU stay even if subsequent cultures come back negative

- EVS is to clean every surface in the occupied patient rooms daily. The EVS leadership was invited to attend MICU Unit Board to discuss ongoing concerns about cleaning practices and the potential effect this was having on our ability to decrease our infection rates. During this meeting it was discovered that EVS was not cleaning patient equipment between patients or at all, including EKG trunk cables and lead wires, SaO2, BP, and pressure cables. This was a surprise to the MICU Unit Board. A consensus decision was made to get with Clinical Engineering immediately to find out which

cleaning products could be used and for the MICU nurses and care partners to take over this task until a better solution could be found.

- Developed a new sign to be placed on the foam soap dispenser informing staff to wash with soap and water with this patient since the alcohol in the foam does not kill the C. Diff spores

- Agreed to re-commit to wearing gowns and gloves on all isolation patients

- Support for holding others accountable was verbalized and made public, including steps to take if did not get "thank you", including an invitation from Drs. Talbot and Wheeler to contact them if the push back was coming from a physician

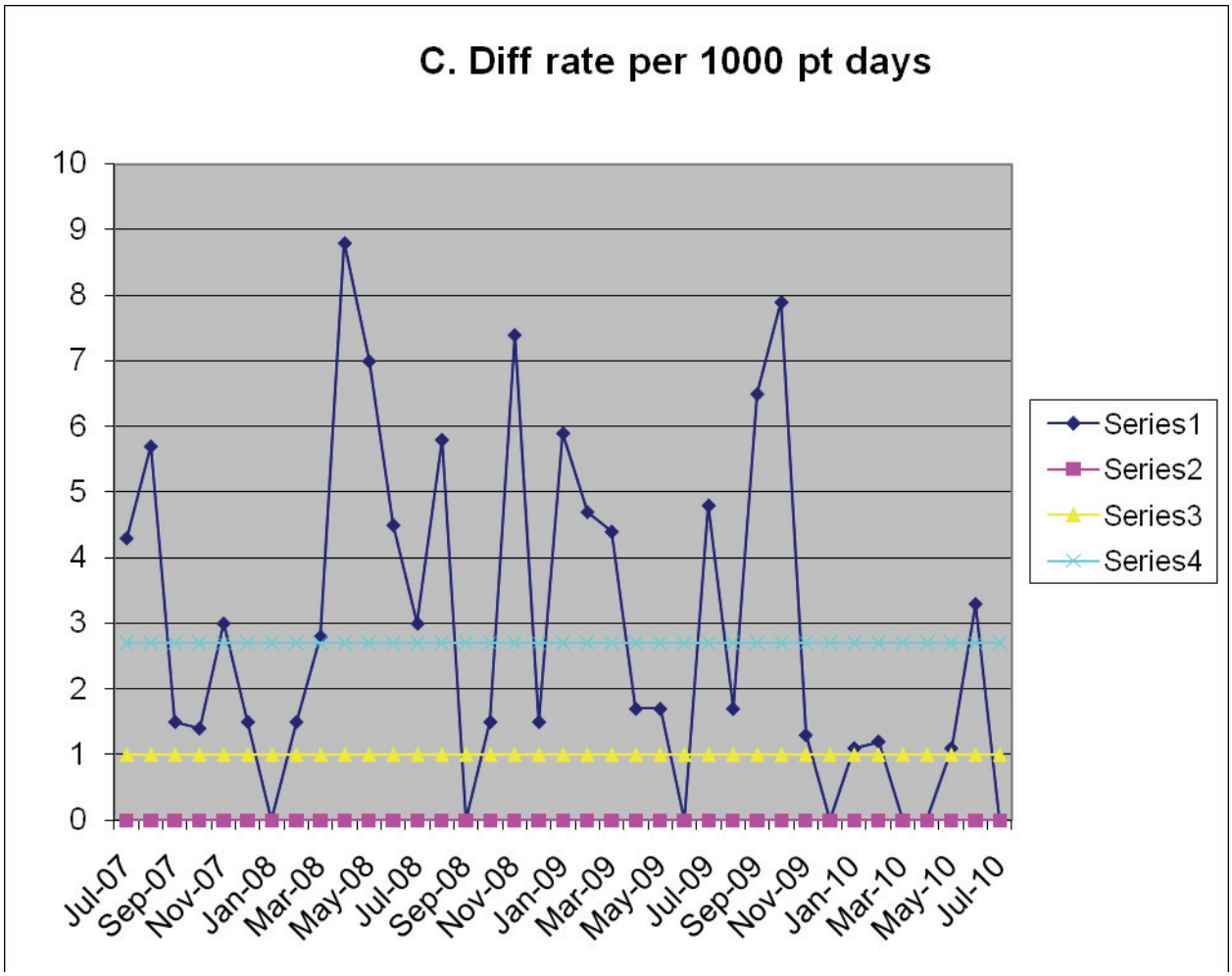
- Re-education of MICU staff to assure that shared equipment was being wiped down between patients

- Having accessible sinks for soap and water washing was a problem – until 11/09 the sinks in the patient rooms were in the opposite corner from the door to the room and there were minimal sinks outside of the patient rooms and they were not in close proximity to the rooms; the initial practice change was to give staff permission to take off PPE walk across to the sink to wash hands prior to leaving the room. November 2009 the MICU moved into a new unit, now the sinks are right inside the door into the room, allowing for hand washing and immediate exit from the room.
  Change practice to do a terminal clean on all isolation

[*EP7EO-Exhibit A-1-2009 April Calendar, EP7EO-Exhibit A-2-C Diff Precautions Sign, EP7EO-Exhibit A-3-Clostridium Difficile Outbreak flyer, EP7EO-Exhibit A-4-Friday Communication-MICU, EP7EO-Exhibit A-5-MICU Unit Board Minutes-August 08, EP7EO-Exhibit A-6-C Diff2 handwashing flyer*]

Impact – see graph of infection rates per 1000 patient days; since November 2009 through July 2010 our average monthly C. Diff rate per 1000 patient days is 0.86. Doing a comparison with the same months the previous year – November 2008 – July 2009 the average rate is 3.59 per 1000 patient days.

Graph EP 7 EO – 1: MICU C. Diff Infection Rate per 1000 Patient Days



VMG - Use of Internal and External Experts to Initiate Changes in Anticoagulation Clinic Practices

Purpose and Background

Anticoagulation therapy was being initiated in a number of clinics across the enterprise. Nurses in these clinics were using a variety of forms and strategies to manage patients' anticoagulation therapy. In addition there was no formalized training or standardization of processes to manage these patients. Nurses had to follow multiple protocols. Outcomes and adverse events could not be measured across the organization due to the wide variation in protocols and process. There was a large influx of new patients and new staff with limited experience in managing a high risk, problem-prone process of long term adult anticoagulation therapy.

There were two formalized phone based anticoagulation clinics, one through the Pharmacy Department and one through Vanderbilt Heart and Vascular Institute (VHVI), each using a different documentation tool. The internal tool, developed by the RN staff in the Pharmacy based clinic was created using a flow sheet model. The Vanderbilt Heart and Vascular Institute staff used a commercial product designed for anticoagulation management. The commercial product representative, Lester Demaree, works with hospitals/clinics throughout the country and has up to date knowledge in current trends in anticoagulation management, patient safety strategies and software features.

The challenge was to create a single documentation tool that would be easily assimilated by nurses of varying backgrounds to minimize training and standardize practice. The tool also had to be available to the VUMC providers at large. Once anticoagulation practice is standardized (protocols developed), outcome measurements will be more meaningful. In addition, the quality of care and safety for the patients would be greatly enhanced.

The organization decided to initiate a single source for anticoagulation management throughout the enterprise. This would enhance adherence to evidence based practice, provide continuity of care and ensure patient safety. The Pharmacy and VHVI Clinics for management of anticoagulation therapy would be combined.

All parties agreed on three important considerations for our work:

- A single software tool, easily understood by all, was a must have
- Standardized practices (protocols) which fit the documentation tool had to be developed and consistent training was necessary
- Once standardized practices were hard-wired, outcome measurements could be extracted from the software data, enabling the system to measure like elements

Methods and Approach

An extensive review of the workflow and use of the two informatics products by Health Information Systems was undertaken with nurse and pharmacy input. A decision was made to use the internally created flow sheet because it integrated with the electronic medical records system and the anticipated addition of decision support tools could be standardized and used by all parties. Lester Demaree, the third party software vendor, was used as an external expert, meeting with the Health Information Services Manager RN regarding common practices and transitioning the data to the internal flow sheet model.

Experienced nurses served as internal experts and provided direct input in the development of the electronic anticoagulation flow sheet, specifically advocating decision support tools to dosage calculation for patient safety. The Health Information Services Manager was able to translate the nurses' recommendations into a streamlined flow sheet format. Other enhancements included a documentation tool for low molecular weight heparin use (patient safety) and a patient education checklist to ensure all key topics are covered (efficiency and quality).

