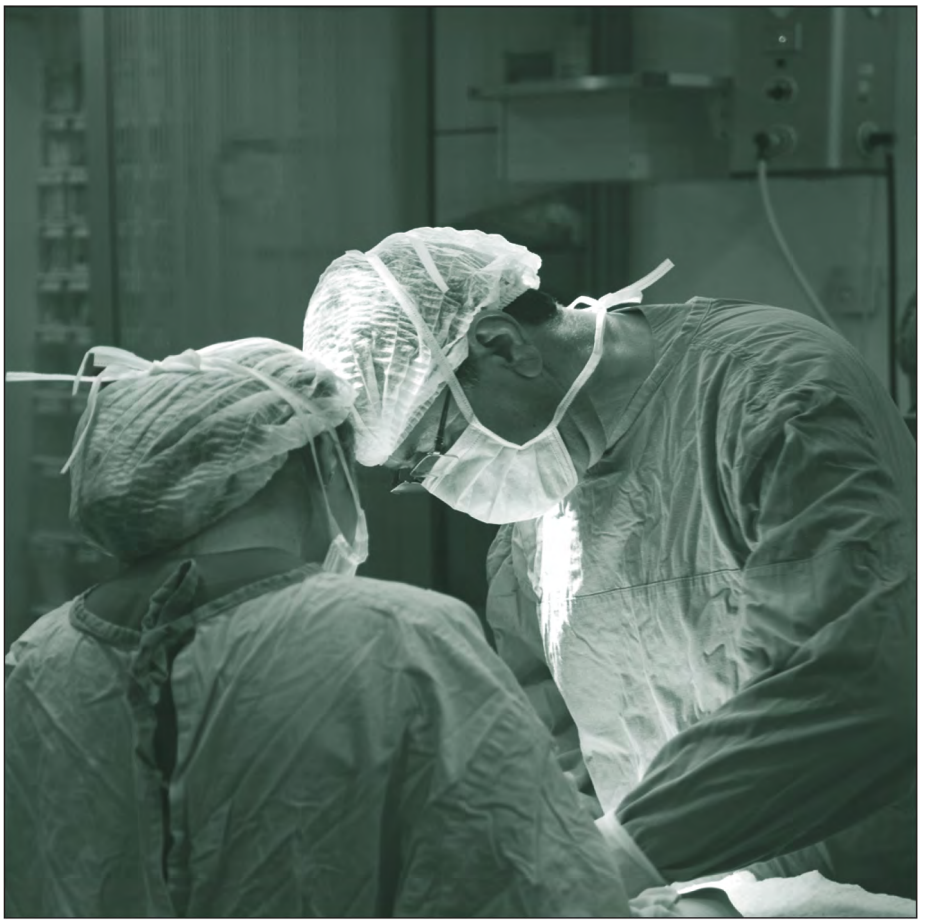
Ethics & Medicine

An International Journal of Bioethics



Vol 28:3
FALL 2012
ISSN 0266-688X

PUBLISHER

The Bioethics Press, Limited
2421 W. Pratt Blvd. #420
Chicago, IL 60645-4666 USA
Phone/Fax: +1.530.482.3248
info@bioethicspress.com
www.ethicsandmedicine.com

SUBSCRIPTIONS

Ethics & Medicine is published three times a year by The Bioethics Press, Ltd. Subscriptions may be obtained and address changes can be made with the publisher at the address above.

The mission of *Ethics & Medicine* is to reassert the Hippocratic consensus in medicine as seen through the lens of the Judeo-Christian tradition on the conviction that only a robust medical professionalism is able to withstand the challenges of emerging biotechnologies and their clinical applications.

Individual Rates - D(domestic) I(international)

2012	Print Surface Delivery	Online IP Authenticated Access	Print + Online	Archives + Comprehensive Index PDF Online
1 Year	D - $66 I - $85 £55	D - $55 I - $70 £44	D - $90 I - $110 £67	Add amount below to current year sub rate
2 Years	D - $125 I - $155 £97	D - $110 I - $140 £88	D - $145 I - $170 £88	**1985 - 2010 + $85 £54**
3 Years	D - $175 I - $210 £132	D - $160 I - $195 £123	D - $195 I - $235 £147	**2011 + $50 £32**

Air Delivery + an additional $30/year

Institution Rates - D(domestic) I(international)

2012	Print Surface Delivery	Online IP Authenticated Access	Print + Online	Archives + Comprehensive Index PDF Online
1 Year	D - $145 I - $170 £88	D - $120 I - $150 £95	D - $160 I - $195 £123	Add amount below to current year sub rate
2 Years	D - $250 I - $285 £175	D - $230 I - $265 £166	D - $275 I - $310 £195	**1985 - 2010 + $150 £95**
3 Years	D - $330 I - $390 £245	D - $310 I - $355 £232	D - $350 I - $410 £257	**2011 + $65 £41**

Air Delivery + an additional $30/year

Ethics & Medicine: An International Journal of Bioethics
ISSN: 0266-688X

Ethics & Medicine

An International Journal of Bioethics

Contents

INSTRUCTIONS TO CONTRIBUTORS

Articles for publication are welcomed by the editors. Ethics & Medicine is peer reviewed. Material submitted may be returned for revisions. Articles should be submitted in both electronic and hard-copy format. Authors should supply removable cover sheet with the title of the article and author's name. No other personal attribution should appear at the head of each article. Contributors will be notified as soon as possible of editorial decision, though the process can take some time. Contributors are asked to follow the pattern of published material for length, subheading, and so forth. Different referencing conventions are acceptable provided consistency is maintained throughout the paper. An outline C.V. should accompany each contribution.

