



## SkyHealth serves 21 hospitals in NYC metro area

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As the Northwell Health System (formerly North Shore LIJ Health System) grew over the last 25 years into a system of 21 hospitals in the New York City metropolitan area, one problem continued to grow and needed a solution.

The infamous congestion of the New York City metropolitan area was impacting on the company's ability to transport patients within their network of hospitals. A 20-mile drive that should have taken 30 minutes would actually take several hours in heavy traffic. It was obvious that a better solution was needed. This is how the 1st hospital-based helicopter emergency medical service (HEMS) in the New York area was born.

Under the leadership and vision of President and CEO of Northwell Health, Michael Dowling, the program called SkyHealth was launched as a partnership between Northwell Health and Yale-New Haven Health in CT. Patients of both health systems who need life saving care for major trauma and medical events such as heart attacks, strokes and life threatening brain injuries can receive emergency medical care by helicopter and will be quickly flown to the most appropriate hospital. Every second counts when a critically ill patient must be transferred to another medical facility. Utilizing an Airbus H135 helicopter, SkyHealth greatly reduces the time a patient spends outside of the acute care environment. On average, it takes 10 minutes from the time a call is received until lift-off.

Northwell Health, in partnership with Yale Health System, began their helicopter medical services program in Nov of 2014. Sr VP and Chief Admin Officer Eugene Tangney sums up the SkyHealth philosophy. "Any time we can reduce that out-of-hospital time for the patient, or we can make a difference in reducing the time that it would normally take in moving a patient from one hospital to another, we are indeed saving lives," he declares.

### **SkyHealth's operating region**

SkyHealth is based centrally at ISP (Long Island Macarthur Airport, Ronkonkoma NY) and can respond anywhere in the NYC metropolitan area or southern Connecticut within 30 minutes. It is available for any sending hospital—the facility that needs to transport a patient to another facility—in the Northeast region to make transfers into any hospital of choice within New York or Connecticut. Transportation to additional states is also available.

Northwell Health and Yale New Haven Health conducted an extensive search to find the right



air-medical services vendor that they thought was the best fit for their own philosophy and mission. After meeting with numerous operators and visiting various operations around the country, the Northwell Health System selected the Med-Trans program.

Program Director Robert Kikel explains the decision. He states, "After all of our analysis, Med-Trans was most closely aligned with our philosophy and mission. They shared many of the same values as us and the decision actually was quite easy."

### **Choosing the right helicopter**

The aircraft selected for the program is the Airbus H135, which has proven to be an excellent choice. When asked about maintenance, Kikel, who holds current A&P/IA license and also worked for the NYPD Aviation Unit as DOM/line pilot, says, "Our maintenance issues have been very minor and the reliability of the aircraft has been remarkable."

From the pilot's perspective, Lead Pilot Vincent Aprea likes the handling of the H135. "Naturally, every pilot wants more speed and power. But this helicopter has handled all our missions very well with no bad habits," says Aprea, who especially appreciates the safety of the fenestron tailrotor. "We load and unload thru the rear clam shell doors so the safety of the fenestron is obvious," he adds.

The H135 is equipped with a complete avionics suite including Garmin GMS 200, Garmin 430, Garmin 530, with WAAS, TCAS and HTAWS. For communications they utilize dual Techsonic RC 6000/NV with 1 radio in the aft medical treatment area and dual NAT AA95-863 audio/comm selector panels. Furthermore, the aircraft is NVG compliant and has a 3-axis autopilot.

In the aft cabin, SkyHealth's Airbus H135 is equipped with the same sophisticated critical care technology available in the most innovative of operating rooms, emergency rooms and intensive care units, including ventilators, cardiac defibrillator, transcutaneous and venous pacemakers, and oxygen saturation and temperature monitoring.

