2026 National Bioethics Bowl
Case Packet

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Case 1 – AI and Medicine

The role of artificial intelligence (AI) in the world of medicine and health has become a hotly debated issue in recent years, as the development of generative AI models drew significant attention from laypeople and continued algorithmic refinement made AI a serious contender for use as a tool in various spheres. Some companies, including Google and International Business Machines Corporation (IBM), intended to capitalize on the power of AI by creating tools to fight major health problems such as kidney disease and cancer, but instead became subject to scrutiny of how they developed these tools.

In the early 2010s, Google's AI firm DeepMind sought to develop a smartphone app to detect when patients were at higher risk of developing acute kidney injuries. While working on this app, DeepMind obtained the personal records of over a million patients at the Royal Free London NHS Foundation Trust, on the grounds of building a better tool for clinicians. When the data sharing was made public in 2015, patients strongly objected to the use of their personal data, particularly because no consent had been sought. A class action lawsuit was filed against Google and DeepMind on the claim that patient data had been misused.

However, patient data is somewhat necessary for the development of tools like DeepMind's smartphone app. The argument exists that sharing patient data will promote the health of more people long-term, but how far should companies be willing to go to obtain such data? What right do hospitals like Royal Free have to give patient data away without their patients' consent?

At around the same time that Royal Free gave their patient data to DeepMind, International Business Machines Corporation (IBM) made its Watson for Oncology supercomputer available to clinicians. Watson was advertised as a tool to recommend the best cancer treatment for each patient and supposedly created new approaches to treatment in the process. These claims were found to be dubious at best, primarily because Watson depended on human input from doctors at one hospital, which can generate bias within the system.

Doctors have claimed that they primarily utilize the Watson system to reinforce their existing ideas about patient treatment; however, the idea that an AI model could generate new approaches to treatment raises questions about the scope of AI application. To what extent should AI be used in medicine? If we reach a point where AI is more accurate at providing diagnoses and treatments than human physicians, could it be ethically appropriate to replace human physicians with these AI models? Some have claimed that AI approaches problems more fairly and with less bias than humans, which might make it appear a better alternative to human physicians, but this might not be the case.

Executives at IBM are an example of some who rejected the idea that bias is inherently present in AI models, but a 2019 study published in the journal *Science* identified strong racial bias in an unnamed algorithm for predicting health care risk. The scientists who published the study emphasized that because bias is subconsciously present in most (if not all) humans and our societal systems, constant vigilance is necessary to ensure that we do not pass a significant amount of our biases on to AI algorithms and therefore cause harm to patients.

These findings indicate that there was almost certainly some bias present in IBM's Watson. It seems even more likely that Watson possessed some bias when considering that its medical suggestions primarily relied on the input of doctors from one hospital in one country that subscribed to one idea of medical practice. Because Watson was used liberally in Southeast Asian countries, where medical pluralism is common, we might wonder if Watson was unnecessarily promoting Western ideas of medicine in areas where that isn't the default.

Questions:

1. What ethical principles come into play when considering the use of patient data to further develop AI tools such as DeepMind's health care app?
2. To what extent should AI be used in deciding what treatments are delivered to patients?
3. Is the use of AI models as health care tools morally justifiable despite evidence of their biases?

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Case 2 – Continued Pregnancy in Brain-dead Women

About nine weeks pregnant, 31-year-old nurse Adriana Smith was admitted for extreme pain on February 18, 2025 to Northside Hospital in Atlanta, Georgia. The next day, her fiancée took her to Emory Hospital, where doctors declared her brain-dead. Because Emory doctors detected cardiac activity in her 9-week-old fetus, and because Georgia's LIFE Act restricted abortion once a fetal heartbeat was detected, doctors kept Adriana's body alive on a ventilator. Three months later, on May 13, 2025, Emory Hospital administrators told Adriana's mother that Georgia's LIFE Act made it illegal for them to withdraw Adriana's ventilator.

Obstetricians delivered Adriana's baby by emergency C-section on June 13, 2025, where it received care in a NICU. Doctors removed life-support from Adriana on June 17, and her funeral occurred on June 28, 2025. Adriana's mother named the male baby Chance.

Smith's case resembled the case of paramedic Marlise Muñoz in 2014, when Texas had a law stating that, regarding advance directives, "a person may not withdraw ... life-sustaining treatment … from a pregnant patient." The Muñoz case occurred before the US Supreme Court's *Dobbs* decision, which overturned *Roe vs. Wade* and allowed states to make their own laws about abortion.

One of the key ethical issues of both cases was the wishes of the mother. If the mother in either case wished her pregnancy to continue to birth, there is little problem with continuing her body on a ventilator to support gestation of her baby. On the other hand, if she expressly did not want her pregnancy to occur after her death, then continuing it would violate her autonomy.