MANUSCRIPTS FOR PUBLICATION SHOULD BE SENT TO

C. Ben Mitchell, Ph.D., Editor
Ethics & Medicine
1050 Union University Drive
Jackson, Tennessee 38305 USA
Phone: +1-731-661-5915
Fax: +1-731-661-5118
bmitchell@uu.edu

ADVERTISING AND SALES

Ethics & Medicine is pleased to accept advertising; contact The Bioethics Press, Ltd. where current rates are available. No editorial endorsement is implied in the advertising.

COPYRIGHT

Ethics & Medicine is published in association with:

THE CENTER FOR BIOETHICS AND HUMAN DIGNITY
2065 Half Day Road
Bannockburn, Illinois 60015 USA
Phone: +1-847-317-8180
Fax: +1-847-317-8101
info@cbhd.org
www.cbhd.org

PROF. DR. G. A. LINDEBOOM INSTITUUT
Postbus 224, NL6710 BE
Ede, The Netherlands
Phone: +31-318-69633
Fax: +31-318-696334
lindinst@che.nl
www.lindeboominstituut.nl

ABSTRACTS AND INDEXING

PROQUEST INFORMATION AND LEARNING
789 E. Eisenhower Parkway
PO Box 1346
Ann Arbor, MI 48106-1346 USA
Phone: 1.734.761.4700 X 3333
Fax: 1.734.997.4229
info@il.proquest.com
www.il.proquest.com

SCOPUS, ELSEVIER
North or Central America
South America
Europe, Middle East or Africa
Japan
Asian and the Pacific
info@scopus.com
www.scopus.com

RELIGIOUS AND THEOLOGICAL ABSTRACTS
121 South College Street
Myerstown, PA 17076 USA

THE PHILOSOPHER'S INDEX
c/o The Philosopher's Information Center
1616 East Wooster Street
Bowling Green, Ohio 43402 USA
Phone: +1-417-353-8830
Fax: +1-419-353-8920
info@philinfo.org
www.philinfo.org

CHRISTIAN PERIODICAL INDEX
PO Box 4
Cedarville, OH 45314
937-766-ACLL
info@acl.org

GALE DATABASES
A Part of Cengage Learning
27500 Drake Road
Farmington Hills, MI 48331
www.gale.cengage.com

EBSCOhost
EBSCO Publishing
10 Estes Street
Ipswich, MA 01938
978-356-6500 ext. 2549
www.ebscohost.com

LAYOUT AND TYPESETTING

Typesetting by Andrew DeSelm
andrewdeselm@gmail.com

PRINTING

Excel Print Media
Michelle FM Loke
michelle@excelprintmedia.com

Contributors

William P. Cheshire, Jr., MD, is Professor of Neurology at the Mayo Clinic in Jacksonville, Florida; Chair of the Ethics Committee for the Christian Medical and Dental Associations; and Senior Research Fellow in Neuroethics at the Center for Bioethics & Human Dignity, Jacksonville, Florida, USA.

David Albert Jones is director of the Anscombe Bioethics Centre, Oxford, research fellow at Blackfriars Hall, Oxford and visiting professor at St. Mary's University College, Twickenham, UK.

Christopher La Barbera, PhD, is Assistant Professor of Philosophy at Colby-Sawyer College in New London, New Hampshire, USA.

Jeffery Lewis, PhD, is Assistant Dean of the School of Pharmacy at Cedarville University in Cedarville, Ohio, USA.

Dennis Sullivan, MD, is Professor of Biology at Cedarville University in Cedarville, Ohio, USA.

Christine C. Toevs, MD, is Trauma Surgeon at Allegheny General Hospital in Pittsburgh, Pennsylvania, USA.

Ethics & Medicine
An International Journal of Bioethics

Bulletin Board

UNESCO Chair in Bioethics

8th International Conference on

Bioethics Education:
Contents, Methods, Trends

Tiberias, Israel * September 2-5, 2012

Contact: seminars@isas.co.il
www.isas.co.il/bioethiocs2012

The ***E&M* Bulletin Board** is now open for posting!
Please send your announcement or ad to
info@bioethicspress.com

EDITORIAL

Counting the Cost of Genetic Screening

C. BEN MITCHELL

In June of this year a team of researchers at the University of Washington reported that it was able to map the entire genetic blueprint of an unborn baby using only a blood sample from the mother—who was just 18 weeks into her pregnancy—and saliva from the father. They believe that this technique will enable them, with 98% accuracy, to screen a fetus for more than 3,000 genetically linked conditions, including cystic fibrosis, muscular dystrophy, and Marfan syndrome. The reality is that for most of these conditions there is no current treatment or cure. The only way to avoid a baby being born with these traits is to avoid bringing the baby to term. In other words, unborn children with physical, cognitive, or other disabilities, will either be aborted or die in a petri dish in the fertility clinic.

