KENTUCKY BOARD OF EMERGENCY MEDICAL SERVICES

2019 STROKE DATA

CARDIAC & STROKE CARE SUBCOMMITTEE

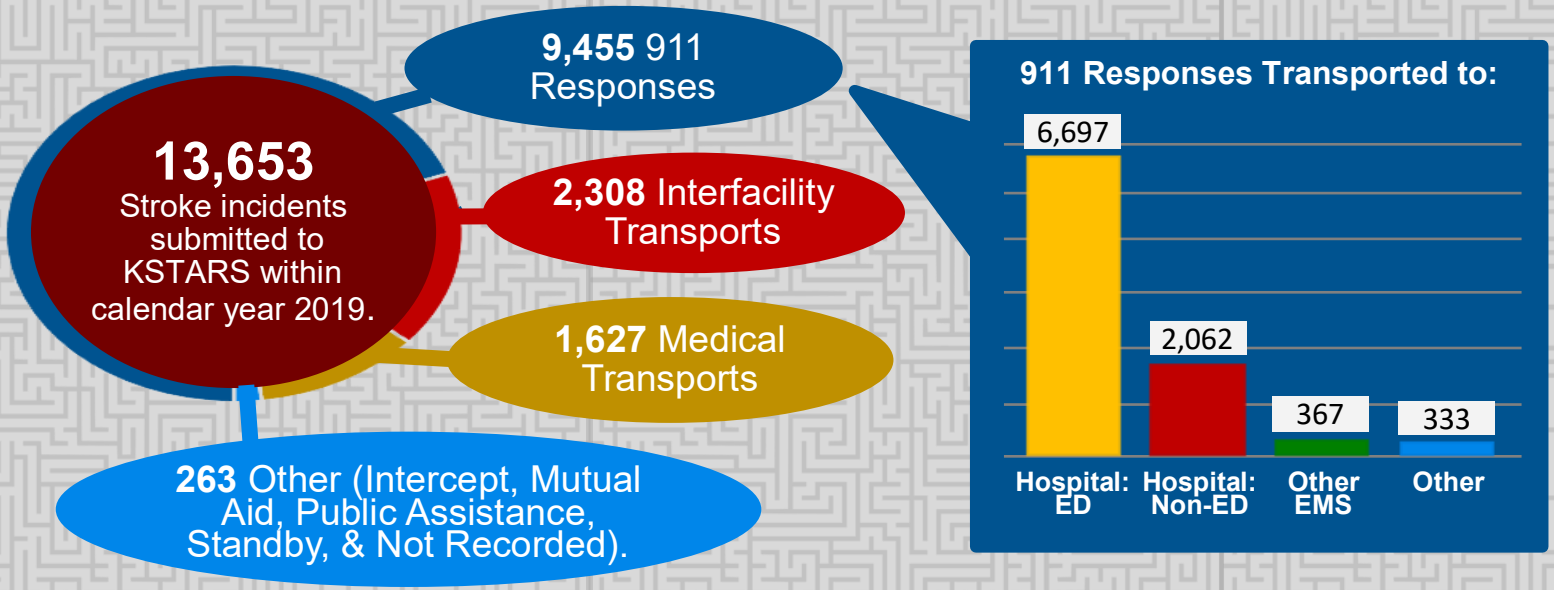# Table of Contents

*The data represented in this report only includes incidents submitted to KSTARS for CY 2019; see page # for report criteria.

Section 1

Stroke Incident Overview

2019 Stroke Incident Overview

13,653 Stroke incidents submitted to KSTARS within calendar year 2019.

9,455 911 Responses

2,308 Interfacility Transports

1,627 Medical Transports

263 Other (Intercept, Mutual Aid, Public Assistance, Standby, & Not Recorded).

911 Responses Transported to:

Hospital: ED	Hospital: Non-ED	Other EMS	Other
6,697	2,062	367	333

# Field to Hospital Count of Stroke Incidents by Scene County

County	#	*Top 10 Counties with the Highest Number of Stroke Incidents*					
Adair County	39	Edmonson County	9	Knox County	25	Nicholas County	13
Allen County	23	Elliott County	6	Larue County	31	Ohio County	50
Anderson County	18	Estill County	31	Laurel County	109	Oldham County	79
Ballard County	21	*Fayette County	695	Lawrence County	14	Owen County	17
Barren County	70	Fleming County	19	Lee County	9	Owsley County	4
Bath County	25	*Floyd County	155	Leslie County	15	Pendleton County	26
Bell County	24	Franklin County	75	Letcher County	44	Perry County	44
*Boone County	199	Fulton County	12	Lewis County	19	Pike County	69
Bourbon County	45	Gallatin County	29	Lincoln County	46	Powell County	32
Boyd County	118	Garrard County	8	Livingston County	24	*Pulaski County	169
Boyle County	70	Grant County	42	Logan County	27	Robertson County	0
Bracken County	11	Graves County	45	Lyon County	28	Rockcastle County	14
Breathitt County	20	Grayson County	27	Madison County	145	Rowan County	3
Breckinridge County	15	Green County	25	Magoffin County	23	Russell County	29
Bullitt County	126	Greenup County	64	Marion County	34	Scott County	127
Butler County	51	Hancock County	21	Marshall County	19	Shelby County	44
Caldwell County	14	*Hardin County	262	Martin County	8	Simpson County	65
Calloway County	45	Harlan County	34	Mason County	37	Spencer County	16
Campbell County	137	Harrison County	17	McCracken County	137	Taylor County	64
Carlisle County	9	Hart County	44	McCreary County	61	Todd County	9
Carroll County	22	Henderson County	76	McLean County	8	Trigg County	18
Carter County	80	Henry County	26	Meade County	61	Trimble County	16
Casey County	21	Hickman County	4	Menifee County	8	Union County	14
Christian County	83	Hopkins County	113	Mercer County	31	*Warren County	309
*Clark County	277	Jackson County	6	Metcalfe County	10	Washington County	16
Clay County	37	*Jefferson County	1,978	Monroe County	17	Wayne County	51
Clinton County	12	Jessamine County	141	Montgomery County	69	Webster County	18
Crittenden County	5	Johnson County	11	Morgan County	9	Whitley County	26
Cumberland County	14	*Kenton County	256	Muhlenberg County	37	Wolfe County	1
*Daviess County	154	Knott County	19	Nelson County	65	Woodford County	43

911 (Scene) Responses for Stroke Incidents by Scene County
Patient to Population Ratio

Population Ratio

- 0 - 449
- 450 - 659
- 700 - 999
- 1,000 - 1,999
- 2,000 - 3,499
- 3,500 +
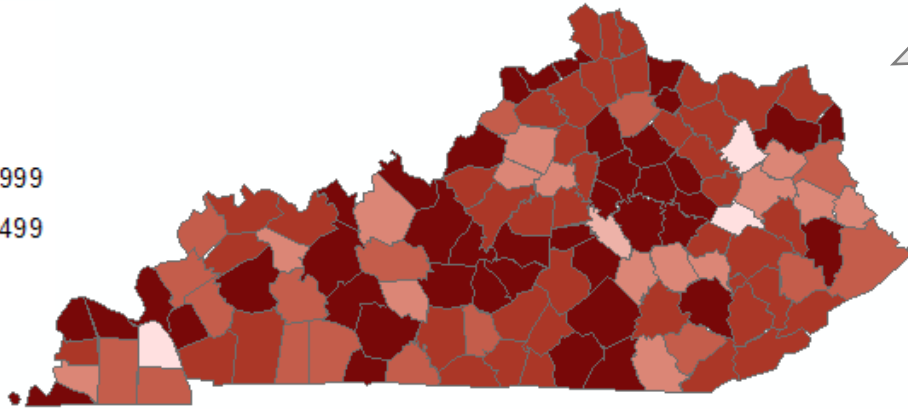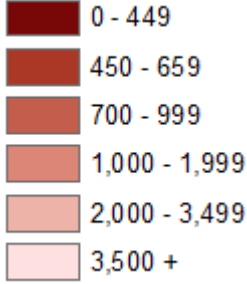
The Heat map represents 911 Responses to all destinations (Hospital, Other EMS, Etc.).

