

Hospital Improvement with Scheduling Stroke Specialty Care Follow-up Appointments

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The Gap

- For other disease states, follow-up with primary or specialty care is known to facilitate care continuity and reduce hospital readmissions
- Stroke patients are at a significant risk of discontinuous care and consequently adverse events
- Average length of stay for an acute stroke hospitalization in the U.S. is 4 days
- 85% of stroke patients are discharged from the hospital to home or to an other health care facility

STUDY OBJECTIVES

- To improve the percent of stroke patients for whom Ohio Coverdell hospitals scheduled, prior to discharge, a follow-up appointment with a neurology specialist (neurologist, neurosurgeon or neurology provider) if such appointment was ordered or recommended during hospitalization

Overview of the Ohio Coverdell Stroke Program

- Funded primarily by the U.S. Centers for Disease Control and Prevention (CDC) as part of the Paul Coverdell National Acute Stroke Registry (PCNASR) to improve the quality of acute stroke care
- ODH is one of three state health departments funded by CDC from 2012-2015 to expand PCNASR to improve the quality of stroke patients' care transitions from acute to post-acute care settings
- Statewide quality improvement program for acute stroke treatment, based on data participating hospitals report in Get With The Guidelines®-Stroke (GWTG-S), Coverdell overlay and the Ohio Special Initiatives Tab
- Hospitals participating in the Ohio Coverdell Stroke Program are dedicated to improving the quality of stroke care and transitions of care

Methods

Ohio Coverdell Stroke Program data were examined at the patient and hospital levels to determine the change in performance over a 12-month initiative:

- Quarters 1-2 were baseline (April-Sept. 2013)
- Quarters 3-4 were active process improvement (Oct. 2013-March 2014)

Active Improvement Phase

- Adapted version of the Institute for Healthcare Improvement's (IHI) Breakthrough Collaborative Model
- The Ohio Coverdell Stroke Program facilitated an initiative for hospitals to identify, plan and implement organizational processes to schedule recommended follow-up specialty care appointments for stroke patients prior to hospital discharge
- 3 full-day meetings with participating hospitals
- 6 webinars
- Customized quarterly data feedback reports to each hospital

