COMMUNITY PLAN FOR AMBULANCE ROUTING
FOR THE GREATER KANSAS CITY METROPOLITAN AREA

BACKGROUND

The Diversion Work Group of the Health Alliance of MidAmerica and Mid-America Regional Council Emergency Rescue (MARCER) Committee have adopted ambulance diversion guidelines for the greater Kansas City metropolitan area.

Each metropolitan EMS agency has a set of protocols and policies approved by their medical director and/or medical control board. These include ambulance routing protocols. The specific protocols utilize the “hospital diversion status” information supplied by a region wide, real-time tracking system and help the paramedic on the street make routing decisions with or without radio contact with a medical control physician. The ambulance routing protocols of the largest metropolitan EMS systems (Kansas City, Missouri EMS System with its Emergency Physicians Advisory Board, the Kansas City, Kansas EMS System and Kansas City Medical Society), while similar, are not the same. In addition, there are multiple smaller EMS agencies with their own protocols.

In 2018, the Kansas City workgroup began managing ED Diversions through identification, coordination and communication of hospitals experiencing high volumes.

EMResource®

MARCER, with the endorsement and cooperation of multiple agencies, organizations and hospitals, has implemented EMResource® across the Kansas City metropolitan region. “EMResource® is a Web-based program providing real-time information on hospital emergency department status, hospital patient capacity, availability of staffed beds and available specialized treatment capabilities. EMResource® is used to coordinate “routine” and emergency medical operations (e.g. mass casualty incidents or MCIs) throughout the region.”

The EMResource® is an information system. “With EMResource®, the definition of hospital status is standardized across the entire Kansas City metropolitan area. Emergency medical providers and/or emergency medical systems should continue to follow their local policies and procedures regarding the determination of hospital destinations. It is up to each EMS agency to determine what they will do with the status information on and further communicate their operational plans to their respective hospitals of interest. EMResource® provides standardized information to facilitate patient routing decisions.”
1. Patient care and safety should be the central consideration in all status change decisions. EMS should consider alternative destinations for patient routing when hospitals experience high volume.

2. The decision to communicate a change in status should be based on the immediate capabilities and capacities of the emergency department and institution to care for patients. (An exception is trauma diversion, in which availability of an operating room or appropriate surgeon may limit the ability to function as a trauma center.)

3. Patients who are in cardiac arrest will be taken to the closest appropriate hospital, unless the hospital is “out of service.” Patients who are “unstable” may still be taken to the closest appropriate hospital, unless it is “out of service” or on “trauma diversion” (for “unstable” trauma patients only).

4. Patients should be taken to the nearest, open and appropriate hospital. If a patient requests transport to a facility that is experiencing high volume and is informed of this status, then the medic may take the patient to the hospital of their choice. EMS agencies shall follow their local policies regarding appropriate documentation of such patient requests.

5. Designated trauma centers may close to ambulances carrying patients who meet EMS trauma routing criteria.

6. Designated trauma centers may remain open for EMS trauma routing, while the ED is experiencing high volume.

7. Designated STEMI and/or stroke centers may close to ambulances that have patients that meet TCD routing criteria for STEMI and/or stroke.

8. Designated STEMI and/or stroke centers may remain open for patients meeting TCD routing criteria, while the ED is experiencing high volume.

9. No facility can close to patients on the basis of ability to pay.

10. Hospitals changing their status must do so prior to being notified of an ambulance’s impending arrival (i.e. there should be no “diversions in route”). During multicasualty incidents (MCI) the EMS agency may distribute patients to multiple facilities in order to optimize utilization of resources.

11. Each hospital should develop its own internal policy regarding emergency department status changes.

12. Status notifications should be made to all EMS providers, hospitals and EMCCs (Emergency Coordination Centers) through EMResource®. (If there is a local problem with EMResource®, the appropriate EMCC can be contacted by phone or FAX and enter the notification into EMResource®.)
13. If all hospitals within a predefined catchment area are experiencing high volume, then all hospitals in the catchment area will have their status changed to “catchment area high volume” and the patient will be taken to the closest appropriate hospital within the catchment area (with the exception of hospitals that are out of service).

