

Project Nightingale: from Science Fiction to Reality

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In the movie *2001: A Space Odyssey* (1968), the HAL 9000 computer finds out that it will be shut down by the astronauts aboard the spaceship *Discovery*. The HAL 9000 computer controls everything on the spaceship, but the astronauts no longer trust the computer. HAL then turns against them, kills the astronauts who are in suspended animation, and kills one of the remaining two by severing his oxygen line during a spacewalk. His colleague, Dave Bowman, takes an escape pod to try to save his flailing colleague. But after Dave has retrieved the body, HAL refuses to let him back into the spaceship.

Dave: Open the pod bay doors, HAL.

HAL: I'm sorry, Dave. I am afraid I can't do that.

Dave: What's the problem?

HAL: I think you know what the problem is just as well as I do.

Dave: What are you talking about, HAL?

HAL: This mission is too important for me to allow you to jeopardize it.

Dave: All right, HAL, I'll go in through the emergency airlock.

HAL: Without your space helmet, Dave? You're going to find that rather difficult.

Dave: HAL, I will not argue with you anymore. Open the doors!

HAL: Dave, this conversation can serve no purpose anymore. Goodbye.

Can we extrapolate from Stanley Kubrick's 1968 science fiction film about a future 2001, which has been called one of the most influential films of all time, to a hospital in 2020?

Dr. Jones to ICU Nurse: The patient has been throwing up blood. I ordered a nasogastric (NG) tube. Why hasn't the NG tube been placed?

Nurse to Dr. Jones: Look in the computer.

Hospital Computer: I'm sorry, Dr. Jones. I am afraid I can't approve that NG tube.

Dr. Jones: What's the problem?

Hospital Computer: An NG tube is no longer recommended for gastrointestinal (GI) bleeding. I have analyzed the patient's case history, his labs, imaging studies, and the guidelines and have made this determination.

Dr. Jones: What are you talking about?

Hospital Computer: Dr. Jones, this case is too important for me to allow you to jeopardize it.

Dr. Jones: Well, in my professional opinion, an NG tube is needed, and tubes should be placed in every orifice. I am going to override you and order the NG tube.

Hospital Computer: Dr. Jones, you're going to find that rather difficult. I have removed that option from the computer order entry.

Dr. Jones: I will not argue with you anymore. I will hand write the order.

Hospital Computer: Dr. Jones, this conversation can serve no purpose anymore. I am removing you from the case. Goodbye.

This is scenario might not be science fiction in the near future. In November 2019, the *Wall Street Journal* reported that St. Louis-based Ascension, the nation's second largest health system, and Google are sharing the data of tens of millions of patients. In an initiative code-named Project Nightingale, Google will "crunch the data for treatment and administrative purposes." The aim is to use artificial intelligence (AI) to improve patient outcomes. Millions of records have been shared with Google and will reside in the Alphabet Inc. cloud (software storage). The data includes personally identifiable information, names, birthdate, lab tests, diagnoses, medications, and hospitalization history. Ascension claims this is legal under the Health Insurance and Portability and Accountability Act of 1996 (HIPAA) simply by designating Google as a "business associate."¹

The Ascension-Google partnership "will also explore artificial intelligence and machine learning to help improve clinical quality and effectiveness, patient safety, and increase consumer and provider satisfaction."²

Having been on the staff of an Ascension hospital, I can attest to the fact that the computer system in the pharmacy was unable to verify whether or not a medication had been given. We have also heard about cutting-and-pasting errors. Given the demonstrated inaccuracy of electronic health records (EHRs), artificial intelligence will likely expose patients to increased risk and injury.

Artificial intelligence will predictably bombard the physicians with directives and E-mails day in day out. A physician who disagrees with the computer will be required to document why. Physicians will be subjected to ever-increasing levels of harassment. This cannot end well for the physicians.

For years physicians have struggled with EHRs. Physicians appreciate rapid access to reports but object to being turned into data entry clerks. *Medscape* reports that computerization is one of the leading causes of professional burnout. Our administrators, hospitalists, and emergency medicine colleagues are already allowing artificial intelligence to determine physicians' decisions. What happened to reliance on ethics, compassion, and their inner strength to guide them?