Top 20 Counties with the Largest Patient to County Population Ratio for 911 Responses			
1. Clark	6. Butler	11. Meade	16. Wayne
2. McCreary	7. Gallatin	12. Hopkins	17. Taylor
3. McCracken	8. Simpson	13. Carter	18. Green
4. Marion	9. Lyon	14. Trimble	19. Ballard
5. Floyd	10. Fulton	15. Jessamine	20. Pulaski

A full list of the individual County data can be found in *Appendix B.*

Interfacility & Medical Transports for Stroke Incidents by Scene County
Patient to Population Ratio

Population Ratio

- 1 - 800
- 801 - 2,000
- 2,001 - 5,000
- 5,001 - 10,000
- 10,001 - 18,000
- 18,001 - 30,000
- 30,001 - 50,000
- 0 Incidents
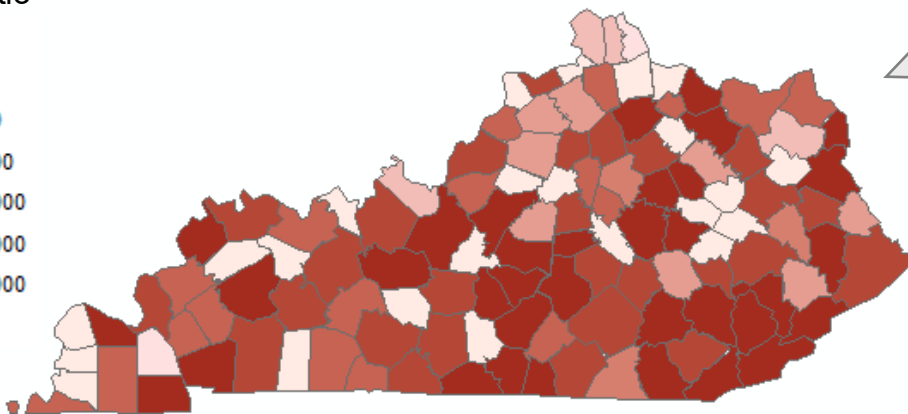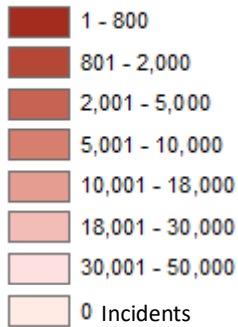
The Heat Map represents Interfacility/ Medical Transports to all destinations (Hospital, Other EMS, Etc.).

Top 20 Counties with the Largest Patient to County Population Ratio for Interfacility/Medical Transports			
1. Marion	6. Boyd	11. McCracken	16. Lawrence
2. Clark	7. Hopkins	12. Estill	17. Adair
3. Taylor	8. Montgomery	13. Letcher	18. Floyd
4. Mason	9. Whitley	14. Perry	19. Laurel
5. Boyle	10. Clay	15. Casey	20. Cumberland

A full list of the individual County data can be found in *Appendix C.*
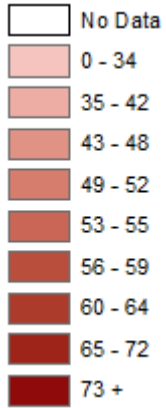
Section 2
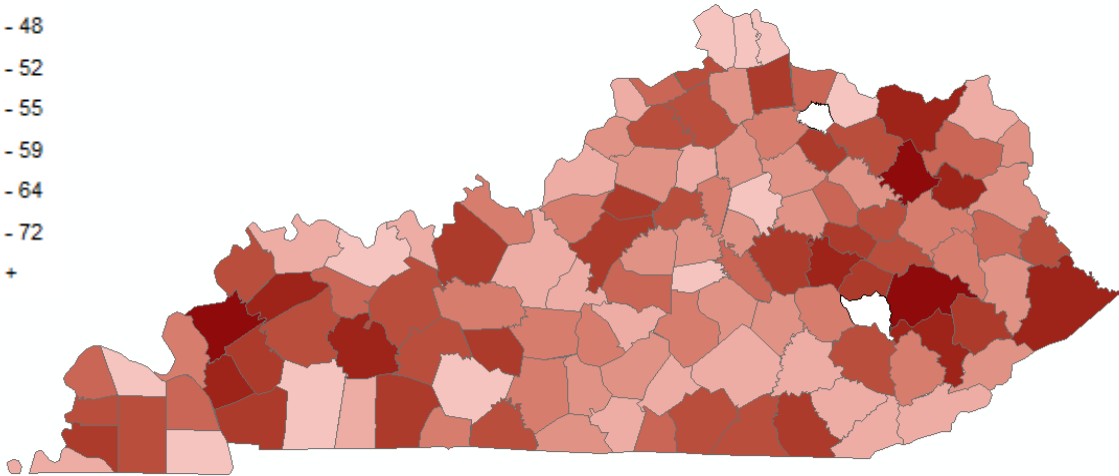
911 Stroke Incident Response Times

Fastest 911 Stroke Incident Response Times
'*Unit Notified by Dispatch to Patient Arrived at Destination' in Minutes*
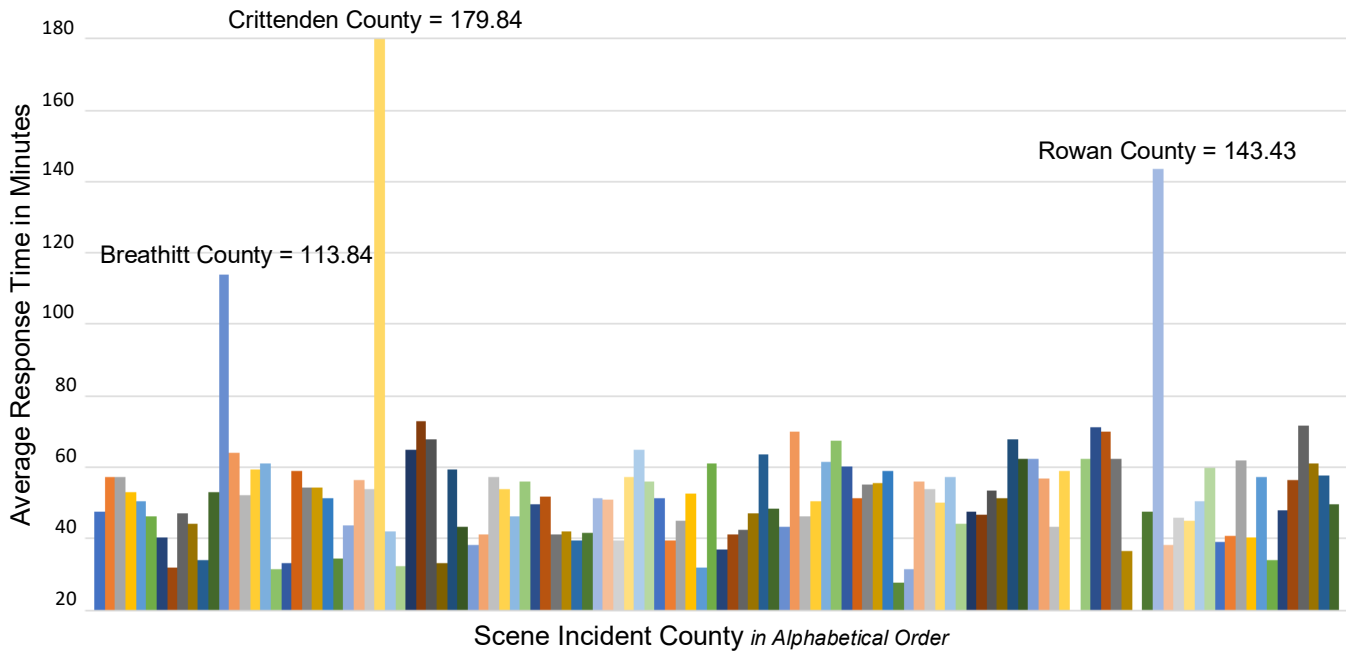
Average Response Time in Minutes

	No Data
	0 – 34
	35 – 42
	43 – 48
	49 – 52
	53 – 55
	56 – 59
	60 – 64
	65 – 72
	73 +

53.04 Minutes - Average KY 911 Stroke Incident Response Time

51.51 Minutes - Median KY 911 Stroke Incident Response Time

Top 30 Fastest 911 Stroke Incident Response Times by Scene County Metric: Unit Notified by Dispatch to Patient Arrived at Destination *in Minutes*			
1. Mason County	27.75	16. Taylor County	39.26
2. Calloway County	31.43	17. Hardin County	39.45
3. McCracken County	31.68	18. Jefferson County	39.50
4. Boone County	31.86	19. Henderson County	39.72
5. Kenton County	32.06	20. Trimble County	40.26
6. Daviess County	32.21	21. Bell County	40.52
7. Fayette County	33.21	22. Todd County	40.69
8. Campbell County	33.33	23. Fulton County	41.06
9. Warren County	34.14	24. Greenup County	41.24
10. Boyle County	34.21	25. Larue County	41.46
11. Christian County	34.66	26. Harlan County	41.86
12. Pulaski County	36.71	27. Hancock County	41.98
13. Knox County	37.01	28. Cumberland County	42.20
14. Franklin County	38.27	29. Laurel County	42.36
15. Russell County	38.35	30. Oldham County	43.28

The data includes only 911 (Scene) Responses.

