CLOSING THE GAP AFTER REHAB: AN APP-LED TRANSITIONAL CARE CLINIC

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INTRODUCTION AND BACKGROUND

- Discharge home versus discharge to rehabilitation facilities
  - Advantages and disadvantages
- Difficulties faced by patients discharged to rehabilitation facilities
  - Nuanced, more challenging
- Effects of readmission
  - Patients, family, healthcare organization, healthcare systems, insurance companies
- Transitional care clinics
  - Effective and efficient

THE TEAM

- Advisor: Dr. Beth Quatrara
- Practice Mentor: Dr. Sarah Chadwell (Neurocritical Care Clinic Lead)
- Second Reviewer: Dr. Sharon Bragg
- Additional Team Members: Neurocritical Care APP Team, Stroke Team, Dr. Bill Lombardi, UVA Encompass Team- Dr. Regan Royer, Dr. Aileen Giordano, Keri Johnson

FRAMEWORK: IHI PDSA

- Plan
  - What are we trying to accomplish?
  - Do we understand the problem and current state?
  - How do we know if the change is an improvement?
- Do
  - Develop Implementation
- Study
  - Review results, adjust as needed
- Act
  - Reflect on plan
  - Disseminate results

WHAT ARE WE TRYING TO ACCOMPLISH?

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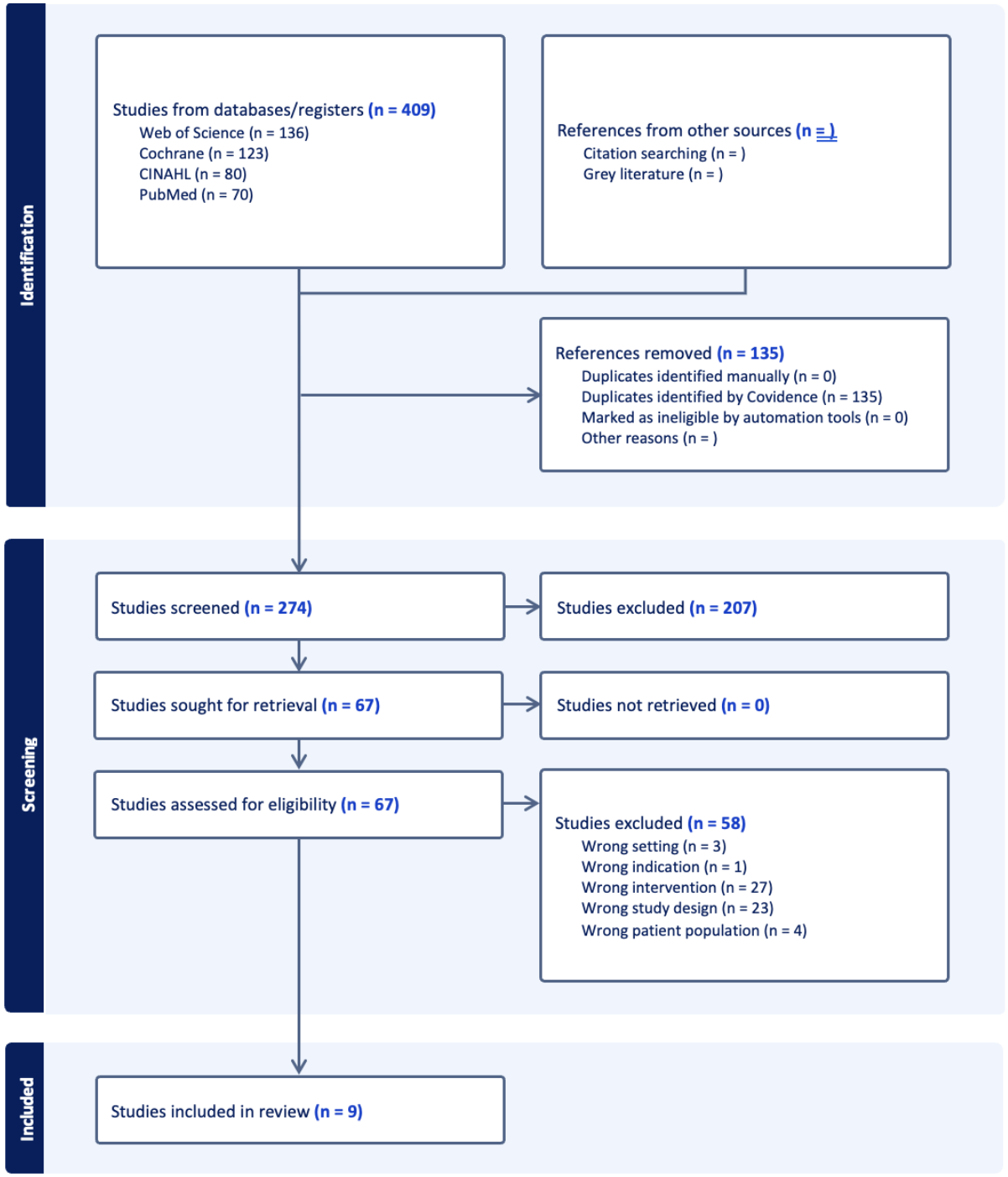
PROBLEM

