SEDGWICK COUNTY EMS

STRATEGIC PLAN

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Sedgwick County Emergency Medical Service (EMS) is at an exciting and expansive stage of out-of-hospital healthcare delivery. To guide this next stage of growth, we conducted a strategic planning process. We solicited input from a broad range of stakeholders to develop this plan as the foundation of care delivery that is patient centered, team based, community driven, and in which compassionate and competent care is paramount.

The vision, outlined in this Strategic Plan, is “Sedgwick County EMS will make a measurable improvement in the health of the community”. Its accompanying mission and core values embeds concepts of patient-centered care, health improvement, timeliness and efficiency, recognizing that evidence-based service delivery requires highly skilled and valued staff supported by research, education and state-of-the-art technologies. The plan’s strategies identify how these aspirations will be realized in service delivery.

Based on this process, we developed a disciplined long-term approach to expanding the scope and impact of our work. This strategic plan provides a clear blueprint for Sedgwick County EMS’ future. At its core, the plan shows the way toward building on our strengths as a nexus for innovation and the hub of healthcare delivery and sustainability. It outlines a focused direction for maximizing our resource effectiveness, preparing and empowering our workforce, and enhancing healthcare delivery to our community.

We envision a system rooted in emergent and non-emergent care, integrated with a variety of healthcare disciplines and community resources, and truly accessible to our citizens. We recognize that EMS providers in the care delivery system are one among many community participants that must work together to achieve the broader goal of improved community health. There is utility and value in collaborating and combining our disparate efforts in support of the collective good.

I am proud to deliver this multi-year Strategic Plan for Sedgwick County EMS which readies us for the future and its challenges. This ensures that our strategic direction will be well aligned with the needs and aspirations of our community and our staff.

Scott R Hadley
Director
2. SCEMS Outline

MISSION

*Sedgwick County EMS is committed to providing quality out-of-hospital health care.*

VISION

*Sedgwick County EMS will make measurable improvement in the health of the community.*
Core Values

Safe
Team-based
Attentive to human needs
Respectful
Customer accountable
Appropriate
Reasonable
Ethical

patient focused...

patient centered...

patient driven
3. Influencing Factors
Sedgwick County Emergency Medical Service (SCEMS) was created in 1974 per a City of Wichita/Sedgwick County agreement to provide emergency response and scheduled ambulatory transfers. Prior to 1974, a private provider, Metropolitan, provided EMS services to the community. Today, SCEMS is the exclusive County provider and the primary agency responsible for out-of-hospital care and transportation to those who become acutely ill or injured and require medical transport. EMS also is responsible for those who require scheduled ambulance transportation for routine medical transfers. SCEMS serves a population of approximately 510,000 residents in a geographic area of approximately 1,000 square miles.

The agency is accredited through the Commission on Accreditation of Ambulances Services (CAAS). SCEMS was initially accredited in 2010 and was granted full, 3-year reaccreditation status in 2016. SCEMS is one of two accredited EMS agencies in the state of Kansas, and one of only 180 accredited services in the country (there are approximately 16,000 EMS agencies in the U.S.).

Within the Sedgwick County structure, EMS is a part of the Department of Public Safety and reports directly to the Public Safety Director. As part of the new guiding principles and priority setting process under the County Manager, EMS is considered an essential core service and part of Tier 1 Functions. These are the highest priorities for the County.

Crews are stationed at 16 posts throughout Sedgwick County. (See Attachment 1: EMS Stations) *Post 16 is under construction and projected to be complete by August 2017.

- EMS Administration, 1015 Stillwell, Wichita
- Post 1 – 2622 W. Central, Wichita
- Post 2 – 1903 W. Pawnee, Wichita
- Post 3 – 3002 E. Central, Wichita
- Post 4 – 1100 S. Clifton, Wichita
- Post 5 – 698 Caddy Lane, Wichita
- Post 6 – 6401 Mabel, Haysville
- Post 7 – 1535 S. 199th St. W., Goddard
- Post 8 – 501 E. 53rd St. N., Wichita
- Post 9 – 1218 S. Webb Rd., Wichita
- Post 10 – 636 N. St. Francis, Wichita
- Post 11 – 1401 N. Rock Rd., Derby
- Post 12 – 3320 N. Hillside, Wichita
- Post 14 – 4030 N. Reed, Maize
- Post 16 – 5055 S. Oliver, Wichita*
- Post 45 – 616 E. 5th St., Valley Center

SCEMS serves 24 cities in Sedgwick County along with rural areas of the County, McConnell Air Force Base, and provides mutual aid upon request to a 19 county region within south-central Kansas. Appendix A outlines the call volume by jurisdictional code. Not surprisingly, almost 85 percent of responses since 2011 originated in Wichita, while almost 6 percent originated in the unincorporated areas of Sedgwick County, and almost 3 percent originated in Derby. Other jurisdictions have significantly fewer calls that originate from their residents with as few as six calls originating in Schulte.
In 2015, SCEMS responded to 64,049 requests for service and transported 43,168 patients. During the past decade, SCEMS has experienced on average a three percent per year increase in call demand. In 2015, the total call volume was over five percent higher than in 2014, and the patient transport volume was almost six percent higher.

During that past decade (2006 – 2015), SCEMS has experienced a 44 percent overall call demand increase and a 45 percent increase in total patient transport volume (Chart 1).

Chart 1. Call Volume
Although SCEMS has “fixed” station locations, the department uses dynamic deployment strategies and peak demand staffing models to ensure the effective and efficient allocation of resources. The agency has invested in sophisticated software using graphic information systems (GIS) and global positioning system (GPS) technology to enhance system performance. Geospatial demand (where calls are occurring) is monitored and analyzed for trends as depicted in Map 1.

Emergency Communications (9-1-1) dispatchers and EMS supervisors monitor historical demand patterns and real-time system trends. Based on these observations, they “move” available system resources (ambulances) to meet the changing demand to ensure responsiveness to citizen needs.

Map 1. Geospatial Demand
In conjunction with geospatial patterns, temporal demand analysis (when calls occur over time) is observed at regular intervals. The cumulative temporal demand estimates enable management to optimize deployment strategies and to adjust staffing levels to meet customers demand more reliably, effectively, and efficiently.

Graph 1 outlines the aggregate temporal demand for 2015 (the blue area of the graph is the average peak demand, the solid red line is the number of staffed ambulances, and the black dotted line represents optimal staffed ambulances by hour of the day). As shown, SCEMS is currently staffed at 19 ambulances at peak demand times during the day and reduced to 13 staffed ambulances during the overnight hours when there is less demand.

The primary goal is to provide patients with the right resource(s) in the right time while managing operational costs. With the increase in demand SCEMS has experienced coupled with the geospatial and temporal trends, addressing critical infrastructure and resource needs is vital.
With the increased demand, the department has to respond to these changes. During the past few years, resources have been reallocated, one ambulance and four paramedics have been added (2015), and new software has been utilized to streamline processes. System stress has the potential to result in increased turnover, employee injuries, and compromised care for patients. Figure 1 identifies department turnover (*permanent full time employees) from 2011 to 2015.

**Figure 1. Turnover, 2011-2015**

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Separations</td>
<td>14</td>
<td>17</td>
<td>26</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>Turnover</td>
<td>8.4%</td>
<td>10.8%</td>
<td>15.1%</td>
<td>13.5%</td>
<td>12.6%</td>
</tr>
<tr>
<td>Voluntary</td>
<td>7.8%</td>
<td>8.3%</td>
<td>15.1%</td>
<td>12.3%</td>
<td>12.0%</td>
</tr>
<tr>
<td>Involuntary</td>
<td>0.6%</td>
<td>1.8%</td>
<td>0.0%</td>
<td>1.2%</td>
<td>0.6%</td>
</tr>
</tbody>
</table>

Due to the cost of training new staff and loss of institutional knowledge, retaining quality and competent employees is a critical issue for any department. Figure 2 provides comparison with other departments within Sedgwick County. In addition to voluntary turnover, the potential exists for increased absenteeism due to less down-time while working on shifts.

