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3.0. PLANNING AND DESIGN DATA

3.1. Inpatient Unit

3.1.1. General

1. The Inpatient Unit is an essential building block for a PRC facility and provides many functions beyond a typical hospital inpatient unit. Intensive patient treatment will occur in the individual patient rooms and in other spaces required on the unit. Family members will assist in this treatment and will require additional spaces for their needs.

2. The staffing model for the Inpatient PRC Unit requires a inter-disciplinary team approach to care. This would include their staff offices located on the Unit.

3.1.2. Planning & Design Considerations

1. Inpatient room

The patient bedroom in a PRC facility requires a larger area than a typical medical/surgical Inpatient Room or ICU. This area is needed for individualized patient treatments from multiple staff members & therapists and the accommodation for additional equipment for patient treatment. The Guide Plates indicate two optional layouts for Inpatient rooms to accommodate these needs for greater space.

2. Nurse Stations

The intensive treatment of the patients require a large number of staff to be in close relationship to patient rooms. This can be accomplished by centering the nurse station within the Inpatient Unit. In some cases smaller de-centralized nurse stations can be placed in several strategic locations. The Guide Plates indicate both of these options for consideration.

3. Recreational Therapy and Rehabilitation Gym

This space is required on the Inpatient Unit for individual and group therapy activities because of the acute injuries of the patient. Many of these patients cannot tolerate inter-hospital transport. TBI / Cognitive Therapy and Computer Training are activities that occur in rooms adjacent to this Gym.

4. Dining Room

This space supports the dining functions for all Inpatients but also serves as a private therapeutic assessment and treatment space for patients who require additional assistance at meal time.

5. Family Multipurpose Room / Family Room
Family members play a key role in a patient's treatment and are often in the patient room for extended periods of time. This contributes to the size requirements of the Inpatient Room. Family members also require Multipurpose and Living room spaces on the Inpatient Unit, which allows them to stay close to the patient.

6. The major spaces required in the Inpatient Unit are developed into Guide Plates, see Section 2.6, and include the following spaces:

a. Patient Room Option 1
b. Patient Room Option 2
c. Nurse Station Option 1
d. Nurse Station Option 2
e. Recreation Therapy / Day Room
f. Dining Room
g. Quiet Room
h. Family Multipurpose Room / Family Living
j. Rehabilitation Gym
k. Recreation Special Treatment Room
l. TBI Cognitive / Therapy Exam / Treatment Room / Multipurpose Room
m. Computer Training

3.2. Transitional Rehabilitation Center

3.2.1. General

1. A distinctly separate environment is desired for the Transitional Rehabilitation Center away from the institutional hospital. Patients are moved from the hospital Inpatient Unit to this Center in order to assist them in the transition back to the community. In some cases, patients who have relapsed in the community may come to this Center for intensive assessments and focused treatment.

3.2.2. Planning & Design Considerations

1. The Transitional Rehabilitation Center may be in several locations: within the hospital but finished as a separate environment of care, separate but connected to the hospital sharing certain primary hospital functions, or as a complete separate building on the hospital campus.

2. The Transitional Resident Bedroom is the size of a typical residential bedroom and finished similarly. Access to a handicapped-accessible toilet and shower room is required to be adjacent to the bedroom. Patients are encouraged to take part in programmed activities throughout the day so their time spent in the patient room is minimized.

3. The Apartment-type Unit closely simulates the patient's real world community. It allows for functional assessment of the patient by staff members in a controlled and supportive setting. Deficiencies in patient self-care and independence are identified and treatment plans adjusted accordingly.

4. The Nurse / Check-in Station is similar to a hotel reception counter with functional medication and staff spaces adjacent.

5. The major spaces required in the Transitional Rehabilitation Center are developed into Guide Plates, see Section 2.7, and include the following spaces:

a. Transitional Resident Bedroom
b. Apartment-type Unit
c. Nurse Station / Check-in Station
d. Dining Area
e. Recreation Therapy Gym

3.3. Outpatient Unit

3.3.1. General

1. The Outpatient Unit is a key function of the PRC facility and provides specific cognitive training for patients living in the community that make regular outpatient visits. This Unit differs from a typical hospital outpatient clinic by concentrating PRC patients, staff and specialized treatment in one area. Patients will be assessed and treated in group as well as individualized settings.

3.3.2. Planning & Design Considerations

1. Lounge Space or “Home Room”

This is a place for patients to socialize, relax and even dine in-between treatments and provider appointments.

2. Physical / Occupational Therapy

This space is a large room that supports physical activities and rehabilitation therapy.

3. Gait Lab

This lab tests the patients gait and balance abilities in an individualized room.

