Strategies for Neuroscience Program Regionalization

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Research in Brief
As neuroscience programs look to grow volumes, capture larger market share, and increase visibility, understanding how to regionalize the program and tap into new markets is of particular importance. Hospitals have begun to forge affiliate partnerships with outlying hospitals, develop telehealth networks, and create niche, sub-specialty service lines in order to grow their neuroscience program. The following brief is an exploration of three neuroscience programs and their strategies for creating a regional presence and serving patients outside of the primary service area. The administrators at these institutions have paid particular attention to their market conditions and patients’ willingness to travel for services to inform their strategies.

Julie Schaetzel
Dedicated Advisor
202-266-6246
SchaetzJ@advisory.com

Shruti Tiwari
Consultant
202-266-6818
TiwariS@advisory.com

Stephanie Spehar
Research Analyst
202-568-7149
SpeharS@advisory.com
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I. Key Findings

1. Strategic marketing of niche, subspecialty expertise essential for physician referrals

One of the most effective ways to attract cases from outside of the primary service area is to market a program’s capabilities as a sub-specialty and tertiary care provider. Targeting physicians directly and offering support for more complex cases can help a neuroscience program create a collaborative relationship with regional providers and tap into a pool of referrals. Providing support for neurologists and neurosurgeons enables a neuroscience program to maintain a niche expertise and reputation as a specialized program, prompting further tertiary care referrals for more lucrative cases.

2. Partnerships between tertiary care sites and community hospitals benefit both parties

Hospitals can increase presence and visibility by serving hospitals and patients directly in their communities. Hospitals can forge affiliate relationships with smaller, regional hospitals and provide them with management resources, group purchasing power, and best practice protocols. Conducting on-site neurology clinics and building a telehealth network are additional ways that hospitals can directly serve patients in remote locations.

Creating platforms to treat patients in regional locations benefits the health system by tapping into a pool of tertiary care referrals and increasing visibility throughout many regions. In addition, this regionalization strategy serves a greater charitable purpose by supporting smaller hospitals so that they remain sustainable despite resource limitation. Patients also benefit by receiving high-quality care while remaining close to home.

3. Convenient and easy-to-navigate referral system facilitates regionalization

An important consideration for regionalization of neuroscience programs is how to most efficiently field referrals made to the institution. Having an efficient referral system allows for greater patient intake and increases physician satisfaction, thereby fostering more referrals made to the program in the future. Creating an integrated call center and employing an international coordinator are two strategies that help establish an easy-to-navigate referral system, allowing hospitals to maintain a wide referral network.

4. Patient willingness to travel is function of illness and treatment

Among hospital administrators interviewed, there is consensus that nature of illness and complexity of treatment dictate patient willingness to travel. Patients are likely to travel farther when a condition significantly impairs their daily functioning and current treatment is inadequate. In addition, there seems to be a directly proportional relationship between intricacy of treatment and patient willingness to travel. For complex cases, treatment requires skilled, specialized care and advanced technology. As there is often a low supply of neuroscience specialists, patients must travel in order to receive care from an experienced provider. Lastly, patients tend to be more concerned with provider and institution reputation for highly complex treatments, thus they are willing to travel to receive care from the most renowned neuroscience programs. Accordingly, marketing highly-specialized, niche programs is likely to attract more patients from outside of the primary service area.
## II. Summary of Neuroscience Programs Profiled

<table>
<thead>
<tr>
<th>Institution Type</th>
<th>Neuroscience Offerings</th>
<th>Regionalization Strategies</th>
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| 372-bed not-for-profit hospital in the Southwest; part of 38 member health system | - Alzheimer’s Disease and Cognitive Disorders  
- Brain Tumor Center  
- Cerebrovascular Disorders  
- DBS Program  
- Diagnostic Services  
- Epilepsy  
- Gamma Knife Center  
- Multiple Sclerosis  
- Neuropsychology  
- Neurorehabilitative Services  
- Neurotrauma  
- Skull Base Center  
- Spine  
- Stroke Center | - Expansive referral network  
- International referral system  
- Integrated call center  
- Niche sub-specialty program offerings  
- On-demand clinical trial information  
- Consolidated website for patients and physicians  
- Telemedicine program |
| 580-bed not-for-profit hospital in the Midwest; part of 8 member health system | - Brain Tumor Service  
- Cognitive Neurology Program  
- Diagnostic Services  
- Epilepsy  
- Neuro-oncology Program  
- Neurovascular Services  
- Spine Care  
- Stroke Care | - Large system of affiliate hospitals  
- State-wide satellite clinics  
- Outreach to high-demand populations  
- Telehealth network |
| 307-bed academic medical center in the Midwest; part of 30 member health system | - Center for Cranial Base Tumors  
- Hearing Aid Services  
- Neuro-oncology Clinic  
- Neurological Clinic  
- Neurological Surgery Services  
- Neurology Services  
- Otolaryngology-Head & Neck Surgery Service  
- Psychiatry and Behavioral Neuroscience  
- Stroke Center  
- Telemedicine Stroke Program | - General advertising  
- Physician targeted marketing  
- Expansive telestroke network |
Professor A