**Figure 2. Retention Rate Compared to Other Sedgwick County Public Safety Departments**

<table>
<thead>
<tr>
<th></th>
<th>2011</th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Separations</td>
<td>EMS</td>
<td>14</td>
<td>17</td>
<td>26</td>
<td>23</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>14</td>
<td>6</td>
<td>6</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>Sheriff</td>
<td>59</td>
<td>55</td>
<td>51</td>
<td>63</td>
</tr>
<tr>
<td></td>
<td>Emergency Communications</td>
<td>26</td>
<td>19</td>
<td>23</td>
<td>18</td>
</tr>
<tr>
<td>Turnover</td>
<td>EMS</td>
<td>8.4%</td>
<td>10.8%</td>
<td>15.1%</td>
<td>13.5%</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>9.2%</td>
<td>4.2%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>Sheriff</td>
<td>10.4%</td>
<td>10.1%</td>
<td>9.3%</td>
<td>11.3%</td>
</tr>
<tr>
<td></td>
<td>Emergency Communications</td>
<td>25.3%</td>
<td>19.4%</td>
<td>21.9%</td>
<td>18.0%</td>
</tr>
<tr>
<td>Voluntary</td>
<td>EMS</td>
<td>7.8%</td>
<td>8.3%</td>
<td>15.1%</td>
<td>12.3%</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>9.2%</td>
<td>3.5%</td>
<td>4.1%</td>
<td>4.2%</td>
</tr>
<tr>
<td></td>
<td>Sheriff</td>
<td>9.3%</td>
<td>9.1%</td>
<td>8.4%</td>
<td>10.2%</td>
</tr>
<tr>
<td></td>
<td>Emergency Communications</td>
<td>22.4%</td>
<td>18.4%</td>
<td>21.9%</td>
<td>15.0%</td>
</tr>
<tr>
<td>Involuntary</td>
<td>EMS</td>
<td>0.6%</td>
<td>1.8%</td>
<td>0.0%</td>
<td>1.2%</td>
</tr>
<tr>
<td></td>
<td>Fire</td>
<td>0.0%</td>
<td>0.7%</td>
<td>0.0%</td>
<td>0.0%</td>
</tr>
<tr>
<td></td>
<td>Sheriff</td>
<td>1.1%</td>
<td>0.9%</td>
<td>0.9%</td>
<td>1.1%</td>
</tr>
<tr>
<td></td>
<td>Emergency Communications</td>
<td>2.9%</td>
<td>1.0%</td>
<td>0.00%</td>
<td>3.0%</td>
</tr>
</tbody>
</table>
The department tracks performance measures through a County-wide system of goals and objectives. Currently, the department tracks its performance on three goals and several objectives subordinate to the three overall goals.

**Figure 3. SCEMS Performance Measures, 2014-2016**

<table>
<thead>
<tr>
<th>Goal/Objective</th>
<th>Target</th>
<th>2014 Actual</th>
<th>2015 Estimated</th>
<th>2016 Projected</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Goal 1: Provide clinically superior medical care for customers</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Return of spontaneous circulation*</td>
<td>35%</td>
<td>33%</td>
<td>32%</td>
<td>33%</td>
</tr>
<tr>
<td>Chest compression fraction target**</td>
<td>90%</td>
<td>95%</td>
<td>96%</td>
<td>96%</td>
</tr>
<tr>
<td>Aspirin administration to cardiac-related chest pain</td>
<td>95%</td>
<td>81%</td>
<td>92%</td>
<td>95%</td>
</tr>
<tr>
<td><strong>Goal 2: Provide customers with reliable and timely responses to requests for service</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Urban response time (Priority 1 calls)</td>
<td>8 minutes, 59 seconds 90% of the time</td>
<td>91%</td>
<td>91%</td>
<td>90%</td>
</tr>
<tr>
<td>County-wide response time (Priority 1 calls)</td>
<td>9 minutes, 59 seconds 90% of the time</td>
<td>93%</td>
<td>94%</td>
<td>92%</td>
</tr>
<tr>
<td>County-wide response time (All priorities)</td>
<td>10 minutes, 59 seconds 90% of the time</td>
<td>95%</td>
<td>96%</td>
<td>95%</td>
</tr>
<tr>
<td>Non-emergent response time</td>
<td>59 minutes, 59 seconds 90% of the time</td>
<td>84%</td>
<td>83%</td>
<td>91%</td>
</tr>
<tr>
<td>Chute time compliance ***</td>
<td>&lt; 1 minute 90% of the time</td>
<td>93%</td>
<td>92%</td>
<td>92%</td>
</tr>
<tr>
<td>Drop time compliance ****</td>
<td>&lt; 30 minutes 90% of the time</td>
<td>97%</td>
<td>96%</td>
<td>96%</td>
</tr>
<tr>
<td>Call volume growth</td>
<td>N/A</td>
<td>4%</td>
<td>4%</td>
<td>4%</td>
</tr>
<tr>
<td><strong>Goal 3: Operate the system in an economically efficient manner</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Average collection per transport</td>
<td>$315.00</td>
<td>$311.07</td>
<td>$315.00</td>
<td>$330.00</td>
</tr>
<tr>
<td>System unit hour utilization (transport)*****</td>
<td>0.30</td>
<td>0.30</td>
<td>0.31</td>
<td>0.32</td>
</tr>
<tr>
<td>Cost per response</td>
<td>$295.00</td>
<td>$275.03</td>
<td>$285.00</td>
<td>$270.00</td>
</tr>
<tr>
<td>Cost per transport</td>
<td>$400.00</td>
<td>$409.02</td>
<td>$425.00</td>
<td>$410.00</td>
</tr>
</tbody>
</table>

* The resumption of sustained cardiac activity associated with significant respiratory effort after cardiac arrest. Signs of Return on Spontaneous Circulation (ROSC) include breathing, coughing, or movement and a palpable pulse or a measurable blood pressure.
** Chest compression fraction is the percentage of time in which chest compressions are done by rescuers during a cardiac arrest.
*** Chute time is measured from the time when a call is dispatched until the time when an emergency vehicle begins continuous travel to a call.
**** Drop time is the amount of time it takes emergency medical workers to transfer a patient from an ambulance stretcher to a hospital bed, and provide an oral report to receiving staff.
***** Unit hour utilization is calculated by dividing the number of transports by the number of unit hours, with one unit hour defined as a fully equipped and staffed vehicle in our EMS system.

Of particular interest to many are the response times identified as performance measures. The measures used by SCEMS are driven in part by generally accepted industry-wide standards for response times in urban, suburban and rural areas. However, these metrics differ from community to community and to date there is very little scientific evidence (for the vast majority of patients) that support responses times influence patient outcomes.
There are minimal federal or state subsidies for EMS systems throughout the nation. As a result, most rely on billing patients to offset operating costs. This “fee-for-transport” funding model is based on the federal government’s reimbursement model for Medicare and Medicaid patients. Seeking reimbursement for transport to an emergency department has increasingly been insufficient to cover costs, as the price of commodities and staffing has increased. The model does not take into account: (1) the costs of caring for patients who ultimately refuse transport to a hospital; and (2) the “costs of readiness,” the costs associated with maintaining the capability to respond to an emergency at any time. As a result, most local governments subsidize their EMS systems to various degrees by leveraging property taxes. The tax subsidy for Sedgwick County EMS is considerably less than other jurisdictions. Each of the agencies in the chart below are operated by city/county governments with tax support to help fund EMS operations. The Sedgwick County agency has adopted efficiencies to ensure that more tax support is not required.