To be sure, there is no legal reason why these children may not be born. However, the painful lesson of genetic screening for Down Syndrome is that decreasing numbers of children with disabilities are being brought to term, not because the disabilities have been cured, but because the screening test effectively paints a bulls-eye on their chest. Today, because of the pervasiveness of testing, 90% of children with Down Syndrome are never born. Why would we expect this new test to be used any differently?

Among other things, genetic testing raises the specter of so-called liberal eugenics. That is, unlike the American eugenics movement in the 1920s and 1930s that led to massive numbers of women being legally sterilized against their wills, and unlike Hitler's eugenic laws in Germany, the new eugenics is softer, less formal, but just as lethal. In contemporary eugenics, unborn children are screened for unwanted genetics and parents typically hear only two options: choose not to bring the child to term or deliver a baby with a lifetime full of suffering, pain, and hopelessness. Subtly, either through lack of options or social pressure, parents are shamed into not having those children. British philosophy professor and advocate of liberal eugenics, John Harris, said about these tests: "We would be negligent and reckless if we paid no attention to the health care of future generations and future people. The ability to protect future generations from terrible conditions that will blight their lives seems to me to be an absolute moral responsibility and a duty that we should not shirk." Yet the logic of genetic screening is perverse: should we prevent children from being born with disabilities by preventing them from being born at all?

Eugenics works the other way around too. There is no reason in principle why these tests could not be used for selecting for certain traits. For instance, these tests could eventually be used to determine hair color, eye color, height, or any number of cognitive or physical traits. We are one step closer to Designer Children.

There are valiant exceptions to our culture of narcissism, of course. Some courageous parents choose to bring their children into the world, lovingly caring for them, despite the diagnosis of a genetically-linked disorder. Society should applaud their self-sacrifice and love, rather than pity them for their supposed naïveté. There may come a time when the ethical means to treat and cure disabilities are available to us. But in this case, the end of not bearing a child with a disability does not justify the means of ending the life of

the child before birth. “One always hopes, vainly, that in-utero testing will be for the benefit of the unborn child,” said Josephine Quintavalle, the founder of Britain’s Pro-Life Alliance. “But, whilst this new test may not itself be invasive, given our past track record, it is difficult to imagine that this new test will not lead to more abortions.” In other words, when one counts the cost of this new genetic screening method, the moral arithmetic does not add up. **E&M**

GREY MATTERS

RESPECTING THE ABSENT PATIENT IN SIMULATION EDUCATION

WILLIAM P. CHESHIRE, JR., MD

When a man's an empty kettle
He should be on his mettle
And yet I'm torn apart
Just because I'm presumin'
That I could be kind of human
If I only had a heart.

– The Tin Man in *The Wizard of Oz*

Abstract

Names are important, especially when they influence how healthcare professionals regard patients. Accordingly, the word 'dummy' is best avoided when referring to human patient simulation mannequins. Although the patient is physically absent from simulation-based learning scenarios, an environment of verisimilitude reproduces aspects of the social context of the relationship between caregiver and patient. Healthcare professionals should avoid disrespectful language when referring to mannequins that are patient surrogates in order to cultivate a habit of mind that translates to consistently respectful patient care.

The Scene

Alarms sound as the periodic green deflections on the cardiac monitor above the hospital bed become progressively irregular. Their chaotic quiverings collapse to a flat line. Red and blue tracings indicating blood pressure and oxygenation all plummet. The patient, now pulseless, his chest wall no longer rising, lies pale and motionless as the medical team springs into action. Carts roll and defibrillator paddles charge as the nurse performs chest compressions, the respiratory therapist checks the patient's airway, and the physician calls for epinephrine. Flawless implementation of their clinical skills is needed as the clock races forward. The coordinated efforts of the life support team prove successful as normal sinus rhythm is restored. The drama is genuine, the caregivers real, but the patient in this scenario is virtual.

The Subject

Reclining in the hospital bed and ready to repeat the resuscitation drill on command is a human patient simulation mannequin. While his outward form is human, beneath his supple latex skin lie bundled wires connecting sophisticated microelectronics to moving arrays of internal mechanical components.

Such life-sized mannequins can mimic the physical signs of health or disease in the young and old, allowing healthcare professionals to practice their diagnostic and procedural skills in a simulated environment. The learner can listen to breath sounds through a stethoscope, correlate heart sounds with vital signs and electrocardiographic tracings displayed on a monitor, palpate pulses, and practice a variety of urgent interventions. Within the controlled environment of the simulation center, all parameters are changeable. From a console in the next room, the heartbeat intensity, cardiac rhythm, respiratory sounds, skin color, pupillary size, bowel sounds, limb movement, laboratory data, imaging results, and many other variables can be adjusted moment by moment to create realistic simulations of critical clinical events. The mannequin is the patient's surrogate in the simulation laboratory, where medical learners can practice and demonstrate proficiency in clinical skills essential to patient safety.