The Pharmacy RN staff and the Vanderbilt Heart and Vascular Institute RN staff, in concert with the RN Health Information Services Manager, provided input for key features which provide decision support (Coumadin dosage calculator), enhance documentation (low molecular weight heparin administration) and patient education (initial education checklist). The resulting tool was fine tuned for "read-only" access to providers so they had real time information regarding the status of their patients on anticoagulation therapy.

Internal consultants included Information Technology, Pharmacy (Adult and Pediatric), Lab, Medicine and Nursing Management. The commercial product vendor (external consultant) provided detailed information regarding the functionality of anticoagulation management systems.

Anticipated improvements included:

- Immediate recognition of current daily dosage and automatic dose calculation for current and future doses
- Consistent documentation of low molecular weight heparin use
- Consistent documentation of patient education
- More effective/efficient orientation of new staff using automated dosing calculations for anticoagulant dose checking and documentation cues with less reliance on memory

Sample of Evidence-based resources:

- Aspinall, Sherrie L.PharmD, BCPS,1; DeSanzo, Beth E., PharmD,2; Trilli, Lauren E. PharmD, BCPS,3; Good, Chester B. MD, MPH1: Bleeding Risk Index in an Anticoagulation Clinic

- Assessment by Indication and Implications for Care: 1Center for Health Equity Research and Promotion, VA Pittsburgh Healthcare System, Pittsburgh, PA, USA; 2Pharmacy Department, Butler Veterans Affairs Medical Center, Butler, PA, USA; 3Pharmacy Department, VA Pittsburgh Healthcare System, Pittsburgh, PA, USA.

- Beyth, Rebecca J. MD; Quinn, Linda M. MS, Landefeld, C. Seth MD; Prospective Evaluation of an Index for Predicting the Risk of Major Bleeding in Outpatients Treated with Warfarin* Am J Medicine 1998

Table EP 7 EO – 2: Participants

Jodi Ervin	RN Lead Direct Care Nurse	VHVI Coumadin Clinic
Candy Morgan	RN	
Jacque Valjean	RN	VHVI Coumadin Clinic
Debra Kay Agbunag	RN	VHVI Coumadin Clinic
Deborah Holifield	RN, BSN	VHVI Coumadin Clinic
Karla Davis	RN, MSN, Manager	VHVI Coumadin Clinic
Tommy Meador	Pharm D	Pharmacy Coumadin Clinic
Suzanne Hutchinson	RN	Pharmacy Coumadin Clinic
Jeff Boord	MD, MPH; Quality Director, Vanderbilt Heart and Vascular Institute	Physician Representative
Jack Starmer	MD, Chief Quality Informatics Officer	Physician Representative
Keith	MD, Executive Medical Director,	Physician Representative

Churchwell	Vanderbilt Heart and Vascular Institute,	
Wendy Leutgens	RN, MSN, Associate Hospital Director, Vanderbilt University Hospital	Inpatient Representative
Yameeka Jones	MSHA, MBA, Administrative Director, Vanderbilt University Hospital	Inpatient Representative
Jim Hayman	Pharm D, Administrator, VUH	Pharmacy Representative
Bob Lobo	Pharm D, Program Director, VUH	Pharmacy Representative
Walt Woods	Pharm D, Outpatient Pharmacy Manager	Pharmacy Representative
Lori Wright	Pharm D	Monroe Carell Children's Hospital at Vanderbilt Medical Center
Mary Hudson,	RN, Thrombosis Program Nurse	Monroe Carell Children's Hospital at Vanderbilt Medical Center
Lester Demaree		Standing Stone Representative (External Consultant)
Rachel Lassiter	Health Information Service Consultant, Vanderbilt Informatics Center	Informatics Representative
Wendy Kiepek	RN, MSN, Health Information Systems Projects Manager, Vanderbilt Informatics Center	Informatics Representative
Racy Peters	RN, MSN, Associate Vanderbilt Medical Group Director	Vanderbilt Medical Group Representative

Outcomes/Impact:

The third party software was phased out on February 15, 2010 with the adoption of the internal flow sheet by the staff. The nursing staff in each department collaborated on software changes and new processes that came with the initiation of the dosage calculator, documentation of low molecular heparin administration and the patient education checklist.

An extensive training tool for the software was created by Health Information Services with review by the lead nurse for each group. An initial outcome report, extracted from flow sheet data was developed by Health Information Services in May 2010.

The two separate teams (Pharmacy and Vanderbilt Heart) moved together to a larger office in June 2010. Additional staff has been hired to begin the process of expanding services to the rest of the enterprise. Efficiencies gained through software enhancements have:

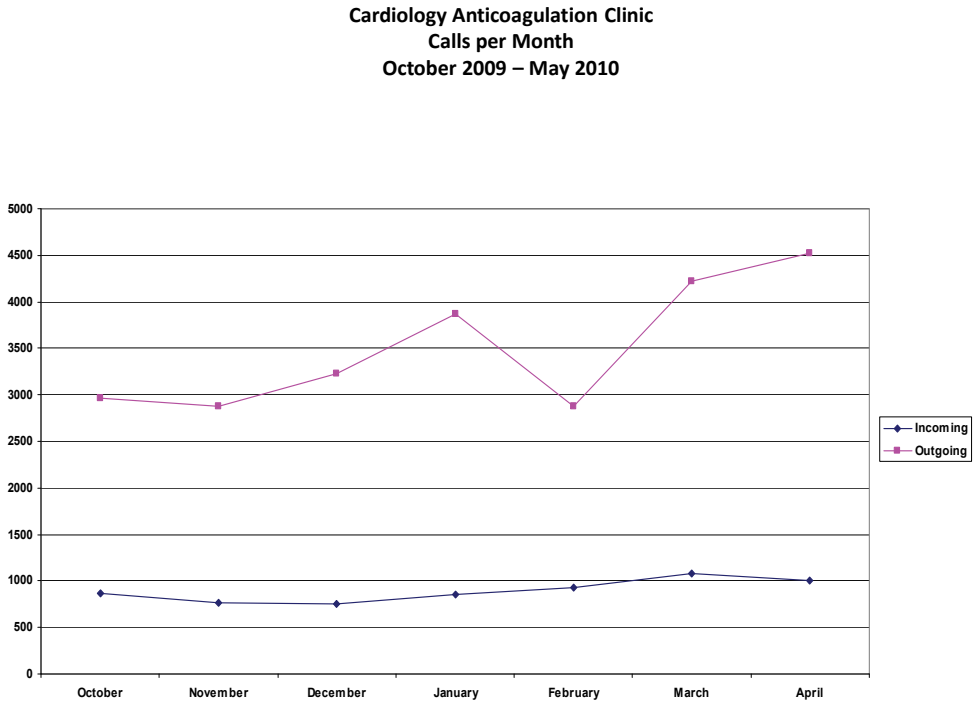
- allowed more nurse/patient contact time (measured by the number of outgoing calls)

- shown that greater compliance with the testing regime has improved due to increased nursing contact with patients (fewer delinquent patients)
- shown a reduction of the backlog of calls to be made (decrease in the backlog of INRs to follow up on)

The Time in Therapeutic Range has remained constant (the appearance of a slight decrease in April reflects those test results not yet received; the report is always slightly behind.) All data continues to be measured.

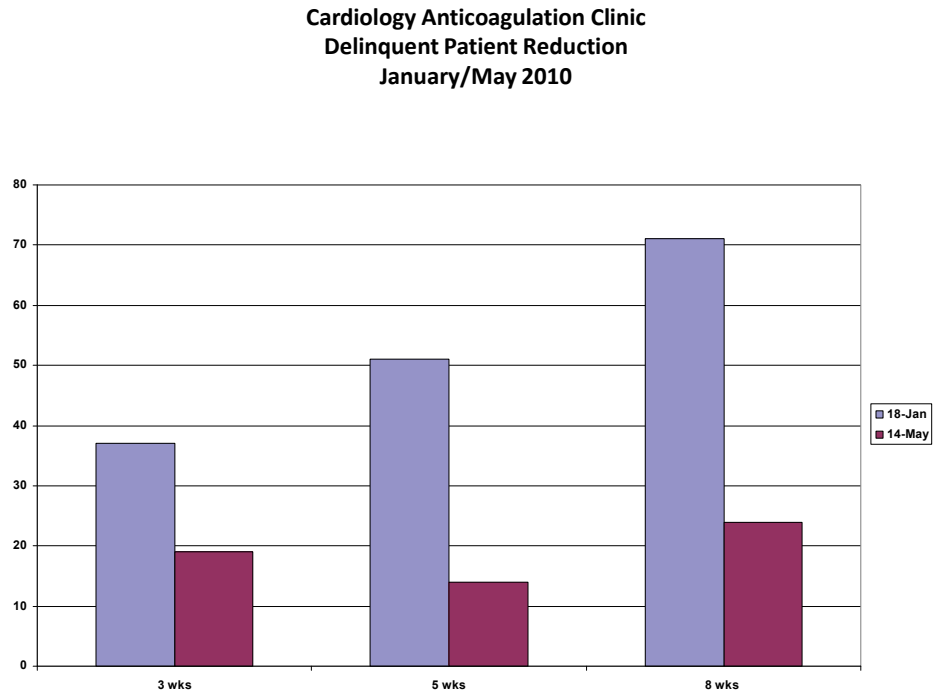
Data provided in the graphs below:

Graph EP 7 EO – 2: Cardiology Anticoag Clinic Calls per Month



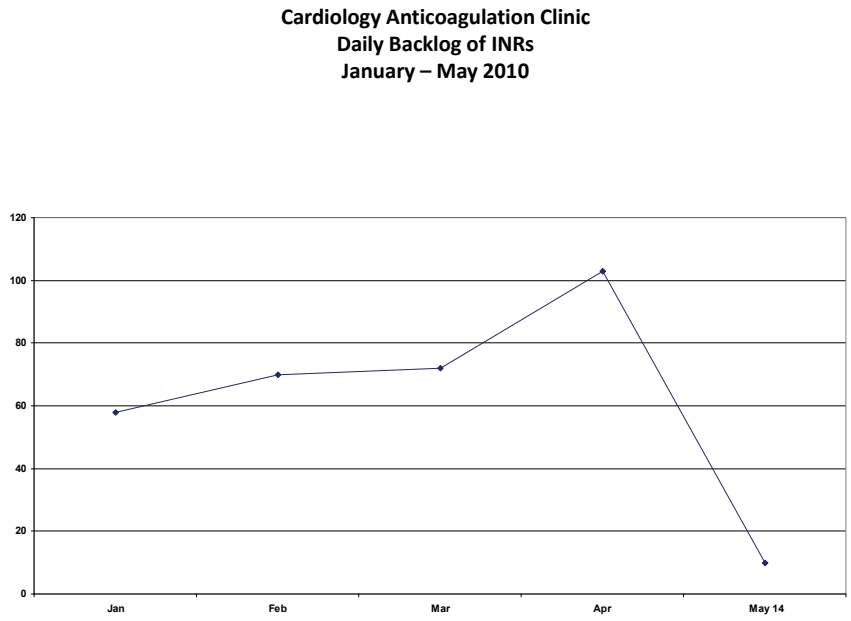
This graph shows the increase in the number of outgoing calls per month – which was one of the goals to support more nurse to patient contact.

Graph EP 7 EO – 3: Cardiology Anticoagulation Clinic Delinquent Patient Reduction



This graph shows that compliance with the testing regime has improved due to increased nursing contact with patients resulting in fewer delinquent patients.

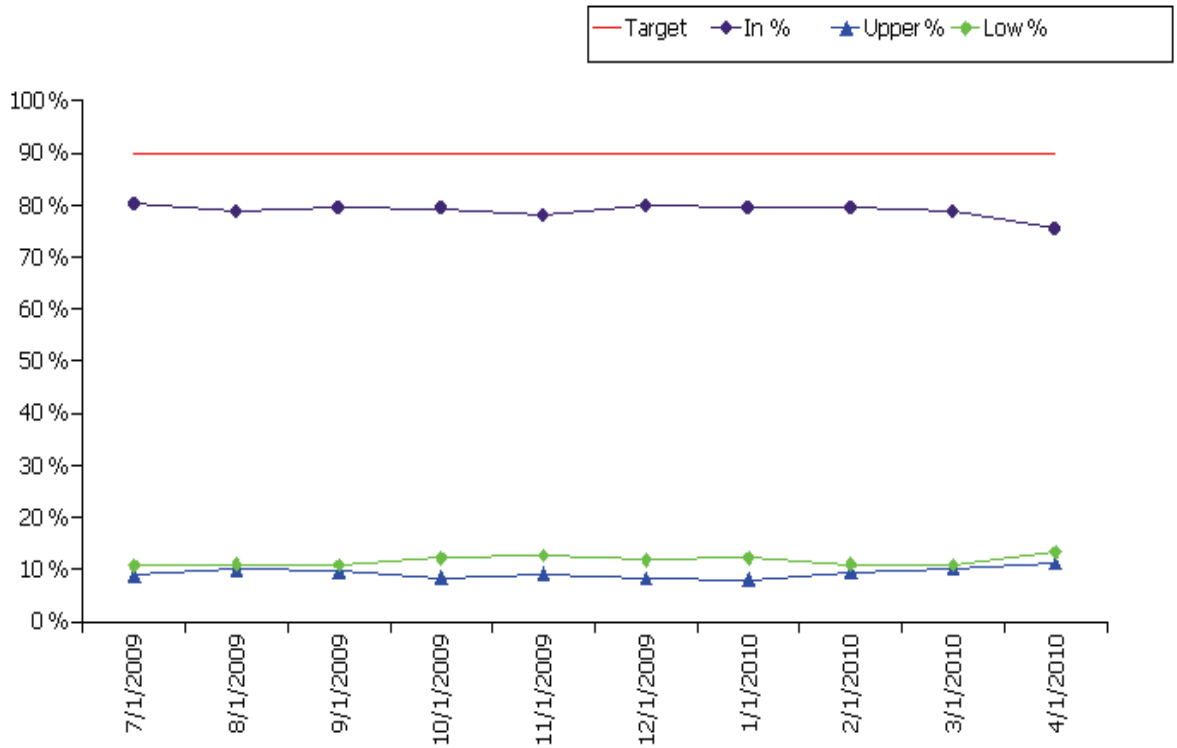
Graph EP 7 EO – 4: Cardiology Anticoagulation Clinic Daily Backlog of INRs



This graph shows the reduction of the backlog of calls to be made (decrease in the backlog of INRs to follow up on)

Graph EP 7 EO – 5: Anticoagulation Patients Time in Therapeutic Range FYTD

Time in Therapeutic Range FYTD



The Time in Therapeutic Range has remained constant (the appearance of a slight decrease in April reflects those test results not yet received; the report is always slightly behind.)

Use of External Experts to Create a STEMI Network

Purpose/Background

In cardiology, there is a term that is very familiar to all healthcare providers and many in the lay public, "Time is Muscle" – heart muscle. In January 2007, a ST Elevation Myocardial Infarction (STEMI) Network committee was formed to organize and implement protocols and systems for the emergent transfer of STEMI patients from outlying communities in middle Tennessee and southern Kentucky. Current evidence suggests that patient's experience the best outcomes when they receive primary percutaneous coronary intervention (PCI) within 90 minutes of onset of myocardial infarction (MI) symptoms. To date, there are 15 hospitals participating in the Network. The timeframe for this work is from January 2007 – January 2010.

Many of the Cardiologists practicing at Vanderbilt have outlying clinics in middle Tennessee and southern Kentucky. The Vanderbilt Chest Pain Center committee and the STEMI Network committee were working simultaneously to improve door to balloon (D2B) times of patients presenting directly to the Vanderbilt Emergency Department (ED) and those patients transferring to Vanderbilt from outlying community hospitals that do not have cardiac cath lab availability. Guidelines for STEMI treatment set forth by both the American College of Cardiology (ACC) and the American Heart Association (AHA) were used. As medical and nursing practitioners, we feel strongly that people living in rural Tennessee and Kentucky deserve the same level of care and treatment of acute MI's as those living in urban areas. As mentioned earlier, there is strong evidence to suggest that PCI is the definitive treatment for STEMI, and many rural communities do not have nearby access to Cath Lab facilities. Also, the data in NRMI

3 & NRMI 4 clearly shows there is often a delay in treatment of STEMI's for patients requiring transfer to a PCI facility.

Goals for our STEMI Program:

1) When a patient arrives to VUH ED, the door-to-balloon time will be less than 90 minutes

2) When a patient is transferred from an outlying hospital within a 60 mile radius of VUH, the door-to-balloon goal will be less than 90 minutes

3) When a patient is transferred from an outlying hospital greater than a 60 mile radius of VUH, the door-to-balloon time will be less than 120 minutes

Methods/Approach

An interdisciplinary group met weekly to assign roles and formulate protocols for each department at Vanderbilt involved in the care of a transfer patient. Once this was accomplished and systems were in place, Dr. Joe Fredi and Carol Scott RN, MSN, APN visited with ED medical directors, ED nurse managers, and hospital administrators of outlying community hospitals to discuss the STEMI Network and the services it provides. When an outlying hospital indicates a desire to participate in the network, Carol Scott RN, MSN, APN travels to the facility and educates the ED staff on the Vanderbilt STEMI protocol and procedures.

A single phone call from the outlying ED physician connects the physician to the Vanderbilt emergency transport system (Flight Com). The dispatcher activates the cath lab through a single burst page and connects the Vanderbilt Cardiologist on-call to the outlying ED physician. Upon arrival, the patient is taken straight to the cath lab, bypassing the ED.