Crittenden County = 179.84

Rowan County = 143.43

Breathitt County = 113.84

Average Response Time in Minutes

Scene Incident County *in Alphabetical Order*

■ Adair	■ Carroll	■ Grant	■ Knox	■ McLean	■ Robertson
■ Allen	■ Carter	■ Graves	■ Larue	■ Meade	■ Rockcastle
■ Anderson	■ Casey	■ Grayson	■ Laurel	■ Menifee	■ Rowan
■ Ballard	■ Christian	■ Green	■ Lawrence	■ Mercer	■ Russell
■ Barren	■ Clark	■ Greenup	■ Lee	■ Metcalfe	■ Scott
■ Bath	■ Clay	■ Hancock	■ Leslie	■ Monroe	■ Shelby
■ Bell	■ Clinton	■ Hardin	■ Letcher	■ Montgomery	■ Simpson
■ Boone	■ Crittenden	■ Harlan	■ Lewis	■ Morgan	■ Spencer
■ Bourbon	■ Cumberland	■ Harrison	■ Lincoln	■ Muhlenberg	■ Taylor
■ Boyd	■ Daviess	■ Hart	■ Livingston	■ Nelson	■ Todd
■ Boyle	■ Edmonson	■ Henderson	■ Logan	■ Nicholas	■ Trigg
■ Bracken	■ Elliott	■ Henry	■ Lyon	■ Ohio	■ Trimble
■ Breathitt	■ Estill	■ Hickman	■ Madison	■ Oldham	■ Union
■ Breckinridge	■ Fayette	■ Hopkins	■ Magoffin	■ Owen	■ Warren
■ Bullitt	■ Fleming	■ Jackson	■ Marion	■ Owsley	■ Washington
■ Butler	■ Floyd	■ Jefferson	■ Marshall	■ Pendleton	■ Wayne
■ Caldwell	■ Franklin	■ Jessamine	■ Martin	■ Perry	■ Webster
■ Calloway	■ Fulton	■ Johnson	■ Mason	■ Pike	■ Whitley
■ Campbell	■ Gallatin	■ Kenton	■ McCracken	■ Powell	■ Wolfe
■ Carlisle	■ Garrard	■ Knott	■ McCreary	■ Pulaski	■ Woodford

A full list of individual County response times are located on the following pages; pg. 7, 8, & 9.

Average 911 (Scene) Response Times *in Minutes*

County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in Service	Unit Notified by Dispatch to Patient Arrived at Destination
Adair County	12.45	10.34	23.01	24.17	**47.47**
Allen County	12.24	13.13	30.28	26.42	**57.21**
Anderson County	7.12	21.81	27.50	43.71	**57.21**
Ballard County	10.85	12.35	28.39	21.29	**53.30**
Barren County	13.63	11.96	22.38	35.14	**50.61**
Bath County	13.57	10.26	21.08	24.00	**46.13**
Bell County	8.47	21.36	9.38	23.48	**40.52**
Boone County	6.34	13.46	10.83	27.41	**31.86**
Bourbon County	5.59	15.54	25.26	35.52	**47.15**
Boyd County	11.39	17.08	14.85	18.59	**44.23**
Boyle County	6.91	14.80	11.75	23.31	**34.21**
Bracken County	10.64	18.52	23.28	27.43	**53.18**
Breathitt County	16.47	6.94	81.50	67.61	**113.84**
Breckinridge County	20.86	13.19	29.00	38.07	**64.14**
Bullitt County	9.70	16.50	24.74	27.44	**52.17**
Butler County	11.17	14.93	31.53	26.80	**59.44**
Caldwell County	9.84	15.69	34.05	45.68	**61.16**
Calloway County	9.73	10.31	9.85	16.29	**31.43**
Campbell County	6.44	14.15	11.22	29.09	**33.33**
Carlisle County	11.15	12.33	33.81	18.22	**59.07**
Carroll County	8.78	20.99	24.11	39.09	**54.17**
Carter County	11.85	12.79	28.49	24.92	**54.34**
Casey County	17.63	10.22	23.38	35.38	**51.40**
Christian County	8.58	15.11	9.61	34.18	**34.66**
Clark County	7.14	15.90	19.15	39.48	**43.64**
Clay County	18.72	16.03	20.79	11.90	**56.33**
Clinton County	13.93	20.65	18.18	39.36	**54.05**
Crittenden County	9.84	16.28	152.52	42.44	**179.84**
Cumberland County	12.89	9.47	18.39	26.22	**42.20**
Daviess County	7.45	10.96	12.37	26.31	**32.21**
Edmonson County	15.55	13.85	34.80	30.87	**64.92**
Elliott County	13.56	14.11	42.89	15.00	**72.89**
Estill County	9.69	13.85	43.25	49.75	**68.05**
Fayette County	8.04	12.98	10.60	30.16	**33.21**
Fleming County	22.18	12.33	21.08	52.39	**59.50**
Floyd County	14.51	13.87	12.95	30.11	**43.53**
Franklin County	10.37	13.25	12.62	30.35	**38.27**
Fulton County	5.50	19.38	17.44	19.05	**41.06**
Gallatin County	9.81	14.33	31.35	39.43	**57.24**
Garrard County	10.89	12.31	28.89	43.20	**53.90**

Average 911 (Scene) Response Times *in Minutes*

County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in service	Unit Notified by Dispatch to Patient Arrived at Destination
Grant County	8.68	14.33	22.54	30.48	**46.32**
Graves County	13.40	14.15	26.62	34.79	**55.87**
Grayson County	16.27	11.65	20.25	24.40	**49.73**
Green County	12.37	17.71	19.71	36.45	**51.85**
Greenup County	8.99	17.58	13.78	13.91	**41.24**
Hancock County	9.08	11.83	18.13	25.66	**41.98**
Hardin County	10.99	12.79	14.48	20.30	**39.45**
Harlan County	13.06	11.80	14.95	19.94	**41.86**
Harrison County	14.59	11.35	23.87	33.35	**51.28**
Hart County	12.81	13.00	24.28	25.95	**51.19**
Henderson County	8.49	13.46	16.60	16.89	**39.72**
Henry County	13.60	16.77	25.52	32.91	**57.32**
Hickman County	7.45	15.10	39.97	54.36	**64.82**
Hopkins County	9.50	16.62	28.72	22.49	**56.00**
Jackson County	16.40	19.80	13.60	27.00	**51.60**
Jefferson County	7.97	17.03	13.03	32.54	**39.50**
Jessamine County	7.58	18.87	16.45	30.60	**44.94**
Johnson County	16.11	14.89	18.27	28.91	**52.76**
Kenton County	6.29	13.67	10.57	24.36	**32.06**
Knott County	17.84	13.74	27.82	24.95	**60.98**
Knox County	12.18	13.68	9.03	15.62	**37.01**
Larue County	10.32	11.34	18.76	25.07	**41.46**
Laurel County	12.46	18.76	11.36	22.42	**42.36**
Lawrence County	16.94	13.80	14.78	29.01	**47.14**
Lee County	23.11	13.19	24.88	26.10	**63.55**
Leslie County	18.51	12.22	15.33	23.76	**48.55**
Letcher County	16.30	10.85	14.72	16.87	**43.39**
Lewis County	21.84	16.84	30.17	4.06	**70.17**
Lincoln County	10.08	17.03	17.60	21.34	**46.18**
Livingston County	12.12	12.97	24.20	24.13	**50.51**
Logan County	12.79	16.22	31.63	41.68	**61.76**
Lyon County	9.23	21.70	36.22	54.31	**67.29**
Madison County	8.04	16.68	33.75	40.87	**60.19**
Magoffin County	13.96	11.76	24.15	12.40	**51.51**
Marion County	12.18	19.69	21.84	39.00	**55.36**
Marshall County	12.85	13.60	27.51	27.15	**55.43**
Martin County	22.00	14.13	21.38	31.80	**59.13**
Mason County	6.77	12.22	7.55	14.84	**27.75**
McCracken County	9.18	13.05	7.96	17.04	**31.68**
McCreary County	9.80	16.12	28.79	26.63	**55.85**