**Figure 4. Dollars per Capita Tax Subsidy for EMS Operations 2016**

<table>
<thead>
<tr>
<th>Jurisdiction</th>
<th>Population</th>
<th>Amount of Subsidization</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sedgwick County</td>
<td>508,803</td>
<td>$5.78</td>
</tr>
<tr>
<td>Butler County</td>
<td>65,803</td>
<td>$11.07</td>
</tr>
<tr>
<td>Wake County (NC)</td>
<td>974,289</td>
<td>$13.67</td>
</tr>
<tr>
<td>Johnson County (KS)</td>
<td>574,272</td>
<td>$21.18</td>
</tr>
<tr>
<td>Travis County (TX)</td>
<td>1,121,000</td>
<td>$32.28</td>
</tr>
</tbody>
</table>

Of particular interest is Johnson County, which can be compared to Sedgwick County’s EMS operation because of Johnson County’s geographical location to Sedgwick County and population density. Figure 4 is a table that represents the categorical comparison between the two EMS operations.

**Figure 4. Sedgwick County vs. Johnson County Categorical Comparison**

<table>
<thead>
<tr>
<th>Category</th>
<th>Sedgwick County</th>
<th>Johnson County</th>
<th>Difference (SC – JC)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population (2014)</td>
<td>508,803</td>
<td>574,272</td>
<td>(13%)</td>
</tr>
<tr>
<td>Coverage Area (Square Miles)</td>
<td>1,008</td>
<td>480</td>
<td>110%</td>
</tr>
<tr>
<td>Call Volume (2015)</td>
<td>64,049</td>
<td>38,300</td>
<td>67%</td>
</tr>
<tr>
<td>Transport Volume (2015)</td>
<td>43,168</td>
<td>27,000</td>
<td>60%</td>
</tr>
<tr>
<td>Number of Ambulances (2016)</td>
<td>17</td>
<td>17</td>
<td>(6.3%)</td>
</tr>
<tr>
<td>FTE’s (2016)</td>
<td>174.9</td>
<td>136.53</td>
<td>28%</td>
</tr>
<tr>
<td>Total Budget (2016)</td>
<td>$18,076,814</td>
<td>$19,827,379</td>
<td>($1,750,565)</td>
</tr>
<tr>
<td>Personnel Costs (2016)</td>
<td>$13,779,089</td>
<td>$14,779,350</td>
<td>($1,000,261)</td>
</tr>
<tr>
<td>Commodities Costs (2016)</td>
<td>$1,125,115</td>
<td>$1,212,498</td>
<td>($87,383)</td>
</tr>
<tr>
<td>Revenues/User Fees (2016)</td>
<td>$14,455,546</td>
<td>$7,661,951</td>
<td>$6,793,595</td>
</tr>
<tr>
<td>Average Revenue Transport (2015)</td>
<td>$334.87</td>
<td>$283.78</td>
<td>$51.09</td>
</tr>
<tr>
<td>Tax Subsidy (2016)</td>
<td>$2,941,810</td>
<td>$12,165,428</td>
<td>($9,223,618)</td>
</tr>
</tbody>
</table>
The National EMS Advisory Board found in 2012 a national payer mix as identified in Figure 5.¹

### Figure 5. National Payer Mix

<table>
<thead>
<tr>
<th>Payer</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medicare</td>
<td>44%</td>
</tr>
<tr>
<td>Medicaid</td>
<td>14%</td>
</tr>
<tr>
<td>Private Payer</td>
<td>14%</td>
</tr>
<tr>
<td>Commercial Insurance</td>
<td>21%</td>
</tr>
<tr>
<td>Other</td>
<td>7%</td>
</tr>
</tbody>
</table>

See Figure 6 for the percentage mix of payer types and the 2015 charges for each. Medicare and Medicaid transport payments are capped regardless of the actual cost of treatment. Commercial payers will pay the full amount requested, but SCEMS collects only about 4 percent of the revenue from self-pay customers.

### Figure 6. SCEMS Payer Mix, 2015

<table>
<thead>
<tr>
<th>Payer Type</th>
<th>Percentage of Total Transports</th>
<th>Advanced Life Support Payment</th>
<th>Basic Life Support Payment</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Base Fee</td>
<td>Mileage</td>
</tr>
<tr>
<td></td>
<td></td>
<td>$251.84</td>
<td>$7.24</td>
</tr>
<tr>
<td>Medicare</td>
<td>43.8%</td>
<td>$209.87</td>
<td>$7.24</td>
</tr>
<tr>
<td>Medicaid</td>
<td>16.4%</td>
<td>$40.00</td>
<td>$2.50</td>
</tr>
<tr>
<td>Commercial</td>
<td>26.3%</td>
<td>$400.00</td>
<td>$13.00</td>
</tr>
<tr>
<td>Self-Pay</td>
<td>13.5%</td>
<td>$400.00</td>
<td>$13.00</td>
</tr>
</tbody>
</table>

Like in other communities, the SCEMS fund is partially supported by a property tax levy, which was decreased to 0.111 mills for funding the 2015 budget and comprised two percent of the County’s total mill levy. Charges for service are the largest revenue stream for this fund, equating to 81.6 percent of budgeted revenue collected in 2015. In August 2014, the Board of County Commissioners (BOCC) approved an EMS user fee increase of $50 to the base rate charged for transport and $3 to the additional per mile rate charged to customers. In August 2015, the BOCC approved another adjustment to the charges for service for a date of service of January 1st, 2016, to address escalating operating costs.

¹National EMS Advisory Council, 2012
Growth in revenues appears difficult to predict with changes in Medicare billing processes, procedures and standards, and with a change in billing vendors and user fees. Figure 7 identifies departmental expenditures and revenues from 2012 actuals to 2016. The department ran deficits in 2012 and 2013 but surpluses during 2014 and 2015. The department is budgeted to run a deficit in 2016.

**Figure 7. SCEMS Financial Performance, 2012-2016**

<table>
<thead>
<tr>
<th></th>
<th>2012</th>
<th>2013</th>
<th>2014</th>
<th>2015*</th>
<th>2016 Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EXPENDITURES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Personnel</td>
<td>12,011,778</td>
<td>11,933,835</td>
<td>12,445,353</td>
<td>13,187,776</td>
<td>13,799,089</td>
</tr>
<tr>
<td>Contractual Services</td>
<td>2,984,002</td>
<td>3,454,147</td>
<td>3,212,435</td>
<td>2,608,004</td>
<td>2,941,810</td>
</tr>
<tr>
<td>Debt Service</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Commodities</td>
<td>1,041,815</td>
<td>1,139,703</td>
<td>960,018</td>
<td>1,065,325</td>
<td>1,125,115</td>
</tr>
<tr>
<td>Capital Improvements</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>210,800</td>
</tr>
<tr>
<td>Capital Equipment</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Interfund Transfers</td>
<td>600,000</td>
<td>500,500</td>
<td>209,678</td>
<td>204,685</td>
<td>-</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>16,637,596</strong></td>
<td><strong>17,028,185</strong></td>
<td><strong>16,827,484</strong></td>
<td><strong>17,065,789</strong></td>
<td><strong>18,076,814</strong></td>
</tr>
<tr>
<td><strong>REVENUES</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tax</td>
<td>2,226,276</td>
<td>4,006,318</td>
<td>3,433,587</td>
<td>2,902,025</td>
<td>2,984,495</td>
</tr>
<tr>
<td>Licenses and Permits</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Intergovernmental</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Charges for Service</td>
<td>12,523,371</td>
<td>12,811,017</td>
<td>13,645,515</td>
<td>14,807,867</td>
<td>14,455,546</td>
</tr>
<tr>
<td>All Other</td>
<td>3,627</td>
<td>25,947</td>
<td>27,062</td>
<td>6,215</td>
<td>450</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>14,753,274</strong></td>
<td><strong>16,843,282</strong></td>
<td><strong>17,106,164</strong></td>
<td><strong>17,716,107</strong></td>
<td><strong>17,440,492</strong></td>
</tr>
<tr>
<td><strong>SURPLUS / DEFICIT</strong></td>
<td>(1,884,322)</td>
<td>(184,903)</td>
<td>278,680</td>
<td>650,318</td>
<td>(636,322)</td>
</tr>
</tbody>
</table>

* Based on 4th quarter unaudited financial report

From 2012 to 2015, SCEMS experienced a personnel increase of almost 10 percent ($1.2 million) partially attributable to the addition of one ambulance crew in 2015 and increases in the Kansas Public Employee Retirement System (KPERS) employer contributions. Although personnel costs have increased, contractual services costs have remained relatively flat with a year-over-year increase in 2013 only, while commodities charges also had year-over-year increases in 2013 and 2015. Charges for service have increased 18 percent ($2.3 million) during the same time period. As of the end of 2015, the EMS Fund had a fund balance of $41 million.