Within 24 hours of a STEMI patient transfer, all departments involved at Vanderbilt including Interventional Cardiology, Interventional Cardiology Fellow, Cardiac Access Center, Chest Pain Center Coordinator, Cath Lab, the outlying ED nurse manager and ED medical director, and the Ground or Air transport service involved receive data identifying the times of each interval measured against the goals for each interval as set forth by the 2008 STEMI guidelines from the ACC/AHA. This allows for the immediate identification of delays and then the department responsible for the process delay is responsible to investigate and resolve issues. The STEMI Network committee now meets monthly to review case studies and to discuss system processes in order to improve patient outcomes.

The STEMI Network also consulted with Barb Unger of Abbott Northwestern Level 1 program and Nancy Loberg of North Memorial Medical Center Air Care, both in Minneapolis, MN, in November 2007. Ms Unger and Ms Loberg visited Vanderbilt and spent an entire day meeting with each department to help problem solve and resolve issues that we experienced in the early stages of our program. Their expertise and the success of their programs resulted in each department recognizing the overall goals of a STEMI program and the paradigm shifts required to make a program successful.

Table Ep 7 EO – 3: Participants

Dr. Joseph Fredi	MD	Director of STEMI Network
Carol Scott	RN, APN	Coordinator of STEMI Network
Robin Steaban	RN, MSN	Administrator, Vanderbilt Heart & Vascular Institute
Jan Powers	RN, BSN	Coordinator of Cardiac Access Center
Carol Parsons	RN, Case Manager	Coordinator of Chest Pain Center
Jeanne Yeatman	RN, MBA,	Director of LifeFlight
Judy Dreaddy	RN	LifeFlight nurse
Laura Zelenek	RN, BSN, MA	Manager of Cath lab
Marie Hasselblad	RN, BSN	Director of Cath lab
Tiffany Richmond	RN	Assistant Director of Cath lab
Brittany Cunningham	RN, MSN	CV Quality Consultant
Dr. Rob Huang	MD	Cardiology Fellow
Marsha Kedigh	RN, BS, MSM	Director of VUH Admitting/ED Registration

Carol Wilson	RN, MSN	Director of Patient Access
Jeff Gray	EMT	Director of FlightCom
LifeFlight Nurses and Staff		
Adult Emergency Department Nurses and Staff		
Cardiac Cath Lab Nurses and Staff		
Inpatient Cardiology Unit Nurses and Staff		
Barb Unger	RN, BS, FAACVPR	Director, Cardiac Level One Services , Abbott Northwestern, Minneapolis, MN
Nancy Loberg	RN, CCRN, CEN, CFRN	Manager, Air Care/Criticare, North Memorial Medical Center, Minneapolis, MN,

Outcomes/Impact

The outcome of the STEMI Network has been positive. Our three goals are being met the majority of the time and we continue to monitor and refine our program.

- By allowing the ED physician of the referring hospital to activate the STEMI alert, patients are arriving much faster to a PCI facility where percutaneous intervention is performed and therefore, reducing patient mortality – outlying ED physician and nursing staff, patient, Vanderbilt Cardiologists, cath lab, ground/air transport services receive continuous feedback to assist with ongoing improvement efforts

- Single phone call from outlying ED physician and automatic acceptance without approval from Vanderbilt Cardiology allows for simpler process and faster transfer and treatment – this outcome affects outlying ED physician and nursing staff, the Cardiac Access Center, Vanderbilt University hospital admitting, FlightCom (Life flight communications), patient, Cardiologists, cath lab

- Simplified STEMI treatment protocol – this outcome affects outlying ED physician and nursing staff, patient

- Transmission of ECG's from the field by Emergency Medical Service (EMS) or LifeFlight allows faster activation of cath lab – this outcome affects the patient, ground/air transport, Vanderbilt Cardiologists, cath lab

- Call back from Cardiologist to referring ED physician immediately after the case discussing catheterization findings and treatment provides professional collaboration – this outcome affects the Vanderbilt Cardiologist, referring ED physician, patient

- Feedback of the door-to-door- to balloon (DD2B) times within 24 hours to the referring hospital (those In the Network and Out of the Network) allows for collaboration in order to improve system processes if needed – this outcome affects the patient, outlying ED staff

- Feedback of the DD2B times within 24 hours to the ground/air transport involved allows for collaboration in order to improve system processes if needed – affects patient, EMS, LifeFlight, AirEvac

- Feedback of the DD2B times within 24 hours to Vanderbilt Cardiologist, Cath lab managers, Cardiac Access center, and Admitting allows for collaboration in order to improve system processes if needed –affects patient, Vanderbilt Cardiologists, cath lab, VHVI transfer center, and Admitting

- STEMI Network protocol states that patient is taken directly to cath lab upon arrival, bypassing the ED, allows for quicker treatment – affects Vanderbilt Cardiologist, cath lab, ground/air transport, patient, admitting, and ED staff

All of the data collected on STEMI patients transferred to Vanderbilt is kept in a database. The data is collected by Carol Scott, RN, MSN, APN and it is entered into the database and managed by Dr. Rob Huang. Data collection and analysis are ongoing.

The difference that the Vanderbilt STEMI Network has made is evaluated by the remarks from outlying hospital ED physicians who state that "the Vanderbilt program has set the standard that we measure all other programs by and they do not compare". "We love the simple protocol and that one phone call does it all". "It is just so easy". "Vanderbilt is the only program that gives us feedback and we want to know how our patients are doing because these are people that we go to church with, are our neighbors, that our children go to school with their children".

This information is used across the Vanderbilt organization to show improvements made in patient care and areas where improvement is needed. It is also used in presentations by Dr. Fredi and Carol Scott RN, MSN, APN discussing STEMI's. Examples include: the annual Vanderbilt Cardiology conference in 2009, the Society of Chest Pain Centers conference in 2009, Bedford and Warren County EMS in 2009, Madison Co General Hospital in Jackson, TN in 2009, and the Acute Cardiac Emergency conference at Vanderbilt in 2009.

[*EP7EO-Exhibit B-1-2008 OSH STEMI data letter-Crockett-Bell, EP7EO-Exhibit B-2-2008 STEMI Network results charts, EP7EO-Exhibit B-3-Cardiac Emergency Conference 8-20-09, EP7EO-Exhibit B-4-Cardiology 2009 Brochure, EP7EO-Exhibit B-5-STEMI Committee Meeting 09-14-09, EP7EO-Exhibit B-6-STEMI Template*]
The tables below show the actual results for the STEMI Network patients.

Table EP 7 EO – 4: VUMC Overall STEMI Network Results (all Referrals to VUMC)

Time Interval	Median (25-75) Minutes
Number of pts	N=147
Number of pts receiving PCI	N=105
Overall D2B (door to balloon time)	144 (125-177)
OSH time	76 (64-95)
Transport Time	41 (32-51)
CCL Time (Cardiac Cath Lab Time)	26 (21-36)
False Positive Rate (no PCI)	29%
D2B < 120 minutes	20%
D2B < 150 minutes	52%

Table EP 7 EO – 5: In Network Results (Patients who had VUMC Cardiologists working in outlying clinics)

Time Interval	Median (25-75) Minutes
Number of pts	N=61
Number of pts receiving PCI	N=43
Overall D2B (Door to Balloon Time)	146 (121-203)
OSH time	81 (66-95)
Transport Time	34 (42-47)
CCL Time (Cardiac Cath Lab)	26 (20-34)
False Positive Rate	30%
D2B < 120 minutes	21%
D2B < 150 minutes	53%

Use of External (then converted to Internal) Consultants to Change Clinic Operations – Improve Patient Care

Purpose/Background

Operational processes within the VMG clinics were highly variable, both between and within clinics. Feedback from the Patient/Family Family Advisory Council obtained in November 2007, provided valuable data on the inconsistencies experienced by our patients. Additional analysis of patient satisfaction surveys showed: highly rated physician/nurse satisfaction and

perceived quality of care. However, scores were consistently low for ability to access and other key service-related indicators. Key metrics, such as Third Available Appointment, were provided but accuracy could not be verified. Other key operational and service metrics of access, such as Call Management, Telephone Nurse Triage, Productivity, Template Utilization and Patient Flow, did not exist prior to this effort.

VMG Executive Leadership identified several strategic issues which they believed would negatively affect the ability to meet growth, customer service and innovation goals over the long term. These included the following:

- Barriers to access for patients and referring providers
- Varying service levels for patients and referring providers
- Inefficient use of existing space and staff resources
- Inconsistent application of evidence-based protocols for nursing triage
- Unclear role delineation for staff and nurses in the clinics
- Lack of common performance dashboards to facilitate dialogue regarding results

The strategic plan for VMG called for very aggressive growth in key service areas. Additionally, the national economic climate and the competitive environment, coupled with the potential negative impacts on the healthcare industry, dictated the need to become more patient-centric and effectively utilize existing resources.

North Highland (consulting company) was engaged to conduct an assessment of the clinics, identify key issues, formulate a roadmap for corrective action and estimate the return on investment to the organization.