The legal and ethical situation becomes murky when either a mother has no advance directive or if she does, it does not say anything about her being pregnant and brain-dead (which is probably the normal situation for such directives). If no advance directive exists, the courts turn to substituted judgement, which for a married couple would normally be the spouse, or for a single mother such as Adriana, a parent such as her mother.

The legal situation is even murkier when it only arises after a woman is dead. In the Muñoz case, her husband argued that she had told him that, if declared brain-dead, she would not want to be artificially maintained. Her husband argued in court that advance directives (as in what she told him) did not apply to dead people and as such, Muñoz's case was not covered by Texas law. Some law professors agree with her husband. A judge agreed and ordered her life-support removed, which occurred in January 2014.

Several states restrict the ability of doctors to end artificial life support for terminally ill pregnant patients, requiring doctors to maintain the woman's body until the fetus is viable and can be delivered.

In the Smith case, her mother could have provided substituted judgement but was not asked. She told a local television station, "I'm not saying we would have chosen to terminate her pregnancy, but I'm saying we should have had a choice."

Questions:

1. If dead people can't be harmed, then once Adriana was declared dead, should doctors have been pro-life in the sense of attempting to rescue the life growing inside her body?
2. Does the age of the fetus matter in such cases? Suppose that, when Adriana was declared brain-dead, her fetus was 9 days' short of viability. Would that make an ethical difference?
3. Does forcing a family to continue a pregnancy of a brain-dead woman treat the dead woman's body as a mere vessel, violating the family's autonomy?

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Case 3 – A Hunting Tragedy

In 1967, Phil Garrett, 16 years old, was hunting in the woods with his cousin. In a tragic, yet entirely accidental turn, he was hit by shrapnel when his cousin aimed at a rabbit, not aware that Phil was just coming up over a hill behind the animal. Five surgeries later, two of which were on his brain, Phil was left blind, partially paralyzed, and had an artificial palate, as well as a significant speech impediment.

Three years later, he moved into a high rise near his family home and began living independently. As long as his parents were able, they took care of Phil, taking him to doctor appointments, grocery shopping for him, cooking the majority of his meals, and doing laundry and cleaning. His mother, especially, was devoted to helping him navigate daily life.

As the years passed, Phil's parents began to age and experience their own health issues. At the same time, Phil desired to be more independent and aspired to attend college. At some point in his thirties, Phil acquired his first service dog through an organization in Ohio. He traveled to the facility, spent two weeks in training with his dog, and eventually came home with Penny, his new service dog. With Penny's assistance, Phil began venturing out on his own, eating at restaurants, using public transportation, and even attending college. This was only possible with Penny's help.

Not only was Phil's service dog, Penny, essential for his independence, but she became his very best friend, much like a family member really. Eventually, Phil graduated from college with a degree in Dietetics and Nutrition, only to experience one roadblock after another when trying to find employment. He gave up on that dream, his parents passed away, and Phil found himself alone often except for Penny, his constant companion.

When Penny passed away, he got Aldo; Aldo was followed by Dash. Both service dogs came from the same nonprofit organization in Ohio. Phil was now 64, and the traumatic injuries he experienced in the hunting accident all those years ago started to take their toll on his body. He had acute sciatica and significant arthritis. He was losing strength and mobility. He fought hard, going to the gym regularly and walking daily, not an easy feat for Phil, even with the aid of a service dog.

After Dash passed, arrangements were made for yet another service dog. Phil traveled to Ohio and began his training with Deezy, his new dog. The trainer, who was familiar with Phil from previous dog training, quickly noticed that Phil was struggling to do what was necessary for training. He decided to return with Phil and Deezy to Phil's home and attempt training there. After a few days, the trainer decided things had gone "well enough" and left Phil and Deezy to continue their journey together.

Six months passed, and most people who knew Phil probably assumed things were progressing with Deezy. However, stories started to surface from locals who found Phil lying on the street or sidewalk after he'd fallen, apparently not strong enough to lead Deezy. Many people also noticed that Phil's speech began to deteriorate, as he experienced bone and tooth loss and his artificial palate no longer fit. It was suspected that the dog was no longer able to understand his commands.

Soon after, Phil had to give up walking altogether, no longer able to even take the dog out to relieve himself. With the help of others, he found a dog walker. Mostly though, he and Deezy stayed in his small apartment, keeping each other company. Phil loved his dog like a family member and treated him well. However, the dog was no longer being used for the purpose he was trained.

Questions:

1. If the non-profit that supplied the dog is considering reclaiming the dog, does the client's desire to keep the dog supersede the fact that the dog is no longer providing the service for which it was trained?
2. Is there an obligation to the breeders and donors who are supporting the non-profit agency? If they are breeding dogs and donating money to provide service dogs, should the agency consider this in their decision to reclaim the dog?
3. If the dog is still providing a service (i.e., emotional support) but different from what was originally intended, does this justify the client's continued ownership?