As mentioned above, four positions—a Team Leader, a Crew Leader and two Paramedics—were added in 2015 bringing the department’s total full-time equivalent positions (FTE’s) to 174.90. Positions include 11.80 FTE’s in administration, 66.0 paramedics, 32.0 team leaders and 30.0 crew leaders. Other positions include a billing manager, administrative assistant, and biomedical and service technicians.
Sedgwick County is part of the Kansas Public Employee Retirement System (KPERS). The system has struggled with a long-term funding shortfall for longer than a decade. There are several reasons for the funding challenges.²

- Member benefit increases in the 1990’s were funded mostly through actuarial changes that put off paying for them until later.
- For almost two decades, state statute has kept employers from contributing at the rate required for proper funding.
- The Great Recession in 2008 caused unprecedented investment losses.
- Members are living longer and members have been retiring earlier under the 85 point rule, both increasing liabilities.

Vulnerability of KPERS is a long-term financial issue for Sedgwick County. Ensuring retirement security is a fundamental issue for attracting and retaining employees.

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2 Kansas Public Employee Retirement Systems, http://www.kpers.org/changes

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### Patient Demographics

The patient demographics for 2014 and 2015 are reflected in Figure 9.

**Figure 9. SCEMS Patient Demographics, 2014 and 2015**

<table>
<thead>
<tr>
<th>Gender</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>26.6%</td>
<td>59.8%</td>
</tr>
<tr>
<td>Female</td>
<td>73.4%</td>
<td>40.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Race</th>
<th>2014</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>83.5%</td>
<td>89.9%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.9%</td>
<td>5.5%</td>
</tr>
<tr>
<td>Black</td>
<td>3.8%</td>
<td>0.5%</td>
</tr>
<tr>
<td>American Indian</td>
<td>0.0%</td>
<td>2.5%</td>
</tr>
<tr>
<td>Asian</td>
<td>3.8%</td>
<td>1.5%</td>
</tr>
</tbody>
</table>
The standard model for treatment and transport of sick and injured persons by EMS systems has changed relatively little since the 1960’s when growing pressure to reduce highway deaths prompted Congress to fund improvements in EMS systems across the country.\textsuperscript{3} Although several types of EMS systems exist (See Figure 10), most follow the same basic response model. Call takers and dispatchers obtain critical information on the phone and then summon emergency personnel to the scene. First responders provide basic medical care until an ambulance arrives. Ambulance personnel then conduct a patient assessment and perform any necessary patient interventions before and if a patient is transported to a hospital.

Although the standard EMS response model continues to emphasize emergency stabilization and rapid transport to the hospital, evidence suggests an increasing number of 9-1-1 calls are for non-emergent medical conditions that do not require immediate care and transport.\textsuperscript{4} For an increasing number of calls, transport to an emergency room is not the most appropriate nor the most cost effective treatment option; often, these patients can be treated in a physician’s office or other non-emergent setting.

Often, this mismatch between the capabilities of EMS systems and demand for non-emergent but unscheduled medical care overtax systems that are already operating with diminished resources. This mismatch can also tax a system’s capacity; ambulances are not available for emergencies while they transport non-emergent patients to the hospital. There are six common models for EMS delivery in the United States.\textsuperscript{5}

**Figure 10. Types of EMS Systems**

<table>
<thead>
<tr>
<th>Name</th>
<th>Description</th>
<th>Governance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fire department model</td>
<td>Almost 50 percent of all EMS systems are based in fire departments. Some are staffed by “single role” civilian EMS providers or “dual role” firefighter/EMT’s.</td>
<td>Local government officials appoint the leadership and approve funding.</td>
</tr>
<tr>
<td>Public utility model</td>
<td>This model uses a separate governmental entity to manage EMS, either with a private contractor or by providing the service directly.</td>
<td>Local government officials approve funding and control day-to-day operations, including support functions.</td>
</tr>
<tr>
<td>Third-service model</td>
<td>This model delivers the service by a separate department within the local government structure. The department exists alongside other public safety departments and employs civilian EMS providers.</td>
<td>Service levels and performance can be specified in a contract, but the private contractor generally has total control of operations.</td>
</tr>
<tr>
<td>Private for-profit model</td>
<td>The service is contracted out to a third-party provider.</td>
<td>The hospital entity is generally a nonprofit and may require a subsidy from the local government; the local government has limited control over day-to-day operations.</td>
</tr>
<tr>
<td>Hospital-based model</td>
<td>The service is provided via a contractual relationship between a local government and a hospital.</td>
<td>The organizations are self-governing and exercise complete control over day-to-day operations.</td>
</tr>
<tr>
<td>Private non-profit model</td>
<td>Community-based or volunteer agencies provide the service and are subsidized by a combination of government funding, donations or user fees. Systems such as these can use a combination of paid personnel and volunteers to staff ambulances.</td>
<td></td>
</tr>
</tbody>
</table>


\textsuperscript{4} “Innovation opportunities for emergency medical services: a draft white paper from the National Highway Traffic Safety Association, Office of the Assistant Secretary for Preparedness and Response, Health Resources and Services Administration.” (2013).

Evolving Model of Healthcare Delivery

For decades, ever-increasing funding was perceived as the driver for enhanced healthcare in the United States. During the past decade, decision makers have reassessed how healthcare services are provided and have adopted the Institute for Healthcare Improvement’s (IHI) “triple aim” philosophy, whose proponents argue that it is possible to simultaneously improve the patient experience, reduce healthcare costs and improve the population’s health.6

Proponents of Triple Aim point to gained efficiencies, better coordinated services and evidence-based care as ways to achieve all three goals. Costs can be reduced by eliminating redundancies and avoiding unnecessary tests, procedures and other health care spending. Focus has turned from reactive treatment models to proactive models based on prevention and education.

IHI developed the components of the system that would fulfill the triple aim:

1. Individuals and families—Establish partnerships among individuals, families and caregivers, including identification of a family member or friend who can coordinate care;
2. Redesign of “primary care” services and structures—Establish a team (doctors, nurses, mental health clinicians, nutritionists, pharmacists) for basic services that can deliver at least 70 percent of the necessary medical and health-related social services to a population;
3. Prevention and health promotion—Provide incentives for healthy eating, tobacco cessation and exercise; utilize GIS mapping to provide a local context for health promotion and to determine for who and where efforts will be most successful;
4. Cost control platform—Achieve less than 3 percent inflation per year for per capita cost in health care spending and reward providers for contributing to the health of the population and not just producing more health care; and
5. System integration—Match capacity and demand among health care suppliers and ensure that strategic planning, ongoing learning and improvement, sustainable governance and a healthy financial structure are occurring.

Design of a Triple Aim Enterprise

Institute for Healthcare Improvement, 2012

Patient Protection and Affordable Care Act

In 2010, Congress passed and President Barack Obama signed the Patient Protection and Affordable Care Act (PPACA), which made significant changes to the way healthcare is delivered in the United States. The bill, which was 2,733 pages long, does not discuss emergency care or EMS at length. The law, however, will shape and reshape how these services are provided going forward.

