Improving the Marketing Strategy for Survival Flight

Final Report

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Executive Summary
Survival Flight is an air ambulance service provided by the University of Michigan Health System (UMHS). Compared to previous fiscal years, the department perceives that they have been experiencing a decrease in their volume of requests for their services. Survival Flight is planning to develop a new marketing strategy that will be finalized during Fiscal Year 2015 (FY2015). Therefore, the Operations Manager of Survival Flight asked a student team from IOE 481 at the University of Michigan to analyze historical operations data and study the market trends of the air ambulance service industry. This analysis consisted of examining the current state of Survival Flight’s market share and comparing it with a projected future state market share developed by the team. Survival Flight seeks to understand the state of their program in light of the current state of the market. To understand the current state, the team analyzed air ambulance market changes and referral trends for Survival Flight and UMHS as a whole. The future state analysis consisted of projecting future market activity.

By performing this analysis, the team identified the effects of past market changes and gained insight on potential future changes to the market. Based on the results of the analyses, the team developed a recommendation on how Survival Flight should position their program, which will lay the groundwork for Survival Flight’s new marketing strategy.

Background
Survival Flight provides rapid and safe transport for the most acute patients in Michigan and surrounding states. According to an internal UMHS report, compared to FY2014, the requests for Survival Flight services have decreased by more than 9% in 2015 [1]. The Survival Flight Operations Manager believes contributing factors may include the recent mergers of other hospitals, consolidation of markets, and increased external competition in Survival Flight’s service area. Recently, various hospitals and air ambulance services have created exclusive referral agreements that are thought to be shrinking Survival Flight’s referral streams. With the increasing number of air ambulance services available, Survival Flight staff perceives that referring physicians are less aware of the benefits of choosing Survival Flight for their patients. Initially, the team’s primary focus was to recommend ways for Survival Flight to achieve a desired number of complex cases; however, since a quantitative definition for a complex case could not be created, the team focused on providing quantitative and qualitative analysis for Survival Flight to use as they develop their own marketing strategy. This analysis includes investigating referral trends based on historical data and the changes in the air ambulance market that may have or will impact Survival Flight. Survival Flight will be able to use this analysis to support their marketing proposal and to guide decision-making.

Methods & Findings
The team utilized four major methods to evaluate the current state of Survival Flight and to understand the how changes in the air ambulance market impacted the program.
**Interview Analysis**

The team first met with a Communications Specialist to gain a better understanding of complex cases and to determine if complex cases could be defined quantifiably. The team learned that the flight nurses and UMHS physicians make the ultimate decision on whether a case requires Survival Flight services. Since the characterization of complex cases is subjective, the team modified the primary goal of the project as mentioned above.

Next, the team met with the UMHS Corporate Strategy Director, who provided additional context for the changing landscape within the healthcare industry and, specifically, how UMHS fits into the industry. The team learned that the healthcare industry is currently undergoing a series of mergers, leading to many hospitals consolidating into 8-9 large hospital systems. These systems have bought out smaller hospital and expanded their reach within the Midwest. However, UMHS serves as a destination for statewide referrals and is therefore not interested in this strategy but would rather create affiliation agreements with other hospitals – as they did with Trinity Health in 2012. UMHS is particularly interested in partnering with Catholic providers, major independent hospitals and large independent physician providers.

**Historical Data Analysis**

Five sets of data were collected from various sources and combined into a master dataset, which allowed the team to analyze Survival Flight’s market share, referral trends, and market projections. The master dataset incorporates flight data (including call type and sending facility) and inpatient data (including admit and discharge service, procedure and diagnosis information, length of stay, and patient demographic data). The team discovered that the number of transports made by Survival Flight from FY2011 to FY2015 YTD has been relatively stable. The team combined competitor behavior analysis with the historical data analysis to gain further understanding of the data, which will be described more in depth in the following section.