Case 4 – Selling Drugs: Should Hospitals Ban Pharmaceutical Representatives?

For decades, pharmaceutical representatives—often called “drug reps”—have played a central role in how doctors learn about new medications. These representatives, employed by drug companies, visit physicians’ offices and hospitals to promote their products. In the 1980s and 1990s, drug companies would reward doctors with luxurious vacations and honorarium stipends for prescribing their medications to patients. With more strict limitations in place, representatives for pharmaceutical companies today provide free samples, glossy brochures describing clinical trials, branded pens and notepads, and sometimes sponsor lunches or continuing education events.

Drug companies say these visits are a vital educational service. Doctors are busy, they argue, and cannot keep up with every new development in medicine. Offering to treat the medical personnel to lunch means that representatives can quickly convey the latest research over a lunch break. Brochures and presentations help physicians learn about new treatment options for their patients. Reps also point out that they follow strict regulations: materials must be approved by the FDA, and they are trained to present accurate information. Many clinicians appreciate the chance to learn about new therapies and receive samples that allow low-income patients to try medications at no cost.

Critics, however, contend that the primary goal of these visits is not education but marketing. Studies have shown that physicians who meet with drug reps are more likely to prescribe the promoted drugs, even when less expensive or equally effective alternatives are available. Some researchers argue that marketing materials selectively highlight favorable results and downplay potential risks. Others warn that the practice contributes to rising healthcare costs and erodes patient trust.

In response to these concerns, several hospitals, universities, and state governments have imposed limits—or even outright bans—on interactions between physicians and drug representatives. These policies may prohibit gifts, free lunches, or even the distribution of branded educational materials. Under such restrictions, doctors must rely on peer-reviewed research, independent continuing education programs, and institutional pharmacy committees for information about new medications.

One large teaching hospital is now considering adopting such a ban. Proponents say that ending marketing visits would protect the hospital’s integrity and ensure that prescribing decisions are based solely on evidence. They point out that the Physician Payments Sunshine Act already requires disclosure of any gifts or payments from drug companies to physicians, suggesting that transparency alone might not be enough to prevent bias.

Opponents within the hospital argue that a ban would be unnecessarily restrictive. They insist that doctors are professionals capable of evaluating marketing claims critically. Some note that smaller or rural hospitals, which lack extensive academic resources, may depend on representatives for practical information about new drugs. Others worry that cutting off communication could slow the adoption of innovative treatments that might benefit patients.

A group of residents at the hospital, many of whom are still learning about pharmacology and treatment guidelines, are divided. Some believe the ban would help them focus on evidence-based medicine rather than advertising. Others worry they would lose access to useful materials that help them stay informed.

As the hospital's ethics committee prepares to vote, members must decide whether to prioritize impartiality and trust over professional autonomy and access to information.

Questions:

1. If financial ties and gifts from pharmaceutical companies are fully disclosed, does that transparency adequately address the ethical concern or can a practice remain ethically problematic even when it is open and legal?
2. What ethical responsibilities do drug companies have, and do those change if the hospital served a rural or under-resourced community with fewer other sources of medical information?
3. Is it ethically better to risk biased information reaching physicians or to restrict information flows in ways that might delay access to beneficial new treatments for patients?

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Case 5 – Bad Behavior

In 1874, Francis Galton coined the term "nature versus nurture." Since then, the "nature versus nurture" debate has dominated scientific discourse. Proponents of the nature theory argue that behaviors are entirely dictated by genetic predisposition, while nurture advocates purport that environment is the deciding factor. Nowadays, most scientists recognize that it is not a binary nor are nature and nurture mutually exclusive. In fact, they interplay and influence each other in feedback loops.

Preimplantation genetic testing (PGT) for in-vitro fertilization (IVF) has been available since the late 1990s. PGT allows clinicians to identify embryos with monogenic disease-causing genetic variants and gives prospective parents the option to select embryos with substantially reduced risk of developing severe genetic diseases.

In the field of social and behavioral genomics research (SBG), geneticists work with behavioral and social scientists to develop statistical tools known as polygenic scores (PGS) or polygenic indices (PGIs). Researchers use these scores to study associations or links between genetics and a wide range of phenotypes, including smoking and eating behaviors, schizophrenia, attention-deficit/hyperactivity disorder (ADHD), well-being, introversion, risk-taking tendencies, income, intelligence, and educational attainment.

Polygenic indices, such as EA4 for educational attainment, can currently explain about 15 percent of the variance in educational attainment among individuals and thus have limited predictive power. Estimates suggest only a smaller proportion of this predictive power, perhaps around 5 percent, reflects direct causal genetic effects, with the remainder capturing indirect genetic and environmental influences. While these numbers may be small, many scientists believe that the connection is significant and may be useful for controlling for genetic differences in social and behavioral studies.

