FIRST QUARTER 2019

SafetyMatters

A quarterly, collaborative publication
from MedFlight and HealthNet
Aeromedical Services

# Does Being Safe Put Us at Risk?

**By Jeff White, M.S., MTSP-C, FP-C**
**Director of Safety, HealthNet Aeromedical Services**

Professor Gerald J.S. Wilde from Queen's University in Ontario, Canada proposed the theory of risk homeostasis and how it affects human behavior. The difficulty in confirming this theory is that it is very subjective. For example, many people feel perfectly comfortable with taking the risk to skydive while others have such a fear of flying, they will not travel by airplane. So, how does one develop a baseline in which to study from? How do you standardize human perception of risk? The short answer is that you do not, but rather you incorporate human behavior into your training and risk mitigation processes. Everyone will calculate their own perceived risk by using the following four factors:

1. Expected benefits of risky behavior
2. Expected costs of risky behavior
3. Expected benefits of safe behavior
4. Expected costs of safe behavior

They will then employ the Peltzman Effect which suggests that people typically adjust their behavior in response to the perceived level of risk, becoming more careful where they sense greater risk and less careful if they feel more protected.

**Examples of the Peltzman Effect:**

- A 1994 study showed that people who wore seatbelts drove faster and took more chances than drivers who do not wear seatbelts.
- When seatbelt use became law in Chicago, the number of injuries from vehicle crashes went down while the rates of pedestrians struck by vehicles when up. Why? The drivers felt safer with seatbelts, so they drove faster on streets not designed for higher speeds.
- The year following the release of birth control for public use, the incidents of STDs rose over 100%. Why? Once the risk of pregnancy was decreased, people took more chances.

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## THIS ISSUE INCLUDES:




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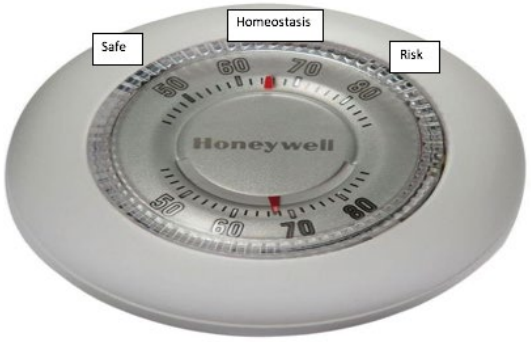


So how do we incorporate this knowledge into our training and policies? In training, we increasingly use simulation to put employees into risky situations inside a controlled environment and let them work through the risk process and mitigate issues themselves. Once they have worked through an issue, the risk associated is not perceived but tangible allowing them to focus on the risky events and shift their thermostat to more appropriate risk.

An example is the shared space model used in Sweden in 1967. Shared space is an approach to the design of roads, where risk compensation is consciously used to increase the level of uncertainty for drivers and other road users by removing curbs, road surface markings and traffic signs. The approach has been found to result in lower vehicle speeds and fewer road casualties.

As a safety professional you must come to terms with the fact that most of your job is mitigating human nature and habit. Understanding the above and realizing that risk is perceived by everyone helps tremendously in creating education, assessments and mitigation strategies. ■

## NIMS Training Required

All HealthNet Aeromedical Services and HealthTeam Critical Care Transport team members are required to complete National Incident Management System (NIMS) 100, 200, 700, and 800 level courses by **February 15, 2019**. Links to the online courses are located on the "Dashboard" section of NinthBrain listed as "NIMS Training 100-200-700-800." Once courses are completed, send completion confirmation to Director of Education Nick Cooper: Nicholas.cooper@healthnetcct.com. ■


## HealthNet Safety Department Growth

The Safety Department at Healthnet Aeromedical Services is proud to announce that Justin Koper is now a full-time Safety Officer for our program's HealthTeam Critical Care Transport ground operations.