**Competitor Behavior Analysis**

Originally, the team intended to collect case volume information for Survival Flight’s competitors from the Atlas and Database of Air Medical Services (ADAMS) [2] website suggested by Survival Flight’s Operations Manager. When data from ADAMS proved unavailable, the team identified two possible alternative sources – the National Emergency Medical Services Information System (NEMSIS) [3], which is a national repository of EMS data, and Annual Survey reports from the Michigan Department of Community Health (MDCH) [4]. Unfortunately, the data was also unavailable to the team and as a result, the team focused on collecting competitor behavior data through multiple online sources. These sources included newspaper articles, as well as press releases and websites provided by competing health systems and air ambulance services. Particularly, the team created a summary of events that may have significantly impacted Survival Flight, including the type of event, when the event happened, who was involved, and how Survival Flight may have been affected.

When the historical data was analyzed in context of this information, the team found that:
- Overall, Survival Flight referral volumes have been relatively stable since FY2011.
- Affiliation agreements, such as the one made with Trinity Health, are good for Survival Flight referral volumes.
- The expansion of Valley Med Flight in Michigan’s Upper Peninsula has not yet affected Survival Flight referral volumes from hospitals residing in Upper Peninsula counties.
The number of pediatric transports from Spectrum Health, Munson Medical Center, and Alpena General Hospital has been decreasing in recent years. The air ambulance services from Spectrum Health and Munson Medical Center recently formed a partnership, which may also impact this referral stream in the future.

Allegiance Health is Survival Flight’s largest source of referrals. Since FY2011, referral volumes have been relatively stable.

The establishment of Beaumont One has led a decrease in Survival Flight referrals from Beaumont Health System, Oakwood Healthcare, and Botsford Hospital. These providers merged in June 2014. Subsequently, the team expects referral volumes from this area to continue decreasing.

The expansion of ProMedica Air near the Michigan-Ohio border has not yet affected Survival Flight referral volumes from hospitals residing in counties adjacent to the border. One of Survival Flight’s largest referral sources in this region, Mercy Memorial Hospital, was recently acquired by ProMedica. Consequently, the team expects that referral volumes from this area may be negatively impacted.

**Industry Research**
To understand key marketing and strategy tactics, the team learned about the fundamentals of Advanced Competitive Analysis [5] and the Big Picture [6] marketing framework. The team used key components of the Big Picture to identify Survival Flight’s:

- **Business Objective:** To stabilize the number of incoming transfers.
- **Marketing Objective:**
  - **Acquisition:** Survival Flight should consider affiliations with other providers.
  - **Retention:** Survival Flight should work to maintain their current client base.
- **Source of Volume:**
  - **Steal Share:** Survival Flight should consider affiliations with other providers.
  - **Dynamic Variable:** Survival Flight should emphasize UMHS’ extensive resources.

**Conclusions**
After collecting and analyzing the data, the team found that the affiliation agreement between UMHS and Trinity Health was beneficial for Survival Flight’s referral volumes. The team confirmed that market changes have had an impact on Survival Flight’s referral volumes, particularly at the regional level. Although the number of Survival Flight transports has been relatively stable over the past five fiscal years, there is still cause for concern since major mergers and affiliations have occurred within the last fiscal year. While it is still too early to determine the long term impact of these changes, recent referral trends and consolidation within the healthcare industry indicate that Survival Flight may experience further decreases in demand.

**Recommendations**
Based on the conclusions of the analysis, the team developed the following recommendations for Survival Flight:

- Advocate for affiliation agreements for UMHS
- Consider collaboration strategies in a closed system environment
- Emphasize the resources and services available at UMHS
- Continue to monitor market changes and competitor behavior
- Implement results of Big Picture analysis into marketing plan
Introduction
Survival Flight is the air ambulance service at the University of Michigan Health System (UMHS). As part of the Department of Emergency Medicine, Survival Flight has been serving Michigan’s most acute patients for over 30 years. Recently, Survival Flight has been experiencing a decreased volume of calls. Survival Flight is now developing a new marketing strategy. Therefore, the Operations Manager of Survival Flight has asked an IOE 481 student team from the University of Michigan to analyze historical operations data, study the market trends of the air ambulance service industry, and ultimately, make recommendations to support Survival Flight’s marketing strategy. Survival Flight is currently developing a new marketing strategy that will be finalized by April 21, 2015. The team provided recommendations for that strategy based on the results from the analysis. This report details the team’s methods and findings, as well as presents the conclusions and recommendations.

