

## Leadership Connection 2018 (15-18 September)

### A Case Study of the Stroke Continuum of Care in an Urban Neighborhood

**Thomas Cannell, MA<sup>1</sup>**

James N. Shea, BA<sup>2</sup>

Gregory Thompson, BA<sup>2</sup>

(1) College of Nursing, SUNY Downstate Medical Center, Brooklyn, NY, USA

(2) SUNY Downstate Medical Center, Brooklyn, NY, USA

*Background:* Stroke is a leading cause of death and disability in the United States. Approximately 800,000 people suffer a stroke annually and 140,000 people die as a result (Yang et al., 2017). One out three patients is either dead or functionally dependent on caregivers three months following a stroke (Bettger et al., 2017). Stroke incidence and mortality are higher among Black and Hispanic Americans and patients of low socioeconomic status suffer higher mortality and greater disability following a stroke ((Bettger et al., 2014; Yang et al., 2017).

Rates of stroke mortality improved substantially for decades, driven by the increasing effectiveness of inpatient treatment for acute stroke, in particular fibrinolytic treatment for ischemic stroke in the 1990s, and improvements in population rates of smoking and blood pressure control (Ormseth, Sheth, Saver, Fonarow, & Schwamm, 2017; Yang et al., 2017). However, progress on stroke mortality began to stall or reverse in 2013, with worse outcomes concentrated among Black and Hispanic patients (Yang et al., 2017). The Centers for Disease Control and Prevention has called on hospital systems to respond to this trend by improving care coordination across stroke systems of care (Yang et al., 2017).

Thomas Bodenheimer framed an influential definition of care coordination in a landmark 2008 article in which he described the root causes of care fragmentation as a) weak primary care unable to coordinate treatments for patients b) fee-for-service payment rewarding isolated episodes of care rather than patient-centered collaboration c) Poor communication between providers, driven by lack of collaboration and poor EHR interoperability (Bodenheimer, 2008). This framework drew on Naylor's development of the Transitional Care Model as a best practice for nursing care to improve coordination across discharge (M. D. Naylor et al., 2011; M. Naylor & Keating, 2008).

There is expert consensus that a lack of coordination is an important problem in the prevention and treatment of stroke (Broderick & Abir, 2015). However, a meta-analysis of care coordination efforts for stroke in the United States found that less than half had a positive impact on readmissions or adverse events (Puhr & Thompson, 2015). With best practices uncertain, there is enormous variation across hospital networks in terms of the intensity and type of care coordination models in place, ranging from none to multiple overlapping models (Abir et al., 2015).

*Aims:* This research responds to the call from a lead editorial in the journal *Neurology* which declared: "understanding the existing flow (of stroke patients) is an important first step in determining where stroke care can be improved ((Majersik & Youngquist, 2018)." To approach this understanding, the research will apply the case study method to describe the organization, delivery and financing of the process of care for stroke organized around a hospital in an urban neighborhood. By assembling a case study from interviews with health care providers and administrators across the continuum of care for stroke, the researchers aim to identify diverse perspectives on opportunities to improve continuity of care, and explore the dynamics and intentions that lead to discontinuity and missed opportunities for improvement (Yin, 2009).

*Methods:* This research is a descriptive phenomenological case study with providers and stakeholders involved in the continuum of stroke care at the hospital. Ten to fifteen providers and stakeholders will be recruited through snowball sampling beginning with the coordinating nurse of the Stroke Center. Data collection will consist of semi-structured interviews with participatory diagramming of the stroke continuum

of care (Umoquit, Tso, Burchett, & Dobrow, 2011). The interviews will be guided by a instrument that has been developed with input from content experts and Bodenheimer and Naylor's care coordination frameworks (Bodenheimer, 2008; M. D. Naylor et al., 2011). The analysis plan is a thematic analysis using Colaizzi's 8-step method to identify fundamental structures (Wirihana et al., 2018). Data analysis will rely on peer debriefing to promote dependability, credibility and confirmability. The credibility of data will be maximized through prolonged engagement, comprehensive field notes and participant validation (Yin, 2009).

*Implications:* The findings from this study may generate insights and hypotheses on the barriers to care coordination and system dynamics related to stroke care and prevention. These insights and hypotheses may contribute to the development of future quantitative research on coordination of care for stroke. In addition, these insights may assist health care systems in urban neighborhoods to tailor care coordination models to overcome fragmentation in the care for stroke and improve outcomes in the urban context.

