**Improving Patient Movement and Compliance Through Technology Documentation**

Elise Stigum

King University

NURSING 3315: Nursing Informatics

Dr. Beki Turner

9/29/2024

**Improving Patient Movement and Compliance Through Technology Documentation**

Patient movement throughout the hospital setting is important because it effects

patient satisfaction, cost effectiveness, and resource management. Patient movement has

always been a concern in the hospital setting. Bed availability is of top

importance in patient care because the need for patient beds is affected by flu season,

epidemics, pandemics, and population growth. This writer aims to show you why technology

documentation is advantageous and how it might affect patient flow. I will use the operating

room to exemplify how technology follows patient movement through the surgical suite.

Navigine, a company that produces hospital and patient tracking devices, states that the

expected benefits are “increasing performance efficiency of the medical staff, reduction of

waiting time, and increased patient satisfaction”. Navigine (HealthCare, 2023, p1).

The Hospital Assett Management System is based on small tags or beacons. The tags are

placed on equipment that needs to be available. Radio frequencies get sent to the cloud. The

user gets sent a message to their phone or personal computer. The information that is received

allows the system to build a map of the building where the tracking devices have sensors, it is

easy to locate needed equipment. (Navigine HealthCare. 2023).

Rather than a staff member spending time to locate a ventilator or defibrillator, the locator

shows exactly where it is. Lives can be saved by having immediate knowledge on where the

available equipment is. Some of the tracking devices are “Beacon, WiFi, UWB, and RFID”.

Navigine (2023). Similar tracking devices are used for the patient.

Let us look at the hypothetical surgical patient in neurosurgery. The patient, a female, has

already been transported to preoperative testing and she is now back in her room. The patient

is anticipating tumor debulking surgery. The resident needs to place

fiduciary donuts (global positioning system) for use with a Stealth machine, on the patient’s

scalp. The resident will also need to discuss patient concerns and obtain consent. In the

morning, the patient will be called for from the operating communication board, followed by

getting called to go to pre op for holding. Pre-Op is where they get confirmation that the patient

has had nothing by mouth since the night before. Intravenous access is placed, and the

attending surgeon, attending anesthesiologist, certified registered nurse anesthetist, circulating

nurse, and other team members come see the patient and run through their checklists for

patient safety.

The Operating Room Communication Board is visible in all areas of the operating movement

area. Pre-Operation (Pre-Op), operating room (OR,) and post anesthesia care unit (PACU) can

see the tracking live on the white board in their care areas. The patient care area on the floors

can pull up the white board to follow patient location.

The white board shows the tracking area where the patient is in relation to time. When the

patient is transported from the floor; the unit secretary clicks that the patient is off the floor.

When the patient arrives in the pre-op area, they are clicked in pre-op. When the patient

preparation has been completed, the board shows “patient ready”. There is a button that

indicates when the operating room is ready. For the room to be ready that means the

anesthesiologists check has been done, the surgical scrub is ready with all instrumentation and

instrument counts completed, and all equipment is in the room, draped and ready in sterile

fashion. When the patient leaves the pre-op area, there is a button that shows that they are no

longer in pre-op. When the patient arrives in the OR, they are clicked “patient in room”. “Start

of surgery” is clicked at first incision. When the surgery is completed, the board indicates that

the surgery is completed. When the patient is out of the room the board shows patient out of

OR. When the patient arrives in PACU, they are clicked to show they are in the PACU area. The

charge nurse on the floor or ICU monitors where the patient is on the white board. The floor

needs to know that they have a bed available before the patient is sent towards the floor from

the PACU. All this tracking is done by a nurse or staff member who manually inputs the change

in status. The information has some subjectivity to it.

The implication of subjectivity is that variances in flow will still happen. The

operating room can have variances for things such as dropped instruments that need to be

autoclaved before use if no back up tray is available, time for the anesthesiologist to place an

arterial line, time for uploading scans to the GPS system machine that reads the fiduciaries on

the patients head that mark out where the tumor is located, time for the pathology report to

get back to the OR for a frozen section.

When a GPS system is used to track patients and essential equipment, time and lives can be

saved, bed management will be positively affected better managing patient flow and resources.

Having worked in the neurosurgical operating room at Vanderbilt, I received first-hand

experience as a circulating nurse. Patient flow is of high importance because time is money. The

surgeons have a lot of pressure put on them by administration to get that first OR case started

on time and stay on schedule throughout the day. At the time I worked at Vanderbilt,

attendings could run two rooms at a time. Allocation of resources like patient beds and sterile

instrumentation availability was a driving force in daily workflow. It is important to know that

there are warehouses off site that store the instruments. Case Carts are pulled the evening

before for planned surgeries. If instruments are dropped or sterile condition compromised, the

backup instrumentation might be being used on a different case. If the dirty instrument can’t

be sterile “flashed”, the runners must drive with a sterile packed instrument from the

warehouse to the hospital. This does not happen too frequently, but if it does, it could mean the

patient is under anesthesia that much longer unnecessarily while waiting for instrumentation.

Having the availability to use GPS location to find the sterile instrumentation saves time. It

would allow the seeker to see if the instrument was in sterile processing, in route, or in another

case.

The Surgical Center’s Guide to Improving Patient Flow, The Live Data company

understands that “effective patient flow management is crucial for optimizing operations in

surgical centers…”. (Robbins, J. 2024). Poor time management in the surgical suite delays

discharging the patient and creates a clog in the patient movement pipe creating stacked

hallways with patients waiting to get where they need to go. (Amato-Vealey, E.J., et al.2012).

McGonigle and Mastrian, (2022), explain that within core business systems, administrative

tasks are enhanced through the use of admission, discharge, and transfer (ADT) systems. ADT

systems have the capability to share information about patient admissions, discharges, surgical

visits, and other points of patient care. The information can then be shared with other entities

like the insurance company, case management, and skilled nursing and rehabilitation facilities.

The technology and monitoring of patient flow provides transparency of care which can avoid

over or under billing for surgical supplies and operating room time.

The use of technology documentation to improve patient movement and compliance in the

hospital setting benefits the hospital by better use of resources, the patient by reducing length

of hospital stay, and outside entities with secondary interest like insurance companies by

retaining transparent documentation. Surgeons get better reimbursement for on time case

starts, and hospital administration reap the benefits of top accolades for delivering better

patient outcomes and cost reduction for procedures.

The use of tracking devices on patients is heading towards using the technology to determine

patient turning frequency in relation to pressure points developing. My concern for technology

is that staffing will need to increase to meet the needs of the data.

.

**References**

Amato-Vealey, E.J., Fountain, P., & Coppola, D. (2012). *Perfecting patient flow in the surgical*

*setting*. AORN Journal, 96 (1), 46-57.

Live Date Inc. *The Surgical Center’s Guide to Improving Patient Flow*. Jeff Robbins 3/8/2024.

<https://www.livedata.com>

McGonigle, Dee and Mastrian, K. G., (2022). *Nursing Informatics and the foundation of*

*knowledge (*5th Ed.).

Navigine HealthCare (2023).