4. The major spaces required in the Inpatient Unit are developed into Guide Plates, see Section 2.8, and include the following spaces:

a. Lounge Space (Home Room)
b. Physical/Occupational Therapy
c. Gait Lab
d. Exam Room

3.4. Site Visit Summary

The Department of Veterans Affairs (VA) recognized a need for Polytrauma Rehabilitation Centers in 2005. It was at this time that the VA developed a model for care of these very special patients. The highly specialized staff created a benchmark of care in environments that were originally designed for other purposes. It is now, with this Design Guide, that the VA leadership has defined and highlighted the unique space and equipment requirements for the Polytrauma Rehabilitation Centers (PRC).

To gain a broad perspective of the continuum of care from the battlefield to admission and care within the VA system, a series of site visits were conducted. These visits include Walter Reed Army Medical Center and the Army Military Advanced Training Center. To gain a thorough understanding of current operations, site visits were conducted at several of the current VA PRC centers to include Minneapolis, Palo Alto, and Richmond. And finally, in keeping with the long partnership and collaboration between civilian and federal healthcare, several civilian facilities were toured to include Spaulding Rehabilitation in Boston, MA and Craig Hospital in Englewood, CO.

A brief summary of each site visit in included here to highlight the truly exceptional components of care and facilities observed around the country. These tours helped create a framework for capturing the very best in patient care, equipment planning and architectural design.

Walter Reed Army Medical Center (WRAMC) is the headquarters for all DoD centers focused specifically on treating traumatic brain injuries. WRAMC helps identify undiagnosed cases of brain injury and treats patients with more severe cases. Our team toured the inpatient unit and was most struck with the high level of coordination between the DoD and the VA. VA liaisons are located directly on the inpatient unit to coordinate care during the transition from Active Duty to Veteran status.

The Army Military Advanced Training Center is a 31,000 sq ft facility housing more than 15 specialties, including physicians, nurse case managers, therapists, psychologists, social workers, benefits counselors and representatives of the Department of Veterans Affairs. This facility highlighted the advanced technology and ongoing research utilized for patients recovering from multiple injuries. This environment, while technologically advanced, still maintained a family focus. Therapy gyms were designed with room for family interaction, recognizing that family interaction and participation are central to patients' healing.

Minneapolis VA was the first VA facility to receive and care for polytrauma patients. This facility has incorporated floor tiles as visual cues to patients. One tile represents a staff room and three tiles represent a patient room. These tiles help to facilitate cognitive mapping, a skill necessary in everyday life. A component of patient therapy is social interaction with others. The Minneapolis VA staff has accomplished this in a subtle, yet powerful way through the configuration of the nursing station. The central nursing station has a low table-like counter with an actual table extending from the main station. This low counter softens the space and encourages patient interaction and creates a social

atmosphere. In fact, a patient and his father were enjoying a came of cards and chatting with nursing staff during our tour. This interaction was observed by the nursing and therapy staff in a nonthreatening environment.

Views of the outside and access to nature are a critical component of polytrauma therapy. The VA facility in Palo Alto, California has incorporated an enclosed outdoor courtyard into a therapeutic environment for patients. The courtyard is fully enclosed on all four sides allowing for patient access with minimal security risks. The inpatient unit and the transitional unit are separated by the courtyard and this proximity and separateness contribute to therapy. Inpatients interact with Transitional patients and are able to witness the improvements and autonomy attained. "Crossing the courtyard" from inpatient care to transitional care is celebrated and part of the healing process. This visible measure of progress is seen as highly beneficial to patient therapy.

The role of family involvement is critical to patient recovery. The VA Richmond facility has truly incorporated the family into the plan of care. Family training is required and focuses on the reunion of the family, the patient's care after discharge and role reestablishment. This training is multidisciplinary and ongoing throughout the patient's stay. The role of the family is truly integrated into every aspect of care and it is recognized that this training must be individualized.

Spaulding Rehabilitation in Boston, MA excels at creating a multidisciplinary team using many stimuli to help each patient to improve alertness, body positioning, and muscle tone. This is a specialized treatment program for patients with low levels of consciousness (Levels 2 or 3 on the Rancho Los Amigos Scale). The staff creates a highly controlled environment conducive to coma arousal. Staff is able to adjust auditory, visual, and tactile stimuli in response to the patient's changing needs.

Transitional care and community reentry are a pivotal component of polytrauma rehabilitation. The VA goal of rehabilitation is to restore veterans to their highest attainable level of autonomy. Craig Hospital in Englewood, Colorado provided a tour of their program and highlighted their focus on returning to the community. The program at Craig prepares individuals for job training in an interactive community focused program. This program is a partnership with the community and realizes the importance of productivity to recovery.

Programs of excellence exist in every facet of the Polytrauma treatment community. This is only a small example of the information obtained through the site visits. The full impact of the site visits conducted by the Design Guide team have provided a framework upon which to create a Design Guide encompassing the latest in patient care and design innovations.