Background
Survival Flight is Michigan’s oldest and most experienced air ambulance service. Survival Flight’s staff consists of the pilots, highly trained flight nurses, a dedicated dispatch center and an administrative team. Together, the staff supports three-rotor wing, one fixed wing and one ground transport vehicle. Survival Flight provides rapid and safe transport for the most acute patients in Michigan and surrounding states, allowing the patients to gain access to the superior clinical care available at the University of Michigan Health System. Additionally, Survival Flight supports the UMHS Transplant Center by completing organ procurement trips with its fixed wing airplane.

Survival Flight has recently been experiencing softening demand. Compared to Fiscal Year 2014, the requests for Survival Flight services have decreased by more than 9% in 2015 [1]. According to the Operations Manager, contributing factors may include the recent mergers of other hospitals, consolidation of markets, and increased external competition in Survival Flight’s service area. Therefore, Survival Flight asked the team to analyze historical operations data and study the market trends of the air ambulance service industry to provide recommendations to support Survival Flight’s marketing strategy.

Key Issues
The following key issues are believed to contribute to the softening of demand:
- Increased competition throughout the Midwest due to mergers and consolidations
- Shifted institutional priorities of referring hospitals and physicians
- Decreased awareness of the benefits of choosing Survival Flight as a provider of rapid transport services

Goals and Objectives
The primary goal was altered due to difficulties in quantitatively defining a complex case. Initially, the team’s primary focus was to recommend ways for Survival Flight to achieve a desired number of complex cases; however, since a quantitative definition for a complex case could not be created, the team focused on providing quantitative and qualitative analysis for
Survival Flight to use as they develop their own marketing strategy. The team’s recommendations will guide decision-making as they develop a new marketing strategy. To achieve this goal, the team performed the following tasks:

- Analyzed operations data and past strategic plans
- Developed a summary of the air medical services market
- Utilized the Big Picture approach and made recommendations to support Survival Flight’s upcoming marketing plan

With this information, the team achieved the following objectives:

- Understand Survival Flight in context of UMHS
- Understand Survival Flight and UMHS in context of the air ambulance industry
- Determine how Survival Flight should position the program in an increasingly competitive environment

**Project Scope**

This project included only the analysis and summary of the market for air ambulance services. In addition to the analysis of the market, other areas of focus include competitor behavior, UMHS critical care services data, and analytical information provided by Survival Flight. This information highlights details on Survival Flight transports, referral streams, and the complex patient populations in the health system.

The project scope did not include studies on the tasks and activities related to the process of emergency transportation. Financial costs were not a primary factor in developing the team’s recommended strategies. Survival Flight’s clinical goals were also beyond the scope of the project.

**Methods & Findings**

The team originally used four main methods to collect and analyze: interviews, competitor behavior collection, historical data collection, and industry research. Since the team’s status report, the team made changes to the method regarding competitor data due to unavailable data.

The team contacted the Flight Nurse of Survival Flight, the Medical Center Information Technology (MCIT) Applications Programmer at UMHS, the Business Analyst for Survival Flight, and the Michigan EMS Data Manager to retrieve both Atlas and Database of Air Medical Services (ADAMS) and National EMS Information System (NEMSIS) competitor data. However, the information was unobtainable. As a result, the team focused on analyzing competitor behavior as a new method. Using these methods, the team developed recommendations on how to position the program to maintain market share.

**Collection of Interview Data**

The team interviewed the Communications Specialists and the UMHS Corporate Strategy Director on February 26 and 27, respectively. The purpose of interviewing Communications Specialists was to further the team’s understanding of complex cases and how UMHS capacity problems affect Survival Flight. The team interviewed the Corporate Strategy Director to learn about changes in the healthcare industry and how UMHS creates strategic plans to react to such changes.
Analysis of Interview Data
After the team’s interview with the Communications Specialists from the dispatch center, the team was still unable to clearly define a complex case. The Communications Specialists consult with the flight nurses and UMHS physicians, who make the ultimate decision on whether a case requires Survival Flight services. The team did learn from the interview, however, that the Communications Specialists currently monitors the number and sources of referrals. To maintain referral relationships and increase awareness of Survival Flight services, they send gifts and letters of gratitude to the referrers.