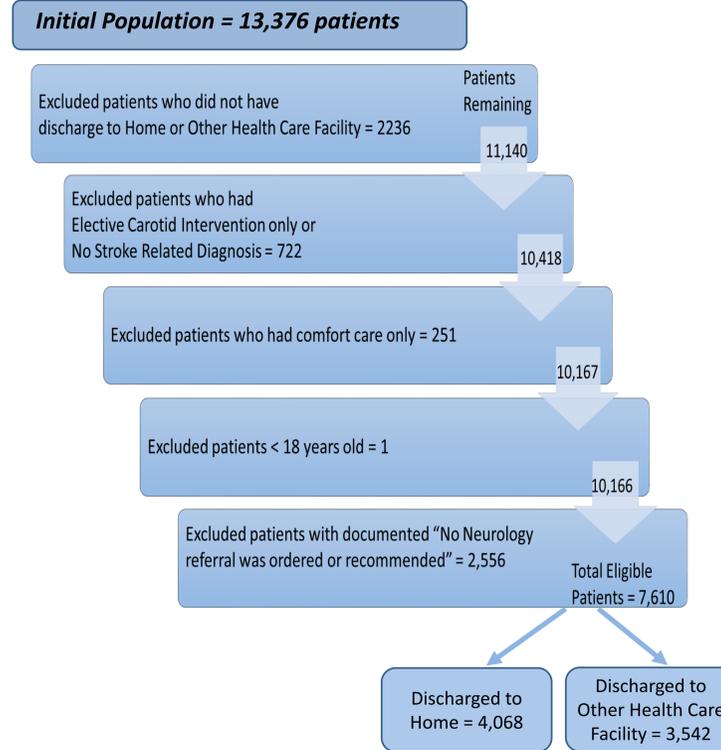
Performance Measure Criteria

Measure Name:	Follow-up with Neurology or Neurosurgery (specialty care) for patients discharged home
Description:	Percent of patients with an ischemic stroke or TIA or intracerebral hemorrhage or subarachnoid hemorrhage who have documentation at the time of hospital discharge of a scheduled appointment with specialty care for patients discharged home
Numerator:	Patients had a referral for a follow-up appointment after hospital discharge with neurology or neurosurgery ordered or recommended AND Patients had an appointment scheduled with neurology or neurosurgery
Denominator Inclusion:	Patients with a diagnosis of Ischemic Stroke or TIA or Intracerebral Hemorrhage or Subarachnoid Hemorrhage who were discharged home
Denominator Exclusions:	<ul style="list-style-type: none"> Age < 18 years Comfort Measures Only documented Discharge Disposition of hospice at home or in a health care facility, another acute care facility, other health care facility, left AMA, expired, not documented or unable to determine Not admitted

Measure Name:	Follow-up with Neurology or Neurosurgery (specialty care) for patients discharged to another health care facility
Description:	Percent of patients with an ischemic stroke or TIA or intracerebral hemorrhage or subarachnoid hemorrhage who have documentation at the time of hospital discharge of a scheduled appointment with specialty care for patients discharged to another health care facility
Numerator:	Patients had a referral for a follow-up appointment after hospital discharge with neurology or neurosurgery ordered or recommended AND Patients had an appointment scheduled with neurology or neurosurgery
Denominator Inclusion:	Patients with a diagnosis of Ischemic Stroke or TIA or Intracerebral Hemorrhage or Subarachnoid Hemorrhage who were discharged home
Denominator Exclusions:	<ul style="list-style-type: none"> Age < 18 years Comfort Measures Only documented Discharge Disposition of home, hospice at home or in a health care facility, another acute care facility, left AMA, expired, not documented or unable to determine Not admitted

Eligible Patient Population

Total Stroke Patients in Ohio Coverdell Hospitals, reported in GWTG-S April 2013-March 2014



Opportunities for Improvement

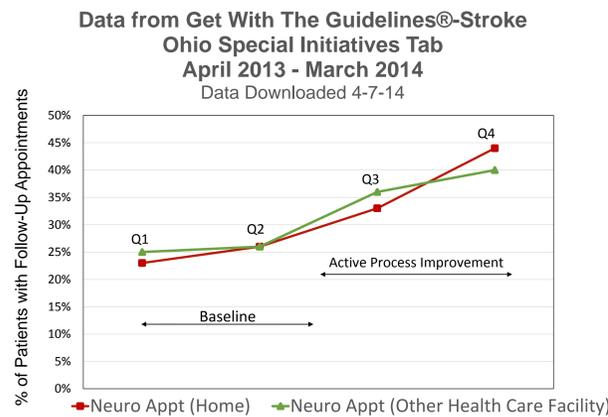
Comparison of Characteristics for Stroke Patients Without a Follow-up Appointment Scheduled Quarter 4 Data (Jan.-March 2014)