Their comprehensive initial review of clinic operations would answer several critical strategic questions:

- Ability and ease of referring provider/patients to access the system
- Alignment of operations and measures to assess strategic objectives and goals
- Standardization of operations, both access and clinic, across the VMG enterprise
- Evaluation of supporting technologies and investments

- Ability to measure access, clinic operations and quality service level indicators of performance

The approach for the comprehensive review was threefold:

1) Select four outpatient clinics and conduct a full assessment to identify "systemic enterprise" operational issues (Urology, Surgical Service, Primary Care, Heart)

2) Create an Executive Leadership Group representing nursing (to include Executive Nursing Officer VUMC and Chief Nursing Officer VMG), Administration, Quality, Patient Advocacy, Informatics, Physicians and Development

3) Assign key leaders with the charge to review the findings from the workgroup and determine key strategies to address any issues identified

Methods/Approach

Phase I

The review process included a 3-month assessment working with clinic nurses, physicians and staff. Clinic patients and patient advocacy groups were also a part of the review. The effort identified four key areas which presented operational challenges across the VMG clinics:

- **Strategy:** Core Strategies across VUMC/VMG were not clearly aligned or specific enough to plan integrated operations or impacts

- **Operations:** Inconsistent access and clinical delivery operations created varying degrees of service and quality delivery for patients and referring providers across clinics

- **Technology:** Core operational/technology needs were not being addressed with as much rigor and attention as were initiatives, which were viewed as innovative

- **Measures:** Common dashboards of success, including access, operations and quality, were not available to clinical staff or providers to drive more consistent performance or behaviors

Based upon the findings, the Senior Leadership Group, in conjunction with Executive Leadership of VMG, defined the need to address the finding as a key component of the VUMC/VMG strategic plan. The decision was made to proceed with the following key initiatives:

- Create the VMG Performance Improvement Office (PIO)
- Define the overall approach and plan to address the issues
- Define two key strategic clinics to conduct the "Learning Lab" and Pilot the implementation of new processes (Breast Center and Urology)

Phase II

The VMG PIO was created in September of 2008. The mission of the PIO is to support and assist the clinics in designing and implementing operational models that improve access, service and evidence-based delivery of quality healthcare services for our patients.

Strategy:

- Redesign and implement common/measurable foundations for access operations
- Redesign and implement common/measurable foundations for clinical operations
- Support operations training and development goals of VMG

Goals:

- Demonstrate significant and measurable impact on key service levels
- Eliminate unnecessary variability and inconsistency across clinic roles, processes and technology
- Design and implement common models to further innovation and support our growth goals
- Create a foundation of learning and training to export internally and externally

The PIO staff is comprised of an interdisciplinary team representing various backgrounds and skill sets pertinent to the stated strategy and goals, including operations, nursing, information technology, strategy and finance. The current staff is comprised of a nurse in the role of Clinical Operations Director and four RNs representing a diverse set of clinical experiences and operations engineering. The nursing team represents over 100 years of hands-on and nursing leadership experience. They serve as integral part of all efforts of the PIO team encompassing both Access and Clinical Delivery redesign efforts.

Table EP 7 EO – 6: PIO Staff

Performance Improvement Office	***Roles***
Meyers Stallings, MBA	Associate Director, Vanderbilt Medical Group
Danny Bonn, MMHC	Director, Adult Operations
Lise Ridings	Director, Pediatric Operations
Scott Strech, BSN, RN, MBA	Director, Clinical Operations
Ann McGauran, NCARB, MMHC	Senior Operations Engineer
Evan Giovanello, MPH	Senior Operations Engineer
Paul Schmitz MBA	Senior Operations Engineer
Andrew Bonami, JD, MBA	Operations Engineer
Adrianna DiBernardi, MPH	Senior Operations Engineer
Abigail Smith, MBA	Operations Engineer
Christina Watwood, BSN, RN, MPH, MHA	Operations Engineer
Pam Bruce, RN	Operations Engineer - RN
Cynthia W. Cyrus, BSN, RN, MBA	Operations Engineer - RN
Jennifer M. Woods, BSN, RN, MBA, MHA	Operations Engineer - RN
Joey Miller	PIO Analyst
John Neece	PIO Analyst
Nancy H. Terrell, BS	Senior Executive Secretary

Phase III

The initial approach was to select two "Learning Lab" clinics for the Access Model assessment: Breast Center and Urology clinics. The Breast Center represented an interdisciplinary comprehensive breast care environment with complicated access and service requirements. The Urology Clinic represented a very high-volume patient care environment, as well as outpatient procedures. Nursing, physician and executive leadership determined the common access measures of success, as well as the nursing and operations staff to be involved in the redesign effort. The Vanderbilt "Learning Lab" model is an intensive review process involving a weekly four-hour Design Shop, which includes nurses, support staff, physicians, operations engineers, information technology specialists, PCC Administrators, human resources and others. The Design Shop process is unique to each clinical service line. The purpose of the Design Shop is to assess all aspects of access operations from the perspective of the patient/family or referring provider. The charge of the Design Shop team was to fully assess the current state of access operations, as well as design the future-state access model within the PIO framework and executive leadership guidelines. Nursing involvement from the executive level through the Design Shop process was a critical component for success.

Results

The initial assessment for both Urology and the Breast Center revealed the following core operational issues:

- **Call Management**: Both clinics provided poor call service and did not effectively utilize call distribution technologies to route patients and referring providers to appropriate personnel.

- **Telephone Nurse Triage:** Neither clinic had centralized nurse triage. Evidence-based protocols were not documented or consistently applied. Clinic nurses handled nurse triage responsibilities at the end of the day, except in emergent or urgent situations.

- **Staff Roles**: Staff roles were unclear with inconsistent expectations. Job responsibilities were overlapping with clinical staff performing clerical tasks and support staff performing clinical tasks.

- **Scheduling**: Patients were overbooked and inappropriately scheduled, resulting in delays and decreased patient satisfaction.

- **Physician Templates:** Physician templates were ill defined, based on provider preference, resulting in ineffective clinic operations.

- **Pre-Appointment Coordination**: A lack of effective records management resulted in delays and cancellations, requiring clinic nurses to "chase down" medical records.

- **Access Leader**: The Design Shop process identified the need for a clinical (RN or NP) Access Leader.

- **Measures**: Existing systems and data sets did not translate to meaningful or timely information.

During subsequent assessment, the team addressed the issues identified above in terms of solution design/implementation and the defined measures of success. Solutions were implemented and tested in each of the Learning Lab clinics.

- **Effective Call Management and Distribution:** Automated Call Distribution systems were installed which provided options to direct routing of calls. Referring providers were given direct access and made a priority in the call distribution model. These efforts established measureable standards of service.

- **Reorganized and Retrained all Access Staff to Team Model:** Access Center staff was reorganized into specific roles including Central Appointment Scheduler, Pre-

Appointment Coordinator and Patient Service Representative. Access Center staff was retrained on technical content and patient service skills.

- **Centralized Telephone Nurse Triage Function:** Established new centralized nurse triage role, committed to a centralized model with evidence-based protocols and support tools.

- **Consistent Evidence-Based Telephone Nurse Triage Protocols:** Established consistent, physician approved, evidence-based protocols for Telephone Nurse Triage role to improve consistency in standards of care.

- **New Model for Clinic Nurse Team:** Nursing leadership and staff nurses determined appropriate team model to be implemented consistently across the VMG clinics.

- **New Nurse Leader Role:** Defined and established a new NP/RN Access Leader role within VMG. The Access Leader role is critical to oversee access operations effectively. The primary function of this role is clinically driven; therefore it is necessary for a RN/NP to be in this role.

- **New Focus on Coordinating Clinical Information Prior to the New Patient Visit:** Established the Pre-Appointment Coordinator (PAC) role to collect and organize all clinical and administrative information prior to the new patient visit.

- **New Technologies:** Nursing, Operations and Informatics collaborated to design and implement multiple operations and reporting tools. These tools facilitate effective access operations, patient flow, pre-appointment management and telephone nurse triage to support the Access Team.

- **High Level Standards of Service:** Measureable standards of service were established while building dashboards to monitor performance and initiate dialogue among the clinics. Below are some of the dashboard metrics/objectives:

    - *Call Management:* Less than 5% abandonment rate for all access lines, with an average answer speed of less than 30 seconds and no option for voice mail.

    - *Pre-Appointment Management:* At least 95% of all needed clinical or administrative information collected 2 days prior to new patient visit.

    - *Patient Wait Time:* Patients proceed to intake within 15 minutes of appointment time.

    - *Space Utilization:* Achieve at least 60% adjusted utilization of assigned space.

- *Physician Template Utilization:* Meet all new patient appointment requests within 15 days.

