

Heart Center Implementation and Start-Up: The Parma Community General Hospital Experience

Just over three years ago, the President and CEO of Parma Community General Hospital (PCGH) and his administrative team decided to expand the cardiovascular service line to include open-heart surgery (OHS) and interventional cardiac procedures. They saw this as an opportunity to accelerate the hospital's growth and support their strategy to remain the only successful independent community hospital in the county. They needed to increase their ability to meet the needs of an elderly community with a high incidence of cardiac disease and to increase revenue to support the bottom line.

Key success factors. The key success factors included administrative, board, community and medical staff support; progressive cardiologists/cardiovascular surgeons using the latest technology; superior facility design and layout for cardiovascular service line; implementation of a one-stop CVU unit; high patient, physician and nurse satisfaction; nurse tenure and retention; and quality outcomes.

Key results. The key results included cath lab procedure volume growth in the first year of 307% — the procedure volume continues to grow; over 770 OHSs have been performed since opening; and there is a positive "halo effect" on other hospital services.

Historical background. The interventional cardiology and OHS certificate of need (CON) requirements for Ohio expired in April 1998. Two neighboring hospitals located 10 miles apart shared the same primary and secondary market. Both hospitals were trying to obtain the market share.

The service area contained a large number of senior citizens with cardiac disease. In 1995, a total of 471 patients from the 8 zip codes that surround Parma received bypass surgery. In 1996, there were 466 such patients. The two hospitals were transferring the cardiac diseased patients to tertiary facilities that provided interventional procedures and OHS. A percentage of the patients transferred did not return to their primary care physicians or the community hospitals. The tertiary centers absorbed market share from both facilities.

Parma Hospital administration met with the cardiologists on their medical staff and engaged the assistance of an outside consulting firm to expand the cardiovascular service line. After over 2 years of intensive planning and

preparation, PCGH opened their new Heart Center in April 1999. The following is their story and highlights the successful expansion of cardiovascular services in a highly competitive environment.

Major challenges to initiating an expanded heart program at PCGH. 1) Lack of support from the cardiologists, for whatever reason. Would the tertiary centers try to purchase the cardiology groups? 2) Availability of experienced heart surgeons acceptable to the hospital's cardiologists, Board of Trustees and the community, e.g., how could the community-based hospital recruit cardiovascular surgeons who were established and well-known? 3) Would the medical staff and Board support the expansion? 4) Could the Northeast Ohio market support multiple heart programs? 5) The Board was concerned about providing tertiary type care at a community-based hospital. Could PCGH offer quality cardiac services at their facility? 6) The risk of investing multi-millions and its impact on cash flow. What was the anticipated payback period and return on investment? 7) Would there be enough volume to support the expensive renovation and additional Heart Center wing for recovery, two new cath labs and 2 new cardiovascular operating rooms? 8) Competition with academic medical centers or "name brands". The Cleveland Clinic Foundation is located approximately 40 minutes northeast of PCGH. 9) Contracts between major heart centers (carve-outs) and payors might exclude the community hospital. 10) Could the hospital meet the state requirements on volumes and required guidelines for expansion?

Reasons to support an expanded heart program at PCGH. 1) The expansion was requested/supported by the largest cardiology group as well as smaller groups and solo practitioners on the medical staff. 2) The hospital received letters of support from several cardiovascular surgical groups interested in the Medical Directorship position. 3) The Medical Director of Cardiology when asked by Board members about a community hospital providing the same level of care for an expanded heart program as a tertiary hospital responded: "Yes!" — it would be the same physicians working at the community hospital who were working at the tertiary center where most of the referrals were presently going. The hospital agreed to design the facility based on consultant and physician input. The administrative team would ensure quality by hiring experienced personnel and utilizing outside consultants in planning and implementation. 4) Based on the volume projections, feasibility and operational assessment

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Table 1. Parma Heart Center post-op length of stay (POLO) by DRG

