

# The Challenge of Neuroscience Growing Pains: Optimizing Patient Flow

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# The Challenge of Neuroscience Growing Pains: Optimizing Patient Flow

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## Abstract

One Magnet hospital faced growing pains in response to accelerated growth in the neuroscience service line. In an effort to increase community access to specialized care, patient throughput came more into focus. Historically, capacity in the neuroscience intensive care unit exceeded the available number of beds. This disparity impacted the flow out of the Emergency Department and post-operative recovery units. Faced with patient flow gridlock, the decision was made to develop a neuroscience transition unit that would have a reduced nurse-patient ratio with specially trained nurses as a means to improve throughput. The strategic plan was to designate four transitional beds on a medical-surgical neuroscience unit, offering an improved nurse-patient ratio while providing advanced care outside an ICU setting. This presentation outlines strategies needed to develop a transition unit within the financial and structural framework of an existing unit, which include budget, admission-discharge criteria, education, and provider and logistic support.

## Objectives

- Explore causation of expanding neuroscience patient population needs and the challenges of patient flow.
- Discuss the specialized care required by neuroscience patients and the need for advanced nursing education through didactic and simulation training.
- Outline steps needed to develop and implement a transition unit, focusing on admission-discharge criteria, budget, staffing, and inter-professional collaboration.

## Model Infrastructure

### Business Plan

- Allocation of Bed Source
  - 4 beds designated on medical-surgical neuroscience unit for higher acuity patients
- Admission/Discharge Criteria
- Adjusted Labor Hours and Dollars
  - 1:4 patient ratio for transitional beds
- Equipment Capital Expenditures
  - Monitoring equipment
- Staff Development

### Inter-Professional Collaboration - Stakeholders

- Nursing
  - Neurologists
  - Neurosurgeons
  - Critical Care Intensivists
  - Hospitalists
- Executive Leadership
- Patient Logistics/Bed Management
- Division of Education

### References:

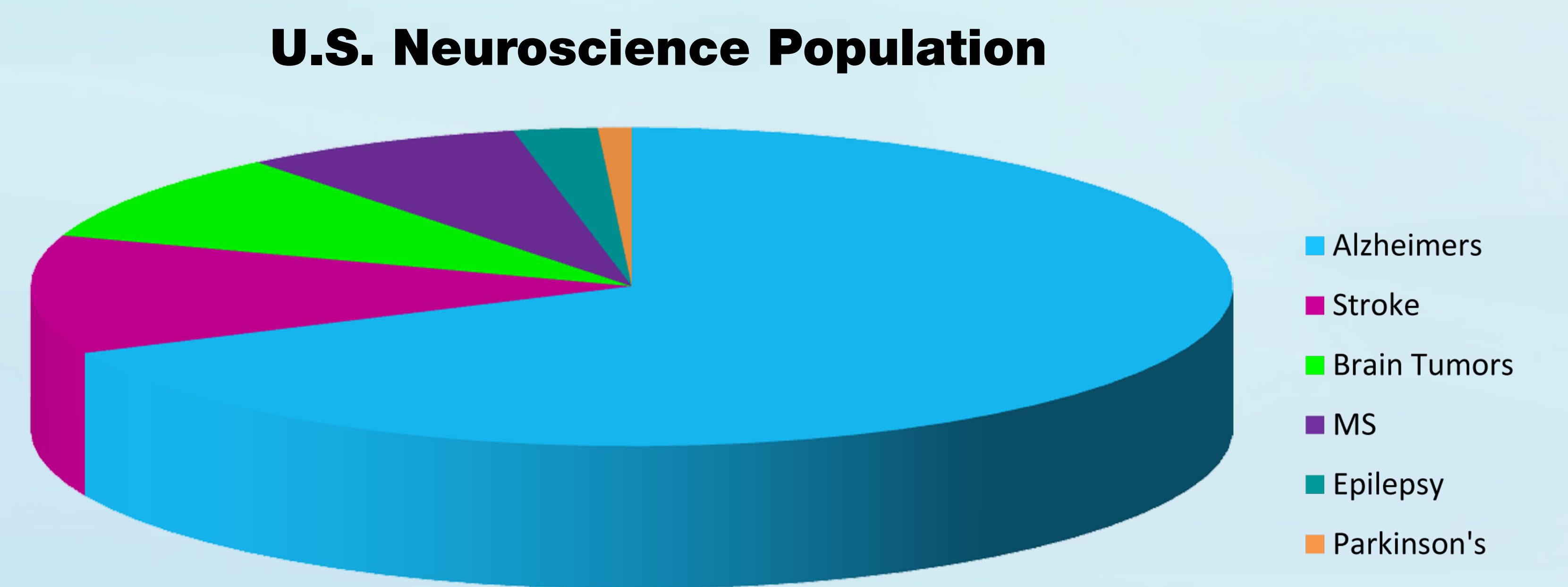
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## Staff Development