The first simulation mannequin was developed in 1968 to teach medical students and residents cardiovascular bedside physical diagnosis[1]. Since then, mannequins and the technical milieu of the simulation room, which may include a full complement of actual medical equipment and trained personnel, have been progressively upgraded to bring high fidelity realism to the educational experience. Simulations are particularly suitable for training healthcare professionals to develop competence in handling high stress situations that inevitably arise in clinical practice. Practice sessions are carried out in the safety of a controlled environment without the potential to injure living patients. The simulation environment is also ideal for staging rare events so that practitioners can rehearse in advance and be better prepared to administer healthcare safely in the event of a real emergency.

Initially developed for critical care training in cardiopulmonary resuscitation, simulation training is increasingly finding applications in many other areas of medicine and surgery.[1-3] While the simulated crisis of cardiopulmonary resuscitation makes captivating imagery for news articles,[4] simulation education is much more than an exercise in procedural swiftness and dexterity. Simulation methodology can also enhance teamwork, professional self-awareness, and the development of communication skills among colleagues.[5]

Simulation-based learning in clinical education honors the Hippocratic ethical principle of non-maleficence, "first do no harm."[6,7] In lieu of learning life-and-death procedural skills on hospital patients, who may not have a second chance if a medical error occurs, mistakes made in the virtual laboratory are forgivable; here actions have no harmful consequences. Errors become learning opportunities.

No Dummy

Extolling the benefits of simulation-based clinical training, one newspaper headline reads, "The situations are real, the patients are dummies."[4] The word "dummy" in this context is misapplied. To its credit, the simulation education field has disallowed the use

of the derogatory term "dummy" to describe human patient simulation models. Instead, they have designated the word "mannequin," which has French and Dutch origins literally meaning "little man."[8] Mannequins can, of course, be male or female.

The term "dummy" may be a carry-over from the mannequin's technological cousin, the crash test dummy, which is a full-scale anthropomorphic test device, instrumented to record data about the dynamic forces impacting the human body during an automobile collision. Both types of models are designed for the purpose of improving the safety of real humans facing technological risk. There is, however, an important distinction. Whereas the designation of "dummy" may be acceptable for automobile crash testing experiments, it is entirely inappropriate in the context of medical education.

The word "dummy" originally denoted someone unable to speak and in common usage often refers to someone of deficient intelligence. Among the definitions for "dummy," the *Oxford English Dictionary* lists: "A dumb person", and "A person who has nothing to say or who takes no active part in affairs; a dolt, a blockhead."[9]

In the context of a clinical simulation exercise, the mannequin is a surrogate for a human patient and should not be given a name that, if applied to a person, would seem degrading. That the mannequin lacks intelligence or an intrinsic human nature deserving of respect is indubitable. The reason for respectful naming is not for the mannequin's benefit, but the learner's. Since the clinician's habit is to focus on the patient, how one thinks about the mannequin during a simulation scenario may shape one's attitude in real clinical situations. The use of a diminutive name like "dummy" in training sessions might introduce into clinical practice an unprofessional habit of thinking that could insidiously debase the physician-patient relationship.

Even the best-intentioned clinicians may harbor subconscious biases that can influence medical decisions, interactions with patients, and healthcare outcomes.[10] Therefore, healthcare professionals must be on guard against language that can lead to negative stereotyping. Cultural sensitivity and respect are required when choosing terms by which to categorize patients as well as the surrogates that model them.

This precaution is especially imperative in simulation-based education, which strives for verisimilitude, or the illusion of reality. Learning is enhanced when the environment seems realistic and the experience is immersive.[11] Accordingly, the learner comes away from a simulation session with more than just procedural skills. The learner also develops improved team communication skills while practicing the maintenance of mental clarity during a crisis situation; with each successful performance, the learner develops a greater sense of confidence in a task mastered. Each of these aspects of learning entails emotion, and the same set of emotions and their mental associations and attitudes may resurface when the learner encounters a similar clinical situation in the future.[12,13]

Research is showing that the portrayal of mannequins and other forms of virtual humans can be surprisingly relevant to how one thinks about real patients. Varying the appearance of virtual human representations has, in fact, been shown to influence behavior. In a conversational training exercise, participants shown full-scale virtual human images were more engaged, empathetic, pleasant, and natural in their style of interaction than those shown small-scale human representations.[14] In another study, participants shown cartoon videos containing faces with abnormally large eyes eventually shifted their preferences for human faces toward those with larger eyes.[15] These studies suggest that the choice of how simulation mannequins are named and portrayed may have

subtle effects on the subconscious thought patterns of healthcare professionals and, thus, their communication with real patients.

At the Heart of Medicine

While the focus of simulation training is often technical proficiency, in medicine technical competence is never separate from human interaction. Scenario designs that gain the full value from simulation-based learning recognize that such learning in best facilitated in the context of a layered curriculum. On the surface, the curriculum's most noticeable focus is the development of procedural competence with the goal of reducing medical errors. Less visible but no less important are the additional learning aims of clarity of communication, respectful interpersonal interactions, management of performance anxiety, and navigation of the psychology of success and failure. All of these components are oriented toward preparing the team of learners to serve the best interest of the patient.

Although physically absent from the simulation exercise, the patient is present symbolically, represented by the simulation mannequin. The mannequin is more than a procedural tool: its human form is also a reminder that the simulation curriculum is oriented toward the overarching goal of improving the care of patients.