Ease of Referral System Increases Program’s Capacity to Serve Regional Populations

**Strong National and International Presence Drives Clinical Neuroscience Volumes at Hospital A**

The neuroscience program at Hospital A is part of 38 hospital health system in the Southwest region. The program offers a wide scope of services including an epilepsy program, Gamma Knife center, brain tumor center, DBS program, spine program, and stroke center, among many more specialized services. Known as one of strongest neurology and neuroscience programs, Hospital A sees some of the highest annual clinical volumes in modern healthcare. The program’s strong presence around the country and world is one driving force behind these high volumes.

**Payer Mix and Efficiency Impetus for Developing Regional Presence**

Administrators at Hospital A had a longstanding interest in expanding the neuroscience program. The hospital had limited capacity, so expanding its regional presence allowed them to use their time more efficiently and take the most complex cases. Moreover, extending the hospital’s network effectively tapped in to a more diverse and favorable payer mix. Currently, twenty five percent of the neuroscience program’s patient base is out of state and between three and four percent is international.

**Comprehensive Set of Marketing Strategies Used**

Rather than using one approach to attract patients, administrators at Hospital A have employed a comprehensive set of tactics to create a stronger regional draw. These strategies include:

- Expansive Referral Network
- International Referral System
- Integrated Call Center
- Niche Sub-specialty Program Offerings
- On-demand Clinical Trial Information
- Consolidated Website for Patients and Physicians

**Expansive Referral Network**

Hospital A employs a sales force that is dedicated to actively growing the referral network across the country. The goal of these efforts is to attract consults and second opinions from referring physicians outside of the primary service area. The relationship is mutually beneficial for Hospital A and the referring institution. Hospital A benefits from being the “neurologist’s neurologist,” whereby they receive referrals for the most complex cases. This enables them to maintain their niche expertise and a reputation as a specialized program. In return, referring institutions gain a partner in the patients’ health and can benefit from the reputation of collaborating with such a progressive institution.

**International Referral System**

Hospital A has successfully tapped into an international pool of patients from South America, Europe, and the Middle East. The international coordinator, a physician trained outside of the United States, acts as a liaison between international doctors and clinicians at Hospital A. This coordinator uses his or her expertise to facilitate insurance logistics and navigate international
patients through the clinical process. This convenient referral system has facilitated an increase in international referrals.

**Integrated Call Center**

Hospital A has implemented an integrated call system in order to field calls from across the country and develop an efficient referral system. Rather than directing referral calls to the operator, a dedicated team is responsible for triaging all inquiries. The call center team uses a thorough yet structured questionnaire to gather the most important clinical information about patients and connect them with the appropriate contact. Critical for the success of the call center are separate lines for physician and patient calls. Physicians are able to talk to Hospital A physicians rather than a non-clinician operator. Thus, they can exchange clinical information with Hospital A’s doctors. Exchanging clinical information as well as a quick triage process allows for higher physician satisfaction and faster referrals.

Hospital A finds the integrated call system successful in creating a more efficient referral process. Notably, fewer calls are misdirected and wait times between calling and speaking to the correct specialist have reduced dramatically. The ease of the referral process and appointment scheduling is critical for attracting patients to the program. Moreover, the call center is a necessary component of the regionalization strategy because it gives Hospital A the capacity to accept a greater number of calls.

**Niche Sub-specialty Program Offerings**

Hospital A markets its expertise in treating niche, sub-specialty neurological diseases, which brings downstream referrals. The program offers conferences, presentations, and informational material on treatment pathways they use for the rarest diseases. These programs demonstrate that Hospital A has expertise in array of complex cases and is well equipped to treat them, thus increasing the likelihood practitioners will later refer their patients to Hospital A.

**On-demand Clinical Trial Information**

The neuroscience program at Hospital A advertises its 400-450 clinical trials to draw in patients suffering from the most complex cases. By making this information available on the website, the program attracts patients who are seeking last-chance treatment for their illness.

**Consolidated Website for Patients and Physicians**

As patients become more proficient with the internet, they increasingly rely on information found on hospital websites. Accordingly, hospital websites are an important tool for attracting patients. Previously, Hospital A used two separate websites for patients and physicians but found that the patient site was not visited frequently. As a result, Hospital A consolidated the two sites into one that is readable for patients, but still informative for physicians from a content perspective.