Two particular changes of note were the Medicare reimbursement model and the promotion of Accountable Care Organizations (ACO’s). Although Medicare patients represent a small percentage of the total population, they comprise a large percentage of those who use medical services. When the federal government changes Medicare reimbursement policies, the impacts are felt throughout the entire health care system. Hospitals now receive financial penalties when Medicare patients are readmitted multiple times for certain conditions. It is hoped that the penalties will incentivize hospitals to prepare patients better upon their discharge by providing adequate discharge instructions and ensuring proper follow-up care.

The PPACA also promoted the formation of ACO’s, networks of providers, such as doctors and hospitals, that work together to treat specific groups of Medicare patients. Rather than save money by denying services to a patient, the goal is to save money by coordinating a patient’s care to keep he or she healthy and to ensure that efforts are not duplicated. An ACO that demonstrates a certain amount of savings is then allowed to retain part of the savings among the partners.

Although most health care currently operates on a fee-for-service basis (the more you order, the more you pay), patients often do not know if the service being provided is of quality, what the costs are to deliver that service and the other options that exist to receive care. If patients are treated but get sick a few days later, their physician or the hospital treats them again and financially benefits a second time even though their initial efforts failed.

In contrast, a fee-for-quality model rewards providers who keep patients healthy by treating issues using comprehensive, timely methods. One example is Medicare’s attempt to tie reimbursement to quality by awarding penalties to hospitals when patients are re-admitted for certain conditions. Ideally, hospitals will be motivated to spend more time making sure patients are prepared to go home, including providing adequate discharge instructions and ensuring proper follow-up care.

While the full impact of these changes on EMS long-term remains unclear, the leader of the U.S. Centers for Medicare and Medicaid Systems (CMMS) has publicly stated that the goal is to shift the payment system to a fee-for-quality model. Doing so will indirectly impact EMS systems as hospitals shift from a volume to a quality model and directly impact EMS systems if CMMS adjusts payments to include quality metrics.

The Department of Health and Human Services (HHS) has adopted a framework that categorizes health care payment according to how providers receive the payment to provide care. See Figure 11 for a description of the HHS payment framework.

---

### Figure 11. Payment Taxonomy Framework

<table>
<thead>
<tr>
<th>Description</th>
<th>Category 1</th>
<th>Category 2</th>
<th>Category 3</th>
<th>Category 4</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fee for service – no link to quality</strong></td>
<td>Fee for service – link to quality</td>
<td>Alternative payment models</td>
<td>Population-based payment</td>
<td></td>
</tr>
<tr>
<td><strong>Payments are based on volume of services</strong></td>
<td>At least a portion of the payments vary based on the quality or efficiency of health care delivery</td>
<td>Some payment is linked to the effective management of a population or an episode of care</td>
<td>Payment is not directly triggered by service delivery, so volume is not linked to payment; Clinicians are paid and responsible for the care of a beneficiary for a long period of time (more than one year)</td>
<td></td>
</tr>
<tr>
<td><strong>Limited in Medicare fee-for-service</strong></td>
<td><strong>Hospital value-based purchasing</strong>&lt;br&gt;<strong>Readmission reduction program</strong></td>
<td><strong>Accountable care organizations</strong>&lt;br&gt;<strong>Medical homes</strong>&lt;br&gt;<strong>Bundled payments</strong>&lt;br&gt;<strong>Comprehensive primary care initiative</strong></td>
<td><strong>Eligible pioneer accountable care organizations in years 3 to 5</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Majority of Medicare payments now are linked to quality</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Prior to 2011, many Medicare payments to providers were tied only to volume; by 2014, more than 20 percent of Medicare reimbursements had shifted to categories 3 and 4. HHS seeks to have 85 percent of Medicare fee-for-service payments in value-based purchasing categories 2-4 by the end of 2016 and 90 percent by 2018.

### Alternative Care Materials

Currently, when a 911 call is made Sedgwick County EMS transports the patient to an emergency room while treating the patient in-route. The EMS system could develop alternative and triage methods that may include:

- Triage or self-care instructions by a 911 call taker without dispatch of an EMS unit;
- Treatment provided in the home or location of the patient;
- Transport to an emergency room;
- Transport to an appropriate clinic-based healthcare provider;
- Transport to an urgent care center;
- Referral to an appropriate community service; or
- Other community specific treatment or transport protocols.

EMS systems are exploring alternative care methods, such as Mobile Integrated Healthcare Programs (MIHP), to combat increasing call volumes, decreasing revenues and a healthcare system that provides increasing scrutiny of system elements. The concept of community paramedicine—employing EMS providers to provide a broad array of services and focus on prevention and primary care—is not a new idea, but it has gained renewed focus in recent years due to the PPACA. Community paramedicine was initially developed as a way to provide basic primary care services to rural areas with limited medical resources and to avoid costly, expensive trips to distant hospitals for minor problems. Organizations in urban areas, including Sedgwick County EMS, have begun to experiment with these types of strategies.

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Three local governments have led the way with integrated health care programs:

1. **MedStar Mobile Healthcare (Fort Worth, TX)**
   In 2013, the name was changed from MedStar EMS to reflect the wider array of services now being provided. Programs offered by MedStar Mobile include: nurse triage of low-acuity 911 calls to avoid transport when not necessary; EMS loyalty program to reduce calls from frequent users; home health partnership to provide after-hours care; and hospice revocation avoidance to prevent unnecessary trips to the hospital. Specially trained paramedics drive vehicles not equipped to respond to emergencies to provide in-home visits with frequent system users. MedStar has established partnerships with local hospitals, physician groups, and hospice and home-health agencies when possible to support the programs financially. The results have been significant, including an 84 percent decrease in the use of 9-1-1 among high system utilizers and a 90 percent decrease in readmission rates.

2. **Mesa, Arizona**
   The Community Care Units Program partners paramedics with other health care providers to offer appropriate care to patients at the scene, keeping other department resources available to respond to emergency calls. The department's community care units are staffed with a combination of senior paramedics and midlevel practitioners in a public-private partnership with a local hospital. While the senior paramedic is on site, the midlevel practitioner can prescribe medicine or treat pain while avoiding a costly ambulance trip. A second unit partners a paramedic with a crisis counselor to respond to behavioral emergencies. Staffed only since 2014, the units have helped avoid transports for more than 50 percent of the low acuity patients.

3. **Wake County, North Carolina**
   A new level of provider was added to the EMS staffing table in 2013, the advanced practice paramedic. These paramedics receive additional training to supplement the medical emergency response system and to conduct in-home visits with frequent users of the EMS system. Unlike Fort Worth or Mesa, Wake County funds its program through its operating budget and not with agreements with hospitals or other payers. The units divert more than 300 patients per year away from an emergency room and to more suitable treatment.

   A 2013 analysis funded by the Health and Human Services Office of the Assistant Secretary for Preparedness and Response indicated that approximately 15 percent of Medicare patients nationwide transported by ambulances to emergency rooms could be safely treated in non-emergency settings if available in the community. National models suggest that if these patients were transported to a physician’s office or served on-site, Medicare could save $560 million in costs per year. According to the report, the pre-hospital EMS system is uniquely positioned to transport to non-emergency settings, and doing so will ensure a reduction in the costs of care, provide more patient-centered care and reduce the burden on emergency rooms—thus enhancing the quality of care for all.

The changing nature of health care offer these insights:

1. **Changes in health care financing will impact EMS.** Already, it is clear that changes in how the Centers for Medicare and Medicaid Services reimburses hospitals have had significant impacts on the health care system. Hospitals now want to avoid having certain patients show up in the emergency department. While the future remains unclear, the Centers for Medicare and Medicaid Services has made no secret of the fact that it wants less fee-for-service and more value-based purchasing. This will create opportunities for EMS to help other health care providers meet this mandate, but it also means that EMS must itself be prepared to demonstrate value in order to survive.

2. **EMS must develop relationships with other health care partners.** Successful community paramedic and mobile integrated health care programs rely on public-private partnerships with hospitals, physicians, payers, and other members of the health care community. No longer can an EMS agency see itself as independent from the rest of the health care system.