- A gap in care for neurocritical care patients admitted with hemorrhagic stroke and discharged to rehab and then home
  - 35 % readmission rate
  - No transitional care
  - Comparison: no readmissions for patients with transitional care

DESCRIBE THE PROBLEM

- Databases
  - Publisher Medline (PubMed), Cumulative Index to Nursing and Allied Health Literature (CINAHL), Web of Science and Cochrane Library.
- Search Terms
  - “transition care OR transitional care”, “rehab OR rehabilitation”, “after discharge” used as keywords.
  - “(transition care OR transitional care) AND (rehab OR rehabilitation) AND after discharge”.
- Limitations
  - English only, conducted in the United States

PRISMA Diagram



EVIDENCE APPRAISAL

- Johns Hopkins Nursing Evidence-Based Practice Evidence Appraisal Tool
- Level 1
  - One A Quality
  - One B Quality
- Level 2
  - One A Quality
  - One B Quality
- Level 3
  - Three A Quality
- Level 5
  - One A Quality
  - Two B Quality

Year	Study Purpose	Study Design	Level of Evidence	Evidence Sort
2022	Examine effectiveness of facility-based transitional care programs (TCPs) on functional status, patient and health services, and discharge to home rates	Systematic Review	1	A
2017	Demonstrate feasibility of implementing a community participation intervention during the transition from rehabilitation to home	Randomized Controlled Trial	1	B
2018	Determine whether patients that completed a post-discharge transition clinic visit were less likely to be readmitted in 30 days	Retrospective coss-sectional	2	A
2021	Determine feasibility of implementing nurse-driven transitions of care program with secondary outcome of impact on patients and length of stay	Prospective randomized pilot Study	2	B
2018	Investigate if TCM services affected subsequent health care costs and mortality	Retrospective Cohort Study	3	A
2023	Determine which characteristics affect rates/ability to adopt posthospitalization behaviors associated with adequate transition of care	Retrospective Cohort Study	3	A
2020	Identify and understand factors that affect patient attendance of postacute transitional care clinic visits	Retrospective Cohort Study	3	A
2023	Discuss current state of the care continuum and identify opportunities for improvement in the need of continuity of care for neurocritical patients	Scoping Review	5	B
2019	Inform the development, evaluation and implementation of the post-acute care community transition	Scoping Review	5	A
2020	Assess effectiveness of intermediate care, which included transitional care, for middle-aged and older adults with a focus on function, healthcare utilization, and costs.	Scoping Review	5	B

LITERATURE THEMES

- Transitional Care Clinic Appointments
  - Made before or at discharge, with specialty focus
  - Significant qualitative impacts
  - Reduce costs and re-admissions
  - Increase ability to perform activities of daily living (ADLs)
- Effect of Rehabilitation Disposition on Transition
  - Increased difficulty in transitioning to home
  - Increased length of stay
  - Decreased access to transitional care resources

DO WE UNDERSTAND THE CURRENT STATE?

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CURRENT STATE

- Advanced Practice Provider (APP) clinic for patients discharged to home from neurocritical care services with hemorrhagic stroke diagnoses
  - Did not include patients discharged to rehab
- Clinic visit scheduled for 1-2 weeks after discharge
- Address transition needs, review medications and adjust as needed, perform neurological exam and assessment, follow up on referrals, place new referrals as needed.