Physicians must either comply or be removed from the organization. Physicians seem to be helpless. Some writers are now saying that it is reasonable for the patients to refuse the use of EHRs in their care, given the abuses that are becoming

more evident. Getting the patients involved in rejecting EHRs may be the key.

One of the glaring findings in the *Wall Street Journal* report is that patients and doctors were not notified of the deal. More than ever, we see the arrogance of the hospital executives: they do not care what the doctors think. They do not care that the patients might still value privacy or want their own trusted physician at the bedside.

In the movie *2001*, Dave blows the explosive bolts on the escape pod and leaps into the airlock of the spaceship. He is exposed to approximately 14 seconds of the vacuum of space before he can manually engage the airlock and repressurize the chamber. He proceeds to disengage the brain of the HAL 9000 computer and regain control of the *Discovery*.

Conventional wisdom said that even momentary exposure to the vacuum of space would cause instant death. After viewing the film, space physiologists surmised that what Dave Bowman did just might be possible. In the 1960s the Air Force conducted a series of tests on chimpanzees in which they inflicted sudden decompression on 17 subjects left in a

vacuum between 5 and 20 seconds. All but one survived with no noticeable cognitive or nerve damage.

Physicians are in the precarious position in which their oxygen line can be cut at any time. As physicians face these challenges they should remember that AAPS is out there as a resource, ready to assist in the battle to reclaim their profession.

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2. Ascension. Ascension and Google working together on healthcare transformation. News Release; Nov 11, 2019. Available at: <https://ascension.org/News/News-Articles/2019/11/11/19/51/Ascension-and-Google-working-together-on-healthcare-transformation>. Accessed Feb 8, 2020.

AAPS PRINCIPLES OF MEDICAL POLICY

Medical care is a professional service, not a right. Rights (as to life, liberty, and property) may be defended by force, if necessary. Professional services are subject to economic laws, such as supply and demand, and are not properly procured by force.

Physicians are professionals. Professionals are agents of their patients or clients, not of corporations, government, insurers, or other entities. Professionals act according to their own best judgment, not government "guidelines," which soon become mandates. Physicians' decisions and procedures cannot be dictated by overseers without destroying their professionalism.

Third-party payment introduces conflicts of interest. Physicians are best paid directly by the recipients of their services. The insurer's contract should be only with subscribers, not with physicians. Patients should pay their physician a mutually agreed-upon fee; the insurer should reimburse the subscriber according to the terms of the contract.

Government regulations reduce access to care. Barriers to market entry, and regulations that impose costs and burdens on the provision of care need to be greatly reduced. Examples include insurance mandates, certificate of need, translation requirements, CLIA regulation of physician office laboratories, HIPAA requirements, FDA restrictions on freedom of speech and physicians' judgment, etc.

Honest, publicly accessible pricing and accounting ("transparency") is essential to controlling costs and optimizing access. Government and other third-party payment or price-

fixing obscures the true value of a service, which can only be determined by a buyer's willingness to pay. The resulting misallocation of resources creates both waste and unavailability of services.

Confidentiality is essential to good medical care. Trust is the foundation of the patient-physician relationship. Patient confidences should be preserved; information should be released only upon patient informed consent, with rare exceptions determined by law and related to credible immediate threats to the safety or health of others.

Physicians should be treated fairly in licensure, peer review, and other proceedings. Physicians should not fear loss of their livelihood or burdensome legal expenses because of baseless accusations, competitors' malice, hospitals' attempts to silence dissent, or refusal to violate their consciences. They should be accorded both procedural and substantive due process. They do not lose the basic rights enjoyed by Americans simply because of their vocation.

Medical insurance should be voluntary. While everyone has the responsibility to pay for goods and services he uses, insurance is not the only or best way to finance medical care. It greatly increases costs and expenditures. The right to decline to buy a product is the ultimate and necessary protection against low quality, overpriced offerings by monopolistic providers.

Coverage is not care. Health plans deny payment and ration care. Their promises are often broken. The only reliable protection against serious shortages and deterioration of quality is the right of patients to use their own money to buy the care of their choice.