---

**Title:**

A Case Study of the Stroke Continuum of Care in an Urban Neighborhood

**Keywords:**

continuity of care, population health and stroke

**References:**

- Abir, M., Vickrey, B. G., Koegel, P., Broderick, J. P., Suter, R., Watson, S. R., ... Barsan, W. G. (2015). Abstract W P274: Characterizing The "Universe" Of Transitional Care Programs For Stroke Survivors In The United States. *Stroke*, *46*(Suppl 1). Retrieved from [http://stroke.ahajournals.org/content/46/Suppl\\_1/AWP274.short](http://stroke.ahajournals.org/content/46/Suppl_1/AWP274.short)
- Bettger, J. P., Thomas, L., Liang, L., Xian, Y., Bushnell, C. D., Saver, J. L., ... Peterson, E. D. (2017). Hospital Variation in Functional Recovery After Stroke. *Circulation: Cardiovascular Quality and Outcomes*, *10*(1), e002391. <http://doi.org/10.1161/CIRCOUTCOMES.115.002391>
- Bettger, J. P., Zhao, X., Bushnell, C., Zimmer, L., Pan, W., Williams, L. S., & Peterson, E. D. (2014). The association between socioeconomic status and disability after stroke: Findings from the Adherence eValuation After Ischemic stroke Longitudinal (AVAIL) registry. *BMC Public Health*, *14*(1), 281. <http://doi.org/10.1186/1471-2458-14-281>
- Bodenheimer, T. (2008). Coordinating Care — A Perilous Journey through the Health Care System. *New England Journal of Medicine*, *358*(10), 1064–1071. <http://doi.org/10.1056/NEJMhpr0706165>
- Broderick, J. P., & Abir, M. (2015). Transitions of Care for Stroke Patients: Opportunities to Improve Outcomes. *Circulation. Cardiovascular Quality and Outcomes*, *8*(6 Suppl 3), S190-2. <http://doi.org/10.1161/CIRCOUTCOMES.115.002288>
- Majersik, J. J., & Youngquist, S. T. (2018). Mass migration of stroke populations: For better or worse, away they go. *Neurology*, *90*(18), 10.1212/WNL.0000000000005428. <http://doi.org/10.1212/WNL.0000000000005428>
- Naylor, M. D., Bowles, K. H., McCauley, K. M., Maccoy, M. C., Maislin, G., Pauly, M. V., & Krakauer, R. (2011). High-value transitional care: translation of research into practice. *Journal of Evaluation in Clinical Practice*, *19*(5), no-no. <http://doi.org/10.1111/j.1365-2753.2011.01659.x>

Naylor, M., & Keating, S. A. (2008). Transitional care. *The American Journal of Nursing*, 108(9 Suppl), 58–63; quiz 63. <http://doi.org/10.1097/01.NAJ.0000336420.34946.3a>

Ormseth, C. H., Sheth, K. N., Saver, J. L., Fonarow, G. C., & Schwamm, L. H. (2017). The American Heart Association's Get With the Guidelines (GWTG)-Stroke development and impact on stroke care. *BMJ*, 2(2), 94–105. <http://doi.org/10.1136/svn-2017-000092>

Puhr, M. I., & Thompson, H. J. (2015). The Use of Transitional Care Models in Patients With Stroke. *Journal of Neuroscience Nursing*, 47(4), 223–234. <http://doi.org/10.1097/JNN.0000000000000143>

Umohit, M. J., Tso, P., Burchett, H. E., & Dobrow, M. J. (2011). A multidisciplinary systematic review of the use of diagrams as a means of collecting data from research subjects: application, benefits and recommendations. *BMC Medical Research Methodology*, 11(1), 11. <http://doi.org/10.1186/1471-2288-11-11>

Wirihana, L., Welch, A., Williamson, M., Christensen, M., Bakon, S., & Craft, J. (2018). Using Colaizzi's method of data analysis to explore the experiences of nurse academics teaching on satellite campuses. *Nurse Researcher*, 25(4), 30–34. <http://doi.org/10.7748/nr.2018.e1516>

Yang, Q., Tong, X., Schieb, L., Vaughan, A., Gillespie, C., Wiltz, J. L., ... George, M. G. (2017). Vital Signs: Recent Trends in Stroke Death Rates — United States, 2000–2015. *MMWR. Morbidity and Mortality Weekly Report*, 66(35), 933–939. <http://doi.org/10.15585/mmwr.mm6635e1>

Yin, R. K. (2009). *Case Study Research. Design and Methods*. Sage. <http://doi.org/10.1007/BF01103312>

### **Abstract Summary:**

Through a case study method employing interviews with health service providers, researchers describe the organization, financing and design of stroke care and prevention services in an urban neighborhood, with the goal of identifying barriers to improved care coordination and opportunities to improve outcomes.