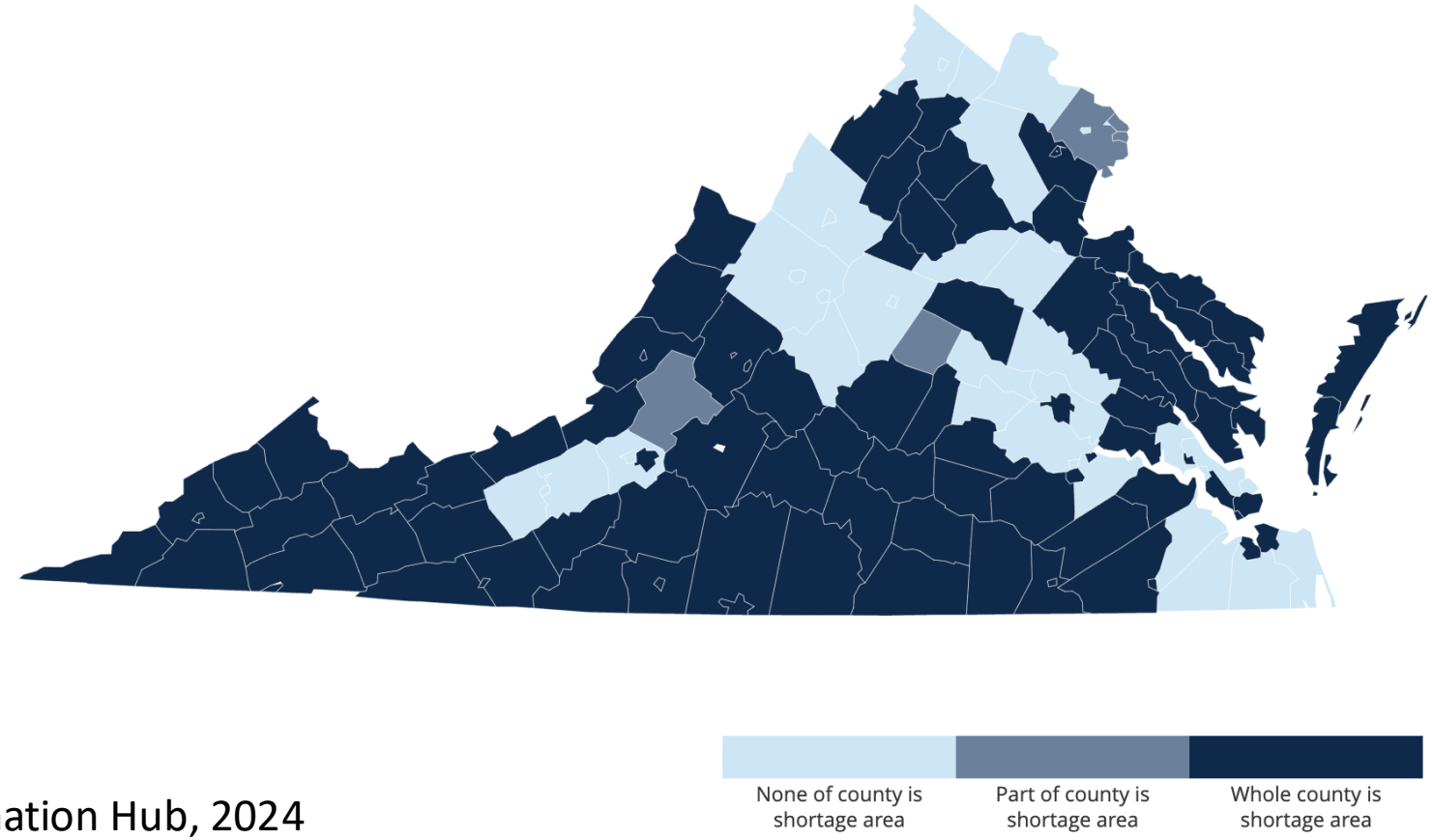
CURRENT STATE

- Primary Care/Specialty Neurology Provider Shortage
  - Access to care, patient outcomes, provider satisfaction (Majersik, et al., 2021)
- Higher need for specialty transitional care
- Delays in care

Figure 1
State Variation in the Supply of Primary Care Physicians (PCPs)

Source: Health Resources and Services Administration 2008 Area Resource File

PRIMARY CARE SHORTAGES FOR VIRGINIA



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IS THE CHANGE AN IMPROVEMENT?