Justin comes to us from HealthNet Base 1 in Morgantown, West Virginia where he served as a flight paramedic. He has served more than 13 years in emergency services ranging from rural and urban EMS to career fire service. He is a former member of PA 1, a Department of Health and Human Resources Disaster Medical Response Team based in Pittsburgh, Pennsylvania. He holds a Master of Science degree in Safety Management and currently serves as adjunct faculty in the safety program at West Virginia University. ■

# HealthNet Safety Director Selected for FAASTeam

The Federal Aviation Administration (FAA) released the General Aviation Accident Prevention Program in 1970 with a goal of reducing general aviation accidents by improving attitude, knowledge and proficiency of airman. After years of data showing the incident rate not declining as at acceptable rate, the FAA changed the program to incorporate the principals of risk management, system safety and new technology. One of the tools the FAA has put into place to drive education is the FAA Safety Team (FAAST). The FAASTeam is made up of representatives from all segments of the aviation industry. Each representative is responsible for creating and teaching safety related topics, refreshing technical knowledge and conveying modern safety principles.

FAASTeam Representatives are responsible for assisting the FAASTeam Program manager or Regional Point of Contact, in promoting and fostering aviation safety. Representatives are volunteers who work directly with, or under, the guidance of the local Program Manager or Regional Point of Contact.

In December 2018, HealthNet Aeromedical Services Director of Safety Jeff White was selected by local Program Manager Brian Givens to be a member of the FAASTeam based in Charleston, West Virginia. Jeff brings his unique experience to the local area and will assist the FAA in driving safety in all areas of aviation.

FAASTeam Representative's general activities include:

- Conduct or assist in FAASTeam events
- Encourage pilots to participate in the WINGS-Pilot proficiency Program
- Encourage aviation maintenance technicians to participate in the Aviation maintenance Technician (AMT) Awards Program
- Identify hazards or unsafe conditions with regard to airports and national airspace system and make appropriate notifications
- Counsel airmen using a variety of methods, including one-on-one meetings and large educational events
- Offer assistance and provide information to pilots who seek aid in transiting or operating in the Representative's area
- Offer assistance to pilots, aviation maintenance technicians, and aviation organizations in establishing and maintaining a high level of safety awareness within their organization by utilizing a safety management system where appropriate
- Make recommendations for the improvement of aircraft system design, and report conditions or malfunctions that may be hazardous to safe aircraft operations
- Support safety committees
- Develop or assist in the development of new FAASTeam products
- Encourage airmen to participate in all facets of the annual General Aviation Awards Program
- Assist Lead Representative by distributing educational materials, publicizing program event, and rendering other general support services
- Promote the FAASafet.gov and its system
- Suggest improvement and assist in the development of content for FAASafety.gov
- Serve as a liaison between the FAASTeam and other organizations.

The FAASTeam is a ground level support section of the larger U.S. Helicopter Safety Team (www.ushst.org) that promotes safety initiatives and recommends changes in the helicopter aviation industry. ■

# Highly Infectious Diseases Team - Mission Ready

**By Karen Swecker, RN, CIC**
**Exposure Control Liaison, MedFlight**

MedFlight has a special team ready to transport a highly infectious patient who has a diagnosis such as Ebola, diptheria, smallpox, or any highly infectious pathogen that needs special isolation transport between facilities. Highly infectious patients are only transported via MICU with a team consisting of an RN, Paramedic and a driver. This type of transport requires a great deal of coordination and is only made with a great deal of caution. When MedFlight's MedComm dispatch center gets a request, the Exposure Control Liaison is called to notify the team to mobilize at the main base to prepare for the transport. All preparation is methodical, which is critical in preventing exposures. MedComm coordinates the logistics of arranging pick-up and delivery of the patient which includes notifying each facility's security department to clear transport pathways. The crew, as always, focuses on safely delivering patient care while preventing exposure to themselves and others.

Though transport of a highly infectious patient is rare, MedFlight is ready to help. If you are interested in joining our team, please contact Karen Swecker by email kswecker@medflight.com or call 614.234.4658. ■

The team practices safely donning and doffing personal protective equipment without contaminating themselves or the environment.


The MICU patient care compartment is wrapped in a protective barrier to lessen any risk of contaminating surfaces and equipment.

# The Importance of Vaccines

**Karen Swecker, RN, CIC**
**Exposure Control Liason, MedFlight**

Statistics from the Centers for Disease Control and Prevention show that during the 1950s the U.S. Health Departments reported 120,718 cases of pertussis with 1,118 deaths and 319,124 cases of measles with 468 deaths. During 1921 more than 15,000 Americans died from diphtheria.

Worldwide medical science has come a long way in preventing infectious disease outbreaks and saving lives. Today, most physicians have never seen or diagnosed a case of measles. Unfortunately, more and more people are not getting vaccines and are not vaccinating their children. As healthcare providers we must learn to recognize and protect an increasingly vulnerable population.

