

Planning a Nurse Station for Clinical Function

Most of what has been written about planning nurse stations has to do with access, traffic flow, aesthetics, and privacy for patients. That's because nurse stations tend to be thought of strictly as administrative desk areas. There are, of course, numerous important administrative tasks occurring in this environment. However, the clinically related functions that need to be performed within the nurse station can have a critical and direct impact on patient care and safety. Yet it's difficult to find anything published regarding planning for the clinical aspects of the nurse station function.

The typical nurse station conjures up images of clutter, noise, and varying degrees of disorganization to utter chaos. How many times have you revisited a nurse station that was recently renovated only to find that it has been significantly modified by the staff? Portable chart holders, letter trays, and homemade forms trays litter the beautiful new counter top. But careful examination of what is taking place in the station reveals the logic behind the clutter and chaos. Those stacks of charts by the unit secretary are indeed there for a reason other than not having been filed yet. The homemade forms trays were born out of the need to have ready access to a few critical forms during busy times of the day.

And how many times have you heard: "This station doesn't work well. If only they had consulted me before they built it."

Even if you ask the staff, do they tell you what you need to know? For example, if you ask what doesn't work well, you may hear: "This drawer doesn't open all the way," or "I don't have enough charting space."

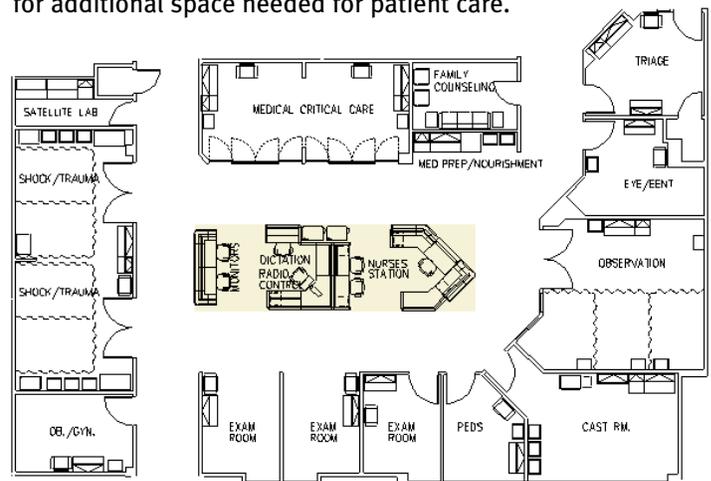
If you ask: "What kind of station do you need?" you might get: "Make it bigger." "Build the walls higher." "Let me see everywhere."

Are these the real issues you need to hear? Or are they merely symptoms of bigger issues?

This paper is intended to be used as a guide through the planning and programming of acute care nurse stations by:

- Assisting staff in thinking through their work processes.
- Helping to prioritize functions and needs.
- Incorporating details into the plan rather than modifying the station after it is finished.

Inpatient centralized nurse stations have the highest concentration of people in the smallest footprint. This footprint is frequently determined by the architectural spaces surrounding it. For example, an Emergency Department nurse station often floats in the middle of the space. As space needs become tighter, this footprint may shrink to make room for additional space needed for patient care.



Nurse station "floats" in the center of Emergency Department floor plan.

At the same time, as the complexity of clinical functions multiply (such as in the Emergency Department) or the acuity level of the patients increase (such as in a Critical Care Unit), the clinically related functions intensify as well.

It is, therefore, vital to consider the functional areas — both clinical and administrative — needed within a nurse station while planning and finalizing the footprint.

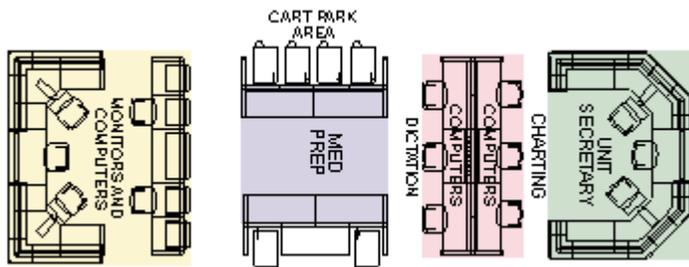
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Functional Considerations

1. Functional Work Zones

Work Process:

No matter how large or small the nurse station may be, there are functional zones required as part of every nurse station.