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DETERMINE MEASURES

- Process Outcomes
- Structure Outcomes

IMPLEMENTATION

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PROCESS AND STRUCTURE

- Building upon current hemorrhagic stroke process
  - Academic medical center and associated local rehabilitation facility
  - Collaboration with Stroke NP
  - Discharge process and notification of Clinic Team
  - Multidisciplinary networking; Rehabilitation MD/Case Management

PROCESS AND STRUCTURE

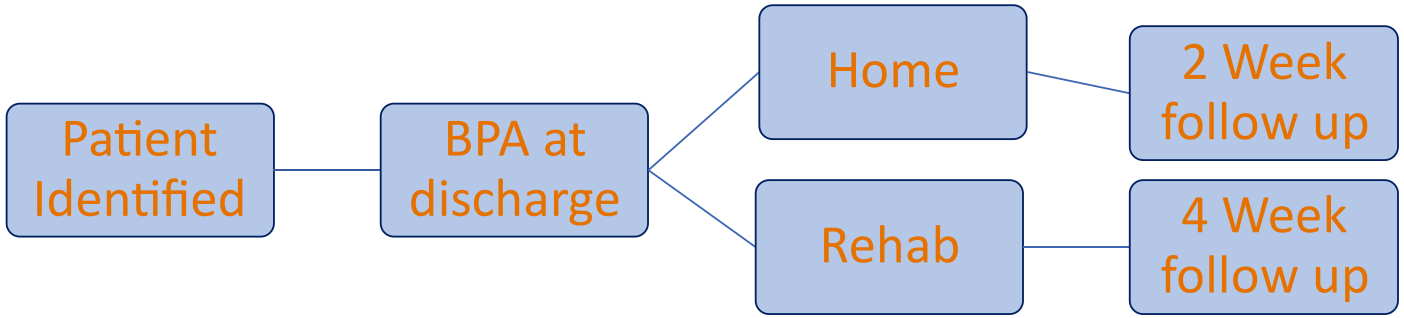
- Develop automated system for identifying qualified patients
  - Smart Phrase
  - Best Practice Alert
- Sharing relevant notes/events through advanced EHR
  - Discharge Summary

PROCESS DETAILS

- Sustainability
  - Partial FTE for clinic lead
- Additional Resources
  - Case management assistance

REVIEW RESULTS

- Communication
  - Stakeholders
  - Intra-professional discussion
- Technological Advances
  - Care Everywhere
  - Best Practice Advisory
- Case Reports



End State: An APP-led transitional care clinic that bridges the gap between acute hospitalization, rehabilitation, and home

FINANCIAL ANALYSIS

Revenue	Notes	Unit Cost	# Units	Total Cost
CPT Code 99213	Mid-level decision making for outpatient visit for established patient	$90.88	50	$4,544.00
CPT Code 99214	High-level decision making for outpatient visit for established patient	$126.07	15	$1,891.05
Total Revenue				**$6,435.05**
		Year 1		
Cost Avoidance	Notes	Unit Cost	# Units	Total Cost
Prevention of readmission penalty	3% of 30,000 (average cost of inpatient admission for neurological disorder without surgical intervention)	$900.00	24	$21,600.00
Total Cost Avoidance				**$21,600.00**
		Year 1		
Expenses	Notes	Unit Cost	# Units	Total Cost
Outpatient Module Training	EPIC Module for outpatient charting, required of each APP in clinic. One hour	$30.00	8	$240.00
Clinic Staff	0.1FTE	$30.00	4	$120.00
Total Expenses				**$360.00**

Net Revenue	$27,675.05
Return on Investment	7688%

ETHICS AND SOCIAL DETERMINANTS OF HEALTH

- Ethical Considerations
  - Autonomy, Beneficence, Justice
- SDOH
  - Population Health Statistics