After the interview with the Corporate Strategy Director, the team developed a better understanding of the current and future state of UMHS. Currently, many hospitals within the state of Michigan are merging to create larger health-delivery systems as the healthcare industry is moving towards closed health systems. In Michigan, there are eight to nine closed health systems. These systems tend to have exclusive agreements with air ambulance services, directly affecting the demand for Survival Flight. Therefore, there are less acquisition of hospitals and more partnership within the Michigan healthcare industry. UMHS currently wants to have good relations with their catholic providers, major independent hospitals, and large independent physician providers. UMHS has a master affiliation agreement with Trinity Health. The team further compared the requests received from Trinity hospitals with requests from other health systems to gain a better understanding on how this agreement affects Survival Flight.

Collection of Historical Data
The team worked with Survival Flight staff – including the Operations Manager and the Administrative Specialist, the Chief Department Administrator for Emergency Medicine, and a Program of Operations Analysis (POA) Engineer to obtain electronic data on Survival Flight requests and case volumes. With this data, the team was able to collect historical information about Survival Flight’s market share, referral trends, and projections. The team utilized five data sets: Completed Missions, Inpatient Encounters, DRGs, Demographics, and Flight Vector Records. Using Microsoft Access, these data sets were combined and then created into a master data set file.

Completed Missions Data Set
The Chief Department Administrator provided the team with a data set with all of Survival Flight’s completed missions from April 1, 2009 to March 8, 2015. It included the following columns: Flight #, Date, Category, MRN, and Call Sign. The team added an additional column, Clean MRN, which was used to standardize the patient identifiers from the MRN (Medical Record Number) column.

Flight Vector Data Set
The team worked with Survival Flight staff, including the Operations Manager and the Administrative Specialist, to obtain electronic data on Survival Flight cases. The Survival Flight staff was able to pull a data set from Flight Vector (Survival Flight’s mission management software) for patients flown between April 1, 2009 and January 31, 2015. This data included the following columns: Flight Number, Call Type, Sending Facility, Disposition, Receiving Facility, Time, Asset, and Base.
**Inpatient Encounters Data Set**

Initially, the Operations Manager provided the team with processed reports, but the team ultimately used unprocessed data. Processed reports represent data summarized at a high level, reflecting what Survival Flight has already analyzed. The team worked to retrieve unprocessed data – raw data that has not been analyzed – to eliminate potential bias created by processing. However, the data had to be curated in order to include the scope of Survival Flight and maintain accuracy.

With support from the POA engineer, the team obtained data on the inpatient stays of Survival Flight patients admitted to UMHS between July 1, 2010 and February 27, 2015. To identify the Survival Flight patients, the team provided the POA engineer with the Clean MRN column from the Completed Missions Data Set. The Inpatient Encounters Data Set included the following columns: Padded CPI #, Encounter #, Inpatient/Outpatient/Observation Description, Admit Month, Admit Year, Admit Date, Admit Location, Discharge Location, ICU Days, Length of Stay Hours, Encounter CSN, MSDRG Code, Cost, Charges, Insurance Payment, Patient Payment, MSDRG Arithmetic Length of Stay, Diagnosis Code, Diagnosis Code Description, Financial Class Group, Principal Procedure Code, Principal Procedure Code Description, Admit Service Code, Admit Service Description, Length of Stay Days, Injury Description, Admit Source Description, Discharge Disposition.

**DRG Data Set**

To understand the diagnosis-related group (DRG) codes in the Inpatient Encounters Data Set, the team needed to import the descriptions of the code. The POA engineer provided them with 5 files – one for each fiscal year between 2011 and 2015 – containing the following columns: MSDRG Code, MSDRG Description, MSDRG Major Diagnosis Category Code, MSDRG Major Diagnosis Category Description, MSDRG Arithmetic Length of Stay, MSDRG Relative Weight, MSDRG Medical/Surgical Flag.

**Demographics Data Set**

The POA engineer also provided a data set with demographic information for the Survival Flight patients. Using the patient identifiers contained in the Clean MRN column from the Completed Missions Data Set, the engineer obtained a data set containing the following columns: Padded CPI #, CPI #, Gender, City, State, County, UMHS Zone, UMHS Market, Zip Code.

