



VeinViewer Case Study:

**SSM Cardinal Glennon Childrens
Medical Center**

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Introduction

Hospitals in the 21st century constantly strive to enhance the public view of the services that they provide. One way in which many healthcare facilities accomplish this sometimes daunting task is to improve patient satisfaction scores. Patient satisfaction scores serve to give hospitals the ability to measure just how well or how poorly they are performing with regard to patient's perceptions. Additionally, in the wake of increasing accountability, measuring patient satisfaction scores is poised to play an eventual role in reimbursement proceedings, thereby becoming a factor that hospitals must analyze as it would affect their bottom line.



There are many factors that influence how patients perceive the care they receive at healthcare facilities:

1. Practitioner competency.
2. Provision of information.
3. Quality of care.
4. Waiting time.
5. Overall hospital quality.

These factors along with an array of others are areas in which hospitals can increase the quality of their outcomes and enhance safety for their patients, thereby maintaining a competitive posture in their market.

Enhancing patient safety and convenience can be achieved in many ways. The overriding consensus is that innovative technologies can assist healthcare facilities in improving patient safety and convenience. This improvement in safety and convenience provides a vehicle for improved patient satisfaction. For the purpose of this conversation, the factor concerned with technology will be discussed with respect to how the VeinViewer technology can assist a healthcare organization to improve patient satisfaction.

Cardinal Glennon: A Case Study in the Combination of Marketing, Research and Technology

SSM Cardinal Glennon Childrens Medical Center (hereafter referred to as Cardinal Glennon) is a pediatric hospital based in St. Louis, Missouri. This particular hospital is a 190-bed, non-for-profit medical center that was founded in 1956. The hospital treats children that live predominantly in the Midwest region of the country, but also serve to treat children from around the world. Cardinal Glennon has a long tradition of providing “firsts” in healthcare and subsequently using those accomplishments to market their facility. Some of the “firsts” are as follows:

1. First hospital in Eastern Missouri to receive the Missouri Quality Award.
2. First Neonatal Intensive Care Unit in St. Louis, Missouri.
3. First Cleft Palate, Genetics and Neurofibromatosis clinic in the state of Missouri.
4. First Level I Pediatric Trauma Center in the state of Missouri. (Cardinal Glennon Website, 2006).

Their mission statement depicts that they “reveal the healing presence of God, through [their] exceptional health care services.” (Cardinal Glennon, 2006). Cardinal Glennon has consistently proven over the last several decades that they provide medical and service excellence through their dedication to their patient population.

VeinViewer and Patient Satisfaction

In early November 2007, Cardinal Glennon set out on a mission to determine just how effective the VeinViewer was in improving patient satisfaction in their facility. Utilizing the VeinViewer had been chosen from a list of 4 potential improvement strategies:

1. IV Team formation
2. VeinViewer utilization
3. Earlier PICC lines
4. High Risk Patient Profile creation.

The VeinViewer was chosen based on its potential effectiveness, cost to implement and potential resistance. A prioritization matrix was utilized and the total score for the VeinViewer was approximately triple that of the other 3 categories.

The VeinViewer was utilized on 100% of all IV starts on the Transitional Care Unit (TCU) beginning November 5, 2007, while the VeinViewer's use on all other units (3-South, 2-South) was based on nurse preference. Data was collected on TCU, on 2-south and on 3-south during the pilot period using a post card data collection tool – Figure 6-2. The data gathering was to last approximately 2 weeks. The Press Ganey scores were gathered and are depicted in Figure 6-3.

These patient satisfaction scores were based on a 5-point rating matrix and then averaged into a 100 point scale. The number that illustrates the average patient satisfaction score is the first number in each cell. The number that comes after the patient satisfaction score is the percentile depicting where the respective score falls. For example, with regard to the skill of the IV starter, the TCU score in the first table is 79.4 and comes in at the 1% percentile as compared to a number of other hospitals and units. The 1 percentile placement would imply that the TCU at that particular time came in “last place” in that specific category when compared to other similar units and hospitals.

Results

The outcomes of this study, with the implementation of the VeinViewer as a primary variable, were astounding. Patient satisfaction scores were garnered in three separate areas of assessment:

1. Skill in Blood Draw
2. Skill of IV Starter
3. Pain Control

All units and categories realized an increase in patient satisfaction. More specifically, the TCU experienced monumental increases in their patient satisfaction scores.

Figure 6-2: IV Starts Data Collection Tool¹

IV STARTS – DATA COLLECTION TRIAL OF VEIN VIEWER USE
Use a different card for each attempt.
 Today's Date: _____

Unit: TCU 2 South
 Patient MR# _____ Patient Age _____
 Patient Body Type: Average/Thin Obese
 Patient Hydration: Well-hydrated
Dehydrated
 Attempt No.: 1 2 3 4 5
6 7 8
 Was the Vein Viewer used? Yes
No
 Successful Stick? Yes No

Figure 6 – 3: Pre and Post VeinViewer Scores¹

Pre-VeinViewer Satisfaction Scores			
Unit	Skill in blood draw	Skill of IV starter	Pain Control
8/1-10/31/07			
3S	82.9 – 16 th	82.8 – 28 th	86.2 – 7 th
2S	81.3 – 1 st	83.5 – 53 rd	88.0 – 76 th
TCU n = 40	81.9 – 1st	79.4 – 1st	85.9 – 6th

Post-VeinViewer Satisfaction Scores			
Unit	Skill in blood draw	Skill of IV starter	Pain Control
11/5-11/30/07			
3S	90 – 99 th	86.7 – 99 th	83.3 – 1 st
2S	85 – 57 th	84.1 – 63 rd	90.9 – 99 th
TCU n = 8	93.8 – 99th	95 – 99th	96.9 – 99th

- **In the areas of skill in blood draw and skill of IV starter, utilization of the VeinViewer resulted in a jump from the 1st percentile to the 99th percentile** when compared to other hospitals and units.
- **In the category of pain control, the jump was from the 6th percentile to the 99th percentile.**
- In the units that were not mandated to use the VeinViewer; where utilization was based solely on nursing preference, there was an average increase of 40 percentile points in each patient satisfaction category.

It's safe to say that there are very few, if any, interventions and/or medical devices in the market today that can provide such a jump in patient satisfaction scores. It stands to reason that if these results were typical of an institution that incorporated this technology into its daily policy and procedures, the purchase of the VeinViewer technology has a return on investment that can truly be quantified.

Conclusions

The VeinViewer technology had a remarkable influence on how patients felt about their care in a number of categories. It was inherently evident that the device not only influenced the areas where its use was mandated, but also had a positive impact on areas that used it on a selective basis. A technology that has the ability to cause dramatic gains in this very important focus of healthcare is a rarity. In their approach to excellence in healthcare, Cardinal Glennon has demonstrated through the utilization of the VeinViewer technology the ability to improve patient care and safety, thus enhancing the patient experience. This facility that has over the years been a leader in their community and in healthcare overall, has not only depicted a means to attract a larger portion of their patient population, but has also proven a way to keep that very group of patients very satisfied with their care.

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¹Murphy, C. QIC Report 0208. SSM Cardinal Glennon Childrens Medical Center, 2008.