Average 911 (Scene) Response Times *in Minutes*

| County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in Service	Unit Notified by Dispatch to Patient Arrived at Destination
McLean County	11.33	9.60	31.77	44.20	**53.85**
Meade County	12.12	9.18	27.56	36.70	**50.30**
Menifee County	17.13	9.69	21.75	26.00	**57.25**
Mercer County	8.79	16.65	16.81	26.30	**44.17**
Metcalfe County	12.39	12.46	21.32	19.86	**47.71**
Monroe County	10.46	17.32	16.87	42.99	**46.64**
Montgomery County	6.81	11.89	30.08	25.92	**53.35**
Morgan County	19.11	13.78	17.56	18.44	**51.56**
Muhlenberg County	9.87	16.62	41.01	44.42	**67.85**
Nelson County	12.20	14.64	33.93	57.99	**62.30**
Nicholas County	9.86	17.69	33.20	42.42	**62.21**
Ohio County	10.79	16.11	29.20	109.63	**56.92**
Oldham County	8.42	14.56	18.53	35.98	**43.28**
Owen County	19.52	13.31	22.45	32.36	**58.81**
Owsley County	-	-	-	-	-
Pendleton County	9.91	18.85	33.45	46.80	**62.53**
Perry County	17.45	16.91	35.25	21.76	**71.45**
Pike County	25.28	13.61	27.56	28.20	**70.06**
Powell County	7.80	14.85	38.72	52.01	**62.51**
Pulaski County	9.89	14.24	10.79	21.34	**36.71**
Robertson County	-	-	-	-	-
Rockcastle County	17.85	12.88	15.50	31.96	**47.42**
Rowan County	44.72	14.78	59.82	79.12	**143.43**
Russell County	6.82	15.50	14.12	22.19	**38.35**
Scott County	7.74	16.17	19.20	44.43	**45.87**
Shelby County	6.16	11.39	26.25	35.98	**44.94**
Simpson County	5.76	13.92	28.37	45.54	**50.64**
Spencer County	8.91	19.96	30.65	34.83	**60.05**
Taylor County	10.31	15.31	11.67	20.59	**39.26**
Todd County	12.31	15.88	12.50	22.63	**40.69**
Trigg County	10.18	20.25	30.29	53.42	**61.98**
Trimble County	10.20	12.30	16.73	28.46	**40.26**
Union County	9.51	15.87	32.47	10.37	**57.54**
Warren County	8.36	13.67	10.47	13.02	**34.14**
Washington County	14.29	14.47	17.42	28.04	**48.19**
Wayne County	10.32	17.09	27.78	22.96	**56.62**
Webster County	14.24	16.27	39.98	17.10	**71.87**
Whitley County	20.00	17.42	22.79	17.63	**61.32**
Wolfe County	22.20	6.00	28.40	25.60	**57.80**
Woodford County	8.49	19.52	20.30	26.66	**49.62**

Section 3

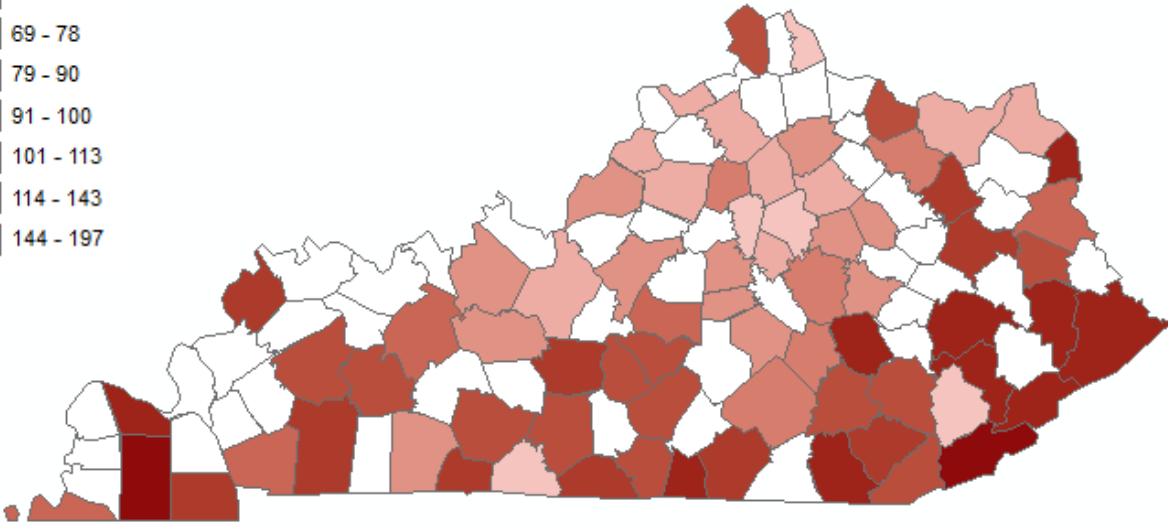# Emergent Stroke Interfacility Response Times

Fastest Emergent Interfacility Response Times
'*Unit Notified by Dispatch to Patient Arrived at Destination' in Minutes*

Average Response Time in Minutes

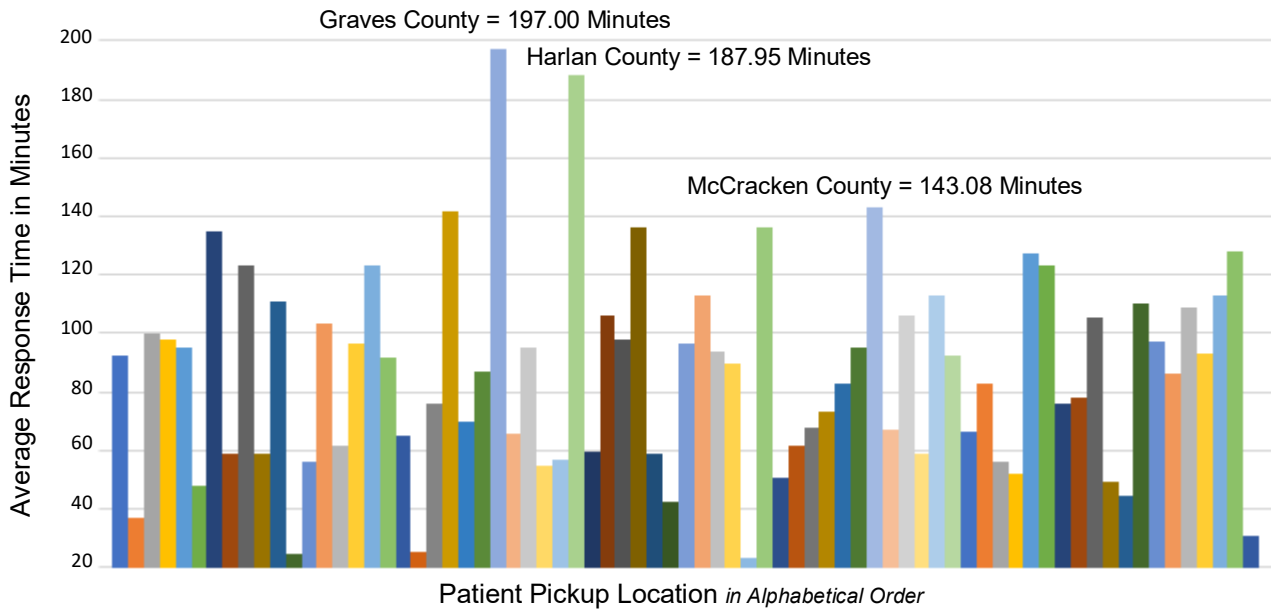|	
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	39 - 56
	57 - 68
	69 - 78
	79 - 90
	91 - 100
	101 - 113
	114 - 143
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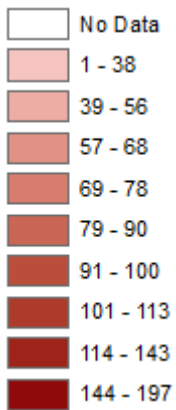
86.76 Minutes - Average KY Interfacility Transport Stroke Response Time