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3. **Not all mobile integrated health care programs should look the same.** Since the passage of the Affordable Care Act, EMS agencies across the country have rushed to start MIH programs. While some have been successful, their long-term sustainability is still unclear. Each community should conduct an assessment to determine its needs, available resources, and what role EMS can play in improving the health of the community.

4. **Not every EMS call needs the same response.** What mobile integrated health care programs are doing, essentially, is recognizing that EMS providers can provide (and patients require) services other than immediate transport to the ED.

Although one outcome intended by the PPACA was to drive traffic from emergency rooms and to primary care, a 2015 survey indicated that visits to emergency rooms continued to increase. The survey found that 28 percent of emergency room doctors reported “significantly” more traffic since the requirement to have health insurance took effect, while 56 percent reported that the number of Medicaid patients is increasing.¹²

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4. Strategic Plan Action Steps
Goal 1: Mission Viability

Ensure resources to efficiently and effectively meet the immediate health care demands of the community.

Objectives:

- a. Improve workload balance and allocate resources to better meet customer demands.
- b. Improve consumer expectation response time to better serve rural residents.
- c. Decrease attrition rates to improve employee and customer satisfaction.
- d. Increase available resources (ambulances, personnel) to more efficiently serve residents.
- e. Decrease IT downtime and failure rates to ensure available resources at all times.
- f. Increase collection rates to grow revenue.
- g. Diversify additional revenue streams to leverage all funding opportunities for services.

Strategies:

1. Identify and implement additional revenue resources, such as: collections; Medicaid reimbursements; cost sharing models; and others.
2. Assist with emergency dispatch improvements for prioritization of calls to ensure appropriate resources are sent to calls.
3. Evaluate a tiered system to identify and serve non-emergency transfers.
4. Develop systems to address frequent users and identify appropriate community resources, and alternatives to emergency responders to decrease 9-1-1 utilization.
5. Create an IT depreciation and capital equipment replacement plan.
6. Ensure 24/7 IT support.
7. Develop ambulances specifications that meet and incorporate the industry standards for safety.
Goal 2: Employee Care

Promote a culture that prepares and empowers the workforce to provide quality care and ensure customer satisfaction.

Objective Concepts:

a. Decrease unscheduled overtime to improve employee wellness and morale.
b. Decrease time to fill open positions.
c. Increase job satisfaction to support employees.
d. Decrease employee injury rate to ensure availability of employees.
e. Increase retention rates to decrease turnover costs.
f. Increase education and training hours provided to improve employee knowledge and improve the efficiency of resources.

Strategies:

1) Provide educational opportunities through the department and partner agencies for full certification.
2) Promote and support leadership and management skills training for employees through Sedgwick County and other resources.
3) Establish a Safety Committee and dedicate resources to address issues, such as, but not limited to:
   a. Staff injuries: reporting, evaluation, and mitigation
   b. Personal safety in the field
   c. Vehicle and equipment impact and needs
4) Develop a critical incident response process and resources to support continued mind and body wellness.
5) Utilize the Operations Committee to evaluate appropriate workload distribution and staffing.
6) Conduct an internal review of positions and classifications to provide to HR to promote equitable compensation.
7) Develop and implement an employee survey tool and establish a response/action process.
8) Create and implement an employee recognition program.
9) Develop a recruitment plan to ensure a diverse workforce.
10) Pursue internal HR/Safety Officer position to enhance recruitment efforts and improve time to fill positions.
Goal 3: Patient Care

Provide compassionate, patient-centered care to positively impact the health and well-being of the community.

Objective Concepts:

a. Improve cardiac arrest survivability.
b. Improve patient care satisfaction to ensure proper allocation of resources.
c. Increase stakeholder/partner agency approval by ensuring the input of patients and community members, and external stakeholders.
d. Improve patient outcomes through targeted clinical measures.

Strategy Topics:

1) Benchmark key performance indicators for patient care and develop performance improvement strategies.
2) Implement a patient satisfaction survey and implement appropriate strategies.
3) Implement an external stakeholder/partner agency satisfaction survey and implement appropriate strategies.
4) Develop a customer service education program for employees specifically related to healthcare services.
5) Monitor and evaluate emerging clinical research and technology to determine application for EMS.
6) Collaborate with community partners to improve clinical outcomes.
7) Establish system level training programs to improve patient clinical outcomes.
8) Create a system approach to provide documented feedback for quality improvement.
5. Implementation Plan
### Goal 1: Mission Viability

Ensure resources to efficiently and effectively meet the immediate health care demands of the community.

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Lead</th>
<th>Support Team</th>
<th>Phase #1</th>
<th>Phase #2</th>
<th>Phase #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Identify and implement additional revenue resources, such as: collections; Medicaid reimbursements; cost sharing models; and others.</td>
<td>Director</td>
<td>Deputy Director of Administration; Business Manager, Finance Department</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Assist with Emergency Communications improvements for prioritization of calls to ensure appropriate resources are sent to the calls.</td>
<td>Operation Manager</td>
<td>Emergency Communications; City of Wichita Fire; Sedgwick County Fire</td>
<td>Start</td>
<td>End</td>
<td></td>
</tr>
<tr>
<td>3) Evaluate a tiered system to identify and serve non-emergency transfers.</td>
<td>Operation Manager</td>
<td>Emergency Communications</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Develop systems to address frequent users and identify appropriate community resources, and alternatives to emergency responders to decrease 9-1-1 utilization.</td>
<td>To Be: Program Manager (Budget Cycle)</td>
<td>Clinical, Operations, Medical Director, Sedgwick County Medical Society</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Create an IT depreciation and capital equipment replacement plan.</td>
<td>Director</td>
<td>Deputy Director of Administration; Finance Department; IT/DIO Support</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) Ensure 24/7 IT support.</td>
<td>Director</td>
<td>Deputy Director of Administration; Finance Department</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>7) Develop ambulances specifications that meet and incorporate the industry standards for safety.</td>
<td>Logistics Manager</td>
<td>Fleet Management Department; Finance; Ambulance Manufactures; Administration</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Goal 2: Employee Care

Promote a culture that prepares and empowers the workforce to provide quality care and ensure customer satisfaction.

<table>
<thead>
<tr>
<th>Strategies</th>
<th>Lead</th>
<th>Support Team</th>
<th>Phase #1</th>
<th>Phase #2</th>
<th>Phase #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Provide educational opportunities through the department and partner agencies for full certification.</td>
<td>Clinical</td>
<td>Management Team; Program Manager, Medical Director, Support Staff, Hospital Partners, Community Colleges</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Promote and support leadership and management skills training for employees through Sedgwick County and other resources.</td>
<td>Operations Administration</td>
<td>HR</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3) Establish a Safety Committee and dedicate resources to address issues, such as, but not limited to:</td>
<td>Operations Administration</td>
<td>Logistics Management; Clinical Management; Field Support; Risk Management</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3a. Staff injuries: reporting, evaluation and mitigation</td>
<td>Operations Administration</td>
<td>Logistics Management; Clinical Management; Field Support; Risk Management</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3b. Personal safety in the field</td>
<td>Operations Administration</td>
<td>Logistics Management; Clinical Management; Field Support; Risk Management</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3c. Vehicle and equipment impact and needs</td>
<td>Logistics Management</td>
<td>Fleet Division; Finance</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4) Develop a critical incident response process and resources to support continued mind and body wellness.</td>
<td>Clinical</td>
<td>HR; EMPAC; Nonprofits; Operations</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5) Utilize the Operations Committee to evaluate appropriate workload distribution and staffing.</td>
<td>Operations Administration</td>
<td>Administrative Team</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6) Conduct an internal review of positions and classifications to provide to HR to promote equitable compensation.</td>
<td>Director</td>
<td>HR/New EMS HR/Safety Officer position</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7) Develop and implement an employee survey tool and establish a response/action process.</td>
<td>Director</td>
<td>HR/Administration Leadership Team</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8) Create and implement an employee recognition program.</td>
<td>Employee Association</td>
<td>EMS Support Staff</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9) Develop a recruitment plan to ensure a diverse workforce.</td>
<td>Director; Requested HR/Safety Position</td>
<td>EMS Public Relation; HR;</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10) Pursue internal HR/Safety Officer position to enhance recruitment efforts and improve time to fill positions.</td>
<td>Director (Budget cycle)</td>
<td>Finance; HR</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Goal 3: Patient Care