**Master Survival Flight Data Set**

The team cleaned the data sets and aggregated them into one master data set. The data set provides information for Fiscal Year 2011 to 2015 Year to Date. Using Microsoft Access, the team was able to combine the data sets through the following connections:

- **Flight Number:** This variable connected the Flight Vector and Completed Missions Data Sets
- **MRN Number:** This variable connected the Completed Missions, Inpatient Encounters, and Demographics Data Sets
- **MSDRG Codes:** This variable connected the Inpatient Encounters and the DRG Data Sets

A detailed description of how the team aggregated all five data sets is provided in Appendix A.

**Collection of Competitor Behavior Data**

The team researched and aggregated information on competitor behavior for five main geographical regions in Michigan, shown in Figure 1: (1) Upper Peninsula, (2) Northern
Michigan, (3) Jackson County, (4) Metro Detroit, and the (5) Michigan-Ohio Border. Since the team submitted the status report, the name of Region 4 has been changed at the request of the team’s coordinator.

![Figure 1: Competitive regions for analysis](image)

The team created a summary of events that may have significantly impacted Survival Flight, including the type of event, when the event happened, what entities were involved, and how Survival Flight may have been affected. The team used online press releases, news articles, and hospital websites provided by competing health systems and air ambulance services as their main sources of information.

**Analysis of Historical Data and Competitor Behavior Data**

The team was able to use the qualitative data collected on competitor behavior data as a foundation to analyze specific time periods in the historical data. Using both the historical data and competitor behavior data, the team was able to determine key findings about Survival Flight’s market share and referral trends.

**Market Share**

With the collected data, the team created a table highlighting events that may have significantly impacted Survival Flight; details are shown in *Survival Flight Marketing Assessment: Analysis Visuals*, which is attached to this report. The following list summarizes key findings about the current market share from the historical and competitor behavior data:

- **Launch of Beaumont One air ambulance service.** Prior to the launch of Beaumont One, Survival Flight received more than three referrals per month from Beaumont Hospitals. However, since the merger Survival Flight has received less than two referrals per month from Beaumont Hospitals.
- **Mercy Memorial Hospital System mergers with ProMedica.** Over the past four years, referrals from Monroe-based Mercy Memorial Hospital have steadily increased. Survival Flight should monitor the hospital’s referrals after an affiliation with ProMedica and plan for a decreased number of requests.
- **Spectrum Aero Med and North Flight EMS Air Division collaborate.** Over the past four years, referrals of pediatric patients from Munson Medical Center has been relatively small – transporting two patients per year. The referrals of pediatrics from Spectrum Health were a
bit higher than Munson with an average of nine transports per year; but in the latest fiscal year, the number of transports dropped to only two. Alpena Regional Medical Center is the largest referral source of pediatrics for Survival Flight out of these three hospitals – averaging seventeen transports per year. However, in the most recent fiscal year, Survival Flight transported thirty-six pediatric cases from Alpena – contrary to the expectation that these pediatrics cases would be lost to Spectrum. Therefore, this will need to be reinvestigated in the future.

- Beaumont Health System, Oakwood Healthcare, and Botsford Hospital merge. There has been a consistent decrease in referrals from these hospitals over the last four years. After their 2014 merger, Survival Flight should expect this trend to continue. From FY2012 to FY2014 the referrals from these hospitals has decreased by 83%.

**Referral Trends**

Using the Master Dataset, the team determined number of transports that have been completed by Survival Flight since FY2011, which is shown in Figure 2.

![Number of completed missions is relatively stable](image)

For each of the geographic regions identified during data collection, the team created trend graphs of the number of Survival Flight transfers in order to analyze regional referral trends. The graphs also highlighted significant events that occurred in the regions, such as mergers and affiliations.

**Upper Peninsula**

As seen in Figure 3, it appears that the number of transports was fairly stable from FY2011 to FY2013 at about 90 transfers per year and then dramatically increased in FY2014 by 61% to 145 transfers. However, when the team also looked at the YTD trend in Figure 15 in order to include FY2015, the team saw that the number of transports decreased 37%, where FY2015 had a very similar value than that of FY2011 to FY2013. This could indicate that FY2014 was an anomaly.
In 2012, Valley Med Flight was established. Since then, the service has expanded rapidly. It is not evident that Valley Med Flight is affecting Survival Flight’s referral streams in the Upper Peninsula. However, as Valley Med Flight continues to expand, the team suggests that Survival Flight continues to monitor the Upper Peninsula.