**Severity of Illness Determines Patient Willingness to Travel**

The administrator at Hospital A suggests a directly proportional relationship between severity of illness and patient willingness to travel. As a case becomes more complex, a patient is more inclined to travel far distances to seek treatment. This relationship is driven by the fact that more complex cases require more expertise and experienced physicians, which often requires patients to travel. Therefore, high-stake services are likely to draw in patients more than routine services and medical management. As such, Hospital A has focused on marketing its expertise in subspecialty and rare diseases to tap into referrals from far distances.

**Telemedicine Plays Limited Role in Regionalization Process**

Telemedicine programs are one strategy for hospitals to create a more regional presence, though development of such programs requires careful consideration in light of current reimbursement structures. Hospital A finds it most worthwhile to provide consults rather than chronic disease management. As there is little reimbursement for telehealth, it is difficult for the
hospital to justify offering services that are not likely to see downstream revenue through surgical intervention. As such, telemedicine for stroke services is an excellent starting point because it expands the hospital's reach, helps meet community need for acute stroke services, and brings in referrals for interventional stroke procedures that are well reimbursed. However, there is a disincentive to accept serious cases because they can hinder performance metrics, which is particularly problematic when benchmarking hospital mortality rates and performance to other institutions.

As a means of expansion, telemedicine is very effective in giving the hospital a far geographic reach. The administrator at Hospital A suggests that telemedicine programs can extend indefinitely so long as the relationship between severity of illness and patient willingness to travel is present.
III. Profile B

Neuroscience Program Builds Regional Presence through Serving Communities

**Neuroscience Program at Hospital B Serves Wide Geographic Region through Large Telehealth Network**

The neuroscience program at Hospital B expands across a 7-hospital health system in the Midwest region and offers comprehensive brain, spine, and stroke care. Neurological services include neuro-oncology, cognitive neurology, neurovascular services, epilepsy, rehabilitation, stroke care, and an ALS clinic. Perhaps the most notable component of the neuroscience program is the health system’s pioneer telestroke network. Comprised of two hub hospitals and 17 spoke hospitals, the telemedicine program is the first in the state to provide stroke care across the region using such advanced technology.

**Multi-Pronged Approach Used for Regionalization**

Hospital B’s strategy for creating a regional presence is to build platforms whereby physicians can treat patients in their respective communities. Accordingly, Hospital B’s health system contains eight member hospitals that provide care across 46 counties. To establish such a pervasive network, Hospital B has employed the following:

- Large System of Affiliate Hospitals
- State-wide Satellite Clinics
- Outreach to High-Demand Populations
- Telehealth Network

**Large System of Affiliate Hospitals**

Hospital B has built a large system of both member and affiliate hospitals to increase their presence throughout the state. Member hospitals are fully owned by Hospital B’s health system whereas affiliate hospitals are independently owned but can leverage the health system’s resources. These relationships are mutually beneficial for the affiliate hospitals and the greater health system. Hospital B is able to tap into a pool of referrals and expand its presence in the region while the affiliate hospitals utilize Hospital B’s management resources, group purchasing power, and care protocol best practices.

Building such an expansive network is certainly fruitful for Hospital B, however the administrator emphasized that regionalization strategies are driven by the importance of community stewardship. With a convoluted health care system, smaller hospitals can benefit greatly by the operational support provided by a large health system like Hospital B.

**State-wide Satellite Clinics**

Through the use of satellite clinics, physicians at Hospital B are able to treat patients in farther geographic regions. The purpose of these clinics is to provide care in a patient’s community so that they can remain as close to home as possible. To do this, Hospital B physicians lease hospital space and conduct general neurology clinics in areas not served by Hospital B. From a staffing standpoint, one neurologist is dedicated to outreach while the others split their time. Neurologists provide general neurology consults on-site. The program is not intended to do on-site surgeries, rather more complex and specialized cases should be referred to Hospital B. This allows physicians to treat patients in their communities, but also bring business to Hospital B. As health network continues to expand its base of member and affiliate hospitals, satellite surgery offerings are a potential.

The next step in the satellite clinic program is to offer sub-specialty services. Hospital B intends to identify populations with high disease prevalence and hold regular, disease-specific
clinics. For example, if they notice that a particular region has a high incidence of Parkinson’s disease, a sub-specialist will conduct monthly clinics in that town. As there are such few sub-specialist providers, it is important to ensure that there is a demand for disease-specific clinics before implementation.

**Outreach to High-Demand Populations**

Satellite clinics are intended for consults, however Hospital B does provide offer some inpatient services at member hospitals. As there is a high demand for neurologists, and so few neurologists, Hospital B will send physicians to hospitals where many patients could benefit from inpatient work in order to mitigate physician shortages. This outreach is only conducted if there is an obvious need for the inpatient services.