Provide compassionate, patient centered care to positively impact the health and well-being of the community

<table>
<thead>
<tr>
<th>Strategy Topics</th>
<th>Lead</th>
<th>Support Team</th>
<th>Phase #1</th>
<th>Phase #2</th>
<th>Phase #3</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Benchmark key performance indicators for patient care and develop performance improvement strategies.</td>
<td>Clinical</td>
<td>Medical Director and Staff; Hospital partners; Quality Improvement</td>
<td>Start</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2) Implement a patient satisfaction survey and implement appropriate strategies.</td>
<td>Director/Program Manager</td>
<td>Clinical and Operations</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>3) Implement an external stakeholder/partner agency satisfaction survey and implement appropriate strategies.</td>
<td>Director/Program Manager</td>
<td>Clinical and Operations</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>4) Develop a customer service education program for employees specifically related to healthcare services.</td>
<td>Director/Program Manager</td>
<td>Clinical and Operations</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>5) Monitor and evaluate emerging clinical research and technology to determine application for EMS.</td>
<td>Clinical</td>
<td>IT; Medical Director; Hospital Partners; academics; program manager</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>6) Collaborate with community partners to improve clinical outcomes.</td>
<td>Clinical</td>
<td>Operations, Medical Director; County Departments; Hospitals</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>7) Establish system level training programs to improve patient clinical outcomes.</td>
<td>Clinical</td>
<td>Medical Director; Program Manager; Wichita and SC Fire; law enforcement</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
<tr>
<td>8) Create a system approach to provide documented feedback for quality improvement.</td>
<td>Clinical</td>
<td>Business Intelligence Vendors; IT; Hospitals</td>
<td></td>
<td></td>
<td>Start</td>
</tr>
</tbody>
</table>
6. Attachment 1: EMS Stations
### 7. Attachment 2: EMS Call Volume by Emergency and Non-Emergency

<table>
<thead>
<tr>
<th>Year</th>
<th>Emergency</th>
<th>Non-Emergency</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000</td>
<td>32,097</td>
<td>4,631</td>
<td>36,728</td>
</tr>
<tr>
<td>2001</td>
<td>34,026</td>
<td>5,876</td>
<td>39,902</td>
</tr>
<tr>
<td>2002</td>
<td>35,120</td>
<td>6,970</td>
<td>42,090</td>
</tr>
<tr>
<td>2003</td>
<td>35,091</td>
<td>5,797</td>
<td>40,888</td>
</tr>
<tr>
<td>2004</td>
<td>36,234</td>
<td>5,587</td>
<td>41,821</td>
</tr>
<tr>
<td>2005</td>
<td>38,337</td>
<td>4,884</td>
<td>43,221</td>
</tr>
<tr>
<td>2006</td>
<td>39,661</td>
<td>4,631</td>
<td>44,292</td>
</tr>
<tr>
<td>2007</td>
<td>41,324</td>
<td>5,621</td>
<td>46,945</td>
</tr>
<tr>
<td>2008</td>
<td>41,433</td>
<td>5,364</td>
<td>46,797</td>
</tr>
<tr>
<td>2009</td>
<td>43,575</td>
<td>5,616</td>
<td>49,191</td>
</tr>
<tr>
<td>2010</td>
<td>47,275</td>
<td>5,540</td>
<td>52,815</td>
</tr>
<tr>
<td>2011</td>
<td>48,697</td>
<td>5,545</td>
<td>54,242</td>
</tr>
<tr>
<td>2012</td>
<td>50,764</td>
<td>5,802</td>
<td>56,566</td>
</tr>
<tr>
<td>2013</td>
<td>52,279</td>
<td>5,768</td>
<td>58,047</td>
</tr>
<tr>
<td>2014</td>
<td>54,523</td>
<td>6,087</td>
<td>60,610</td>
</tr>
<tr>
<td>2015</td>
<td>57,193</td>
<td>6,856</td>
<td>64,049</td>
</tr>
</tbody>
</table>
On March 22, 2016, the Public Policy and Management Center facilitated two focus groups for EMS staff. A total of 44 staff members attended the two sessions. Below are the aggregated themes that were identified as a part of both focus groups.

Overall, general themes were that: (1) staff teamwork is key to EMS success; (2) communication has improved between administration and staff; (3) additional training provided by EMS/Medical Director’s Office is greatly desired; (4) technology on the ambulances is progressive although the reporting system after calls can be haphazard in its use; and (5) increasing call volume is causing fatigue among staff and has the potential to have even more paramedics leave the profession.
Sedgwick County EMS Strengths

- Ability for teamwork; improving department culture
- Longevity of staff serving on the ambulances
- Focus is generally on solutions, not problems
- Progressive culture—Research being conducted, metrics being applied for care
- Technology is current on ambulances
- Patient care is foremost priority—two paramedics per ambulance
- Efficient use of resources
- Accredited Operation
- Generational mix makes for a good quality of care for patients of all ages
- Opportunities for mentorship and on-the-job learning
- Innovative thought processes; new ways of doing business to provide the “right” size care depending on the patient
- Connection to current EMS students; relationship with college programs
- Innovative; 12 EMT pilot program
- Low incidence of vehicle failure
- Seen as an “industry leader”

Desired Skill Enhancements by Staff

- ETOR – Endotracheal Intubation
- Critical care paramedic class
- Leadership training
- Technology maintenance and repair training
- MCI training
- Disaster management training
- More knowledge about emotional/mental health
- Resiliency training
- Defensive driver training—in addition to new employee orientation
- System-wide knowledge; learn about the Fire District operations, Emergency Communications, Police and Sheriff Departments, the Wichita Fire Department
- Self-defense training
- Desire to benefit from general Sedgwick County HR training

Desired Technological Enhancements by Staff

- Access to Wi-Fi at posts; now must use their own phones
- Access to YouTube for training purposes; could be gaining knowledge in-between calls via YouTube
- New technological system for paperwork submission (patient care technology is good)
- Internet-based reporting system (system often locks up)
- Self-loading costs (in progress)
- Rolling bay equipment bags
- Stronger 24-hour IT support
- More funding for safety equipment (bullet proof vests)

Staffing Challenges

- Pay levels
- Competition with other professions (generally, nursing was shared); turnover
- Lack of training offered on-site (lack of use of outside instructors)
- Added responsibilities with no additional pay
- Last compensation and classification study did not reflect true needs among staff
- Lack of understanding among new staff about the profession
- Desire for more on-the-job employee evaluation and less based on simulations; plus 360 degree evaluations
- Existence of wage compression
- Increase in staff injuries due to call volume
- Increased workplace violence due to changes in society
- Lack of a wellness program
- Lack of ability to have family members work in the same department even if not on the same shifts
- Potential changes in retirement plans at the state level

Environmental Challenges

- Increasing call volume; less down time off of the ambulances
- Increasing use among residents of using EMS as primary care provider
- Need for educational PR campaign about proper use of ambulance system
- A continuing lack of service (and one that will continue to be diminished) to serve rural areas
- Metropolitan area continues to expand but will increasingly lack coverage in the outlying areas without intervention
- Need to transport to, from and between an increasing number of hospitals
- Lack of ability for firefighters to be able to drive ambulances
Financial Challenges
- Lower reimbursement rates for Medicare and Medicaid patients—ones that don’t cover the “true” costs of service
- Continuing budget/spending constraints
- Increasing medicine costs; the need to determine why medicine costs are rising
- Disconnect between capital and operating budgets