As shown in *Survival Flight Marketing Assessment: Analysis Visuals*, Marquette General Hospital, Aspirus Keweenaw, and War Memorial Hospital are the main hospitals that UMHS gets its transports from in the Upper Peninsula region. These hospitals send about 75% of the total number of patients that come from the Upper Peninsula region to UMHS where Marquette General Hospital, Aspirus Keweenaw, and War Memorial Hospital send 31%, 24%, 20% of the inpatients respectively.

**Northern Michigan**

The Northern Michigan region includes Alpena General Hospital, Munson Medical Center, and Spectrum Health. Figure 4 shows that transports to UMHS from Northern Michigan facilities were decreasing between FY2012 and FY2014. However, the team further examined the referral trend in YTD terms and noticed a spike in referral trends in FY2015.
In September 2014 (FY2015), Aero Med and North Flight EMS, the air ambulance services from Spectrum Health and Munson Healthcare respectively, initiated an agreement to collaborate. This is a cause for concern for Survival Flight since Alpena is a large referral source for pediatric cases. With this collaboration, North Flight EMS may bring Alpena’s pediatric cases to Spectrum Health facilities, thus decreasing Survival Flight’s referral stream.

Jackson County
In this region, we focused on Allegiance Health, which is a major referral source without an air ambulance service. Allegiance Health has not yet affiliated with UMHS or any other health system; however, UMHS and Allegiance Health discussed the creation of a merger agreement in 2014. This discussion ended in December 2014, and Allegiance Health is still exploring further partnership options.

In December 2013 (FY2014), UMHS and Allegiance Health announced the intent to affiliate. However, looking at the trends in FY2011 to FY2014, the number of transports from Allegiance Health has already declined by 17%, as shown in Figure 5. It appears that UMHS’s intent to merge with Allegiance Health had no substantial effect on the number of transports coming from Allegiance Health. However, it is important to note that the decline seems to continue and therefore Survival Flight should monitor Allegiance Health and their search for another partnership option closely.

Metro Detroit
The Metro Detroit region includes three hospitals: Beaumont Health System, Oakwood Healthcare, and Botsford Hospital. In August 2012, Beaumont Health launched its own air ambulance service called Beaumont One (beginning of FY2013). Additionally, in September 2014, Beaumont, Oakwood, and Botsford merged to become Beaumont Health. Figure 6 shows that the trend of the number of transports from Southeast Michigan has been steadily decreasing since FY2012. The number of transports decreased by 45% from FY2012 to FY2014. With the two key dates in mind, it appears that the launch of Beaumont One has negatively impacted Survival Flight, and Survival Flight should monitor the effects in the Metro Detroit region.

Figure 5: Number of transports from Allegiance Health declined by 17%
Figure 6: Number of transports from Metro Detroit have been decreasing since FY2012

As shown in *Survival Flight Marketing Assessment: Analysis Visuals*, William Beaumont Hospital-Royal Oak and Oakwood Annapolis Hospital are the two main hospitals that transfer the most patients to UMHS. William Beaumont Hospital-Royal Oak brings in 24% of the total amount of transports from these hospitals and Oakwood Annapolis Hospital brings in about 20%.

**Michigan-Ohio Border**

Figures 7 shows the number of transports from facilities adjacent to the Michigan-Ohio Border. The region includes two air ambulance services: Life Flight from The University of Toledo Medical Center and ProMedica Air from ProMedica Toledo Hospital. There has been a steady increase in the number of transports. The number of transports has increased from FY2011 to FY2014.

Figure 7: Number of transports from border facilities have been increasing since FY2011

As shown in *Survival Flight Marketing Assessment: Analysis Visuals*, it is evident that the most transports come that from the Michigan-Ohio Border are Hillsdale Community (21%, 15% for FY2011-2014), Mercy Memorial Hospital System (12%, 14%), and St. Vincent Mercy (12%,
In July 2014, Mercy Memorial Hospital System was acquired by ProMedica. This could potentially decrease the number of transports that are coming from one of Survival Flight’s leading referral facilities. The team recommends that Survival Flight monitor the number of transfers from Mercy Memorial in the future.