**Telehealth Network**

By building a stroke network, Hospital B has created another platform for visibility. The stroke network program gives regional hospitals a partner in care and allows them to keep patients in their respective neighborhoods. However, when patients are treated via the stroke network, they are more apt to come to Hospital B for other reasons.

While telehealth networks are effective means of regionalization, there are many obstacles to implementation. Because reimbursements and compensation vary across states, there are many legal barriers. In addition, gaining physician compliance can be challenging. However, telemedicine has the opportunity to address forecasted neurologist shortages by maximizing the capabilities of the workforce.

**Accessibility of Neuroscience Physicians Impacts Travel Time**

The administrator at Hospital B suggested that patients seeking neurological services are more inclined to travel far distances to receive treatment than for other service lines. As neuroscience offerings require a tremendous amount of technical skill and expertise, patients have a tendency to seek the most prestigious physicians in the field.

In addition, accessibility and availability of neurologists and neurosurgeons impacts how far patients are willing to travel for treatment. For example, if there is an abundance of orthopedic surgeons in a region, a patient will be less inclined to travel far distances for a spine surgery. Because there is generally a low supply of neurologists and neurosurgeons, patients are more likely to travel for these services.
IV. Profile C

Hospital C Offers Comprehensive Neuroscience Services through Large, Skilled Labor Force

The neuroscience program at Hospital C is part of a 500-bed academic medical center in the Midwest. Hospital C recently reinstated a dedicated, interdisciplinary neuroscience service line which includes the following departments:

- Neurosurgery
- Neurology
- Otolaryngology
- Neuropathology
- Neuropsychiatry
- Neuroanesthesiology
- Neuro-interventional services
- Neurophysiology
- Rehabilitation Services

With such wide scope of specialty services, Hospital C employs over forty physicians with niche sub-specialties. In addition, the nationally recognized Stroke Network is growing its system of regional hospitals in order to provide care to patients in farther geographic regions.

Cost-Effective Market Outreach Strategies Enable Success

At Hospital C, an emphasis is placed on market outreach strategies that are cost-effective. The neuroscience health system administrator noted that most hospitals employ similar marketing techniques; therefore, the return on investment for marketing should be an important consideration. Market outreach at Hospital C involves a combination of the following strategies:

- General Advertising
- Physician Targeted Marketing with Emphasis on
- Expansive Telestroke Network
- Outreach to High-Demand Populations

General Advertising

Hospital C invests in general advertising techniques such as print, commercials, and billboards. Advertising is important for branding purposes, but is not as effective in attracting volumes since most hospitals use similar advertising strategies. Therefore, Hospital C advertises minimally, leveraging key statistics such as U.S. News and World Report rankings, but does not find this to be the most cost-effective means for growing their program.
Physician Targeted Marketing with Emphasis on Specialists

Marketing directly to physicians is an important strategy for increasing the number of referrals to Hospital C. Physician marketing can be targeted at general providers such as primary care physicians and neurologists, or at more specialized providers such as neurosurgeons.

Marketing to generalist providers can be effective because they are likely to turn to large hospital systems to handle administrative burdens such as reimbursements and malpractice insurance. While it is important for Hospital C to continuously expand its network among primary care providers and neurologists, administrators have found that it is increasingly difficult to get these referrals, as many providers in their market have already aligned with a hospital or health system. Additionally, as a comprehensive neuroscience program, Hospital C seeks tertiary care referrals that bring in more lucrative cases, rather than basic cases.

Therefore, Hospital C finds it most effective to market directly to specialists, particularly neurosurgeons. Hospital C reaches out to surgeons in suburban, community hospitals and communicates that they are willing to take more complex cases that the hospitals may not have the capacity or expertise to treat.

Expansive Telestroke Network

Hospital C employs a traditional hub and spoke model for their Stroke Network. The telestroke network is comprised strictly of hospitals within Hospital C’s greater health system; however, administrators see collaborating with outside hospitals as an opportunity to grow the neuroscience program and provide care to a higher volume of patients in varying geographic regions. Additionally, the Stroke Network is a means to acquire more tertiary care referrals from other hospitals within the health system.

Correlation between Complexity, Debility of Disorder and Travel Time

The administrator at Hospital C suggests that there is a high correlation between the level of complexity of a disorder and how far patients are willing to travel for treatment. For more routine services, such as otolaryngology procedures, patients will likely seek care from local providers. However, for more complex and rare cases, such as tumor resection, people have a greater willingness to travel.

The extent to which an illness impairs a person’s daily functioning is another important consideration. When patients are not adequately treated for debilitating conditions, they are likely to turn to bigger, more skilled institutions. For example, a patient suffering from unresolved migraines may travel farther to seek treatment, despite migraines not requiring particularly advanced technology or complex infrastructure for care.