Work zones for Critical Care nurse station.

Unit Secretary Zone: The unit secretary is the hub of any nurse station. Even in facilities with decentralized nurse stations, the function of unit secretary remains essential.

If you ask unit secretaries what they would like to change about their station, the overwhelming response is “Keep everyone out of my workspace! The doctors and nurses are constantly using my equipment and supplies.”

Key Planning Issues:

When programming, review all items currently within the space and separate the supplies and equipment that are used solely by the secretary and those that are to be shared. For example, all staff commonly use an addressograph and/or label printer. These can be placed further away from the secretary’s telephone and computer.

The average unit secretary workstation needs six to eight linear feet of work surface for all functions, equipment, and supplies.

Minimum equipment and supplies needed in the unit secretary’s station include:

- Telephone(s)
- Nurse call console
- Form storage for quick access and visibility
- Other paper storage that can be housed in filing drawers or cabinets
- Computer and printers - one to three printers are required depending on the hospital’s IS system
- In and out boxes for mail and interdepartmental use
- Specimen drop-off if there is no pneumatic tube system that transports specimens

Equipment shared between unit secretary and nursing staff:

- Addressograph
- Fax
- Lab report printer
- Patient tracking board
- Tackable surfaces
- Pneumatic tubes

Nursing Staff Zone: Since the workspace is generally shared, planning the amount of workspace needed is dictated by the number of computer terminals as well as how many writing spaces you can fit into the footprint. Amount of staff varies according to:

- Size and type of unit
- Time of day
- Type of care delivery system being used by the facility

Equipment and supply needs for nursing include:

- Patient education forms
- Computers
- Charting spaces
- Telephones
- Tackable surfaces
- Reference books and policy binders
- Typical paper office supplies

Physician Work Zone: Generally speaking, an area within the nurse station is provided for physician dictation. Each dictation area should be 36 to 48 inches wide depending on whether each area has a computer. Physician workstations should be placed in an area that does not have direct access to the open spaces of the station. Privacy for the physician staff is ideal. This could be accomplished either by placing them in the back of the station or using partial-height walls as a visual and/or acoustical barrier.

Requirements for physicians include:

- Charting space
- Computer(s)
- Telephone
- Small amount of forms storage

2. Chart Processing and Management

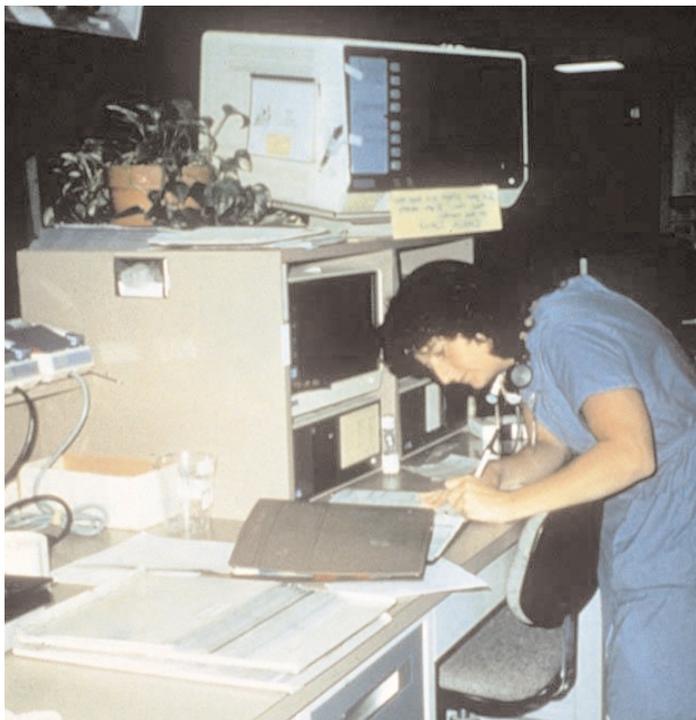
Work Process:

The charting process is a dynamic activity that occurs every time someone needs to make notes, write orders, etc., in a patient chart. Chart management within a nurse station is critical to the quality of patient care delivery. Misplaced charts can cause medication errors, delay of treatment, and

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other patient safety issues.