89.84 Minutes - Median KY Interfacility Transport Stroke Response Time

Top 30 Fastest Emergent Interfacility Transport Response Times by Scene County Metric: Unit Notified by Dispatch to Patient Arrived at Destination *in Minutes*			
1. Leslie County	23.44	16. Montgomery County	58.73
2. Campbell County	24.97	17. Jefferson County	58.73
3. Fayette County	25.36	18. Boyle County	58.78
4. Woodford County	31.00	19. Breckinridge County	59.00
5. Allen County	37.25	20. Harrison County	59.76
6. Jessamine County	42.39	21. Clark County	61.36
7. Shelby County	44.55	22. Lincoln County	61.67
8. Bourbon County	48.22	23. Estill County	65.31
9. Scott County	49.05	24. Grayson County	65.93
10. Lewis County	51.00	25. Nelson County	66.45
11. Owen County	52.00	26. Mercer County	67.12
12. Greenup County	55.00	27. Logan County	67.50
13. Oldham County	56.00	28. Franklin County	70.13
14. Carroll County	56.11	29. Madison County	73.28
15. Hardin County	56.65	30. Fleming County	76.18

Average Emergent Interfacility Transport Response Times
'Unit Notified by Dispatch to Patient Arrived at Destination' by Pickup County *in Minutes*

Average Response Time in Minutes (y-axis)

Patient Pickup Location *in Alphabetical Order* (x-axis)

Graves County = 197.00 Minutes

Harlan County = 187.95 Minutes

McCracken County = 143.08 Minutes

■ Adair	■ Christian	■ Green	■ Lawrence	■ Morgan	■ Simpson
■ Allen	■ Clark	■ Greenup	■ Leslie	■ Muhlenberg	■ Taylor
■ Barren	■ Clay	■ Hardin	■ Letcher	■ Nelson	■ Trigg
■ Bell	■ Clinton	■ Harlan	■ Lewis	■ Ohio	■ Union
■ Boone	■ Cumberland	■ Harrison	■ Lincoln	■ Oldham	■ Warren
■ Bourbon	■ Estill	■ Hart	■ Logan	■ Owen	■ Wayne
■ Boyd	■ Fayette	■ Hopkins	■ Madison	■ Perry	■ Whitley
■ Boyle	■ Fleming	■ Jackson	■ Marion	■ Pike	■ Woodford
■ Breathitt	■ Floyd	■ Jefferson	■ Mason	■ Pulaski	
■ Breckinridge	■ Franklin	■ Jessamine	■ McCracken	■ Rockcastle	
■ Calloway	■ Fulton	■ Johnson	■ Mercer	■ Rowan	
■ Campbell	■ Graves	■ Knox	■ Monroe	■ Scott	
■ Carroll	■ Grayson	■ Laurel	■ Montgomery	■ Shelby	

*Counties with no interfacility transports have been removed from the above graph.

A full list of individual County response times are located on the following pages; pg. 13, 14, & 15.

Average Emergent Interfacility Transports *in Minutes*

County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in Service	Unit Notified by Dispatch to Patient Arrived at Destination
Adair County	8.24	6.90	71.10	6.34	**92.76**
Allen County	4.88	3.88	23.75	19.25	**37.25**
Anderson County	-	-	-	-	**-**
Ballard County	-	-	-	-	**-**
Barren County	17.54	25.28	37.68	36.27	**99.89**
Bath County	-	-	-	-	**-**
Bell County	1.00	16.00	62.50	12.00	**98.00**
Boone County	48.00	14.00	27.00	58.00	**95.00**
Bourbon County	4.42	13.99	24.63	41.06	**48.22**
Boyd County	36.83	28.88	60.23	51.84	**134.83**
Boyle County	4.55	11.56	37.24	38.62	**58.78**
Bracken County	-	-	-	-	**-**
Breathitt County	40.87	28.31	48.74	45.62	**123.23**
Breckinridge County	22.00	6.00	28.00	18.00	**59.00**
Bullitt County	-	-	-	-	**-**
Butler County	-	-	-	-	**-**
Caldwell County	-	-	-	-	**-**
Calloway County	1.02	23.37	79.58	36.31	**110.76**
Campbell County	4.03	8.55	8.07	34.07	**24.97**
Carlisle County	-	-	-	-	**-**
Carroll County	9.98	16.29	23.78	27.92	**56.11**
Carter County	-	-	-	-	**-**
Casey County	27.50	34.92	29.75	35.25	**98.33**
Christian County	9.05	20.75	66.91	86.33	**103.19**
Clark County	17.59	17.32	10.95	39.33	**61.36**
Clay County	8.36	13.24	67.64	48.68	**96.33**
Clinton County	7.00	-	95.00	156.00	**123.00**
Crittenden County	-	-	-	-	**-**
Cumberland County	31.00	9.00	49.00	42.00	**92.00**
Daviess County	-	-	-	-	**-**
Edmonson County	-	-	-	-	**-**
Elliott County	-	-	-	-	**-**
Estill County	4.57	14.62	42.24	45.00	**65.31**
Fayette County	2.76	15.99	3.42	13.38	**25.36**
Fleming County	24.94	17.33	30.29	27.63	**76.18**
Floyd County	33.82	20.00	69.90	58.79	**141.92**
Franklin County	25.68	15.57	24.62	54.81	**70.13**
Fulton County	33.00	19.00	33.00	49.00	**87.00**
Gallatin County	-	-	-	-	**-**
Garrard County	-	-	-	-	**-**

Average Emergent Interfacility Transports *in Minutes*

County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in Service	Unit Notified by Dispatch to Patient Arrived at Destination
Grant County	-	-	-	-	**-**
Graves County	104.00	20.00	50.00	30.00	**197.00**
Grayson County	23.25	8.47	32.10	41.03	**65.93**
Green County	25.80	28.33	35.67	56.36	**94.95**
Greenup County	8.00	24.00	22.00	27.00	**55.00**
Hancock County	-	-	-	-	**-**
Hardin County	14.07	12.24	25.03	40.62	**56.65**
Harlan County	19.84	22.05	128.89	106.18	**187.95**
Harrison County	21.51	17.41	17.07	28.07	**59.76**
Hart County	31.00	30.00	40.00	39.00	**106.00**
Henderson County	-	-	-	-	**-**
Henry County	-	-	-	-	**-**
Hickman County	-	-	-	-	**-**
Hopkins County	29.03	14.04	44.69	22.10	**98.19**
Jackson County	35.00	18.00	82.00	152.00	**136.00**
Jefferson County	16.93	17.72	18.32	61.51	**58.73**
Jessamine County	15.25	8.11	15.75	29.21	**42.39**
Johnson County	21.84	30.73	32.78	37.39	**96.36**
Kenton County	-	-	-	-	**-**
Knott County	-	-	-	-	**-**
Knox County	13.78	6.68	83.61	58.61	**112.68**
Larue County	-	-	-	-	**-**
Laurel County	13.31	17.72	52.14	50.82	**94.15**
Lawrence County	19.63	15.85	41.48	24.58	**89.84**
Lee County	-	-	-	-	**-**
Leslie County	0.57	11.48	10.58	11.21	**23.44**
Letcher County	12.64	13.18	82.90	24.14	**136.60**
Lewis County	24.00	9.00	18.00	0.00	**51.00**
Lincoln County	10.43	7.35	37.88	40.06	**61.67**
Livingston County	-	-	-	-	**-**
Logan County	7.50	4.00	44.00	78.00	**67.50**
Lyon County	-	-	-	-	**-**
Madison County	15.31	14.22	31.18	32.35	**73.28**
Magoffin County	-	-	-	-	**-**
Marion County	28.36	23.70	26.32	28.34	**83.17**
Marshall County	-	-	-	-	**-**
Martin County	-	-	-	-	**-**
Mason County	0.47	13.41	64.08	107.39	**95.22**
McCracken County	36.78	25.13	76.55	65.03	**143.08**
McCreary County	-	-	-	-	**-**