Is proficiency in procedural skills such as cardiopulmonary resuscitation what patients desire most from their physicians? Undeniably, reducing medical error, particularly errors that result in preventable morbidity and mortality, is a moral imperative for which simulation-based education is a partial solution. Additionally, patients have further needs to be considered in making full use of simulation-based learning. A Harvard University study of 200 consecutive patient complaints found, interestingly, that none of the complaints involved medical error. Excluding complaints about billing, the predominant theme of patient frustrations was the expression of having felt humiliated. Some of the responses indicated that patients felt treated "like I [the patient] was an inanimate object," "as though I were less than human," "like a number," "like a forgotten person."[16]

Names are important. To avoid calling the simulation mannequin a "dummy" is one indicator of a professional attitude that seeks to treat patients with respect and dignity. What is needed at the bedside is not always the skill to restart the heart, but more often the compassion to have a heart.

References

1. Cooper JB, Taqueti VR. A brief history of the development of mannequin simulators for clinical education and training. *Postgraduate Medicine* 2008; 84: 563-570.
2. Barsuk JH, Cohen ER, Caprio T, *et al*. Simulation-based education with mastery learning improves residents' lumbar puncture skills. *Neurology* 2012 June 6, epub ahead of print.
3. Barsuk JH, Cohen ER, McGaghie WC, Wayne DB. Long-term retention of central venous catheter insertion skills after simulation-based mastery learning. *Academic Medicine* 2010; 85(10 Suppl): S9-12.
4. Yune H. The situations are real, the patients are dummies. *Napa Valley Register* March 28, 2012, accessed at: http://napavalleyregister.com/news/local/the-situations-are-real-the-patients-are-dummies/article_dbf26202-7899-11e1-b566-0019bb2963f4.html
5. Eagle DM, Coltvet G, Farley D. The Mayo Clinic Multidisciplinary Simulation Center. *Journal of Surgical Education* 2012; 67(6): 470-472.
6. Hippocrates, *Epidemics.* Book I, Section XI.
7. Ziv A, Wolpe PR, Small SD, Glick S. Simulation-based medical education: an ethical imperative.

Academic Medicine 2003; 78(8): 783-788.

8. Gaba DM. What's in a name? A mannequin by any other name would work as well. *Simulation in Healthcare* 2006; 1(2): 64-65.
9. *The Compact Oxford English Dictionary.* Oxford: Oxford University Press, 1971, p. 713.
10. Dovidio JF, Fiske ST. Under the radar: how unexamined biases in decision-making processes in clinical interactions can contribute to health care disparieties. *American Journal of Public Health* 2012; 102(5): 945-952.
11. Seropian MA. General concepts in full scale simulation: getting started. *Anesthesia & Analgesia* 2003; 97: 1695-1705.
12. Clapper TC. Beyond Knowles: What those conducting simulation need to know about adult learning theory. *Clinical Simulation in Nursing* 2010; 6(1): e7-e14.
13. Crossman J. The role of relationships and emotions in student perceptions of learning and assessment. *Higher Education Research & Development* 2007; 26(3): 313-327.
14. Johnsen K, Rossen B, Beck D, *et al*. Show some respect! The impact of technological factors on the treatment of virtual humans in conversational training systems. *Proceedings of IEEE Virtual Reality* 2010 April 8: 275-276.
15. Chen H, Russell R, Nakayama K, Livingstone M. Crossing the 'uncanny valley': adaptation to cartoon faces can influence perception of human faces. *Perception* 2010; 39(3): 378-386.
16. Lazare A, Levy RS. Apologizing for humiliations in medical practice. *Chest* 2011; 139(4): 746-751.

William P. Cheshire, Jr., MD, is Professor of Neurology at the Mayo Clinic in Jacksonville, Florida; Chair of the Ethics Committee for the Christian Medical and Dental Associations; and Senior Research Fellow in Neuroethics at the Center for Bioethics & Human Dignity. The views expressed herein are his own and do not necessarily reflect the positions of the professional organizations with which he is affiliated. He currently resides in Ponte Vedra Beach, Florida, USA.

CLINICAL ETHICS DILEMMA

The Family That Developed Selective Hearing

CHRISTINE C. TOEVS, MD

Editor's Note: *This column presents a problematic case that poses a medical-ethical dilemma for patients, families, and healthcare professionals. As it is based on a real situation, some details have been changed in the effort to maintain confidentiality. In this case, the medical intensivist struggles to communicate with the family.*

Column Editor: Ferdinand D. Yates, Jr. MD, MA (Bioethics), Professor of Clinical Pediatrics, State University of New at York at Buffalo, and Co-chair of the Healthcare Ethics council, Center for Bioethics and Human Dignity at Trinity International University.

Question

How should the physicians respond when the family refuses medical information?

Case Presentation

A previously healthy 74-year-old man was involved in a motor vehicle crash, and when evaluated at the scene, was apnic and in cardiac arrest. Paramedics removed him from the car and began Advanced Cardiac Life Support (ACLS) including cardiopulmonary resuscitation (CPR). They were able to restore circulation and transported him to the trauma center for further assessment and treatment. Subsequent workup revealed a cervical spine fracture with complete spinal cord injury (transection of the spinal cord at a very high level requiring permanent ventilator support). In addition, the medical team suspected that severe anoxic brain injury would result from the period of cardiac arrest. He was admitted to the ICU on full life support with a dismal prognosis. The intensivist met with the wife, who seemed appropriately concerned following the tragic incident. Over the next several days the patient developed cardiac arrhythmias that required frequent medical intervention and blood pressure support. He was also on full ventilator support. Subsequently, he developed multiple infections and went into renal and liver failure. Several medical specialists closely involved with the case, predicted a very bleak prognosis and expected that the patient was most unlikely to survive this ICU admission.