- Didactic Presentations – 4 hours
  - Brain Anatomy
  - Hemorrhagic Vascular Pathology of the Brain
  - Care of the Post-Operative Neurosurgical Patient
  - Neuromuscular and Neurodegenerative Diseases
- Simulations – 4 hours
  - Vasospasm
  - Epileptic seizure management
  - Lumbar drain management
- Pocket Guide Book
- Reference Book on Unit

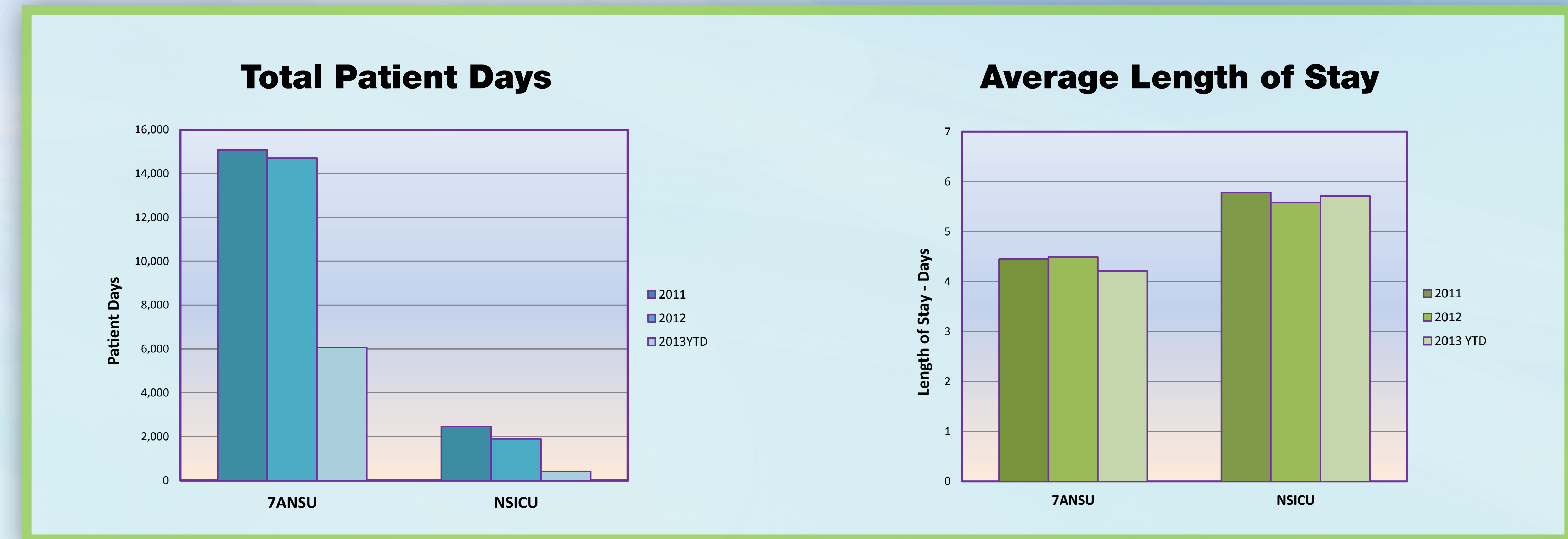


## Outcomes



### Admission Criteria

Defined Surgical Patients	Non-Operative Patients	Neurological Autoimmune Diseases	Specialized Monitoring
Brain Biopsy	Stroke - 24 <sup>h</sup> post tPA	Guillain Barre	Lumbar Drain
Stable Craniotomy	TIA - ABCD > 4	Myasthenia Gravis	Continuous Video EEG
VP Shunt	Non-intervention High Risk Stroke		
Transphenoidal Hypophysectomy	Stable SAH/ICH		
High Risk Spine	Select Hydrocephalus High Risk Brain Tumor		



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