DRG	1999 POLO	2000 POLO	Jan.–June 2001 POLO	Average	1999 Volume	2000 Volume	Jan.–June 2001 Volume
104	7.9	7.1	6.1	6.9	15	18	21
105	5.4	6.7	6.5	6.3	14	26	13
106	7.0	8.0	4.5	5.9	1	2	4
107	5.7	5.7	5.5	5.6	115	169	65
109	5.7	6.2	5.2	5.6	67	50	21
All	5.8	6.0	5.6	5.8	212	265	124

Table 2. Percutaneous transluminal coronary angioplasty during non-acute myocardial infarction hospitalization discharges between January 1, 1999 and December 31, 1999*

Discharges (1999)	Parma Community General Hospital	Peer Group
Any in-lab complications (CE 113)	1.2	1.9
Out-of-lab vascular complications (CE 139)	0.8	2.1
Coronary artery bypass graft surgery during this admission (CE 129)	1.2	1.5
Death in-lab (CE 120)	0.0	0.1
Post-procedure length of stay	1.54	1.76

*Parma Community General Hospital PTCA admissions = 247; ACC-NCDR™ PTCA admissions = 27,204

along with the input from cardiologist interviews, it was determined that there would be sufficient volume in the hospital's primary and secondary market to support an expanded heart program. 5) Based on the market analysis/review and interviews with the cardiologists of the primary and secondary service area for an expanded heart program, it was concluded that the community needed the expanded service. Review of the out migration data for both the coronary care unit (CCU) and Emergency Room transfers documented compelling support for the expanded service. 6) For this community without interventional treatment capabilities, residents are not able to receive the best in current medical practice in an acceptable period of time. 7) In 1997 at Parma Hospital, the total number of discharges related to MDC-5 (Diseases and Disorders of the Circulatory System) equaled 21.6% of the total discharges. If the hospital did not expand the heart program, there was concern that the MDC-5 discharges would shrink. The average contribution margin for this type discharge case was \$1,500. The expansion would further support this type of discharge. 8) Cardiovascular services rank consistently as the most strategically and financially important product line for U.S. hospitals, both large and small. 9) Based on the most likely 5-year financial scenario, which used a conservative approach, the community hospital financial projections indicated a positive net present value, return on investment of 8.9% and a positive cash flow in year two.

Initial strategies and successes. After 2 years and running, this community-based hospital has a storybook tale to tell. It far exceeded anyone's imagination in meeting their goal to have a recognized quality program both locally and nationally, with volumes beyond original projections. Hospitals from across the country are making site visits to PCGH. In the first full year, the expanded program performed 300

OHSs (April 12, 1999 to April 12, 2000) and increased its cath lab volume by 307%. From April 12, 1999 to the present, the program has performed over 770 OHSs and the cath lab volume continues to increase.

Medical staff support, along with strong medical leadership, was a driving force behind this newly created Heart Center. The Medical Director of Cardiology and the Medical Director of Cardiovascular Surgery provided their expertise as the co-chairs for the Heart Steering Committee. They worked in concert with hospital administration for 14 months prior to the opening on April 12, 1999. The 2 medical directors met with the work groups and the consultants, who provided guidance and approval on: facility design; equipment and instrumentation evaluation; education of staff; clinical pathways, standing orders and cardiovascular service line protocols; recruitment, hiring and training; ancillary services and their support in the expansion (lab, pharmacy, dietary, respiratory therapy, cardiac rehab, etc.); medical supply purchases; vendor negotiations with interventional cath supplies; post-op recovery methodology for both the OHS and interventional patients in the newly created 14 bed One Stop Post Op™; and mock survey of the cardiac patient and their care from the emergency room, CCU, cath lab and cardiovascular operating rooms prior to start-up.

One Stop Post Op™. PCGH undertook a new method for recovering both interventional cardiology and OHS patients. PCGH successfully implemented the new recovery methodology called the One Stop Post Op™ that has given PCGH a competitive advantage over existing heart programs.

It was determined that PCGH benefitted from the new paradigm for post-op recovery of the interventional and OHS patients, which produced the following attributes: 1) increased efficiency, reduced transfer time and cost; 2) streamlined

nursing care, monitoring of fast-track recovery; 3) reduction in length of stay with anticipated reduction in cost per case; 4) increased nurse, physician and patient satisfaction; 5) reduction in nurse turnover in the cardiac unit.