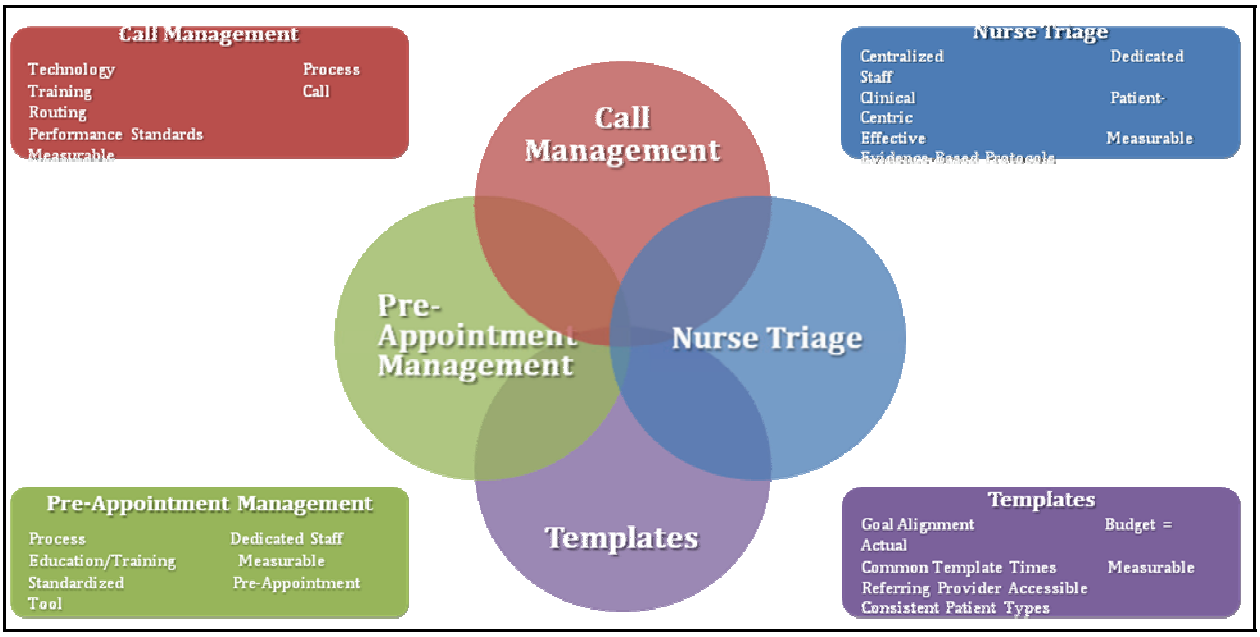
Work to Date

The work to date has focused on the Access Model, which includes Call Management, Provider Templates, Pre-Appointment Management and Telephone Nurse Triage. Additionally, the work within the "Learning Labs" of the Breast Center and Urology identified the critical need to create an additional role: an Access Team Leader who would be a highly skilled RN with experience in the specific service line the access team supports. Both new roles of telephone nurse triage and RN Access Leader were developed according to evidenced-based best practices. To date, the Access Models have been fully redesigned for Breast Center, Williamson County Primary Care, Women's Center, Urology and Vanderbilt-Ingram Cancer Center.

The core components of both the Access and Clinical Delivery Models are defined below:

Graph EP 7 EO – 6: Access Model

ACCESS MODEL



Graph EP 7 EO – 7: Clinical Delivery Model

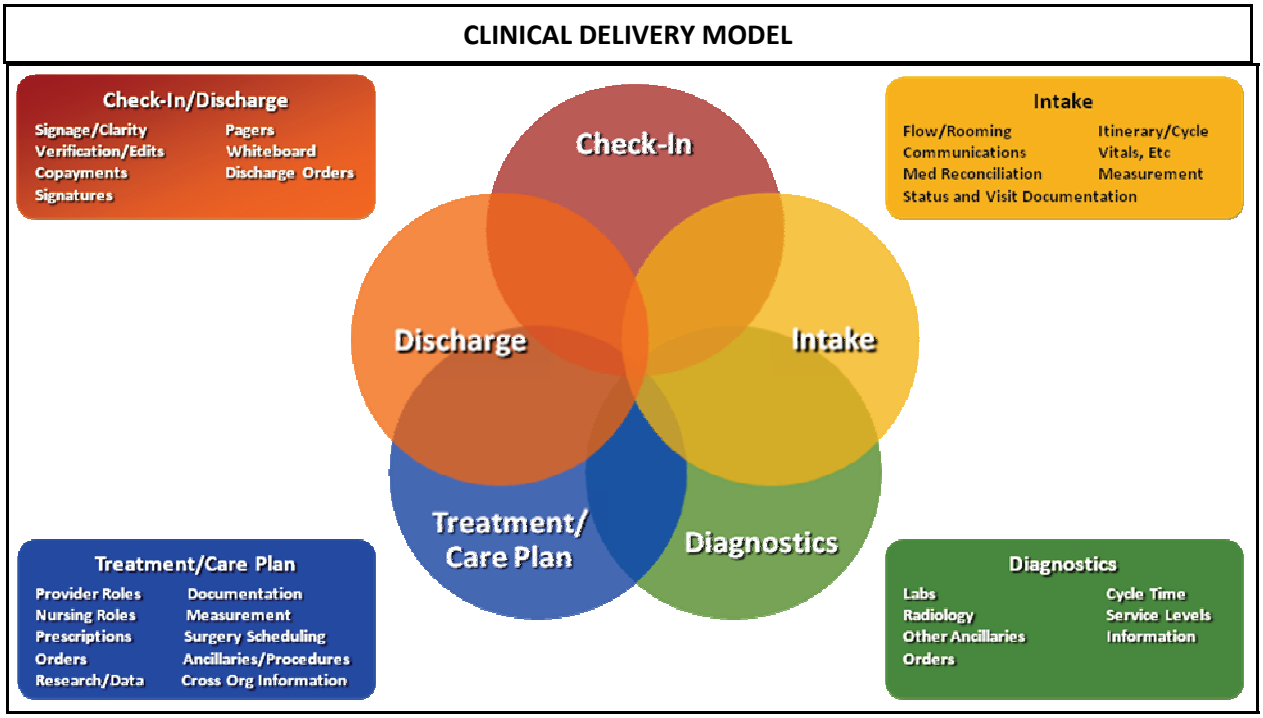


Table EP 7 EO – 7: Participants

Design Team	
Strategic Role	
Marilyn Dubree, MSN, RN	Executive Chief Nursing Officer, VUMC
Margaret Head, MSN, MBA, RN	Chief Operating Officer, VMG
Project Leadership Service Lines	***Roles***
Ann S. Cross, RN, MS, MBA	Director of Nursing, VMG Williamson
Janice Smith, RN, M. Ed	Chief Administrator, Vanderbilt Health 100 Oaks
Carol Eck, MBA, BSN, RN	Administrative Director, Cancer Patient Care Center
Vicki Richard, BSN, MBA, CCM, RN	Assistant Administrator, Cancer and Transplantation Services
Mary Duvanich, MSN, RN	Administrative Director, Outpatient Surgery Patient Care Center
Robin Mutz, MPPM, RNC	Administrative Director, Women's and Nursing Support Services
Access Leaders	***Roles***
Jennifer Mitchell, MSN, ANP-BC, GNP-BC	Access Leader, Vanderbilt-Ingram Cancer Center
Kelley Larson, RN, MSN, MHA	Access Leader, Women's Services
Lisa Milam, BS, MSN, APN	Access Leader, Breast Center
Dana Teasley, RN	Access Leader, Urology

Each of the Clinics has separate interdisciplinary teams, with many direct care nurses [*EP7EO-Exhibit C-1-Individual Interdisciplinary Clinic Redesign Teams*]

Outcomes/Impact

Access for patients and referring providers, as well as standards of service and care, have significantly improved because of these redesign efforts. Service highlights include the following:

- **Call Management:** we currently receive approximately 1,060,000 calls annually, with less than 5% abandonment rate.
- **Telephone Nurse Triage:** we effectively manage over 200,000 clinical calls annually, which are triaged based upon evidenced-based protocols. This centralized nurse triage function handles 40% of clinical calls, reducing this workload on the clinics.

- **Overall Access:** we have created approximately 56,000 patient appointment slots, of which approximately 30% are designated for new patients. Lead-time for new patient access has been reduced.

- **Wait Times in Clinics:** average wait times for initial intake has been reduced from 45 minutes to less than 15 minutes.

Other significant enterprise-level benefits include:

- **Clinical Nurse Model:** Under nursing leadership, the team has defined a vision for the nurse model and scope of practice to be followed once we begin the Clinical Delivery Model.

- **Telephone Nurse Triage Evidenced-Based Protocols and Standards of Care:** Under nursing leadership the team implemented a centralized model of nurse triage and protocol development. Patients can elect to speak immediately with an RN to address their clinical issues. The nursing process is consistently used for all patients to determine status following evidenced-based protocols. Approximately 40% of all patient calls can be handled without further clinic intervention. Audits revealed that patients select for non-clinical issues 0.5% of the time. This allows more time for the clinic nurses to lead the clinic team, focus on patient care, education and clinical quality. Nursing executive leadership has used this as a model to develop evidenced-based nurse triage protocols and processes for all VMG outpatient clinics in FY2011.