Patient Characteristics	Patients discharged to home N = 372 (%)	Patients discharged to other health care facility N = 407 (%)
Age, 66 years or older	172 (46.2)	274 (67.3)*
18 – 65 years	200 (53.8)	133 (32.7)
Sex, Male	189 (50.8)	193 (47.4)
Female	183 (49.2)	214 (52.6)
Race, White	321 (86.3)*	308 (75.7)*
Black or African American	40 (10.8)	70 (17.2)
Insurance		
Medicare	185 (49.7)	287 (70.5)*
Medicaid	47 (12.6)	56 (13.8)
Self Pay/No Insurance	26 (7.0)	20 (4.9)
Private/VA/Champus/Other Ins.	197 (53.0)	192 (47.2)
Stroke Type		
Ischemic Stroke	231 (62.1)*	302 (74.2)
Transient Ischemic Attack (TIA)	76 (20.4)	15 (3.7)*
Intracerebral Hemorrhage	32 (8.6)	70 (17.2)
Subarachnoid Hemorrhage	33 (8.9)*	20 (4.9)
Severe Stroke, NIHSS ≥ 15	7 (1.9)	61 (15.0)
Medical History		
Previous Stroke	74 (19.9)	110 (27.0)
Previous TIA	31 (8.3)	32 (7.9)
Family History of Stroke	48 (12.9)	57 (14.0)
Atrial Fibrillation	41 (11.0)	88 (21.6)
CAD or Prior MI	87 (23.4)	88 (21.6)
Heart Failure	27 (7.3)	47 (11.5)
Diabetes Mellitus	104 (28.0)	149 (36.6)
Hypertension	247 (66.4)*	319 (78.4)
Dyslipidemia	162 (43.5)	188 (46.2)
Obesity/Overweight	124 (33.3)*	115 (28.3)*

*Indicates a significance level of p < 0.05. All comparisons were calculated with the x² test.

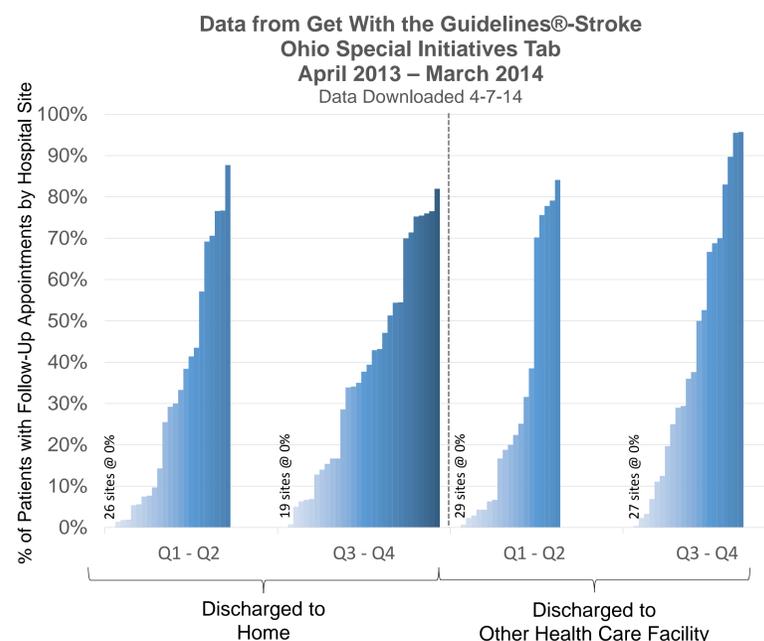
Hospital Performance Improvement Scheduling Neurology Follow-up Appointments

Patient Level Improvement (N=7,610)



	Q1	Q2	Q3	Q4
Neuro Appointments for Patients Discharged to Home	257/1092 (23.5%)	309/1191 (25.9%)	372/1130 (32.9%)	283/655 (43.2%)
Neuro Appointments for Patients Discharged to Other Health Care Facility	230/929 (24.8%)	241/947 (25.5%)	358/991 (36.1%)	268/675 (39.7%)

Hospital Level Improvement (N=48)



Conclusions

- Hospitals improved their performance in scheduling neurology follow-up appointments from Q1 to Q4:
 - By 84% for patients discharged to home
 - By 60% for patients discharged to an other health care facility
- Hospital variation in performance suggests a tremendous opportunity for collaborative learning
- Opportunities exist to improve scheduling of neurology follow-up appointments for:
 - Patients discharged to home who had an ischemic stroke, were White, had hypertension, or were obese/overweight
 - Patients discharged to an other health care facility who were 66 years of age or older, were White, or who were obese/overweight
- Research is needed to delineate the optimal timing of follow-up, methods of follow-up (phone, home, clinic or office), and provider of follow-up care

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