ACT: DISSEMINATE RESULTS

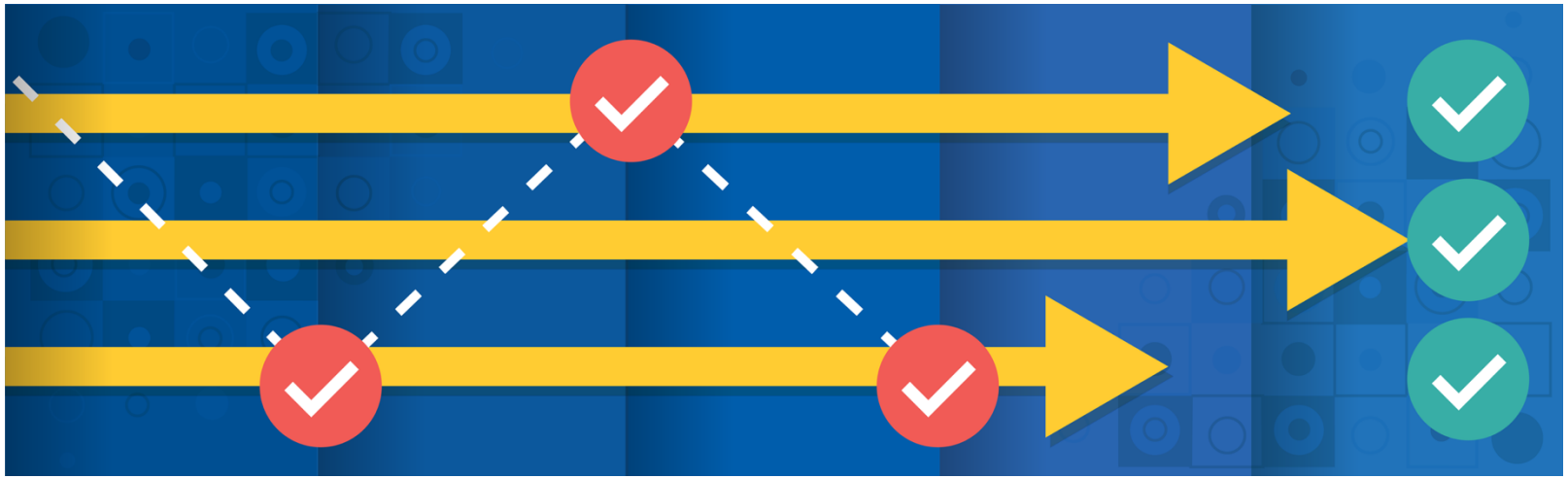
- DNP Presentation
- State/National Conferences
- Poster Presentations
- Publish Manuscript

CLINICAL EXPERTISE
NURSING PRACTICE
SYSTEMS INNOVATION
NACNS
National Association of Clinical Nurse Specialists

TriService Nursing Research Program
19 92

NEXT STEPS

- Measured outcomes for the future
  - Re-admission rates
  - Appointments made on time
  - Clinic attendance



QUESTIONS?

REFERENCES

- Ader, J., Agarwal, S., & Naqvi, I. A. (2023). The Need for Continuity of Care in Neurocritical Care and Recovery. *Current Treatment Options in Neurology, 25*(11), 455–467. https://doi.org/10.1007/s11940-023-00768-1
- Agency for Healthcare Research and Quality. *Quality Improvement | Agency for Healthcare Research and Quality*. (n.d.). Retrieved April 21, 2024, from https://www.ahrq.gov/topics/quality-improvement.html
- Baecker, A., Meyers, M., Koyama, S., Taitano, M., Watson, H., Machado, M., & Nguyen, H. Q. (2020). Evaluation of a Transitional Care Program After Hospitalization for Heart Failure in an Integrated Health Care System. *JAMA Network Open*, *3*(12), e2027410. https://doi.org/10.1001/jamanetworkopen.2020.27410
- Baldwin, S. M., Zook, S., & Sanford, J. (2018). Implementing Posthospital Interprofessional Care Team Visits to Improve CareTransitions and Decrease Hospital Readmission Rates. *Professional Case Management*, *23*(5), 264. https://doi.org/10.1097/NCM.0000000000000284
- Bindman, A. B., & Cox, D. F. (2018). Changes in Health Care Costs and Mortality Associated With Transitional Care ManagementServices After a Discharge Among Medicare Beneficiaries. JAMA Internal Medicine, 178(9), 1165–1171. https://doi.org/10.1001/jamainternmed.2018.2572
- Chakravarthy, V., Ryan, M. J., Jaffer, A., Golden, R., McClenton, R., Kim, J., Press, I., & Johnson, T. J. (2018). Efficacy of a Transition Clinic on Hospital Readmissions. The American Journal of Medicine, 131(2), 178-184.e1. https://doi.org/10.1016/j.amjmed.2017.08.037
- Cumal, A., Colella, T. J. F., Puts, M. T., Sehgal, P., Robertson, S., & McGilton, K. S. (2022). The impact of facility-based transitional care programs on function and discharge destination for older adults with cognitive impairment: A systematic review. BMC Geriatrics, 22(1), 854. https://doi.org/10.1186/s12877-022-03537-y

