

# In The Wild

Healthcare, Data, and Transponding

Gregory Travis

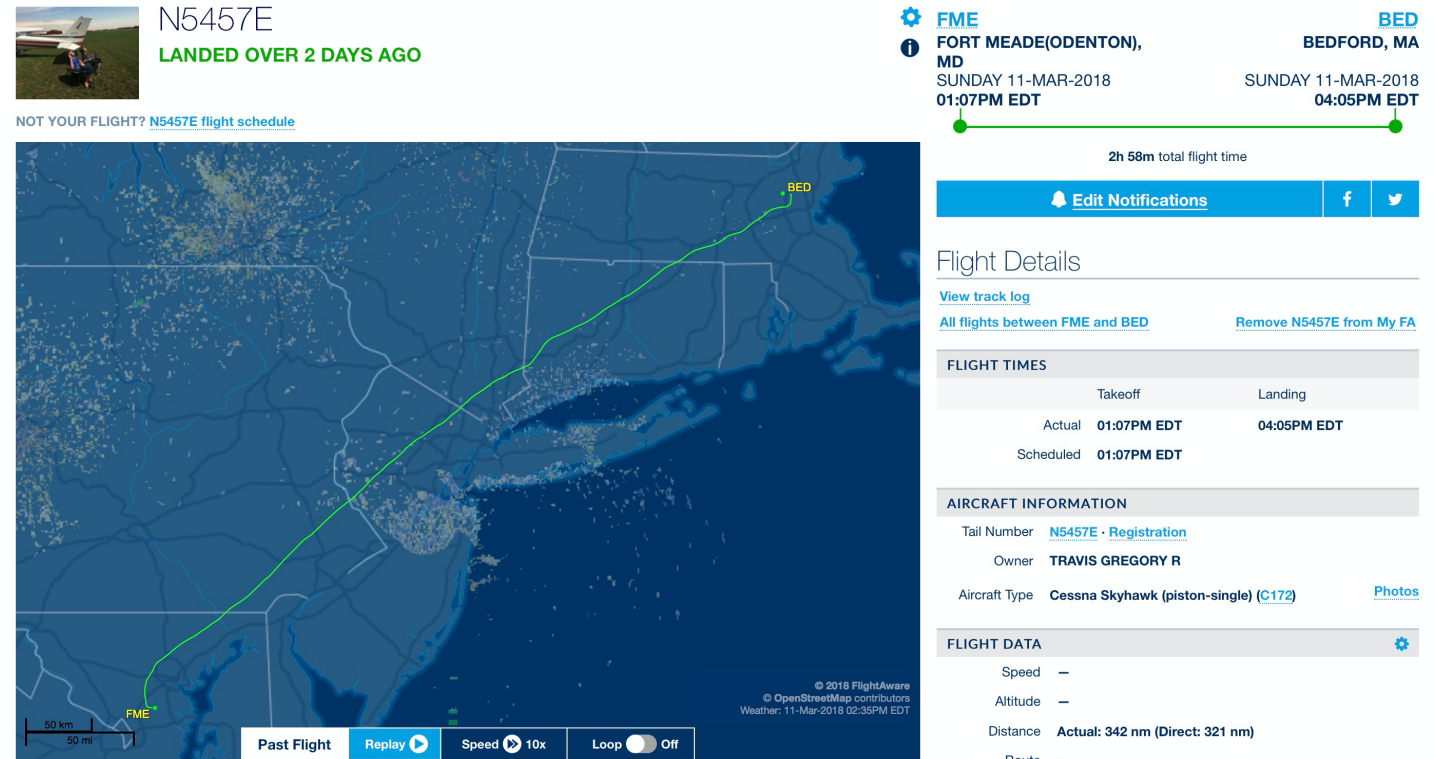
# The health industry thinks it is special with regard to data

- Thinks it has unique data security needs
  - It does not
- Thinks it has a lot of data
  - It does not
- Thinks only it processes data "from the wild" (i.e. data transmitted from the field)
  - It does not
- Most industries have faced and solved these exact same problems decades ago. In particular:
  - Finance
  - Transportation

# Unique Data Security?

- “[S]ecurity of patient health data is paramount.” – Said every provider, ever
  - It is not.
    - Patient health data is not easily monetized, thus is unattractive to criminals
      - Financial Data and Transportation Data are vastly easier to monetize, thus security in those industries is far more important than in health care
      - I can access data about my trips and my bank accounts from anywhere in the world using any application I choose. I can’t get at *my own health data* without forcing a provider to give it to me.
- Patient health data *availability* is **much** more important to patients and outcomes than its security
- Providers use the security canard to frustrate competition, because patient data portability means patient portability which means losing patients to your competitors. What it doesn’t mean is acting in the patient’s interest or improving outcomes and reducing costs.