The history of vaccination against infectious disease began as early as 1000 BC in China. Historical records from the 1500s describes the prevention of smallpox by inoculation in China and India. In 1796, Edward Jenner began using cowpox inoculation to prevent smallpox which eventually lead to increasing testing and the development of modern-day vaccines.

President Abraham Lincoln was diagnosed with smallpox immediately after delivering the Gettysburg Address. While he survived, he infected his valet who developed the disease and died. During the American Civil War, two thirds of the 660,000 who died were killed by infectious diseases, including more than 4,000 Union Army soldiers who died from measles.


**Vaccine timeline**

**1885** A French physician in the early 1800s began performing tracheostomies allowing diptheria patients to breath; the survival rates for patients with tracheotomies was about 25%.

American physician O'Dwyer developed the forerunner of today's intubation techniques to treat airway blockage from diptheria.

Louis Pasteur developed the rabies vaccine.

**1905** U.S. Supreme Court upholds mandatory smallpox vaccination programs.

**1929** The iron lung was developed as the first artificial respirator used for patients who were paralyzed by polio.

**1940s** During WWII, typhoid was almost nonexistent among U.S. soldiers due to the typhoid vaccine.

**1949** Last naturally occurring smallpox case in the U.S.

**1962** Attenuated measles vaccine developed

**1964** U.S. rubella outbreak infects millions resulting in 20,000 congenital rubella syndrome cases

**1965** Mumps vaccine released

**1972** U.S. halts routine smallpox vaccination

**1980** Smallpox declared eradicated

**1994** Polio eliminated from the Americas due to vaccination

**2000** Endemic measles eliminated in the U.S.

**2008** 134 cases of measles in the U.S. More than 90% of diagnosed were not vaccinated or vaccine status unknown.

**2010** California has an increase of 418% in pertussis cases in one year

**2014** 644 cases of measles in the U.S. reported to the CDC, the highest number since measles was declared eliminated in 2000.

**2017** 35 measles related deaths in Europe, thousands of non-vaccinated people infected

**What would happen today if everyone stopped being vaccinated?**

If most of the community is vaccinated and an infectious disease such as measles is introduced, there will be only a few cases. If most of the people are not vaccinated, a large outbreak occurs such as the 2010 outbreak of pertussis in California or the large outbreaks of measles that occurred in Texas and New York City 2013; none of those ill in NY were vaccinated. Due to the number of people in the U.S. who were vaccinated, an epidemic was prevented.

Per the CDC , 3.9 million hospital visits each year are due to infectious diseases and are a leading cause of death in the U.S. As a nation we spend more than $120 billion each year to treat infectious diseases. A blog report released by the Robert Woods Johnson Foundation stated an estimated 45,000 adults and 1,000 children die annually from vaccine preventable disease in the U.S. The report also found that more than 2 million children under the age of 3 are not vaccinated against measles and whooping cough.

Sources:
www.historyofvaccines.org/timeline#EVT_100864
www.cdc.gov/vaccines/vac-gen/whatifstop.htm
www.rwjf.org/en/blog/2013/12/top_5_things_youdid.html ■


## A WORKSHOP FOR
## **HOBBYIST & PART 107** DRONE/UAS PILOTS

WHEN: FEBRUARY 20, 2019 | 6:00PM - 9:00PM

WHERE: MEDFLIGHT HEADQUARTERS
2827 WEST DUBLIN GRANVILLE RD, COLUMBUS, OH

WHY: LEARN SAFE FLYING PRACTICES FROM EXPERIENCED UAS OPERATORS, DISCUSS INDUSTRY UPDATES, RECEIVE FLYING INFO FROM LOCAL OSU AIRPORT AND FAA OFFICIALS, CHECK OUT A MEDFLIGHT HELICOPTER

# Safety Communication
## Contact Information

**MedFlight**

VP of Risk, Linda Hines
614-734-8024 or lhines@medflight.com

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614-395-8338 or aball@medflight.org

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### Intranet Website Resources:

NinthBrain can be accessed via the worldwide web at suite.ninthbrain.com.

# *Safety*Matters

Do you have any ideas for *SafetyMatters*?
Let us know by emailing jeffrey.white@healthnetcct.com