The specialists and the ICU intensivists met with his wife on a daily basis. After the first several days, she requested that we not tell her any more bad news, and absolutely no information regarding his prognosis. Daily updates regarding his declining condition were met with resistance, hostility and anger from her. She attempted to "fire" any person – trauma surgeon, intensivist, social worker, cardiologist, spine surgeon, neurologist – who did not tell her good news. Subsequently, she then began to refuse to speak to any of us, and yet expected all the medical professionals to continue to provide care for her husband. On several occasions, she went to hospital administration multiple times daily to complain that we were harassing her in our attempts to give her medical updates regarding his deteriorating medical condition. He continued to decline and arrested multiple times

over a period of several days. Eventually the medical team was unable to resuscitate him, and he died.

Discussion

In our case, the patient was given appropriate sophisticated medical care, and the family was provided support through patient advocates, social work, and spiritual care personnel. Despite this medical-social support the wife displayed overwhelming hostility toward multiple members of the medical team, and yet, she expected the medical team to continue to provide high-level medical treatment. In addition to the hostility, she gradually refused to communicate, and even refused to receive information from the medical team, thereby creating great distress for the entire medical team and interfering with our ability to do "our jobs." Medical team members taking care of this patient felt that the issue was one of trust. The wife trusted us to provide medical therapy but did not trust our assessment and information regarding the medical condition, prognosis, and recommendations for discontinuation of the high level of support. This lack of trust in our expertise and information was terribly frustrating to the entire medical team. As the hostility increased, the wife wanted to fire all the medical professionals; this was not implemented because of staffing constraints, and the possibility of transfer to another institution could not be done due to the patient's fragile medical condition.

Although an argument can be made that the spouse was not acting in the best interest of the patient and was not a good surrogate decision maker, there are few options for the medical team to take. Emergency guardianship is difficult to obtain: the legal system takes time and is often unwilling to remove the spouse from this role. The patient was critically ill and in imminent danger of dying on a daily basis; the legal system rarely acts that quickly. Much of the response is related to grief and unrealistic expectations regarding medical outcome. Appropriately, we tried to provide her with the support she needed through this difficult time.

Even if the wife had not agreed with the withdrawal of life sustaining therapy, a "do not resuscitate" order for when the patient developed cardiac arrest would have been appropriate. Since unilateral DNR is not an option in the United States, knowing that the patient would go into cardiac arrest and that we would use many resources to resuscitate him was very difficult on the team.

Editor's Comment

We don't seem to see or use the term 'burn out' much anymore. Perhaps it is no longer fashionable to do so, or maybe the term has morphed into another form. However, stress is very apparent in high-pressure settings, and the collective "we" certainly appreciate and emulate the dedication of our professional colleagues working as medical intensivists. The well-educated and experienced physician has much to offer in this setting.

In this intense setting, the surrogate may be thoroughly overwhelmed and may be unable to respond or to make a decision out of a state of fear, anxiety, or depression because of the stressful medical information being presented to the decision-maker. To that end, the attainment of a patient's (or family's) trust may be problematic, as – in many cases – absolute 'trust' of a physician may only develop over a lifetime of care. And as

the typical intensive care setting usually only lasts for hours to days (and perhaps weeks), 'trust' may be elusive under these circumstances.

As the intensivist is – essentially – requesting cooperation and communication from the patient and the family, perhaps a more appropriate expectation is for the patient and family to actually *believe* what the doctor is reporting (out of years of experience) in the hope that the family and patient will accept the medical recommendations in terms of continuance or discontinuance of life-supporting treatments or other options such as putting a DNR order in place.

Some physicians desire to remove themselves from continued involvement in difficult cases such as these for a number of reasons: typically that the doctor does not agree with the family requests for continued services because 1) the notion of medical futility, 2) the physician may desire to minimize suffering and "ongoing bodily injury" on the patient's behalf, or 3) the physician may be uncomfortable in performing certain treatments as (s)he may not want to do such things for self or family. The physician must maintain professionalism in this situation and cannot abandon the patient; if the physician desires to be removed, then another competent physician must provide care for the patient in the critical care setting.

The patient and family may develop "selective hearing" but the physician must develop a fluent dialect that is compassionate, correct, and comprehensive.

Resources

Baily, MA. "Futility, Autonomy, and Cost in End-of-life Care." *Journal of Law, Medicine, & Ethics.* Summer 2011: 172-182.

Weedler, D & Rid,A. "The Effect of Surrogate Making Treatment Decisions for Others." *Annals of Internal Medicine.* March 2011. 154:336-346.

Christine C. Toevs, MD, is Trauma Surgeon at Allegheny General Hospital in Pittsburgh, Pennsylvania, USA.