This is a map from a *publically accessible web site* showing a trip I took in my plane last weekend. My blood lab results are more “private” than this? No, they are not. Why can’t I get access to them, then?



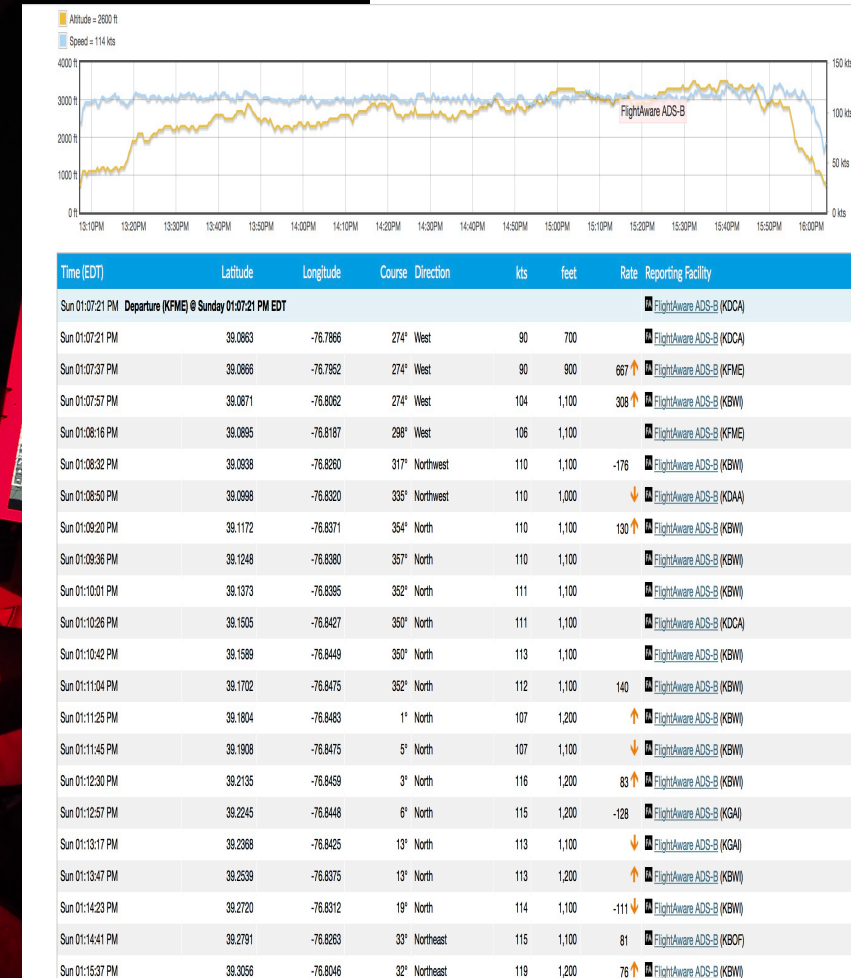
# A lot of data?

- Compared to the financial and transportation industries, health care is not a “big data” industry.
  - Health care industry: 150 exabytes of data total
  - Financial industry: 2000 exabytes of data total
  - Transportation industry: 300 exabytes of data *every year*
    - *Nowhere is the “Internet of Things” (IoT) more prevalent than transportation*

# In the wild?

- Transportation, in particular, already receives vast amounts of data and processes that data in real time to ascertain everything from vehicle location to vehicle health (for example)
- Modern airliners constantly record ca. 3,000 data points every few seconds per aircraft. Most of those points are transmitted back to the ground in real time, to be used for real-time diagnosis of aircraft health and scheduling maintenance.
  - HL7 ORU message, for example, to send EKG data, can't even send more than 50 key/value (OBX) data points (typically). This is pathetic and a reason for shame, not excuses.

The transponder in my aircraft is constantly transmitting real time flight data to the ground at a rate of 1MBit/s.  
Does your Fitbit do that? No, it doesn't



# What needs to happen?

- The US health care industry needs to “get over itself.”
  - Take the technology, security, and lessons *already learned in every other industry* to deal with the problems that the health care industry says are “too hard.”
    - Transmitting biometric information from people in real time. The transportation industry does the same thing, with better results, with more data, faster, already. Learn from them.
    - Making people’s health data secure in a way that does not impede its usefulness, which is the important thing
      - Stop hiding behind the PHI “security” excuse as a way to deny people access to their own health data, so that it can be used to improve their health