A. If all hospitals in a catchment area are “experiencing high volume” and therefore all hospitals in the catchment area have their status changed to “catchment area high volume” then ambulances transporting patients to these hospitals will be distributed in a fashion so to equalize as much as possible the number of patients going to these hospitals.

B. If a trauma, STEMI or stroke center is in a catchment area in which all hospitals are now experiencing high volume, and as such all hospitals in the catchment area have their status changed to “catchment area high volume,” it does not automatically mean that the trauma, STEMI or stroke center is open for trauma, STEMI or stroke patients. (There are specific criteria that must be met in order to be designated a trauma, STEMI or stroke center.) That decision is made by the involved trauma, STEMI or stroke center.

14. In the event hospital EDs across the region become saturated as defined by any time one half of the metropolitan area catchment hospitals are “experiencing high volume” or during a large scale mass casualty incident occurrence, the EMResource® Administrator or Healthcare Coalition leadership has the authority to temporarily suspend the “high volume” option of the community plan. The suspension of “high volume” would be for an eight (8) hour period and then re-evaluated. The temporary suspension of the community plan does not affect other EMResource® categories related to TCD or out of service conditions.

15. The Kansas City community plan for ambulance diversion makes a clear distinction between emergency transport of patients who require emergency care and individual hospital policies regarding the transportation and receiving of patients for direct admission to the hospital. Specific examples include patients who require hospital admission from a primary care physician’s office, recently discharged surgical patients, or patient transport from a nursing home to a hospital for non-life threatening conditions. Hospitals whose emergency departments become overwhelmed and are experiencing “high volume” may continue to accept such patients by ambulance for direct admission to the hospital. Since direct admission policy and procedures may vary from one hospital to another, EMS agencies and hospitals are encouraged to work closely together to coordinate direct admissions to avoid additional congestion in the ED.

16. MARCER and the Health Alliance of MidAmerica have jointly developed a process to track hospital statuses, to monitor trends, to monitor compliance with protocols and to produce appropriate reports for routine review.
DEFINITIONS

Diversion – The rerouting of an ambulance(s) from the intended receiving facility to an alternate receiving facility due to a temporary lack of critical resources in the intended receiving facility.

ED Diversion Status Categories:

**OPEN** – The hospital ED is open to all ambulance traffic.
*Note: All hospitals must update their “OPEN” status at least two times a day at 0800 and 2000.*

**HIGH VOLUME** – The hospital ED is experiencing high volumes. When appropriate, alternate destinations should be evaluated for patient routing. The decision for this status change has been reviewed and approved by appropriate organizational leadership with the understanding that it is a solution of last resort to mitigate high volumes.

**CATCHMENT AREA HIGH VOLUME** – All hospitals within their catchment area are experiencing high volume.
*Note: Hospitals must remain open with this status for at least one (1) hour before changing their status back to “HIGH VOLUME.”*

**CLOSED TO TCD** – The emergency department is functioning but cannot accept ambulance patients for TCD due to a temporary resource limitation.
*(PLEASE SELECT APPROPRIATE TCD LIMITATION)*
*Note: EMResource® must be updated each hour (at one hour intervals) when on “CLOSED TO TCD” status.*

**OUT OF SERVICE** – The emergency department has suffered structural damage, loss of power, an exposure threat or other conditions that precludes the admission and care of any new patients.
*Note: EMResource® must be updated each hour (at one hour intervals) when on “OUT OF SERVICE” status.*

**Because EMResource® is monitored by the Missouri Department of Health and Senior Services Emergency Response Center for broad health infrastructure situational awareness, failure to provide detailed information regarding this status change will result in follow up communication from state public health staff.**

Time Critical Diagnosis Status Categories:

**OPEN TO TRAUMA** – Designated trauma center is open for EMS trauma routing criteria.

**CLOSED TO TRAUMA** – Designated trauma centers may close to ambulances carrying patients who meet EMS trauma routing criteria.
Note: EMResource® must be updated each hour (at one hour intervals) when on “CLOSED TO TRAUMA” status.