As PGIs research advances, parents could, in principle, take PGT one step further and not only select for severe disease, but also for social and behavioral traits such as intelligence and risk-taking tendencies. The question is whether they should. Genetics has a blood-stained history of discrimination grounded in false or exaggerated genetic claims, and some believe that SBG research is headed in the same direction.

Questions:

1. Is it morally permissible for parents to use polygenic indices to select IVF embryos for social or behavioral traits they regard as favorable?
2. Which actors, if any, have a moral obligation to prevent harm arising from social and behavioral genomics research, and what do those obligations involve?
3. Under what conditions, if any, would it be morally justifiable to use polygenic indices to select embryos for social and behavioral traits, and is there a principled way to avoid relying on arbitrary standards?

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Case 6 – Second Chance at Bella

When Bella, a golden retriever, passed away after twelve years, her owner, Dr. Maya Patel, was heartbroken. Bella had been her companion through graduate school, career changes, and major life milestones. Maya's grief was unbearable. A few months later, Maya read an article about Viagen, a biotechnology company that clones pets using a process called somatic cell nuclear transfer (SCNT). For $50,000, Viagen promises dog owners that they can "extend their relationship with their beloved pets" by producing a genetically identical animal from a small tissue sample.1

Maya contacted Viagen to learn more. The company explained that the cloning process involves removing the nucleus from one of Bella's preserved cells and inserting it into a donor egg cell whose own nucleus has been removed. The resulting embryo would then be implanted into a surrogate mother dog. Because the process is inefficient—only a small percentage of embryos survive to term—several surrogate dogs are typically used to produce one viable puppy. Viagen assured Maya that the clone would be genetically identical to Bella and even share key attributes such as intelligence and temperament.

Animal welfare advocates criticized Viagen for the suffering caused to donor and surrogate animals, arguing that the procedure commodifies living beings and exploits people's grief for profit. "Cloned pets are products, not miracles," said one bioethicist. Supporters of the practice countered that cloning is an expression of love and that owners should have the right to spend their money as they choose.

Meanwhile, research veterinarians raised concerns about the use of limited scientific expertise and laboratory resources for commercial pet cloning. They argued that the same resources could be directed toward animal health, conservation, or shelter initiatives that benefit far more animals. Others replied that private biotechnology companies can pursue any legal, profitable service and that market demand reflects legitimate social interests.

In response to growing controversy, there has been a call for cloning companies to register as research facilities so that they are subject to oversight under the Animal Welfare Act. This move would require companies like Viagen to disclose success rates, welfare procedures, and cloning outcomes, and would allow oversight from animal welfare boards. Opponents argued that such regulation would burden innovation and restrict consumer freedom. Supporters claimed that cloning is not merely a consumer choice but a morally significant act that should be subject to public oversight.

Maya now faces two decisions: whether to proceed with cloning Bella and whether to support the proposed cloning legislation.

Questions:

1. Should scientific expertise and laboratory resources be devoted to cloning pets when other animal welfare and research needs are unmet?
2. Should pet cloning be regulated beyond existing animal welfare laws? If so, what moral limits should be set on the commercialization of animal life?
3. Is it morally acceptable to impose suffering on donor and surrogate animals in order to produce a cloned pet for private companionship?

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Case 7 – Should Unvaccinated Kids Be Allowed in Pediatric Practices?

Dr. Roberts is a pediatrician in Marin County, California, which once had one of the highest rates of unvaccinated children in the country.

Sally Meadows lives in Marin County and has always been skeptical of traditional medicine, which she believes is dominated by Big Pharma. She tries to follow a natural lifestyle and abhors Big Agriculture, the Internet, social media, and politicians. As such, she feeds her children only organic produce and food with the fewest possible additives, avoiding processed meats and many dairy products (she seeks out "raw water" from springs and serves her children raw milk).

Sally does not vaccinate her 3 daughters, aged 3, 6 and 8. Although her children appear healthy, none of them have received the hepatitis B vaccines, the vaccine for diphtheria, tetanus, and pertussis, or vaccines for polio, pneumonia, flu or Covid. Because of a state mandate to vaccinate any child attending public schools, Sally homeschools her daughters.

Sally wishes to have Dr. Roberts see her oldest daughter for a possible broken bone, but her daughter would be a new patient in Dr. Roberts' practice. Sally is upfront with the staff that her daughter is unvaccinated and will not accept any vaccinations.

Emily Ezell also has a child, Jeff, in Dr. Roberts' practice, who is immunocompromised. Specifically, although Jeff received both the vaccine for pneumonia and measles, he failed to have normal responses and further tests showed that he has no immunity against either infection. Thus, to protect her son, Emily refuses to take Jeff to any pediatric practice that accepts unvaccinated children.