Average Emergent Interfacility Transports *in Minutes*

County	Unit Notified by Dispatch to Unit Arrived on Scene	Unit Arrived at Patient to Unit Left Scene	Unit Left Scene to Patient Arrived at Destination	Patient Arrived at Destination to Unit Back in Service	Unit Notified by Dispatch to Patient Arrived at Destination
McLean County	-	-	-	-	-
Meade County	-	-	-	-	-
Menifee County	-	-	-	-	-
Mercer County	5.08	18.32	35.58	41.70	67.12
Metcalfe County	-	-	-	-	-
Monroe County	80.87	6.26	94.12	142.41	106.25
Montgomery County	4.57	11.26	38.80	21.95	58.73
Morgan County	14.23	9.32	77.61	61.39	113.10
Muhlenberg County	14.59	20.01	50.96	15.06	92.43
Nelson County	27.26	16.59	18.70	28.58	66.45
Nicholas County	-	-	-	-	-
Ohio County	45.00	4.00	33.00	32.00	83.00
Oldham County	7.00	24.00	23.00	43.00	56.00
Owen County	20.00	9.00	22.00	27.00	52.00
Owsley County	0.05	25.45	-	-	-
Pendleton County	-	-	-	-	-
Perry County	22.47	29.69	68.12	39.01	127.67
Pike County	36.46	21.51	57.34	49.35	122.91
Powell County	-	-	-	-	-
Pulaski County	16.68	23.47	31.14	39.82	76.22
Robertson County	-	-	-	-	-
Rockcastle County	27.65	18.02	27.10	58.96	77.73
Rowan County	30.72	11.36	58.17	17.00	105.63
Russell County	-	-	-	-	-
Scott County	21.02	10.07	15.10	29.88	49.05
Shelby County	7.82	6.82	28.73	20.97	44.55
Simpson County	58.00	20.00	30.00	5.00	110.00
Spencer County	-	-	-	-	-
Taylor County	13.49	20.64	57.17	68.72	97.32
Todd County	-	-	-	-	-
Trigg County	24.00	21.00	35.00	47.00	86.00
Trimble County	-	-	-	-	-
Union County	32.00	10.00	57.00	-	109.00
Warren County	20.23	23.44	41.97	45.05	93.41
Washington County	-	-	-	-	-
Wayne County	5.89	11.21	89.65	23.41	112.81
Webster County	-	-	-	-	-
Whitley County	25.21	16.71	72.41	37.26	127.81
Wolfe County	-	-	-	-	-
Woodford County	6.00	5.00	17.00	20.00	31.00

Section 4

Hospital to Hospital Interfacility Transports

Stroke Incidents Transported to a Comprehensive Stroke Center (CSC)

> There are a total of four (4) Comprehensive Stroke Centers in Kentucky.
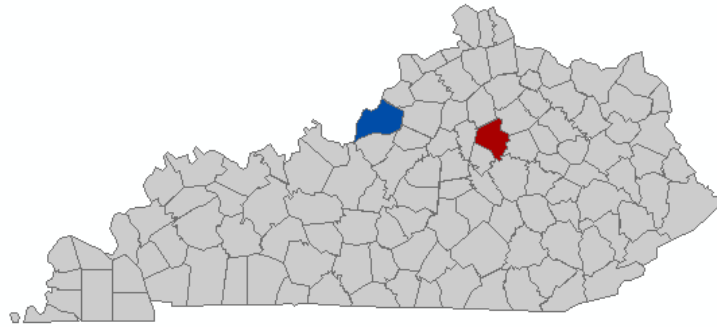
Comprehensive Stroke Centers

University of KY Hospital

- AdventHealth Manchester - 2
- Baptist Health Corbin - 2
- Barbourville ARH - 3
- Bluegrass Community Health - 1
- Clark Regional Medical Center - 28
- Ephraim McDowell James B Haggin Hospital - 1
- Ephraim McDowell Regional Medical Center - 25
- Flaget Memorial Hospital - 2
- Fleming County Hospital - 7
- Fort Logan Hospital - 5
- Frankfort Regional Medical Center - 4
- Georgetown Community Hospital - 9
- Hardin Memorial Hospital - 2
- Harrison Memorial Hospital - 8
- Hazard Appalachian Regional Healthcare - 10
- Highlands Regional Medical Center - 5
- Jane Todd Crawford Memorial Hospital - 1
- Kentucky River Medical Center - 2
- Kings Daughters Medical Center - 5
- Lake Cumberland Regional Hospital - 26
- Manchester Memorial Hospital - 1
- Marcum & Wallace Memorial Hospital ER - 3
- Medical Center at Albany - 1
- Morgan County Appalachian Regional Hospital - 2
- Our Lady of Bellefonte Hospital - 2
- Paul B. Hall Regional Medical Center - 2
- Pikeville Medical Center - 14
- Rockcastle Regional Hospital - 5
- Saint Claire Medical Center ED - 1
- Saint Joseph Mount Sterling - 3
- Saint Joseph Jessamine - 1
- Saint Joseph London - 11
- Saint Joseph Mount Sterling ED - 5
- Southeastern Kentucky Medical Center - 1
- Springview Hospital - 1
- St. Claire Regional Medical Center - 2
- St. Joseph London - 1
- TJ Health/Columbia– ER - 2
- Three Rivers Medical Center - 2
- Tug Valley ARH Regional Medical Center - 2
- UK Healthcare Good Samaritan Hospital - 3
- University of KY Hospital - Chandler Medical Center - 1
- Westlake Regional Hospital - 1

Baptist Health Lexington

- Baptist Health Corbin - 6
- Bourbon Community Hospital - 1
- Casey County Hospital - 2
- Clark Regional Medical Center - 7
- Cumberland County Hospital - 1
- Ephraim McDowell Regional Medical Center - 9
- Fleming County Hospital - 1
- Lake Cumberland Regional Hospital - 2
- Manchester Memorial Hospital - 1
- Marcum & Wallace Memorial Hospital ER - 2
- Rockcastle Regional Hospital - 3
- St. Joseph London - 1

University of Louisville Hospital

- Caverna Memorial Hospital - 1
- Flaget memorial Hospital - 16
- Hardin Memorial Hospital - 10
- Jane Todd Crawford Hospital - 2
- Jewish Hospital - 1
- Kings Daughters Hospital - 2
- Medical Center Jewish South - 1
- Memorial Hospital and Health Care Center (Jasper Memorial Hospital) - 3
- OH Muhlenberg Community Hospital ER - 1
- Saint Vincent Salem Hospital (Washington County memorial Hospital) - 1
- Springview Hospital - 4
- TJ Health/Columbia– ER - 1
- Taylor Regional Hospital - 14
- The Medical Center at Caverna - 1
- TJ Samson Community Hospital - 14
- Twin Lakes Regional– ER - 1
- Twin Lakes Regional medical Center - 8
- UofL Health - Shelbyville Hospital - 1
- Westlake Regional Hospital - 1

Norton Brownsboro Hospital

- Norton Audubon Hospital - 1
- Robley Rex VA Medical Center - 1
- Springview Hospital - 2
- Twin Lakes Regional - ER - 2

Only incidents submitted to KSTARS with a correct Facility ID code, and NEMSIS Elements eDisposition.21 (Type of Destination) & eScene.09 (Scene Incident Location Type) containing 'Hospital' are included in the above data.