Collection of Industry Research Data
To better understand key marketing and strategy tactics, the team adopted methods taught at the Ross School of Business. The team consulted the team coordinator, who earned an MBA from Ross, about fundamentals of the Advanced Competitive Analysis course and the “Big Picture” Marketing framework. The Advanced Competitive Analysis course is based on Harvard professor Michael Porter’s book, The Five Competitive Forces that Shape Strategy. This strategy framework analyzes the industry and firm in components and ultimately reorganizes the firm’s strategy to align with the industry. The Big Picture Marketing framework was created by Christie Nordhielm and gives a set of tools to tackle marketing problems and find innovative solutions through an integrated framework that includes creating a business and marketing objective. More details are provided in Appendix B.

Analysis of Industry Research Data
Once the team completed the current state analysis, the team used the industry research tools described above to analyze the future state of Survival Flight. Due to restrictions in the scope, the team focused on the first three segments of the Big Picture framework: the business objective, the marketing objective, and the source of volume.

The business objective aims to understand the business goals of Survival Flight by identifying the business goal and core competence. Survival Flight’s goal was to stabilize the number of transfers of inpatients coming to UMHS. The core competence is the capabilities and expertise that allows Survival Flight to be competitive in the market place. As stated on Survival Flight’s website, Survival Flight’s core competence is “Rapid and Safe Flights that Leads to Successful Hospital Transfers.”

The business objective is defined as what Survival Flight would want to accomplish through their marketing objective. There are two different types of marketing objectives: acquisition and retention. The source of volume helps determine, from a marketing standpoint, if Survival Flight should stimulate demand or steal share. When the team combined the marketing objective and the source of volume, a matrix was formed with four different possibilities (see Appendix B). The team analyzed each case and identified the best marketing objective and source of volume for survival flight: acquisition and steal share. This can be achieved through UMHS and Survival Flight’s affiliations and alliances as well as finding the “right” patients for Survival Flight and UMHS. The team defined “right” patients as patients that are mutually beneficial to both the patient and UMHS. The patient would benefit by getting the best care possible, while UMHS would benefit by getting the most interesting and best cases for their resources and specialties. The choice of steal share and acquisition aligned with the major shifts in the healthcare industry. Additionally, in the source of volume section of the Big Picture framework, the team identified Survival Flight’s dynamic variable—the key distinction that separates Survival Flight from its competitors in the air ambulance industry. The team identified this variable to be the specialties and resources at UMHS. Survival Flight should consider advertising UMHS’ top-ranked programs and the availability of the best resources and services.
Conclusions
Analysis of the referral volumes for Survival Flight over the past five fiscal years revealed that the number of transports has been relatively stable.

When the team investigated the referral trends on a regional level, they were able to identify trends that corroborated the concerns of Survival Flight’s Operations Manager. The team saw that, in some regions, referral volumes have been steadily declining and, in other regions, new affiliations or mergers have taken place, which may affect Survival Flight negatively in the future.

Based on the analysis of the 2012 affiliation agreement between UMHS and Trinity Health, the team concludes that affiliation agreements are beneficial for Survival Flight. This conclusion is supported by the fact that Survival Flight received significantly more referral requests from Trinity Health after the implementation of the affiliation agreement. With a potential agreement between Ascension Health and UMHS in the works, the team anticipates this will increase the Survival Flight referrals from Ascension Health.

Recommendations
Based on the conclusions of the analysis, the team developed recommendations that will help Survival Flight support their future marketing strategy.

The team’s first recommendation is for Survival Flight to advocate for affiliation agreements between UMHS and other hospitals. Although, Survival Flight cannot individually create these agreements with other hospitals, the team still recommends that Survival Flight be a strong supporter of these agreements, as they may lead to increased referral volumes from the hospitals involved.

The next recommendation for Survival Flight is to consider a collaboration strategy in the increasingly closed system healthcare industry, similar to what the partnership between Spectrum Health’s air ambulance service, Aero Med, and Munson Medical Center’s air ambulance service, North Flight. These air ambulance services partnered independently from their respective hospitals, but this partnership should be very beneficial the facilities involved because North Flight is now more likely to transport patients to Spectrum Health facilities and vice versa.