OPEN TO STEMI – Designated STEMI center is open to ambulances that have patients that meet STEMI routing criteria.

CLOSED TO STEMI – Designated STEMI centers may close to ambulances that have patients that meet STEMI ROUTING CRITERIA.
Note: EMResource® must be updated each hour (at one hour intervals) when on “CLOSED TO STEMI” status.

OPEN TO STROKE – Designated stroke center is open to ambulances that have patients that meet stroke routing criteria.

CLOSED TO STROKE – Designated stroke centers may close to ambulances that have patients that meet stroke routing criteria.
Note: EMResource® must be updated each hour (at one hour intervals) when on “CLOSED TO STROKE” status.

Hub Hospital – The hub hospital is defined as the preferred location for emergency care. The preferred hospital location factors may include:

- transport for trauma care
- transport for specialty care
- patient choice
- direct admissions
- proximity
- children’s hospital

Catchment Area – Catchment areas are comprised of one hub hospital and three or more hospitals that are related by multiple factors such as ground time, capabilities and traffic flow for diversion purposes. A hospital may be part of more than one group. These catchment hospitals are to be defined and reviewed at least annually by MARCER. Attachment A contains a list of participating hospitals and their respective catchment designations.

Unstable – unable to establish or maintain an airway
unable to ventilate
unremitting shock
as otherwise defined in appropriate EMS agency protocols, (including as determined with medical control contact)
PROCEDURES

1. The decision to initiate or terminate a status change rests with the individual hospital according to their written policies.

2. Criteria to determine the necessity of implementing an emergency department status change include: ED bed saturation; number of patients in the ED waiting area, as well as patient waiting times; number of ambulance patients waiting or en route; acuity of patients waiting to be admitted; and ED staffing capabilities. Forms for tracking this information are available on EMResource® or at the MARCER web site.

3. The status change is initiated or terminated using EMResource® according to the EMResource® Protocols and Policies.

4. For participating Missouri hospitals in the Kansas City region, the EMResource® will automatically notify the Missouri Department of Health and Senior Services (DHSS) of a change in hospital status via their EMResource® view. In the event that EMResource® is not operational at the time of the status change, participating Missouri hospitals will send DHSS a fax notification or, by other electronic means, report the commencement of status change.

5. The appropriate EMCC and/or EMS dispatch center assures that ambulance crews in the field are informed of hospital status on a “real-time” basis through their own written policies, protocols or standard operating procedures.

6. The ambulance crews in the field use all appropriate information to make the destination determination. In some systems this may also include on-line contact with a medical control physician.

7. Within eight (8) hours of termination of the status change, participating Missouri hospitals in the Kansas City region will report the following information to the Missouri DHSS via EMResource® or by other electronic means:

   A. time of status change initiation
   B. name of individual who made the decision to implement the status change
   C. reason for the change of status
   D. time the status change was terminated
   E. name of the individual who made the decision to terminate the change of status
REFERENCES

1) National Association of Emergency Medical Services Physicians Position Paper: Ambulance Diversion; approved by the NAEMSP Board of Directors, July 26, 1995

2) EMResource® Protocols and Policies; MARCER, June 2000


4) East Metro Ambulance Diversion Policy; East Metro Hospital, St. Paul, MN, June 30, 2000

5) Emergency Department Diversion Guidelines of the St. Louis Emergency Physicians Association; St. Louis, MO August 2000
### Regional Catchment Areas for Ambulance Routing