Measles is highly infectious and protection against it for children such as Jeff depends mostly on herd immunity, which for measles, requires 90 to 95 percent of children in an area to be vaccinated. Infection from measles can harm the immune's system memory, making infected children vulnerable to other infections. Aerosol transmission of the measles virus has been proven to occur in waiting rooms.

Roughly half of pediatric practices in America will not accept an unvaccinated child as a new patient whose parents refuse to vaccinate their infants. However, the American Academy of Pediatrics distinguishes between *not accepting* new patients because of vaccine refusal and *dismissing* existing patients, the latter of which the Academy discourages.

In 2000, the Centers for Disease Control and Prevention announced that measles had been eliminated as a disease in America. Internationally, 1 million children died from measles who had not been vaccinated.

In 2025, Robert F. Kennedy, Jr. became the head of the FDA under President Trump and discouraged mandates to vaccinate children. Kennedy historically advocated the view that vaccines cause autism. Some claim his views helped create an outbreak of measles in children in Texas in 2025, which as of July 22, 2025, had infected 762 children, 99 of whom were hospitalized and 2 of whom died.

Some pediatricians argue that, because of herd immunity, the likelihood of Jeff contracting measles in a waiting room is low and that unvaccinated children could be accommodated by giving them a special entrance and room or seeing them in a parking lot, as was done in some practices during Covid.

Questions:

1. Is it morally permissible for Dr. Roberts to refuse to accept Sally’s unvaccinated child as a new patient in order to protect immunocompromised children such as Jeff?
2. Do parents have a moral right to refuse childhood vaccinations when doing so increases risks to other children who cannot protect themselves?
3. Are accommodations, like seeing unvaccinated patients in a parking lot and seeing unvaccinated patients one day a week, morally sufficient or appropriate responses to the problems associated with providing medical care to unvaccinated patients?

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Case 8 – Living Robots

Researchers at the University of Vermont, Tufts University, and Harvard recently developed *xenobots*—tiny biological robots built from frog stem cells and programmed by algorithms to move, repair themselves, and work collectively. While testing, the researchers observed something unexpected: the xenobots appeared to self-replicate, forming new clusters of cells that then moved on their own. The replication process was not part of the original design, and it raised immediate questions about control, containment, and oversight. The xenobots cannot survive outside laboratory conditions, but their capacity for emergent behavior suggests that future versions could evolve in unpredictable ways.

Researchers believe that these robots could eventually serve vital public and medical purposes: cleaning up pollution, repairing tissues inside the human body, or delivering drugs precisely where needed. However, critics argue that using tissues as programmable machines risks crossing an ethical line. They question whether the potential benefits justify creating entities whose behavior scientists cannot fully predict or control.

Are these xenobots—partially autonomous tissues that move around and replicate—alive? That there is no clear answer to this question makes it difficult to reason about the ethical responsibilities we have to xenobots. Existing regulatory frameworks—those governing animal research, biotechnology, or artificial intelligence—do not clearly apply to xenobots. Should they be treated as research animals, as lab-grown tissues, or as devices? And if they begin to evolve or behave autonomously, does our moral responsibility toward them change?

Questions:

1. Given that xenobots don't fit neatly into existing categories (animal, organism, or device), what kind of ethical and legal oversight should govern research on them, and who should be responsible for developing and enforcing those standards?
2. Is it morally permissible to create living entities solely as tools for human ends (e.g., environmental cleanup or medical treatment)?
3. How should researchers balance the potential benefits of xenobot technology against the risks of unintended ecological or ethical consequences, and what principles should guide decision-making in the face of this uncertainty?

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Case 9 – Body Cameras and Their Footage

In 2022, the TV show *Body Cam: EMT* aired its first and only episode. Its tag line states, “From attempted murders to terrifying trauma, Houston paramedics work against the clock to save lives. They're recording it all on body cameras, bringing a closer view than ever to all the pulse pounding action.” The show contains dramatic examples of body camera footage captured by emergency medical technicians that showcase the skills of emergency medical professionals in high-stakes situations. EMS body camera footage can also be found on video-sharing sites, showing both emergency medical professionals saving lives and emergency medical professionals abusing patients.

The use of body cameras by emergency medical professionals is not limited to entertainment media. Agencies around the world have adopted body cameras, including EMS services in other Texas cities, New Orleans, and London. Axon, one of the largest providers of body-worn cameras to law enforcement and first responders, highlights their utility in deterring and documenting violence towards EMS workers. They also point out that the footage might be used in a quality assurance and quality improvement role by helping ensure that EMS workers are following policies and providing quality care. But evidence around the effect of body-worn cameras on wearers and subjects is mixed. Paramedics may become more hesitant in their clinical decision-making if they know every action is being recorded and scrutinized, potentially affecting the quality of care. Patients, on the other hand, may be less forthcoming with sensitive information or may feel uncomfortable knowing their medical emergencies are being filmed.