### **Content Outline:**

1. Background
  1. Stroke Epidemiology
    1. Stroke is a leading cause of death and disability in the United States
    2. Stroke outcomes are more common and more severe for Black and Hispanic Americans and Americans of lower socioeconomic status
    3. After decades of steady decline, stroke mortality rates have either stalled or risen since 2013, particularly among Black and Hispanic patients.
    4. The Centers for Disease Control and Prevention has identified poor care coordination as a route to improve care for stroke
  2. Overview of Care Coordination
    1. Bodenheimer defines care coordination as a programmatic response to care fragmentation, which is rooted in:
      1. weak primary care
      2. fee-for-service payment
      3. poor communication between providers
    2. Naylor has developed the Transitional Care Model as a best practice for nursing care to improve coordination
    3. There is no definitive evidence-base on how to apply transitional care/care coordination models to stroke care
    4. There is enormous variation in the intensity and type of care coordination models in place across different hospital systems

2. Aims
  1. This research will apply the case study method to describe the organization, delivery and financing of the process of care for stroke in the community around an urban hospital
  2. The case study method is designed to create insights into internal dynamics and diverse perspectives within a system
3. Methods
  1. The population for this study will be ten to fifteen providers and stakeholders in the system of stroke care at an urban hospital
  2. Data collection will consist of semi-structured interviews with participatory diagramming of the stroke continuum of care, guided by an instrument derived from Bodenheimer and Naylor's frameworks
  3. The analysis plan is a thematic analysis using Colaizzi's 8-step method with measures to promote dependability, credibility and confirmability derived from Yin's Case Study Method
4. Implications
  1. Findings from this study may contribute to the development of future quantitative research and evaluation of care coordination for stroke
  2. Findings from this study may assist health systems in urban neighborhoods to tailor care coordination models to their context

First Primary Presenting Author

***Primary Presenting Author***

Thomas Cannell, MA  
SUNY Downstate Medical Center  
College of Nursing  
Nursing Student  
Brooklyn NY  
USA

**Professional Experience:** I worked for the New York City Department of Health and Mental Hygiene in the Division of Health Care Access and Improvement with a focus on coordinating care between primary community-based programs to prevent hypertension and diabetes. I will graduate with a BSN in Nursing from SUNY Downstate College of Nursing in August 2018

**Author Summary:** Mr. Cannell worked for the Health Department in New York City for seven years, rising to become the Director for Health Care System Partnerships. He has a BA in History of Medicine from Yale, an MA in Religion from the University of KwaZulu-Natal and a BSN in Nursing from Suny Downstate

Second Secondary Presenting Author

***Corresponding Secondary Presenting Author***

James N. Shea, BA  
SUNY Downstate Medical Center  
Nursing Student  
Brooklyn NY  
USA

**Professional Experience:** James Shea is a recent graduate of SUNY Downstate College of Nursing, where he has completed work on the stroke system of care. He is a Registered Polysomnography Technologist at the Northport Veterans Affairs Medical Center in the Sleep Disorders Center.

**Author Summary:** James Shea works at Northport Veterans Affairs Medical Center in the Sleep Disorders Center as a Registered Polysomnography Technologist. He has a BA from Stony Brook University and a BSN from SUNY Downstate College of Nursing

Third Author

Gregory Thompson, BA  
SUNY Downstate Medical Center  
Nursing Student  
Brooklyn NY  
USA

**Professional Experience:** Gregory Thompson graduated with a BSN in Nursing from SUNY Downstate Medical Center where he completed research on the stroke system of care. He has a BA from SUNY Old Westbury in Political Science and has worked in material processing at North Shore University Hospital.

**Author Summary:** Gregory Thompson graduated with a BSN in Nursing from SUNY Downstate Medical Center where he completed research on the stroke system of care. He has a BA from SUNY Old Westbury in Political Science and has worked in material processing at North Shore University Hospital.