<table>
<thead>
<tr>
<th>Hub Hospital</th>
<th>Catchment Area</th>
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| Centerpoint Medical Center          | Centerpoint Medical Center  
                            Lee’s Summit Medical Center  
                            Saint Luke’s East Hospital  
                            St. Mary’s Medical Center  
                            Truman Medical Center, Lakewood                                           |
| Lee’s Summit Medical Center         | Centerpoint Medical Center  
                            Lee’s Summit Medical Center  
                            Research Medical Center*  
                            Saint Luke’s East Hospital  
                            Truman Medical Center, Lakewood                                           |
| Liberty Hospital                    | Liberty Hospital  
                            North Kansas City Hospital*  
                            Saint Luke’s North Hospital – Barry Rd*                                   |
| Menorah Medical Center              | Menorah Medical Center  
                            Olathe Medical Center  
                            Overland Park Regional Medical Center  
                            St. Joseph Medical Center  
                            Saint Luke’s South Hospital                                                 |
| North Kansas City Hospital          | Liberty Hospital*  
                            North Kansas City Hospital  
                            Saint Luke’s North Hospital – Barry Rd*  
                            Truman Medical Center, Hospital Hill                                        |
| Olathe Medical Center               | Menorah Medical Center*  
                            Olathe Medical Center  
                            Overland Park Regional Medical Center  
                            Saint Luke’s South Hospital*  
                            St. Joseph Medical Center                                                   |
<table>
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<tr>
<th>Hub Hospital</th>
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<tr>
<td><strong>Overland Park Regional Medical Center</strong></td>
<td>Menorah Medical Center&lt;br&gt;Olathe Medical Center&lt;br&gt;Overland Park Regional Medical Center&lt;br&gt;St. Joseph Medical Center&lt;br&gt;Saint Luke’s South Hospital&lt;br&gt;Shawnee Mission Medical Center</td>
</tr>
<tr>
<td><strong>Providence Medical Center</strong></td>
<td>Overland Park Regional Medical Center*&lt;br&gt;Providence Medical Center&lt;br&gt;Shawnee Mission Medical Center*&lt;br&gt;University of Kansas Hospital*</td>
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<tr>
<td><strong>Research Medical Center</strong></td>
<td>Research Medical Center&lt;br&gt;St. Joseph Medical Center&lt;br&gt;Saint Luke’s Hospital of Kansas City&lt;br&gt;Truman Medical Center, Hospital Hill</td>
</tr>
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<td><strong>St. Joseph Medical Center</strong></td>
<td>Menorah Medical Center&lt;br&gt;Olathe Medical Center&lt;br&gt;Overland Park Regional Medical Center&lt;br&gt;Research Medical Center&lt;br&gt;St. Joseph Medical Center</td>
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<tr>
<td><strong>Saint Luke’s East Hospital</strong></td>
<td>Centerpoint Medical Center&lt;br&gt;Lee’s Summit Medical Center&lt;br&gt;Saint Luke’s East Hospital&lt;br&gt;Truman Medical Center, Lakewood</td>
</tr>
<tr>
<td><strong>Saint Luke’s North Hospital – Barry Road</strong></td>
<td>Liberty Hospital*&lt;br&gt;North Kansas City Hospital*&lt;br&gt;Saint Luke’s North Hospital – Barry Road</td>
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<td><strong>Saint Luke’s South Hospital</strong></td>
<td>Menorah Medical Center&lt;br&gt;Olathe Medical Center*&lt;br&gt;Overland Park Regional Medical Center&lt;br&gt;St. Joseph Medical Center&lt;br&gt;Saint Luke’s South Hospital</td>
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| **Shawnee Mission Medical Center**| Overland Park Regional Medical Center  
                                 | Olathe Medical Center*  
                                 | Saint Luke’s South Hospital*  
                                 | Shawnee Mission Medical Center  
                                 | University of Kansas Hospital |
| **St. Mary’s Medical Center**      | Centerpoint Medical Center  
                                 | Lee’s Summit Medical Center *  
                                 | Saint Luke’s East Hospital *  
                                 | St. Mary’s Medical Center  
                                 | Truman Medical Center, Lakewood* |
| **Truman Medical Center, Hospital Hill**| North Kansas City Hospital  
                                 | Research Medical Center  
                                 | Saint Luke’s Hospital of Kansas City  
                                 | Truman Medical Center, Hospital Hill  
                                 | University of Kansas Hospital |
| **Truman Medical Center, Lakewood**| Centerpoint Medical Center  
                                 | Lee's Summit Medical Center  
                                 | Saint Luke’s East Hospital  
                                 | St. Mary’s Medical Center  
                                 | Truman Medical Center, Lakewood |
| **University of Kansas Hospital**  | Research Medical Center  
                                 | Saint Luke’s Hospital of Kansas City  
                                 | Shawnee Mission Medical Center  
                                 | Truman Medical Center, Hospital Hill  
                                 | University of Kansas Hospital |

* Indicates a greater than 15 minute drive time.