As with any application of body cameras, there is a question of who has access to the collected footage and for what reasons. There are also questions regarding who should be consulted before releasing footage for different purposes, such as for training, disciplinary review, or even for entertainment, as in the example of *Body Cam: EMT*. If the adoption of body-worn cameras becomes widespread in EMS, it will not be feasible for a human to manually review thousands of hours of footage that a large department might produce in a month. AI has already been developed to automate review of police body cameras, but similar software developed for the purposes of EMS footage has not been reported.

Questions:

1. What ethical difference, if any, is there between the use and footage of body cameras worn by EMS professionals and those worn by law enforcement officers?
2. Do patients have a right to access the body camera footage that captures their own interactions with medical professionals, so long as the private health information and sensitive information of others is redacted?
3. Are there situations where body camera footage should be released to news outlets against the wishes of the patient, the EMS professional wearing the camera, or the EMS department?

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Case 10 – The Next Generation of Conversion Therapy

A report from Yair Ettinger entitled *Rabbi's Little Helper* describes a potential new direction for effective conversion therapy. He quotes Dr. Omer Bonne from the Psychiatry Department of the Hadassah-University Medical Center on using SSRI's such as Prozac for the off-label purpose of reducing someone's libido. From the report:

> "Some behaviors put Haredim in conflict with their values and cause them mental problems, even to the point of depression," Bonne said. "My view concerning drug treatment in such cases has changed. For example, when I was young, idealistic and less experienced, whenever I had a case of homosexuality, masturbation—or, as Haredim put it, 'compulsiveness in sex'—I would say: 'Homosexuality is not a mental problem, masturbation is certainly not a mental problem or even a medical problem. I do not treat people who do not have a medical problem.' Over the years, I saw that people who do these awful things suffer terribly because of the conflicts they create. Those urges, impulses or behaviors place them in conflict with their society, and then they become depressed. In these cases, I would indeed prescribe medicines that block these conditions."

While more traditional forms of conversion therapy focused on turning homosexual people heterosexual, the use of SSRI's to reduce libido might be interpreted as an attempt to turn homosexual people into asexual people.

But it is not obvious that this sort of treatment properly falls under the umbrella of conversion therapy. Reducing or eliminating libido might not be enough to change someone's sexuality. Homosexual people may have a lowered or absent libido for all sorts of reasons without conceiving such a change as a change to their sexual orientation. Reasons for a lowered or absent libido might include the natural aging process, various health conditions, or as a side effect of drugs prescribed for their intended purpose. Even an intentional reduction of libido might not be immediately classified as conversion therapy, such as intentionally avoiding sexually explicit material or self-management techniques/treatments for compulsive sexual behavior disorder.

States have successfully passed various forms of conversion therapy bans. New Jersey is one of several states that use the language "Sexual Orientation Change Effort" in its own legislative statute AB 3371. Vermont defines conversion therapy broadly:

> "Conversion therapy" means any practice by a mental health care provider that seeks to change an individual's sexual orientation or gender identity, including efforts to change behaviors or gender expressions or to change sexual or romantic attractions or feelings toward individuals of the same sex or gender. "Conversion therapy" does not include psychotherapies that: (A) provide support to an individual undergoing gender transition; or (B) provide acceptance, support, and understanding of clients or the facilitation of clients' coping, social support, and identity exploration and development, including sexual-orientation-neutral or gender-identity-neutral interventions to prevent or address unlawful conduct or unsafe sexual practices without seeking to change an individual's sexual orientation or gender identity.

Some definitions are clearer on what they include and exclude than others, but considering the future of conversion therapy, lawmakers may need to revisit what conversion therapy is and what the harm of conversion therapy is, if bans are to be effective.

Questions:

1. One of the most common objections to conversion therapy is that it is ineffective. Suppose that one day, in the future, there is a safe and effective pill that changes someone's sexuality from homosexual to heterosexual. Should physicians or psychiatrists be permitted to prescribe this pill?
2. Does the potential societal impact of accessible and effective conversion therapy drugs bear weight on the decision to grant these drugs to a particular individual, and when, if ever, should a physician cease to act solely in the interests of their patient and instead consider the interests of society?
3. Should preserving or affirming a person's sexual identity be an ethical priority for clinicians, even when it conflicts with a patient's stated personal or religious values?

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Case 11 – Should Prisoners Be Eligible for Sex-Change Surgery?

Jordan Smith always struggled with his body and sexual identity, and when teenage testosterone began giving him male facial hair and big bones, he cut himself in disgust. Several bouts of depression and anxiety then caused him to turn to drugs, which led him to steal, which led him to Mississippi State Prison, where he now is serving an 8-year sentence for stealing a new car from a neighbor and trying to sell it to buy drugs.