Charting space is defined as anywhere a chart can be placed and written on. Standing or sitting is secondary to writing a quick note or needing a quick reference.



Note the ergonomics and safety issues of this charting activity.

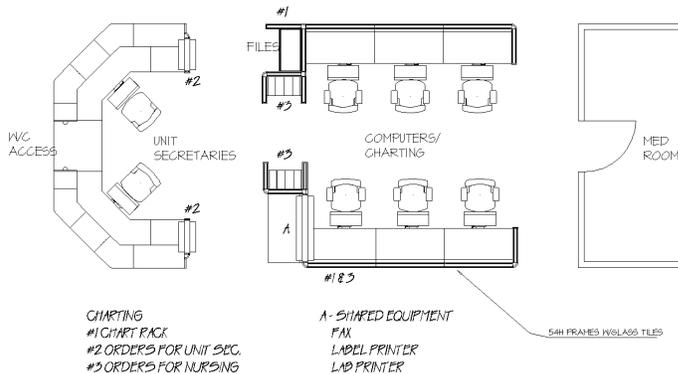
The impact of technology has made actual charting space even more precious. Computer terminals and other pieces of equipment are demanding more workspace than ever. As long as a dual system of hard copy charts and electronic charting coexist, the dilemma of a lot of space needed for charts will continue.

Key Planning Issues:

Incorporating the charting process in the planning of the nurse station casework or furniture assists the staff in organizing their workflow, identifies storage and access requirements, and helps prevent the new station from becoming cluttered with extra or homemade accessories after the installation is complete.

- The chart storage rack should contain enough slots for every bed on the unit and often a few additional slots.
- Each inpatient binder needs a minimum of three inches of shelf space.

- There needs to be a designated spot or shelf for charts with orders from physicians.
- A secondary space (either at the unit secretary station or close by the nurse charting area) should be designated for charts that the secretary has handled and are ready for the nurse to review and sign.
- When planning, be sure to have all computers and other equipment identified in your plan. When possible, leave enough workspace between terminals for a spot to place a chart. At least 42 to 48 inches of surface is recommended per workspace.



Typical charting locations in an acute care nurse station.

- Use of vertical space can help maximize the horizontal workspace you have to work with. For example, creating an equipment stack for printers, fax machines, etc., can free up valuable workspace.



Equipment stack, monitors, printers, and fax storage.

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3. Monitoring of Patients

Work Process:

Monitors, commonly known as cardiac monitors, monitor a variety of physiological functions. In recent years, they have become more automated as well as smaller. More patients can be monitored on a single computer screen so the actual number of monitors is decreasing. Monitors are commonly found in nurse stations within the Emergency Department, Critical Care Units, and Step-Down Units.

Key Planning Issues:

Some questions that need to be answered:

- Does the staff need to have ready access to the screens?
- Are there printers such as strip chart recorders?
- How many monitors will be needed?
- If new, do they have specifications that include dimensions?

4. Medication Preparation Areas

Work Process:

Sometimes the architecture of Patient Care Units include a med prep area within the nurse station rather than in an enclosed medication room. In either case, there are some essential points to consider.



Typical med prep layout.

Key Planning Issues:

There are requirements for this space such as a hand-washing sink and a refrigerator to store certain medications. And there are functional recommendations that contribute to decreasing the potential for medication errors such as having adequate, uncluttered work space.

- A small undercounter refrigerator.
- Hand-washing sink.