Vol. 28:3 Fall 2012

The Ethics of Creating Chimeras and Other Admixed Organisms[1] [2]

DAVID ALBERT JONES

Abstract

This paper examines examples of chimeras and other 'admixed organisms,' primarily in the context of biomedical research, and considers the distinctions that are needed in order to gain a clearer scientific, legal, and ethical understanding of what is a complex area. The creation of admixed organisms is proposed for a variety of reasons and raises a range of different ethical, legislative, and regulatory problems. This paper seeks to identify the diversity of issues that are at stake in relation to creating admixed creatures, from pragmatic concerns about safety to fundamental questions of human nature. The key challenge raised in the present paper is to acknowledge this range of concerns and to integrate the different ethical aspects into a coherent vision.

Mythical Monsters

'Chimera' is a term with origins reaching back into ancient times. Drawings from Greek pottery make evident that the Chimera, a beast of ancient mythology, and other admixed creatures haunted the human imagination even before written history. Homer, in his *Iliad*, demonstrates the fascination that this creature held for the Greeks: "The raging Chimera, she was of divine stock, not of men, in the fore part a lion, in the hinder a serpent, and in the midst a goat, breathing forth in terrible wise the might of blazing fire."[3]. The Chimera is of divine origin (offspring of Echidna,[4] the mother of monsters), powerful and unnerving, made of the parts of different animals – lion, snake, and goat. Though none of the Chimera's members are human, there existed in mythology other legendary creatures in whom human parts were mixed with those of other animals: centaurs, harpies, mermaids, werewolves, the sphinx and the minotaur. Such creatures performed various functions in the mythological tradition, but their use centered on the idea of 'the beast within,' the possibility of disordered and untamed human emotions: the violence of the werewolf and the minotaur; the sensuality of the faun and the mermaid.[5]

Distinguishing Chimeras, Hybrids and Transgenic Organisms

Though its original meaning found root only in legend, 'chimera' is now used to represent mixtures of animals that are far from mythical. Scientific and technical advances in the twentieth century have shown that interspecies admixed organisms, including partly-human admixed organisms, represent a real scientific possibility and, in some cases, an actuality. Reflection on ancient myths may be able to help inform our ethics in this new area of science (for ethical and philosophical truths are often conveyed by myths). In order to look at chimeras in an ethical light, however, we must first set aside the fabulous imagery of legend and clearly understand what is meant or implied by 'chimera' in a modern research context.

The use of the word 'chimera' varies slightly between branches of science – in palaeontology, virology, biochemistry, plant and animal biology. Though it always refers to some kind of mixture, the mix is different depending on the science. For example, in palaeontology a chimera is the name for a fossil reconstructed from the bones of two of more animals,[6] whereas in biochemistry it is a protein made by the splicing of two genes.

In the science of genetics and within the context of biomedical research, chimera refers to particular kind of admixed organism. **A *chimera* is an organism (including an embryo or foetus) that consists of cells from more than one organism.**[7] A chimera is a patchwork, including distinctly recognisable parts from more than one source. Organ transplantation generally gives rise to a chimera. The animal as a whole is mixed, but its cells are each unique and it is possible to tell which side of the mixture the cell came from. This combination of individuals occurs occasionally in nature when two embryos fuse to make a single individual; male tortoiseshell cats are an example (for genetic reasons it is much rarer to have a male tortoiseshell than a female). In 1984 scientists created a chimera of two different species by fusing a goat and a sheep embryo. The resultant animal, called a 'geep', had a coat that alternated between hairy and woolly patches.[8]

A chimera in this sense is distinguished from a hybrid organism**.** While a chimera represents a patchwork of distinct parts, a hybrid is homogenous. **A *hybrid*, then, is a biological organism in which most or all cells have combined origin.**[9] In a hybrid, the mixture of parts lies *within* each cell, and none of the cells are purely one kind or another as a result. Expressed in this way, all sexual reproduction produces hybridity, but the word hybrid is used to draw attention to a genetic combination of different genes, for example two different forms of the same gene. Hybrid is also used to represent crosses between different families or breeds with characteristic traits and, what is more relevant for our purposes, for crosses between entirely different species. The cross of two different species by sexual reproduction produces a 'true hybrid', which obtains approximately 50% of its genes from each species.

Perhaps the most well known example of a true hybrid is the mule, which represents a cross between a (male) donkey and a (female) horse. Mules, which are generally sterile, do not compose a distinct species but are but hybrids created from the union of two species. Interspecies hybrids occasionally occur in nature (as with the 'pizzly bear')[10] but this is the exception, for species are defined by their ability to interbreed. Thus, crosses between goats and sheep are also very rare. However, in 2000, at the Botswana Ministry of Agriculture, a (male) sheep was successfully crossed with a (female) goat.[11] The offspring, which was nicknamed the 'toast of Botswana', was not a chimera but a true hybrid. It seemed to be healthy, though it was sterile and displayed a strangely malignant form of what has been termed 'hybrid vigour', manifested in aggressive sexual behaviour (mounting both ewes and nannies even when they were not in heat). This aggressive activity caused it to become such a nuisance that it was eventually castrated.