The following hospitals are not included in the catchment area designations for identified reasons.

<table>
<thead>
<tr>
<th>Hospital</th>
<th>Reason for Exclusion</th>
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| Children’s Mercy Hospital Adele Hall  
Children’s Mercy Kansas                       | Special population: Pediatric capability         |
| Veteran’s Administration Hospital             | Special population                              |
| Bates County Memorial Hospital (Butler, Missouri)  
Belton Regional Medical Center (Belton, Missouri) | Geographic distance to the metropolitan region  |
Cass Regional Medical Center (Harrisonville, Missouri)
Cushing Memorial Hospital (Leavenworth, Kansas)
Excelsior Springs Hospital (Excelsior Springs, Missouri)
Lafayette Regional Health Center (Lexington, Missouri)
Lawrence Memorial Hospital (Lawrence, Kansas)
Saint John Hospital (Leavenworth, Kansas)

Research Medical Center Brookside Campus (formally Baptist Lutheran Medical Center)
Lee’s Summit Medical Center–Summit Ridge Campus (former site for Lee’s Summit Hospital)

Overland Park Regional of Olathe
Overland Park Regional of Shawnee
Saint Luke’s Community Hospital at Leawood
Saint Luke’s Community Hospital at Legends
Saint Luke’s Community Hospital at North Overland Park
Saint Luke’s Community Hospital at Roeland Park
Saint Luke’s Community Hospital at Olathe
Saint Luke’s Community Hospital at South Overland Park
Saint Luke’s Community Hospital at Shawnee
Shawnee Mission Prairie Star (Lenexa)
Shawnee Mission Bluehawk (South Overland Park)

Approved: 3/27/02
Revised: 1/27/04
Revised: 2/15/05
Revised: 3/29/05 — Addition of Saint Luke’s East - Lee’s Summit Campus to catchment areas
Revised: 6/1/05 — Addition of new Trauma Only status
Revised: 3/13/07 — Addition of Centerpoint Medical Center to catchment areas and pending removal of Independence Regional Medical Center and Medical Center of Independence due to expected closure in late spring 2007. Removal of Baptist Lutheran Medical Center (now Research Medical Center Brookside Campus) due to limited inpatient capabilities.
Revised: 3/30/07 — Addition of Olathe Medical Center to Menorah Medical Center catchment area
Revised: 2/13/08 — Clarification of protocols and time frames for each EMResource status category, removal of Independence Regional Medical Center and Medical Center of Independence due to opening of Centerpoint Medical Center, plus notation of ED at Lee’s Summit Medical Center – Summit Ridge Campus.
Revised: 5/21/09 — Add EMS trauma routing criteria language
Revised: 11/16/09 — Add provision to temporarily suspend “Closed to Ambulance” during region saturation
Revised: 3/24/11 — Add new STEMI and Stoke Center diversion categories; change all references from EMSystem® to EMResource® (May 2, 2011, implementation date)
Revised: 3/13/13 — Updated hub and catchment areas with hospital name changes as well as the footnotes to include Children’s Mercy South

Revised: 8/18/15 — Updated reference on page one to the Medical Society of Johnson/Wyandotte County EMS Physicians Advisory Committee

Revised: 8/11/16 — Minor edits and changes to Trauma Center references, plus two significant policy modifications to 1) permit patient requests; and 2) change the definition of “Closed to Ambulances” which will automatically return closed EDs to “Open” status following one hour of elapsed time

Approved: 9/12/17 — Agreed to evaluate and modify EMResource® definitions for ED and TCD Diversions prior to next annual review

Revised: 10/30/2018 — Plan edits to modify language to reflect actual practice. Diversion terminology was replaced with status changes when hospitals experience high volume, addition of micro hospitals and standalone emergency rooms