

Jennifer Cestnik
8 December 2008
Architectural Programming

Determining Standards in Inpatient Activity in Rehabilitative Medicine

Physical rehabilitation after illness or injury involves more than medicine. It is about regaining dignity and respect. However medical environments are traditionally designed for institutional control and separated from the greater public and urban atmosphere. These self contained buildings have little contextual relationship and user needs are often time secondary to grand and photo worthy public spaces and technologies that fund them. Yet our humanistic needs suggest that when one comes to a hospital or other healthcare facility they want to have the feeling that they are not going to get immersed in it (Bozikovic 32). These overwhelmingly artificial environments ultimately impact the twofold demands of healing. While improving one's health is a very personal journey of the self, it is also a relationship with a greater public community, be it medical professionals, neighbors, or the strangers interacted with on the street. The city is a vibrant place for life and holds countless possibilities for rehabilitation and improved wellness when dealing with a large cross section of users. While much of the population lives day to day with a mobile lifestyle consistent with the accepted norm, many must navigate urban centers with injuries and impediments. Thus, people recovering from physical injury & illness should experience rehabilitation away from an artificial environment of isolated beds and therapy rooms, and within a building and urban environment that mimics where they will ultimately return.

The need for ongoing medical care and therapy is prevalent in rehabilitative medicine. Patients need guidance during recovery and many need inclusive help in relearning lifestyle and occupational skills. These methods should be easily translatable into common daily practices in a diverse outside world. Yet the lack of transfer of education from internal ward to outside world does not often appear in programs, and indicates "A flaw in the provision of clinical practice and the environment in which it is conducted" (Carr 88). What ultimately results is that a patient only spends a small period of time active due to too many controlled and inaccessible environments. In many wards, therapy sessions are held with professionals during normal operating business hours, that is, Monday through Friday between 8 AM and 5 PM (Mackey 1069).

While rehabilitative medicine wards appear to be active environments to outside visitors, it is usually the activity of staff that is noticed (Mackey 1069). The care of patients by nurses, doctors, therapists, and support staff requires additional patterns of motion beyond actual interaction with those recovering. On average, elderly people about 80 years old are physically active about 5.8 hours per day. During an inpatient stay, this drops to only 1.5 hours (Smith 209). As patient recoveries are as different as their diagnoses, there is no standard to suggest how much of a day each person should be active or how long of a stay each is likely to have. While therapy will begin shortly after stabilization and last for two to four weeks when recovering from a stroke, in certain cases controlled care may be more than six weeks, or less than one before being transferred to outpatient clinical appointments (Cameron par. 1-3). Yet given this range inpatient care, the demand for a complete return to fully functional activity cannot often be completed. Striving for a level of increased physical activity may become a more reasonable goal for many. Physical activity does not necessarily require excessive movement. For many patients tasks like sitting up, talking, or eating are as crucial to recovery as walking, exercising affected limbs, or stretching (Mackey 1068). Based on a study of stroke inpatients at different stages of recovery, only about 2% of a waking day involves actual exercise. Rather, the majority of movement that fosters improvement is unrelated to care. Daily activities involving hygiene, dressing, and eating, all require actions that many must relearn as they are imperative to know when returning to independent life in a public environment. Consequently, the majority of activity does not occur within dedicated therapy rooms (only 12%) leaving the rest to public and living spaces occupied during the day (Mackey 1068). Patient rooms offer locations for private active movement and common rooms, dining areas, and public places add a human connection, resulting in collaborative healing.

14% of activity of inpatients is documented circulation (Mackey 1068), suggesting that the exercise which goes into accessing different areas is an unintentional part of recovery. The inclusion of active corridors for patient use presents a series of advantageous results aside from increased building efficiency. The physical benefits to a patient include the reduction of stiffness, improved mobility, decreased pain, and increased energy and appetite (Hayes 8). By maintaining interest while moving through spaces outside of the patient room, patients also experience psychological benefits such as increased confidence in mobility during the recovery process. Some even go so far to find the financial benefits in activity. This “free” exercise

(ignoring the fees of a hospital stay) may take the place of expensive tests, procedures and therapy later on (Hayes 9).