EMS Administration / Division Leaders
- Provides good ideas
- Attentive to needs
- Advocates for staff to decision makers
- Knowledgeable about new technologies and advocates for them
- Attentive to needs, advocating to commissioners
- Updating equipment and technology
- Division Leaders effectively connect with staff
- Communication between leadership and staff has “greatly” improved
- Perception is that new employee orientation has improved

Opportunities for EMS Administration
- Increased visibility, particularly among the overnight crews
- Communication of roles/responsibilities
- Better follow-thru on staff complaints
- Accept more input from staff
- Increased media visibility; face of a public information campaign
- Be more understanding when staff or staffs’ family is ill
- Develop a support program/procedures that can address challenges when staff have a traumatic call; some feel ignored even when they experience a traumatic call
- Develop mental health wellness assessments to be used after traumatic calls

Perspectives on Increased Call Volume
- Aging population
- Increase in Medicaid clients
- Changed perception of how to receive medical care
- Use ambulance when you do not have other means of transportation (at times, not even to receive medical care)
- Reality / knowledge among clients that EMS cannot say “no”
- Ability to avoid waiting in an emergency room versus if they drive themselves
- Increase in Wichita Police Department calls for medical evaluations/law enforcement protocols
- Perception that clients will arrive at their destination faster than otherwise

Opportunities for Efficiencies
- Possession of a fuel card versus a centralized fueling location
- If not a fuel card, have multiple fueling locations
- Having a “right to refuse” transport
- Dedicated transfer trucks
- Re-staffing so two paramedics and one fire truck do not respond to every call
- AEMT protocol

Other
- Desire to have two parking spots in the secured lot at Intrust Bank Arena for individuals staffing ambulances
- Consider holding meetings at times other than during regular business hours for those who work overnight shifts
- Perception among some is that administrative tasks take precedence
- Dedicated overnight-shift training personnel
- Flexibility to choose if you want / don’t want overtime
- Desire for holiday pay, longevity pay, extra pay to incentivize overtime
On April 12, 2016, the Public Policy and Management Center as a part of Wichita State’s Hugo Wall School of Public Affairs facilitated two focus groups of EMS staff. A total of 32 staff members attended the two sessions. Below are the aggregated themes that were identified as a part of both focus groups.

Overall, general themes were that: (1) staff teamwork is the key to success; (2) there is a need to improve communication between supervisors and staff; (3) there is need for additional training that is provided by EMS/Medical Director’s Office; (4) technology on the ambulances is progressive but still a challenge; and (5) lack of recognition of EMS staff’s work is a concern.
1. Sedgwick County EMS Strengths

- Presence of good medical equipment makes EMS work efficiently
- Presence of two paramedics on ambulances increases efficiency
- Good and qualified people to work with
- STARCARE – great program
- Need for more pit crew members (for resuscitation of patients)
- Even understaffed, EMS works good with limited resources sometimes
- Dedicated EMS staff
- Ability for teamwork
- Technology is current on ambulances

2. EMS Short Term Weaknesses

- Evaluations of newly hired EMS staff
- Discrepancy in how people communicate under different levels (person to person, changes in thought, opinions on work)
- People who make decisions in EMS need to have EMS experience
- There is need for staff to work on their weaknesses
- EMS beginning pay rate is acceptable but later in career there are no increases in pay or incentives
- Need for a communications person to increase public relations – EMS Public Relations Manager
- Partners do not understand relationship with EMS
- Increase community education on what/who EMS is – to reduce misuse

3. SCEMS Long Term Weaknesses

- Wear and tear of equipment
- Only few number of bariatric (cots) transports in EMS trucks
- Inconsistency with training
- No “training allowance” for training
- SCEMS staff is not paid for attending regular meetings – too many days off work which are not paid
- Lack of time off from work to reenergize for a new day
- EMS is considered as a “community paramedic service” – abuse of service
- Introduction of house call fee; a recommendation
- Federal/State regulations which govern medical department may apply to EMS
- Pain management assessment

Perspectives on Increased Call Volume

- EMS being used as a “taxi cab”
- Failure to educate people about what EMS and 911 is
- Rising old age population
- Health education
- Used as primary care physician
- Mental health/drug abuse issues
- Lack of State Funding
- Lack facilities in most of the hospitals
- Early release of patients from hospital makes to more likely to go back and use an EMS
- Increase in paramedicine
- Transport everyone
- User fee might be a solution to curb these issues

Training requirements of EMS Staff

- 72 Hours of training in some other categories in two years
- Need for more “pharmacology training”
- Staff needs personal safety measures while on work
- Incentive pay and opportunity to pursue a bachelor’s degree to enhance career in EMS
- Lack of county-wide training
- Need for more qualified Instructors

Desired Technological Enhancements by Staff

- “Toughbooks” need better keyboards for typing
- Mobile reporting option is very efficient
- Voice Dictation option helps a lot with on board recording of data
- I – Stats for blood samples (lab testing equipment) needs to be on board
- Need for a 24/7 I.T person
- Need for a similar software form ambulance to post
- Increasing software problems due to updates
- Software glitches
- Sensio Software – the software used by EMS for recording data is not very good with updates
- EKG equipment requirement on EMS trucks
Session 2

1. Strengths
   - Medical directors were very flexible in working with EMS department
   - Strong working history of EMS
   - Forefront leaders
   - Pit Crews are very cognizant
   - Staff likes the option of having a check-off list; makes them work efficiently
   - Presence of very good equipment on board; but not in facility
   - Reporting software helps the staff a lot
   - Presence of on facility training helps newly hired staff a lot

2. Short Term Weaknesses
   - Lack of communication between officials and staff
   - Private hospitals are using EMS as staff – private hospitals have staff shortages
   - Continuing budget/spending constraints
   - Better pay scale or incentives as motivation factors for staff
   - Retention issues
   - Decline in new EMS staff hire
   - No after retirement pension system
   - Promotion bottleneck
   - Power vacuum

3. Long Term Weaknesses
   - Pain medications need to be updated
   - More options for pain and seizure medications
   - Administration should be more active in EMS activities; go out on calls
   - System is in silos
   - Need for long-term goals to make the job easier instead more difficult
   - Need for increase in public awareness about EMS
   - EMS needs social media as a resource for spreading information about EMS
   - Historical problems with Channel 7; resulted in decrease in EMS advertisement

4. Reasons for Rising Call Volume
   - Entitlement tag on EMS
   - Insurance companies motto of – “patient satisfaction”
   - Inability to say “NO”
   - Lack of structure to route calls
   - Aging population
   - Lack of community education on EMS and 911 calls

5. Technology
   - Need for GPS systems on trucks
   - Lack of communication between dispatcher and members on board truck
   - New equipment is advertised and never put into use
   - Blocked “Youtube” website on EMS posts makes it difficult to demonstrate procedures to new students on posts

6. Training
   - Need for enough hours to keep EMS certification
   - Keep training in house
   - More hands on training
   - Training of EMS staff is not paid and not liked by many EMS personnel
   - Night shifts and lack of time for personal errands (attending meetings which are not paid)
   - Need for trucks till 3AM or sometimes till 6AM
   - Use of someone else’s “Badge” by a new/old EMS staff (need for new Badges)
   - Need for “networking” with other city departments (e.g. Kansas City or Western Kansas Cities) for learning purposes – sending personnel from Sedgwick County EMS to other cities for training, learning and sharing of information
   - Joint training with MCI for all neighboring EMS’s will result in system wide same level of training
   - Need for AHA affiliation
   - Lack of value for employees

Extra Comments
   - EAC (Employee Access Committee) – utilizing EMS personnel
   - Increasing inconsistency in EMS; Night shift and Day shift personnel
   - Need for Public Relations Manager
   - Need for recognition for EMS staff
   - EMS is never appreciated on media for their first response and hard work; fire department always gets credit instead