Six months into his sentence and after counseling, Jordan decided he had been born in the wrong body and was a woman, changing his name to Jordie and, following advice from a counselor, dressing as a woman to be sure he felt comfortable with female presentation.

Jordie has now petitioned the prison health service of Mississippi for a sex-change operation. Should she be eligible?

Transgender and gender-non-conforming (trans) people are incarcerated at four times the rate of the general American population. Some studies show that gender-affirming surgery improves the health and well-being of trans people. Some studies indicate that over one million Americans identify as transgender and that one third of trans persons get surgery, with more than 12000 procedures performed each year. Gender-affirming surgery for trans people is normal medical practice in some areas and denying prisoners such surgery would violate such a standard.

In 1976, the US Supreme Court ruled in *Estelle v. Gamble* that denying normal medical care to prisoners violated the 8th Amendment to the Constitution barring cruel and unusual punishment.

Lack of surgery for trans people has led to attempts at autocastration and suicide. In 2025, the Federal Bureau of Prisons issued clinical guidelines supporting surgery for its estimated 1200 trans prisoners, but these guidelines have not been adopted by many states.

Costs of gender-affirming surgery vary significantly, ranging from $6,000 to over $100,000, depending on the specific circumstances. The type of surgery determines initial costs: top surgery, bottom surgery, facial feminization, followed by costs of counseling and hormones.

Expensive medical care for prisoners is politically controversial, and gender-affirming surgery for trans prisoners is now especially controversial. Miss Beulah Sanders, a 43-old woman in rural Mississippi, angrily reacted to news that Mississippi might pay for sex-changes for prisoners, saying, “No dentist will treat my rotten teeth because Medicaid here don’t pay them anything. Should I lose my teeth so prisoners can get sex-changes?”

Questions:

1. Given that millions of people in Mississippi lack public coverage for basic medical care (Mississippi did not expand Medicaid under Obamacare), is it just that Mississippi pays for trans surgery for its inmates?
2. To what extent should time served or sentence length be considered when determining whether an individual should be eligible for trans surgery?

3. Should surgery for trans people be considered basic care or a luxury, and how important is context in determining this classification?

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Case 12 – Physician Licensing Boards and Misinformation

In 2021, Dr. Sherri Tenpenny testified in front of Cleveland lawmakers on the properties of COVID-19 vaccines:

> I'm sure you've seen the pictures all over the Internet of people who have had these shots, and now they're magnetized. They can put a key on their forehead. It sticks. They can put spoons and forks all over them, and they can stick, because now we think that there's a metal piece to that. There's been people who have long suspected that there's been some sort of an interface, "yet to be defined" interface, between what's being injected in these shots and all of the 5G towers.

After her testimony, the State Medical Board of Ohio launched an investigation into her public comments. This eventually led to the board suspending Dr. Sherri Tenpenny's license after the board found that she was not cooperating with their investigation. Just last year, her medical license was reinstated after she submitted an application for reinstatement, paid a $3,000 fine, and cooperated with the board's investigation.

One recent study shows that what happened to Dr. Sherri Tenpenny is quite rare. Medical boards rarely discipline physicians for spreading misinformation to the public. "Extremely low rates of disciplinary activity for misinformation conduct were observed in this study despite increased salience and medical board warnings since the start of the COVID-19 pandemic about the dangers of physicians spreading falsehoods…" The author of the study, Richard Saver, suggested in a press release about the study that "in today's digital age, when a single physician spreading misinformation can influence thousands of people, our regulatory framework may need to evolve." When misinformation from a licensed physician contributes to vaccine hesitancy or undermines public health measures, the harm can extend far beyond an individual physician-patient relationship. For example, Dr. Sherri Tenpenny is one of the "Disinformation Dozen," a group of just 12 people responsible for nearly two-thirds of anti-vaccine content circulating on social media platforms.

On the other hand, some academics have voiced concerns over First Amendment protections, good-faith debate, and partisan speech restrictions. Depending on who sits on a state medical board, giving more power to discipline misinformation may have unintended effects on speech regarding partisan healthcare topics such as abortion and gender-affirming care. It is also unclear when physicians are speaking in an official capacity as physicians, as opposed to speaking as an ordinary member of the public. A TikTok video might be reasonably treated differently from testimony to legislatures.

Questions:

1. Were the suspension of Dr. Sherry Tenpenny's license by the State Medical Board of Ohio as well as the process required for reinstatement just and administered fairly?
2. Suppose Dr. Sherry Tenpenny instead produced a TikTok video, viewed by a similar number of people as her testimony in front of lawmakers, where she gave the same testimony as quoted above. How should the State Medical Board respond to misinformation spread by social media in this way, if they should respond at all?