Stroke Incidents Transported to a Primary Stroke Center (PSC)

> There are a total of twenty (20) Primary Stroke Centers in Kentucky.
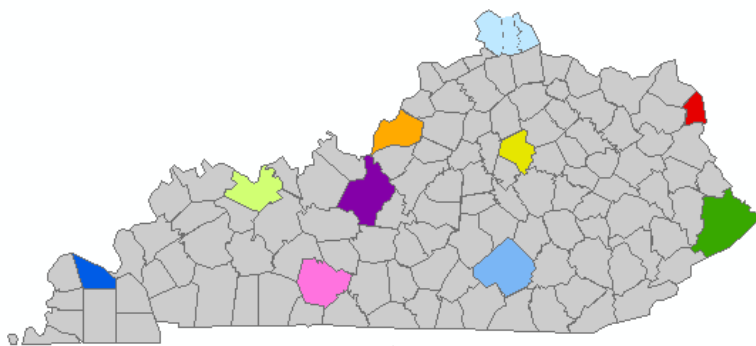
Primary Stroke Centers

Baptist Health Louisville
- Baptist Health La Grange - 4
- Flaget Memorial Hospital - 1
- Hardin Memorial Hospital - 23

Baptist Health Paducah
- Lourdes - 1
- Murray-Calloway County Hospital - 10

Hardin Memorial
- Flaget Memorial Hospital - 1

Jewish Hospital & St. Mary's
- Kings Daughters Medical Center - 1
- Medical Center Jewish South - 1
- Taylor Regional Hospital - 4

Kings Daughters Medical Center
- Three Rivers Medical Center - 4

Lake Cumberland Regional Hospital
- AdventHealth Manchester - 3
- Casey County Hospital - 3
- TJ Health/Columbia ER - 3
- Wayne County Hospital ER - 2

Norton Audubon Hospital
- Springview Hospital - 1

Owensboro Health Regional Hospital
- JSMC ER - 1
- OH Muhlenberg Community Hospital ER - 4

Pikeville Medical Center
- AdventHealth Manchester - 2
- Hazard Appalachian Regional Healthcare - 1
- Three Rivers Medical Center - 1
- Whitesburg ARH ED - 9

Saint Joseph Hospital
- AdventHealth Manchester - 2
- Casey County Hospital - 1
- Ephraim McDowell Regional Medical Center - 1
- Flaget Memorial Hospital - 1
- Fleming County Hospital ER - 1
- Saint Joseph Mount Sterling - 1
- Saint Joseph Jessamine - 3
- Saint Joseph London - 7
- Saint Joseph Mount Sterling ED - 4
- St. Joseph London - 8

St. Elizabeth Edgewood
- Meadowview Regional Medical Center - 1

St. Elizabeth Florence
- Meadowview Regional Medical Center - 1

St. Elizabeth Ft. Thomas
- Meadowview Regional Medical Center - 1

The Medical Center at Bowling Green
- Cumberland County Hospital - 1
- Jane Todd Crawford Hospital - 1
- MCS Acute Care - 8
- The Medical Center at Caverna - 1
- Twin Lakes Regional ER - 1

Only incidents submitted to KSTARS with a correct Facility ID code, and NEMSIS Elements eDisposition.21 (Type of Destination) & eScene.09 (Scene Incident Location Type) containing 'Hospital' are included in the above data.

Stroke Incidents Transported to an Acute Stroke Ready Hospital (ASRH)

> There are a total of fourteen (14) Acute Stroke Ready Hospitals in Kentucky.
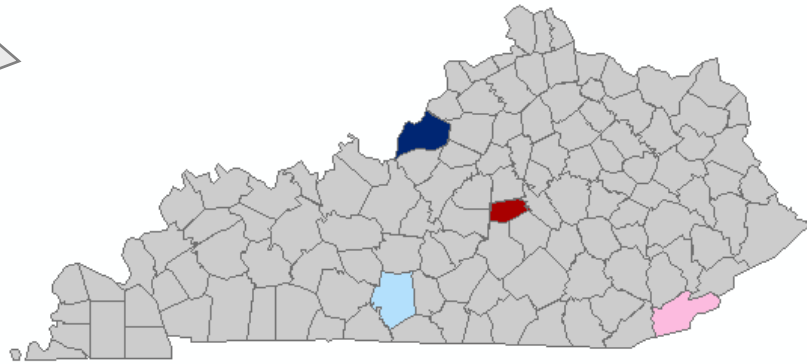
Acute Stroke Ready Hospitals

Ephraim McDowell Regional Medical Center

- Fort Logan Hospital - 1

TJ Samson Hospital

- TJ Health/Columbia ER - 5

Harlan ARH Hospital

- Barbourville ARH - 1

Norton HSP/Norton Children HSP/ Norton Healthcare Pavilion

- Kings Daughters Hospital - 3
- Norton Children's Medical Center - Pediatric Outpatient - 1
- Springview Hospital - 4
- Taylor Regional Hospital ER - 2
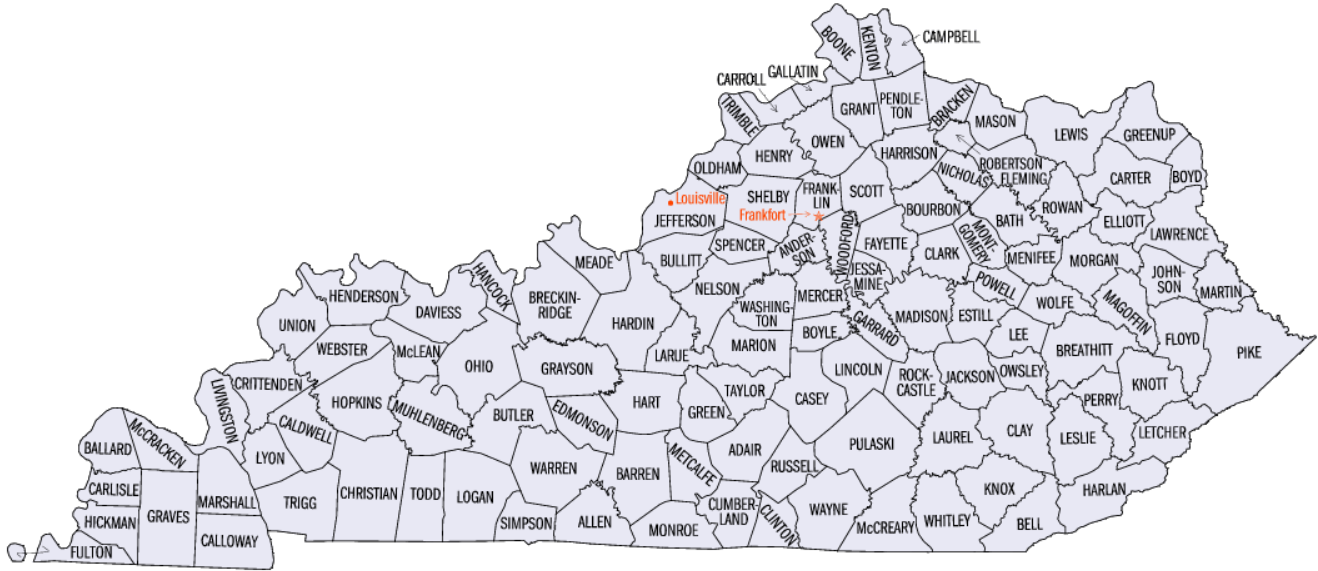- Twin Lakes Regional Medical Center - 2

Only incidents submitted to KSTARS with a correct Facility ID code, and NEMSIS Elements eDisposition.21 (Type of Destination) & eScene.09 (Scene Incident Location Type) containing 'Hospital' are included in the above data.