### **Hiring the best pilots and mechanics**

Pilots work a rotating schedule of 7 days on and 7 days off, and they also rotate between days and nights. In order to qualify as a Med-Trans flightcrew, pilots must have 2000 total helicopter flight hours, 1000 total helicopter PIC hours, 1000 turbine hours, 200 helicopter night flight hours (aided and/or unaided), 50 hours actual weather or simulated weather flight hours, current FAA commercial rotorcraft certification, current FAA Class II medical, helicopter instrument rating and current in helicopters. Pilots currently assigned to Northwell Health's SkyHealth program have a background mix of US military, law enforcement and civilian experience. Aprea has been with the SkyHealth program since, and he loves the mission. He retired from the NYPD Aviation Unit and made the transition to Med-Trans within a few days. After an initial 2-week orientation training, Aprea joined the line. Even though he came with a lot of flight



experience, Aprea admits the training was tough.

Med-Trans conducts quarterly checkrides and mandates annual recurrent training in an H135 simulator. Although missions currently flown are VFR-only, all pilots are required to maintain IFR proficiency. Proudly explaining the company's support of this policy, Aprea says, "When we return from a mission, the company encourages us to fly IFR approaches and make sure we are not just current but more importantly, proficient."

Based in a coastal area, Aprea believes IFR proficiency is a must. He adds, "The Long Island/Connecticut weather can change in minutes and we really need to be prepared to meet any challenge. Should we encounter an inadvertent IMC situation, we are completely proficient and equipped to meet the emergency safely."

All missions must have a formal and comprehensive risk assessment completed before the aircraft departs. The risk assessment must be submitted to the Med-Trans Operations Center, where it is reviewed by expert personnel.

Aprea appreciates the extra set of eyes reviewing his assessment. "We fly single pilot so I really like that someone takes a look on what I have prepared. They are really helping out. They might ask me if I considered something that I might have missed. It is a nice quality control check and is appreciated," he remarks.

Flightcrew members wear helmets, complete flight suits and conduct night missions with night-vision goggles (NVGs). In recognition of the coastal environment in which they operate, all flightcrew members have attended Survival Systems dunker training.

Mechanics qualifications for Med-Trans are as follows: Valid A&P license, minimum 3 years direct helicopter maintenance experience, at least 6 months aircraft maintenance work during the past 24 months, Bell 407 or Airbus H135 maintenance experience preferred, inspection authorization and additional FAA/FCC ratings are a plus, IFR helicopter avionics and autopilot experience preferred, extensive knowledge of FARs, and experience in performing detailed helicopter inspections, main rotor/tailrotor balancing and major repairs required.

### **The Medical Team**

SkyHealth's medical flight team—a crew of paramedics and nurses—has the highest level of training in emergency, prehospital and critical care disciplines. Dual-credentialed in New York and Connecticut, they have experience in multiple specialties from advanced cardiac life support to caring for newborns with critical medical needs.

The team attends intensive continual training programs at Northwell Health's Center for Learning and Innovation, Emergency Medical Institute and Bioskills laboratory. This comprehensive training includes simulations and clinical rotations in trauma for adults and pediatric patients. Additionally, the entire flight team initially and continually undergoes



rigorous flight safety training, NVG training, crew resource management training and scene flight training.

Flight team clinicians have numerous hours logged with inflight experience and a solid medical footing after years in the emergency, prehospital and critical care settings. With pride in the medical team, Chief Flight Nurse Taryn Capasso says, "Coming from a large health system, we really drew the best of the best for this program. Our nurses and paramedics are simply the most experienced and skilled clinicians available."

### **Hospital and helipad infrastructure**

One challenge to the new program was designing and building the infrastructure needed to allow for the helicopter to land at their hospitals. SkyHealth manages helipads at several hospitals designated and credentialed as trauma centers, including North Shore University Hospital, Staten Island University Hospital, Southside Hospital and Phelps Memorial Hospital Center in NY, and Yale-New Haven Hospital and Bridgeport Hospital in CT.

Northwell Health also continues to build helipads at their other hospitals. The company's goal that all systems hospitals can take advantage of the benefits of quality, rapid air medical transport provided with the Airbus H135. Kikel has visited every hospital in their network and they are actively evaluating the construction of either rooftop or ground level pads.

### **The Future**

As a new program, the focus is on getting the program up and running the right way. Internally, that means educating the employees on the benefits of air medical transport and what they can and cannot do. The Northwell Health/Yale New Haven System intends to strengthen the existing program and always will analyze and look at changing and/or emerging markets. "From day 1, our administration has been completely and fully supportive of this program, and I feel the best is yet to come," Kikel concludes.