- **NP/RN Access Leaders:** The new Access Leader role was created to process critical clinical information related to scheduling and pre-appointment issues. Therefore, the Access Leaders are experienced NP's or RN's who provide direction to the Central Appointment Schedulers, Pre-Appointment Coordinators, RN Coordinators and Telephone Triage Nurses. Additionally, they are part of the team developing and implementing all service-specific access strategies.

- **Reporting Dashboards:** VMG is developing a comprehensive set of dashboards to consistently measure access performance, including Patient Wait and Cycle Times, Call Management Statistics, Staff Productivity, Pre-Appointment Coordination, Template and Space Utilization, and Nurse Triage Statistics.

- **Quarterly Telephone Nurse Triage Audits:** For those clinics that have redesigned the telephone nurse triage function, the Access Leader completes a quarterly audit to further refine protocols, ensure quality of assessment standards and train the RN staff. Each triage nurse participates in the audit process.

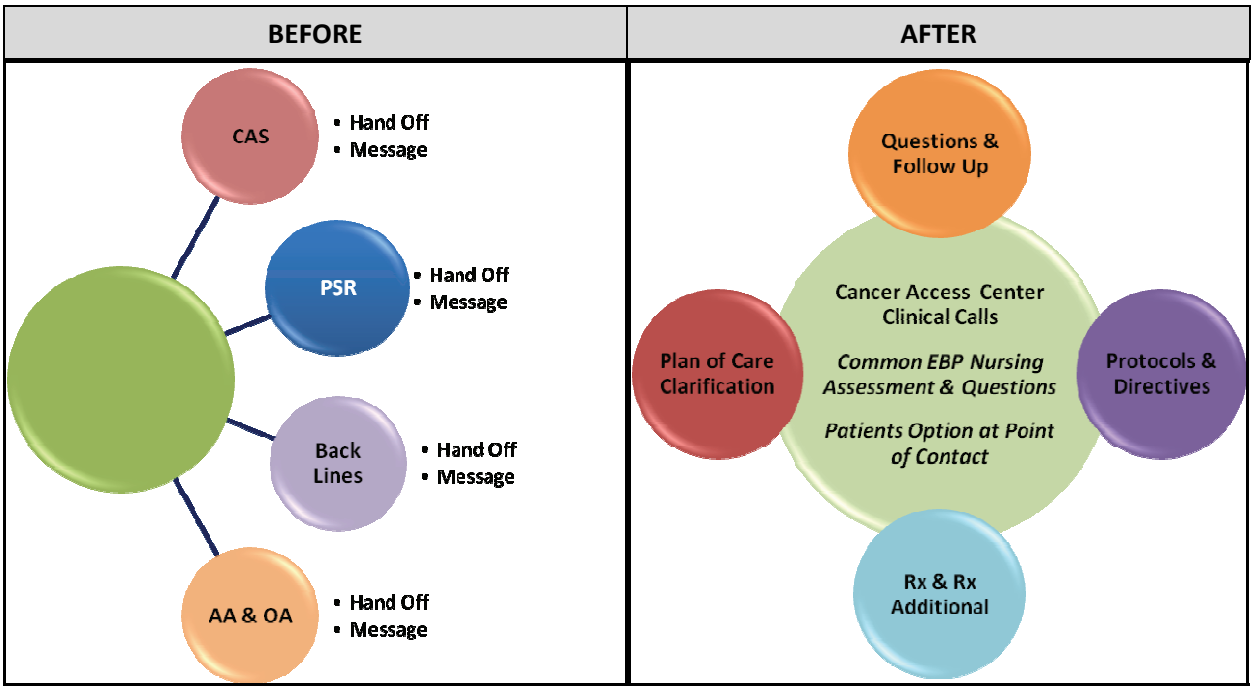
- **Technical Toolkit:** The PIO team, in conjunction with Informatics, has deployed new tools to assist in the management of pre-appointment administrative and clinical information. This information is reviewed routinely to ensure appropriateness of both scheduling and clinical processes. The Access Leader and RN coordinators work together to assess patient needs and critical clinical information. [*EP7EO-Exhibit D-1-Performance Office Detailed Results*]

Table EP 7 EO – 8: Results

SAMPLE PROJECT RESULTS			
ACCESS	**PRE**	**CANCER POST REDESIGN**	**WOMEN'S POST REDESIGN**
Call Management			
• Volume	Unknown	~210,000 Annually	~130,000 Annually
• Abandonment Rates	~25%	<5%	<5%
Nurse Triage			
• Volume	Unknown	~85,000 Annually	~36,400 Annually
• Disposition	Unknown	~35%	~40%
• Time to Handle	Unknown	~9min	~10min
Patient Capacity			
• Access Increase	Unknown	~34% ↑	~36% ↑
• Intake Wait Times	Unknown	TBD	~10min

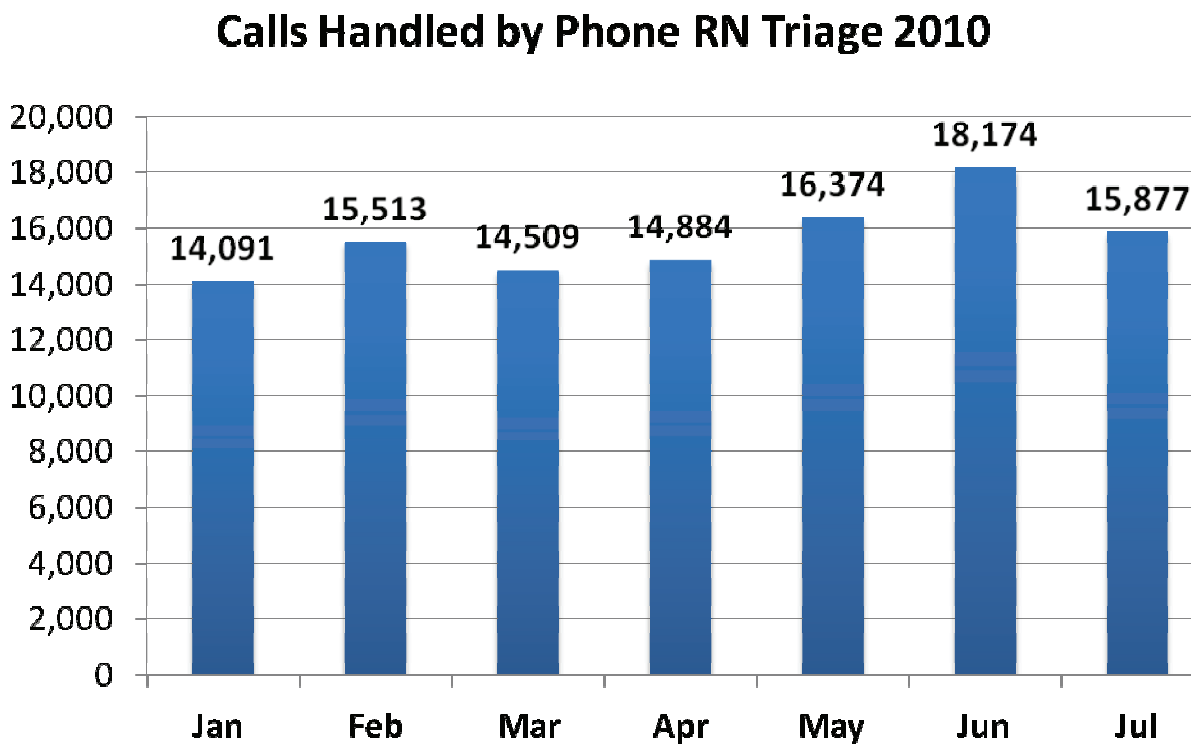
Graph EP 7 EO – 8: Telephone Nurse Triage Model

TELEPHONE NURSE TRIAGE MODEL



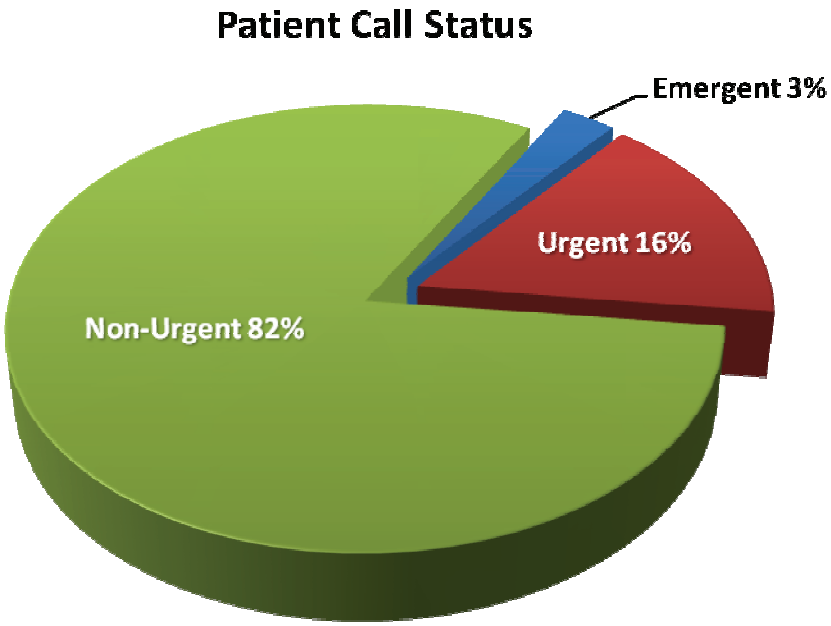
Nurse Triage Global Data from VICC, CWH, WPC 2010