Another recommendation is for Survival Flight to emphasize the immense resources and services available at UMHS. These resources include generous funding, access to research studies, and top tier equipment and clinicians. These resources are unique to UMHS and should be promoted by Survival Flight as a valuable difference, which sets them apart from competing air ambulance services.

The team recommends that Survival Flight continue to monitor market changes and competitor behavior in certain regions, specifically Northern Michigan, Jackson County, and the Michigan-Ohio border. In Northern Michigan, the relatively new partnership between Aero Med and North Flight has yet to have a visible effect on Survival Flight’s referral volumes. However, these referral volumes should be closely monitored as the team expects these volumes to decrease in
the coming years. In Jackson County, the largest referral source for Survival Flight, Allegiance Health, recently discontinued talks of a possible merger with UMHS. As stated previously, the team believes this merger could have helped to maintain the volume of referrals for Survival Flight. If Allegiance Health stays independent, the team expects the number of transports to remain consistent; however, during the analysis, the team found that Allegiance Health is actively pursuing potential mergers with other hospitals, which could negatively affect Survival Flight’s referral stream. One of the largest referral sources for Survival Flight in the Michigan-Ohio Border region is Mercy Memorial Hospital. ProMedica, who has its own air ambulance service, has recently acquired Mercy Memorial. Therefore, the team anticipates that referrals from this region and specifically this hospital may decrease in the coming years.

In order to continue monitoring market changes and competitor behavior, the team recommends that Survival Flight consider adding a data analyst to their department. Currently, the department’s staff lacks the expertise necessary to synthesize and analyze updated versions of the master dataset created by the team. The continued monitoring of this data will enable Survival Flight to anticipate upcoming changes in its referral volumes and adjust accordingly, which will be crucial to the department’s continued success in an increasingly competitive market.

The team recommends that Survival Flight implements the results of the Big Picture analysis performed by the team. By emphasizing the core competencies of the service and targeting specific sources of volume, Survival Flight should be able to stabilize the number of referrals it receives.

**Expected Outcome**

In conducting this study, the team used statistical methods to analyze how the market trends and changes have impacted Survival Flight. Consequently, the team recommends the following in order to improve and maximize the productivity and efficiency of Survival Flight’s new marketing strategy. Specifically, the team anticipates that their recommendations will result in:

- Improved of Survival Flight’s market position
- Awareness of the need for affiliation agreements with other hospitals
- Potential future changes in department structure

**References**


**Attachments**

“Survival Flight Marketing Assessment: Analysis Visuals”
Appendices

Appendix A: Creation of Master Survival Flight Data Set

As shown in Figure A-1, the team used Microsoft Access to create relationships between the individual data sets. The DRG Data Set was comprised of multiple files – one for each fiscal year – and the team added each file individually to ensure that the proper DRG information was used for the time of the patient’s admission. The individual data sets were joined through these relationships, leading to the creation of the Master Survival Flight Data Set.

After the Master Survival Flight Data Set was created, the team added several columns:

- Fiscal Year: This column contains the fiscal year during which the admission took place.
- Length of Stay (Single): This column contains the patient’s length of stay, stored as a single. It was calculated by dividing the Length of Stay Hours column by 24.
- Sending County: This column contains the county in which the Sending Facility is located. The team chose to populate this column for facilities located in Michigan and Ohio.
Appendix B: Application of Industry Research Techniques

Figure B-1: The Big Picture Framework

<table>
<thead>
<tr>
<th>Source of Volume</th>
<th>Marketing Objective</th>
</tr>
</thead>
<tbody>
<tr>
<td>STP Share</td>
<td>ACQUISITION</td>
</tr>
<tr>
<td></td>
<td>STIMULATE DEMAND</td>
</tr>
<tr>
<td></td>
<td>Affiliations and alliances</td>
</tr>
<tr>
<td></td>
<td>“Right” patients for Survival Flight and UMHS</td>
</tr>
<tr>
<td></td>
<td>RETENTION</td>
</tr>
<tr>
<td></td>
<td>Broaden acceptance criteria</td>
</tr>
<tr>
<td></td>
<td>Affiliations and alliances</td>
</tr>
</tbody>
</table>

Figure B-2: Intersection of Survival Flight’s Source of Volume and Marketing Objective