The new post-up cardiovascular recovery unit was designed to receive the OHS patient directly from the operating room and to be the "care unit" for the patient's entire stay. The cardiac consulting firm determined this would be clinically and fiscally appropriate for start-up programs.

Patient flow, quality monitoring and caregiver acceptance in this unit requires new paradigms from the traditional two- or three-step post-OHS care delivery process. The new recovery model focuses the delivery of care on the patient.

With success in clinical outcomes, patient, physician and caregiver satisfaction, it is anticipated that this innovative approach will drive hospitals to integrate clinical process with physical planning in the future.

Features and benefits. The one-stop CVU unit concept of post-operative OHS care provides patient-focused care across the continuum, from the pre- and immediate post-op periods, until discharge. As the level of patient care changes, the equipment changes, but the patient remains in the same room receiving care from the same nursing staff.

While this is not an entirely new concept to healthcare, it is relatively new to post-operative OHS recovery. In traditional OHS recovery models, patients are transferred from an Intensive Care Unit to an intermediate care unit, and possibly to a non-monitored bed prior to discharge. The traditional process moves the patient to the care source instead of applying a patient-responsive approach that delivers services directly to the hospital's customer.

The new recovery model reduces care costs by eliminating inefficiencies associated with transfers. Streamlining care delivery affects length of stay as consistent caregivers, familiar with the patients and the medical conditions that can occur following OHS, recognize and immediately address complications.

The nurses in "one-stop CVU units" are clinical specialists in pre- and post-operative OHS care, experts in early recognition of clinical complications and can provide rapid intervention, optimizing clinical pathway variance monitoring and management.

In addition, the designated recovery unit nursing and ancillary staff address patient discharge issues of home care, family support and skilled nursing facility placement, thus eliminating a fragmented planning process that frequently occurs when patients are transferred to several post-operative care units.

Physicians, nurses and ancillary staff have the opportunity to bond as a continuous quality improvement team experiencing the success of discharging patients who have recovered from OHS. This is "real time" quality feedback. Satisfaction is not limited to patients and families; physician, staff and ancillary personnel also appreciate this innovative approach to care. The "One Stop Post Op" CVU units provide an environment that facilitates staff empowerment and ownership with

all caregivers focusing on the entire recovery process.

Documentation of results: Excellent patient, nurse and physician satisfaction. Parma Hospital's cardiovascular recovery unit has documented results that patient satisfaction can be improved with this innovative care delivery model. Nursing retention was higher and was attributed to increased job satisfaction while working in a unit that implemented this model. Physician survey scores reported excellent grades for patient care and nurse response.

Testimonial: Patient satisfaction and nurse retention/job satisfaction. Parma Hospital's "one-stop CVU unit" has been at the head of the 90th percentile in Press Ganey patient satisfaction ratings for two years. The Heart Center unit was honored May 22, 2001 for Nursing Unit Service Excellence.

The Director of the Heart Center Unit at Parma Hospital reports that she has the lowest turnover rate for critical care nurses in Northeastern Ohio and has a zero vacancy list. Almost all of the One Stop Post Op™ recovery nurses have said they like working in the new paradigm.

Lowered length of stay. Cross-trained multifunctional teams review each patient's clinical progress and care needs daily. The timely recovery of clinical variances results in improved pathway management. Patient progress is reviewed with aberrations addressed, often resulting in minimizing any of the patient's progression. This "real time" process permits patients to "catch up" to their expected course of recovery, resulting in lowered length of stay and lower cost of care.

Operational and staffing cost efficiencies. Patients in the "one-stop CVU units" are cared for by nurses with advanced critical assessment skills and cardiovascular recovery care experiences that are prepared to identify post-op complications and address care needs earlier. Problems are identified and resolved quickly, with all members of the team understanding their roles. The new recovery model facilitates continuous quality enhancement in one setting. Staffing is flexed to optimize resources and can be adjusted every four hours.