Graph EP 7 EO – 9: Calls Handled by Phone RN Triage

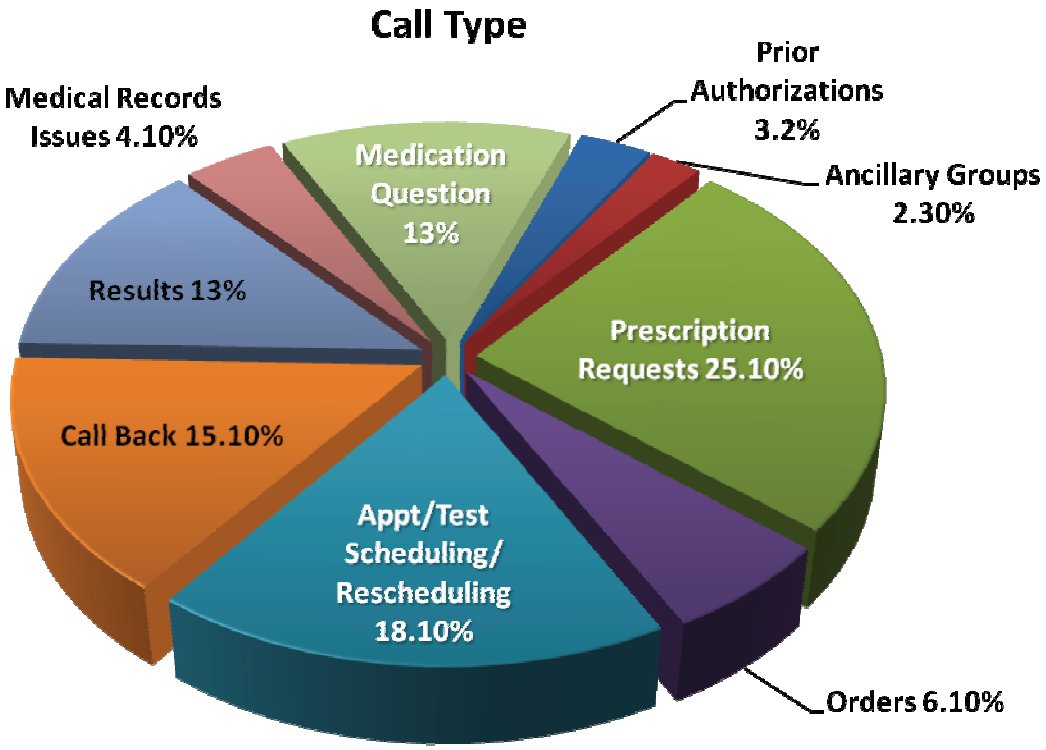


Nurse Triage Global Data from VICC, CWH, WPC 2009 – 2010 to date

Graph EP 7 EO – 10: Patient Call Status

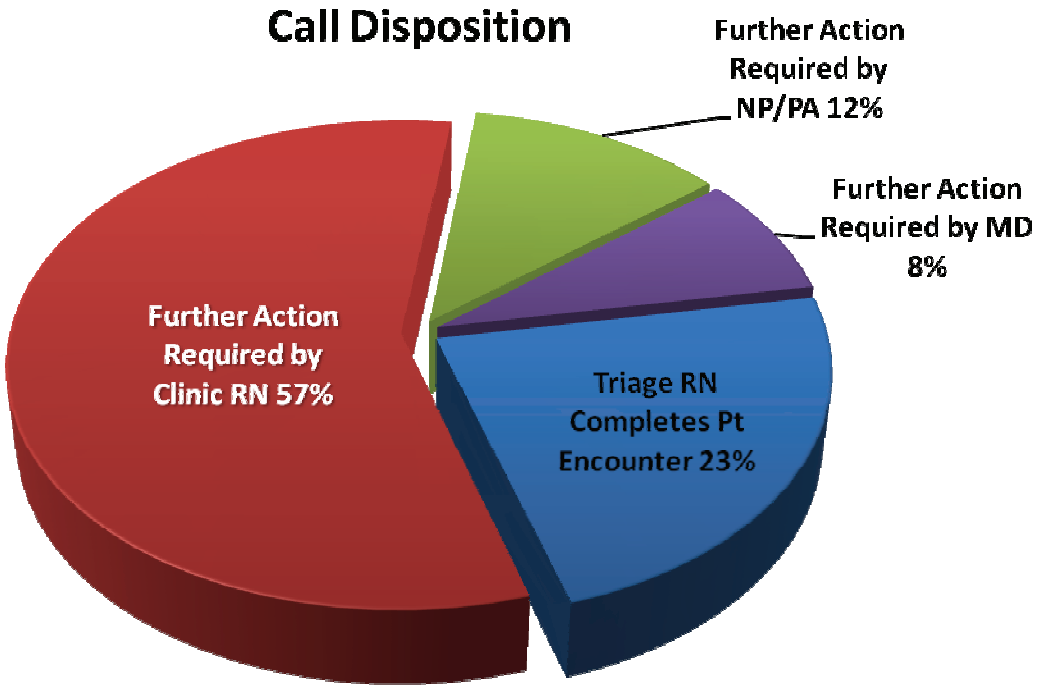


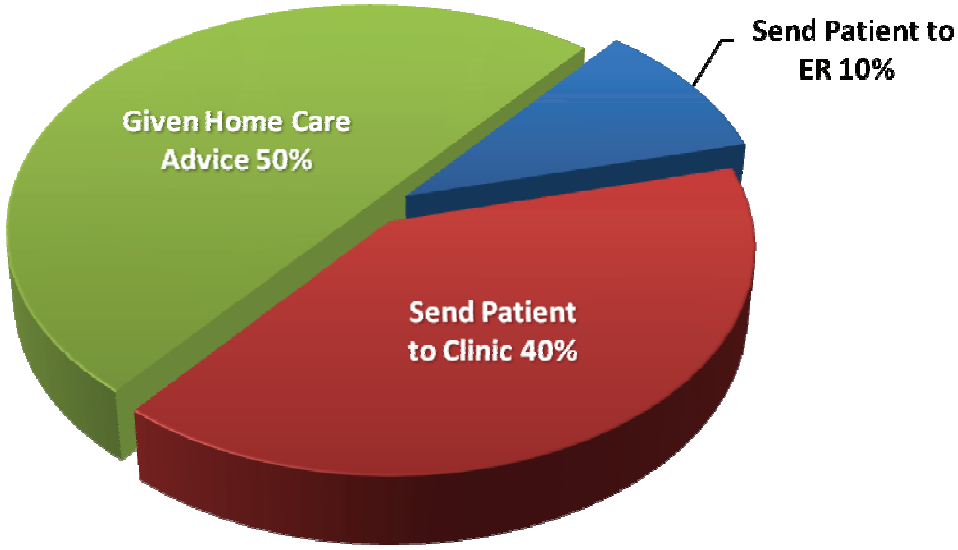
Graph EP 7 EO – 11: Call Type



Nurse Triage Global Data from VICC, CWH, WPC 2009 – 2010 to date

Graph EP 7 EO 12: Call Disposition and Patient Disposition


Call Disposition
Further Action Required by NP/PA 12%
Further Action Required by MD 8%
Triage RN Completes Pt Encounter 23%
Further Action Required by Clinic RN 57%


Patient Disposition
Send Patient to ER 10%
Given Home Care Advice 50%
Send Patient to Clinic 40%

Information regarding the PIO and redesign efforts is available to all VUMC employees and faculty on the PIO website at: http://www.mc.vanderbilt.edu/PIO. The Chief Nursing Officers for VUMC and VMG have determined that every VMG clinic will need to develop and implement evidenced-based standards of care and documentation during FY2011. The approach and model developed during this process will serve as the common foundation. Additionally, the Chief Nursing Officers for VUMC and VMG, in conjunction with Informatics and Quality, have determined that effective outpatient telephone nurse triage should be a strategic priority. The information and data developed during this process will serve to define the business requirements for that evaluation and selection process.

NOTE:

A presentation was accepted entitled: "Clinic Redesign: Improving the Patient Experience and Access to Care," to be delivered by the VMG CNO at the University Health System Consortium 2010 Performance Excellence Forum in March 2010.

Summary

Nursing has been involved from the beginning in a process that has proved to effectively and efficiently improve patient access to care and improve patient care (evidence-based protocols used by nurse triage). Obviously, we are still in the process of rolling this process/redesign out to all of our clinics and will continue to measure outcomes. The data so far clearly shows that patients are benefiting from this work.