Regardless of age, inpatients in rehabilitative wards spend over half their waking day inactive, that is, without any observable activity (Mackey 1070). The main goal of rehabilitative medicine is to retrain patients for maximum self-sufficiency (Appendix). Yet the values and needs of patients and the medical staff who teach them may differ, ultimately resulting in a conflicting set of considerations for a designer. For instance, a patient may need to practice independent mobility, yet a therapist with dedicated times for exercise and therapy scheduled per evidence based medicine techniques may deter rather than let the patient work through their struggles at their own pace. Patients that have more active settings outside of the therapy room, such as a cafeteria or walkable corridor system heal more independently than those who undergo solely structured occupational, recreational, and physical therapy (Carr 88).

The fact that so much of a patient's day is spent away from rehab staff, around 40%, means that strategies should be incorporated in order to address and influence activity among users. As it stands, the rehabilitative environment does not realistically prepare patients for life outside a traditional inpatient institution. Few demands are made on the patient and with help at hand, food prepared and served, and a wheelchair provided; the person can achieve basic life tasks without a greater motivation towards independence and the sense of urgency that would create the need to be held accountable for personal wellbeing (Carr 88).

Investigations on design of space for patients are only starting to emerge in architectural journals. However medical publications and human physiology texts offer studies that address the nature of activity during an inpatient day. This collected data can be translated into program needs and space planning strategies for specific uses, rather than designing from general hospital building type standards. Programmatically, a health care facility is much like a city within itself. The hierarchy of spaces for procedure, recovery, and support are organized through a network of physical and informative connections. This is important when dealing with the separation of visitor, patient, and staff areas, as well as the spaces within each. Ultimately, a new facility for rehabilitative medicine should contain a cross section of inpatient and outpatient resources and amenities, education and community involvement for general wellness and the promotion of active lifestyles while addressing the standards of the waking hours that patients are likely to access these spaces.

Works Cited

- Bozikovic, Alex. "Health and Happiness." Metropolis Magazine. February 2008: 32 – 34.
- Cameron, Jeffrey MD. Stroke Rehabilitation Facilities Recovery Process. 22 November 2008. Columbia St.Mary's Medical Center. 1 September 2006
< http://www.medicalmoment.org/_content/signs/sep06/1398690.asp>.
- Carr, Janet and Roberta Shepherd. Movement Science: Foundations for Physical Therapy in Rehabilitation. Gaithersburg: Aspen, 2000.
- Hayes, N., et. al. "Ward Workout' - implementing nurse-led exercise programmes for inpatients on rehabilitation wards for older people at a NHS Hospital Trust" Foundation of Nursing Studies. Kings College Hospital, London: 24 October 2005.
- Smith, P. et al. "Physical activity by elderly patients undergoing inpatient rehabilitation is low: an observational study." The Australian Journal of Physiotherapy. 2008: 209 – 213.

Appendix

HECTTAS – Patient Usage of a Rehabilitative Medicine Center in an Urban Core

	Values	Goals	Facts
Human	A place where healing is the bottom line and wellness is ultimately feeling better about oneself, not necessarily being physically better	Social healing and interaction while maintaining privacy and confidentiality	Balance of public, private, large scale and intimate spaces for gathering and use for therapy, meeting, or relaxing
Environmental	Connection to landscape settings as a programmatic space. Mimic surrounding building heights	Spaces for outdoor usage and therapy during all times of day and year	Must be in controlled environment through HVAC, IAQ systems. Don't duplicate the presence of the city park across the street
Cultural	Care regardless of religious, personal, and/or ethical differences	Advance healing through different methodologies and scales (from single to group)	Define spaces for medicine, spaces for meditation, spaces for expression
Technological	A progressive place for care regardless of illness or injury type	Access both state of the art technology and traditional methods of health for care	Size passive technologies for future growth of machines
Temporal	The ability to get better in timely manner with care available when most needed	Aim for succinct care with minimal time as an inactive inpatient.	Prepare spaces for cycles of usage. Activate the street to advance the use of Downtown Vancouver
Economic	Receive the best care at the most affordable price	Design for affordable technologies that are most needed by patients	More efficient systems with higher up front costs may result in lower rates later given determined payback periods
Aesthetic	A calming space that doesn't remind one of an inpatient hospital	Patient spaces are as well designed as public spaces	Universal design strategy with hospitality undertones
Safety	An environment that challenges healing and exercise, but remains safe regardless of user	Safe circulation and programmed rooms with paths and levels of difficulty for therapy	Universal design throughout the facility