Continuous communication. Due to the specialized nature of post-operative OHS care and the need for a dedicated care team, the caregivers share a common goal and have a constant opportunity for dialogue. The patient is not moved and the same nurses, physicians and support staff care for them during their entire stay. Active family communication and involvement is a cornerstone of this delivery system, making the patient and family the focus of all activity. The patient and family receive education from the same staff that is administering the post-operative care. They are encouraged to question therapies and treatments and are involved in care decisions throughout the patient's hospital stay.

Active family involvement. The dedicated CVU unit fosters an environment centered on patient and family. Family visiting is open and supported with rooms optimally designed to address this unit's approach. The family is included in the pre-operative teaching and continues to be an active participant in the educational process through patient discharge. Interactions with familiar nursing staff promote active

communication. The families have also found that the surgeons are frequently in the unit and available to discuss the patient's recovery process and answer their questions.

Employee ownership. Another unique feature of this cardiac recovery model is that it creates an empowering environment, which fosters ownership. The nursing and ancillary staff assigned to these units tend to refer to the OHS patients as "our patients". The opportunities for bonding between staff, patients and families are extraordinary. Medical direction provides for a defined understanding of duties and responsibilities so that unit performance expectations are clear and achievable for caregivers.

Clinical expertise. The nursing care provided in the cardiovascular unit is highly specialized. Nurses who traditionally worked in short-term recovery units are caring for patients throughout their hospital stay and are encouraged to approach patients from a holistic platform.

Caregivers interact with patients and families through the continuum of care and are able to appreciate the success of patient discharge. Nurses with critical care skills provide care at all levels. This expertise provides the opportunity for extraordinary trust between physicians, patient families and ancillary staff. Complications are recognized quickly by nursing staff and timely response can prevent compromise to the patient's condition.

The future of heart care: Successful programs will need to distinguish themselves from the competition. The traditional care delivery method of transferring patients based on acuity is utilized by most facilities nationwide. By implementing the "one-stop CVU unit" approach to OHS recovery, hospitals can offer differentiated and distinguished care. Reduced length of stay and exemplary clinical outcomes are the benchmarks of a successful program that will be attractive to the community and payors of healthcare. The satisfaction achieved by patients, family and caregivers will clearly set this type of OHS program apart from the others.

The "one-stop CVU unit" model for providing care for OHS patients is the future standard of heart care. Implementation of this model requires process change and new ways to address patient care needs. Organizations must support the changes at all levels, but will find the rewards to be significant and well worth the effort.

Summary. The two medical directors and the consulting firm helped in the design, planning and review of all the plans during implementation of the new Heart Center. The first open-heart procedure was completed on April 12, 1999. From April 12, 1999 to April 12, 2000, the new Heart Center performed 300 OHS procedures in their two newly designed cardiovascular operating rooms, which included high-tech

surgical lighting and booms along with digital cath lab imaging.

With the cardiologists' support of the expansion, the cath lab volume significantly increased, further meeting the needs of the community. PCGH upgraded its low-risk cath lab to include interventional and electrophysiology procedures, along with two new cath labs that feature the latest technology, one of which included peripheral capability.

In 1998, the cath lab procedure volume was 406 procedures, seventy-nine pacers and 70 TEEs. The annualized cath lab volume, including electrophysiology and interventional volume, based on June 2001 year-to-date numbers, will increase 307% over 1998.

On April 15, 1999, the first coronary intervention was conducted. In the 8.5 months until the end of the year (December 1999), coronary interventions totaled 358 procedures. Based on 2001 annualized volume, the coronary interventions will have increased by 96.6% over 1999.

Cardiovascular hospital procedure volume has grown in the following, non-interventional categories from 1998 to 2000: echocardiography, 129%; TEE, 167%; peripheral exams, 168%; Holters, 111%; pacemakers, 107%; and Thallium stress tests, 138%.

With more hospitals considering expansion into OHS and PCI, the consulting firm recommended the following formula for the best practice: 1) medical leadership; 2) market responsiveness; 3) communication; 4) program champion; 5) quality improvement; and 6) cost competitive.

The CEO and administrative team, along with support and collaboration with the medical staff and Board of Trustees, worked in harmony to produce a Heart Center at PCGH that utilized the best practice formula, while meeting the needs of the community.

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