3. How can we distinguish between spreading misinformation and engaging in good-faith debate, and what indicators should we look for when deciding whether a media segment is harmful misinformation or reasonable disagreement?

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Case 13 – Lacking the Long-Term

Duchenne muscular dystrophy (DMD) is an X-linked recessive neuromuscular condition that is caused by dysfunctional or absent dystrophin protein. Without dystrophin, muscle cells are vulnerable to injury, resulting in progressive muscle degeneration and weakness. Individuals with DMD may begin to experience symptoms such as difficulty walking or jumping and frequent falling by age 3. In their teenage years, most boys with DMD are non-ambulatory and require the use of a wheelchair or other assistive device. As the condition progresses, heart issues may arise due to impaired cardiac muscle function and breathing problems become more common because of respiratory system weakness, leading to serious life-threatening complications. While there can be significant variability, the life expectancy for an individual with DMD is around 30 years.

Current management for DMD includes both supportive measures through multidisciplinary clinics and disease modifying therapeutics. In 2023, the FDA granted Elevidys, a gene therapy product designed to treat DMD, accelerated approval for ambulatory patients 4-5 years of age. The accelerated approval pathway allows the FDA to approve drugs for serious or life-threatening conditions that fill an unmet medical need using a surrogate endpoint, not a measure of clinical benefit. This type of approval often provides patients with earlier access to new treatments while clinical studies are still being completed. The initial approval for Elevidys was based on data that showed an increase in the expression of “micro-dystrophin” which was predicted to have clinical benefit. The FDA expanded their approval in 2024 to include traditional full approval of treatment for ambulatory DMD patients aged 4 and above, and granted accelerated approval for non-ambulatory DMD patients.

In July of 2025, the FDA placed a hold on Elevidys following the deaths of two individuals with DMD that received the gene therapy treatment. Both patients were non-ambulatory at the time of treatment and died from acute liver failure. While the deaths are tragic, halting distribution of the drug meant non-ambulatory individuals were no longer eligible for treatment. Just last month, the FDA approved updated prescribing information for Elevidys, which now includes a boxed warning for acute serious liver injury and failure, expanded guidance on monitoring, and the removal of the non-ambulatory indication. Individuals with DMD and their families face a therapy landscape that is continuously evolving and full of medical complexity.

Questions:

1. How can the urgency to treat a progressive, life-limiting disease like Duchenne muscular dystrophy (DMD) be weighed against the incomplete evidence base surrounding Elevidys’ effectiveness?
2. Can consent—parental or patient—be morally robust when long-term outcomes of a gene therapy like Elevidys remain largely unknown?
3. Does the possibility of slowing DMD progression justify exposing a child to unknown long-term effects?

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Case 14 – Treatment for One

KJ was two days old when he was found to have extremely elevated ammonia levels after showing signs of lethargy and poor appetite. He was soon diagnosed with a rare genetic urea cycle disorder known as carbamoyl-phosphate synthetase 1 (CPS1). When infants with CPS1 consume protein, toxic levels of ammonia accumulate making them prone to neurological damage that can be fatal. KJ was placed on dialysis and added to the National Transplant Waiting List, with the hopes that an organ would become available and that he would be stable enough for the transplantation. Then, a team of scientists led by the University of Pennsylvania and Children's Hospital of Philadelphia made the untreatable treatable.

In February of 2025, baby KJ became the world's first patient to be treated with a personalized gene editing drug. The drug was developed specifically for KJ by targeting his disease-causing variants in the *CPS1* gene. After receiving his third infusion of this custom therapy, KJ continues to grow and thrive in ways that his parents and doctors did not think were possible prior to treatment. KJ is closely monitored by his medical team and while signs are promising, they recognize that these are still the early days of treatment and of understanding this novel therapy.

CRISPR (clustered regularly interspaced short palindromic repeats)-based gene editing allows scientist to locate a specific target, and remove and edit genetic material with the goal of restoring or regaining gene function. Previously, gene editing techniques have been used to target more common genetic conditions that may be relevant for larger groups of patients such as those with sickle cell disease and beta thalassemia. In KJ's case, this type of technology required scientists across multiple institutions to focus on a single patient for months. This treatment was developed at an undisclosed cost as it was supported by several grants. KJ's story has changed the way rare genetic diseases will be approached, and his treatment is a significant achievement in our understanding of genetics in medicine.

Questions:

1. Does the ability to create bespoke therapies for rare conditions justify the enormous cost and effort — potentially diverting resources from more common diseases affecting larger populations?
2. Does the success in one "n-of-1" case set a precedent that pushes clinicians and families toward gene editing, even when risks remain unknown?
3. How might widespread adoption of individualized gene therapies impact health equity?

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