Appendix

Kentucky Counties

911 (Scene) Responses for Stroke Incidents by Scene County Patient Percentage & Population Ratio								
Name	%	Ratio						
Adair County	0.2%	480.1	Grant County	0.2%	529.3	McLean County	0.1%	1907.3
Allen County	0.1%	815.4	Graves County	0.1%	783.7	Meade County	0.3%	323.8
Anderson County	0.1%	1216.0	Grayson County	0.1%	707.9	Menifee County	0.2%	628.7
Ballard County	0.3%	358.3	Green County	0.3%	356.2	Mercer County	0.2%	546.6
Barren County	0.2%	607.7	Greenup County	0.2%	484.1	Metcalfe County	0.1%	908.2
Bath County	0.2%	469.5	Hancock County	0.2%	416.8	Monroe County	0.2%	465.4
Bell County	0.2%	661.4	Hardin County	0.3%	389.4	Montgomery Coun-	0.3%	398.2
Boone County	0.2%	616.6	Harlan County	0.1%	686.9	Morgan County	0.1%	1330.3
Bourbon County	0.2%	424.9	Harrison County	0.1%	885.3	Muhlenberg County	0.1%	709.3
Boyd County	0.3%	384.5	Hart County	0.3%	371.9	Nelson County	0.1%	679.0
Boyle County	0.3%	390.9	Henderson County	0.2%	603.5	Nicholas County	0.2%	502.9
Bracken County	0.2%	420.3	Henry County	0.2%	519.1	Ohio County	0.2%	435.9
Breathitt County	0.1%	670.5	Hickman County	0.1%	1183.5	Oldham County	0.1%	803.7
Breckinridge County	0.1%	1169.9	Hopkins County	0.3%	333.6	Owen County	0.2%	532.3
Bullitt County	0.2%	586.1	Jackson County	0.1%	1661.1	Owsley County	0.1%	1127.0
Butler County	0.4%	242.9	Jefferson County	0.3%	368.8	Pendleton County	0.2%	499.8
Caldwell County	0.1%	795.3	Jessamine County	0.3%	352.9	Perry County	0.2%	599.9
Calloway County	0.1%	832.2	Johnson County	0.1%	1368.4	Pike County	0.1%	900.5
Campbell County	0.2%	651.3	Kenton County	0.2%	620.9	Powell County	0.3%	388.6
Carlisle County	0.2%	553.1	Knott County	0.1%	836.4	Pulaski County	0.3%	360.6
Carroll County	0.3%	372.9	Knox County	0.1%	859.4	Robertson County	0.0%	0.0
Carter County	0.3%	336.1	Larue County	0.2%	429.7	Rockcastle County	0.1%	1051.6
Casey County	0.2%	567.5	Laurel County	0.2%	491.9	Rowan County	0.0%	7885.0
Christian County	0.2%	608.6	Lawrence County	0.1%	987.8	Russell County	0.2%	522.8
Clark County	0.8%	123.3	Lee County	0.2%	584.2	Scott County	0.3%	391.5
Clay County	0.2%	440.6	Leslie County	0.2%	574.6	Shelby County	0.1%	1019.9
Clinton County	0.2%	597.9	Letcher County	0.2%	458.0	Simpson County	0.4%	270.1
Crittenden County	0.1%	922.4	Lewis County	0.2%	578.3	Spencer County	0.1%	1104.3
Cumberland County	0.2%	449.7	Lincoln County	0.2%	407.4	Taylor County	0.3%	355.7
Daviess County	0.2%	634.0	Livingston County	0.3%	390.0	Todd County	0.1%	963.1
Edmonson County	0.1%	1334.8	Logan County	0.1%	814.2	Trigg County	0.2%	505.1
Elliott County	0.1%	1278.7	Lyon County	0.4%	281.0	Trimble County	0.3%	337.9
Estill County	0.2%	412.8	Madison County	0.2%	444.3	Union County	0.1%	947.8
Fayette County	0.2%	440.8	Magoffin County	0.2%	661.6	Warren County	0.3%	383.6
Fleming County	0.2%	581.8	Marion County	0.4%	225.7	Washington County	0.2%	664.4
Floyd County	0.4%	235.2	Marshall County	0.0%	4367.0	Wayne County	0.3%	353.2
Franklin County	0.2%	639.5	Martin County	0.1%	1434.8	Webster County	0.2%	661.8
Fulton County	0.3%	313.3	Mason County	0.2%	488.0	Whitley County	0.1%	1268.0
Gallatin County	0.4%	268.4	McCracken County	0.5%	221.1	Wolfe County	0.0%	3607.0
Garrard County	0.0%	2107.3	McCreary County	0.5%	184.4	Woodford County	0.2%	568.1

Appendix C

Interfacility & Medical Transports for Stroke Incidents by Scene County								
Name	%	Ratio						
Adair County	0.2%	548.7	Grant County	0.0%	4,975.0	McLean County	0.0%	0.0
Allen County	0.1%	1,698.7	Graves County	0.0%	2,212.8	Meade County	0.0%	29,139.0
Anderson County	0.0%	0.0	Grayson County	0.1%	689.3	Menifee County	0.0%	0.0
Ballard County	0.0%	0.0	Green County	0.2%	649.6	Mercer County	0.1%	926.9
Barren County	0.1%	938.0	Greenup County	0.0%	3,025.7	Metcalfe County	0.0%	0.0
Bath County	0.0%	12,206.0	Hancock County	0.1%	1,750.6	Monroe County	0.1%	713.6
Bell County	0.2%	617.3	Hardin County	0.2%	629.5	Montgomery County	0.3%	315.8
Boone County	0.0%	18,059.0	Harlan County	0.2%	640.1	Morgan County	0.1%	1,209.4
Bourbon County	0.1%	951.0	Harrison County	0.2%	641.1	Muhlenberg County	0.1%	1,076.1
Boyd County	0.4%	233.6	Hart County	0.1%	1,328.4	Nelson County	0.2%	649.4
Boyle County	0.5%	207.7	Henderson County	0.1%	1,498.9	Nicholas County	0.0%	0.0
Bracken County	0.0%	0.0	Henry County	0.0%	15,572.0	Ohio County	0.1%	1,141.8
Breathitt County	0.1%	1,031.5	Hickman County	0.0%	0.0	Oldham County	0.0%	2,760.4
Breckinridge County	0.1%	1,420.6	Hopkins County	0.4%	284.5	Owen County	0.0%	10,645.0
Bullitt County	0.0%	3,897.8	Jackson County	0.0%	13,289.0	Owsley County	0.1%	1,127.0
Butler County	0.0%	4,291.7	Jefferson County	0.1%	1,792.5	Pendleton County	0.0%	0.0
Caldwell County	0.0%	6,362.5	Jessamine County	0.0%	3,387.7	Perry County	0.2%	511.1
Calloway County	0.0%	6,380.3	Johnson County	0.1%	1,057.4	Pike County	0.1%	1,236.0
Campbell County	0.1%	1,732.7	Kenton County	0.0%	20,491.1	Powell County	0.0%	0.0
Carlisle County	0.0%	2,489.0	Knott County	0.0%	15,892.0	Pulaski County	0.1%	851.0
Carroll County	0.1%	831.9	Knox County	0.1%	1,177.7	Robertson County	0.0%	2,197.0
Carter County	0.0%	27,223.0	Larue County	0.0%	0.0	Rockcastle County	0.1%	989.8
Casey County	0.2%	529.7	Laurel County	0.2%	560.9	Rowan County	0.1%	1,971.3
Christian County	0.1%	1,427.9	Lawrence County	0.2%	545.0	Russell County	0.0%	2,221.8
Clark County	0.7%	147.8	Lee County	0.0%	0.0	Scott County	0.1%	1,250.8
Clay County	0.3%	364.6	Leslie County	0.2%	574.6	Shelby County	0.0%	14,958.3
Clinton County	0.2%	635.3	Letcher County	0.2%	417.1	Simpson County	0.0%	4,456.5
Crittenden County	0.0%	3,074.7	Lewis County	0.0%	2,776.0	Spencer County	0.0%	0.0
Cumberland County	0.2%	562.1	Lincoln County	0.1%	977.8	Taylor County	0.6%	181.7
Daviess County	0.0%	3,388.8	Livingston County	0.1%	1,559.8	Todd County	0.0%	0.0
Edmonson County	0.0%	0.0	Logan County	0.0%	2,686.7	Trigg County	0.1%	744.3
Elliott County	0.0%	0.0	Lyon County	0.0%	4,215.0	Trimble County	0.0%	0.0
Estill County	0.2%	401.3	Madison County	0.1%	710.0	Union County	0.2%	583.3
Fayette County	0.0%	8,178.9	Magoffin County	0.0%	8,931.5	Warren County	0.1%	1,942.9
Fleming County	0.2%	661.1	Marion County	0.7%	137.4	Washington County	0.0%	11,959.0
Floyd County	0.2%	560.4	Marshall County	0.0%	43,670.0	Wayne County	0.1%	890.7
Franklin County	0.1%	1,187.6	Martin County	0.0%	12,913.0	Webster County	0.0%	0.0
Fulton County	0.0%	3,132.5	Mason County	0.5%	200.1	Whitley County	0.3%	331.8
Gallatin County	0.0%	0.0	McCracken County	0.3%	372.9	Wolfe County	0.0%	0.0
Garrard County	0.0%	0.0	McCreary County	0.0%	6,268.5	Woodford County	0.0%	2,323.9