- Supplies for preparing medications such as alcohol wipes, needles, syringes (single lock frequently required).
- A minimum of four feet of clear workspace.
- Shelf storage for reference books.
- Tackable surface for bulletins and guidelines.
- Medication and narcotic storage. If the facility is using an automated dispensing unit, a minimum space for each unit requires 24 inches wide by 30 inches deep.
- If an automated dispensing unit is not used, you will need to provide a double-locked narcotics container.

Many med prep areas also contain IV solutions and supplies such as tubing.

- There are different types of IVs needing storage including plain IV solutions and premixed solutions coming from Pharmacy. Careful programming will need to be done with these products.
- The ideal space for med prep is eight linear feet of space (not including IV storage or automated dispensing machines).

Other Issues

Visibility: The ability for staff to see out of the station varies according to the function of the department and the actual location of the station.

The primary visibility functions for patients and visitors include:

- A point of contact (generally the unit secretary) that is visible from the point of entry into the unit for meeting and greeting.
- A contact point for patients and visitors who are already on the unit.
- Wayfinding during the evening and night hours when the lights are dimmed.
- In the Emergency Department, visibility is essential to major treatment and trauma rooms. Most stations are planned to be central to these functions. Keeping the counter tops in this area at stand-up height or using glass in partial-height walls will facilitate visibility.
- In Patient Care Units, the average unit has a central station typically located at the hub of two to four long corridors. Visibility to patient rooms is limited; however, there is a need for staff to be able to see activity surrounding the station.
- In Critical Care Units, visual access for observation of all patients is required. This is accomplished either by direct or remote visualization through the use of a camera/monitor

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system. If remote access is used, space for the monitors needs to be planned for.

Noise Control and Privacy: Noise control, privacy, visibility, and access are interrelated issues. Privacy and visibility are often juxtaposed in the planning process. The ability for the user groups to prioritize these needs as plans progress is critical!

Nurse station privacy issues include patient confidentiality and access to staff.

- Eighty percent of the acoustics come from the floor and ceiling. Ceiling treatment and the use of a good floor covering will go a long way in this area. Planning sound absorbing surfaces in the furniture as well as the ceiling and floors will help.
- Plan work zones for each functional area. For example, placing support staff away from the unit secretary hub will keep noise away from those that must use the phones frequently.
- If you have a hard wall, placing workstations against the wall facing away from the front of the station not only decreases noise but can increase privacy.
- Patient tracking boards and patient charts should be placed in areas where the public does not have direct access.
- If you are using a modular solution for the station, the use of variable height walls can be a great help.
- Glass as a barrier allows visibility while providing a barrier to keep people from leaning into the station - a solution to privacy in general as well.
- Creating small workstations with panel divisions can provide for individual privacy.

Traffic Flow: Access needs to be provided according to the traffic flow from the patient care areas while simultaneously considering traffic control from the public areas, as well as not compromising the amount of workspace inside the station. For each opening into the station, you will be giving up three feet of functional interior workspace.

Aesthetics: The aesthetics of a nurse station are more than an attractive exterior of the station. If clutter distracts the eye, all efforts toward a pleasing aesthetic are defeated. An aesthetically pleasing nurse station provides a calmer work environment as well as a less intimidating place for patients and visitors to approach.

Flexibility: Since technology and related work processes seem to be changing faster than one can build a modification into the nurse station, it is wise to keep flexibility in mind when planning the station. Flexibility offers the ability to be in ADA compliance with the capability to use adjustable components. Cable management, surfaces that can be used for additional pieces of equipment, etc., need to be considered. Many people are considering a modular solution in order to keep up with this ever changing environment.

In Summary: Most nurse stations are not “just an administrative” function. Careful planning with a great deal of staff input will produce a finished product that can have the following results:

- Less chaos — improved, accurate communications.
- Better ergonomics — less worker stress and fatigue.
- Regulation compliance — positive inspection results.
- Pleasant aesthetics — positive public image.
- Modularity of design — able to economically change the work environment as equipment, technology, and work functions evolve.

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Planning a Nurse Station for Clinical Function
By Linda A. Greenberg RN BSN,
Herman Miller for Healthcare