REFERENCES

- Dong, C., Gardener, H., Rundek, T., Marulanda, E., Gutierrez, C. M., Campo-Bustillo, I., Gordon Perue, G., Johnson, K. H., Sacco, R. L., Romano, J. G., & Transitions of Care Stroke Disparities Study (TCSD-S) Investigators†. (2023). Factors and Behaviors Related to Successful Transition of Care After Hospitalization for Ischemic Stroke. Stroke, 54(2), 468–475. https://doi.org/10.1161/STROKEAHA.122.040891
- Guterman, E. L., Douglas, V. C., Shah, M. P., Parsons, T., Barba, J., & Josephson, S. A. (2016). National characteristics and predictors of neurologic 30-day readmissions. *Neurology*, *86*(7), 669–675. https://doi.org/10.1212/WNL.0000000000002379
- Halladay, J., Bushnell, C., Psioda, M., Jones, S., Lycan, S., Condon, C., Xenakis, J., Prvu-Bettger, J., & COMPASS Investigative Team. (2020). Patient Factors Associated With Attendance at a Comprehensive Postacute Stroke Visit: Insight From the Vanguard Site. Archives of Rehabilitation Research and Clinical Translation, 2(1), 100037. https://doi.org/10.1016/j.arrct.2019.100037
- Kannan, S., & Song, Z. (2023). Changes in Out-of-Pocket Costs for US Hospital Admissions Between December and January Every Year. *JAMA Health Forum*, *4*(5), e230784. https://doi.org/10.1001/jamahealthforum.2023.0784
- Kanner, A. M. (2018). Depression in Neurological Disorders: Comorbidity or Another Clinical Manifestation? In J. J. Strain & M.Blumenfield (Eds.), *Depression as a Systemic Illness* (p. 0). Oxford University Press. https://doi.org/10.1093/med/9780190603342.003.0007
- Le, S. T., Josephson, S. A., Puttgen, H. A., Gibson, L., Guterman, E. L., Leicester, H. M., Graf, C. L., & Probasco, J. C. (2017). Many Neurology Readmissions Are Nonpreventable. *The Neurohospitalist*, *7*(2), 61–69. https://doi.org/10.1177/1941874416674409

REFERENCES

- Leland, N. E., Roberts, P., De Souza, R., Hwa Chang, S., Shah, K., & Robinson, M. (2019). Care Transition Processes to Achieve a Successful Community Discharge After Postacute Care: A Scoping Review. The American Journal of Occupational Therapy: Official Publication of the American Occupational Therapy Association, 73(1), 7301205140p1-7301205140p9. https://doi.org/10.5014/ajot.2019.005157
- Majersik, J. J., Ahmed, A., Chen, I.-H. A., Shill, H., Hanes, G. P., Pelak, V. S., Hopp, J. L., Omuro, A., Kluger, B., & Leslie-Mazwi, T. (2021). A Shortage of Neurologists – We Must Act Now. *Neurology*, *96*(24), 1122–1134. https://doi.org/10.1212/WNL.0000000000012111
- McClain, J. V. I., & Chance, E. A. (2020). The Advanced Practice Nurse Will See You Now: Impact of a Transitional Care Clinicon Hospital Readmissions in Stroke Survivors. *Journal of Nursing Care Quality*, *35*(2), 147. https://doi.org/10.1097/NCQ.0000000000000414
- Michaelis, C., Hundt, E., Lombardi, W., & Howie Esquivel, J. (2023). Transitions in care: Piloting a neurocritical care clinic with nurse practitioners and physician associates. *Journal of the American Association of Nurse Practitioners*. https://doi.org/10.1097/JXX.0000000000000950
- Sezgin, D., O'Caoimh, R., Liew, A., O'Donovan, M. R., Illario, M., Salem, M. A., Kennelly, S., Carriazo, A. M., Lopez-Samaniego, L., Carda, C. A., Rodriguez-Acuña, R., Inzitari, M., Hammar, T., Hendry, A., & all EU ADVANTAGE Joint Action Work Package 7 partners. (2020). The effectiveness of intermediate care including transitional care interventions on function, healthcare utilisation and costs: A scoping review. European Geriatric Medicine, 11(6), 961–974. https://doi.org/10.1007/s41999-020-00365-4
- Stark, S., Keglovits, M., Somerville, E., Hu, Y.-L., Conte, J., & Yan, Y. (2018). Feasibility of a Novel Intervention to Improve Participation after Stroke. The British Journal of Occupational Therapy, 81(2), 116–124. https://doi.org/10.1177/0308022617736704
- Zimmerman, W. D., Grenier, R. E., Palka, S. V., Monacci, K. J., Lantzy, A. K., Leutbecker, J. A., Geng, X., & Denny, M. C. (2021). Transitions of Care Coordination Intervention Identifies Barriers to Discharge in Hospitalized Stroke Patients. *Frontiers in Neurology, 12,* 573294. https://doi.org/10.3389/fneur.2021.573294