A third main category of admixed organism is the genetically modified or 'transgenic' organism. **A *transgenic organism* is created by inserting one or more genes from one individual into another.**[12] In terms of the distinction between hybrids and chimeras, true-breeding transgenic organisms fall under the hybrid category. Nevertheless, for historical reasons, genetically modified organisms (GMOs) have been treated separately from the question of crossing the species boundary, and so transgenic organisms are, by convention, distinguished from hybrids.[13] Thus, there are three main categories of

admixed organism: chimeras, hybrids, and transgenic organisms. These combinations can each occur within one species, but for the remainder of this paper the terms will refer to *interspecies* chimeras, hybrids, and transgenic organisms and, more specifically, interspecies admixtures in which one of the components is of the species *Homo sapiens.*

What is not covered within these three categories is the gestation of one species in another. Interspecies pregnancy, or xenopregnancy, does not occur in nature (as there is no natural process by which the embryo would find its way to the womb of a mammal of another species). Even artificial xenopregnancy is achieved only with difficulty, due to the problem of immunological rejection.[14] Nevertheless, cases of xenopregnancy have been accomplished, and more cases will follow if a means is found to overcome the problem of rejection. However, when such does occur the resultant offspring does not constitute an admixed organism (for example, if a goat was to give birth to a lamb, the lamb would not be admixed. Such an artificial pregnancy has not been achieved, but a goat has given birth to a Spanish Ibex[15]). Although xenopregnancy does not lead to an admixed organism, it is worth noting in the context of our discussion that legislation in this area often covers not only admixed organisms but also human-nonhuman[16] interspecies gestation. Also, the possibility of gestating a human baby in a chimp, or a chimp in a woman, raises some of the same ethical concerns as the possibility of crossing chimps and human beings.

Applications and Rationales

Thus, the chimeras of modern science are very different from the monsters of myth. Monsters were typically regarded as the result of divine intervention, often malignant. In contrast, chimeras, hybrids, and transgenic organisms generally result from human intervention, using and presupposing the biological powers of nature. Such activities are not arbitrary, but are rather deliberate actions in the pursuit of various goals.

Historically, the first of these goals has been agriculture. Genetic modification (including interspecies gene transfer) extends a process of selective breeding by which human beings have been modifying other animals for thousands of years. This is not to prejudge the question of whether or not genetic modification represents something new by reasons of the power of the technique, or whether or not the use of genes between species is morally acceptable. Rather, it is to note that seeking to modify the characteristics of animals and plants is a deeply rooted feature of agriculture. Although the commercial use of interspecies transgenic organisms in agriculture deals mainly with plants, animals such as the 'enviropig' have been modified with a gene from the bacterium E. Coli in order to assimilate phosphorous (and so reduce phosphorus pollution associated with intensive pig farming).[17] It is worth noting that phosphorus pollution represents a case in which technology seeks to solve a problem that technology itself created by industrialised processes. If pigs were farmed in conditions allowing them room to forage, they would not be found in concentrations high enough lead to phosphorus pollution.

While agriculture has an interest in genetic modification within and beyond the boundaries of different species, it generally has little interest in mixing *human* genes with those of other species. Medicine and biomedical research, however, *do* have an interest in specifically human biology and its limits. It is within the context of biomedicine that scientists have become interested in human-nonhuman chimeras, hybrids, and transgenic organisms.

One use of nonhuman animals in medicine, one that is currently rare but is potentially very extensive, pertains to the breeding of animals for the purpose of providing organs for organ transplantation (xenotransplantation). Such a practice would give rise to a chimera (the human being who received the nonhuman organ). Furthermore, it should be noted that, if this practice succeeds, it is very likely that the animal (the organ provider) would also have to be genetically modified in order to express certain human proteins.[18] If such a modification were to become necessary, both the organ provider and the organ recipient would constitute admixed organisms, though in different senses (transgenic animals providing organs which would make the patient a chimera).

The modification of a nonhuman organism so that it produces a useful human protein (insulin, for example) also provides an case of transgenic mixing. Such a modification has been performed with yeast and bacteria but is also now being done with mammals, in some cases modifying the animal so that the human protein expresses itself in the milk.[19] Indeed, one of the reasons for the interest in cloning Dolly the sheep was to find a mechanism to reliably reproduce genetically modified organisms.

The type of research that has generated the most interest in recent years in human-nonhuman hybrids and chimeras is done on stem cells. The reason for this interest is twofold: in the first place, one of the ways to test the properties of stem cells is to see how the cells behave when they are injected into a mouse that has a compromised immune system. Stem cells in vivo produce tumours in which many different kinds of cell are present. A mouse when it contains human stem cells becomes a chimera.[20]

The second reason that admixed organisms are relevant to stem cell research comes from the proposal to use cytoplasmic hybrid embryos, or 'cybrids', as a source of human embryonic stem cells. Such a use of stem cells involves replacing the nucleus of an egg from a nonhuman animal (for example a cow or a rabbit) with the nucleus of a human cell. This same technique, somatic cell nuclear transfer (SCNT), was also the process used to clone Dolly the sheep, except that the egg used when creating a cybrid comes from a different species. Some scientists have hoped that cybrid embryos could be a source of stem cells that were human enough to be useful. They have also hoped that experimenting using cybrids could help improve the efficiency of the SCNT technique so that it would be easier to clone purely-human embryos.

Fertility research is another area in which the issue of admixed human-nonhuman organisms is raised. This is due to the 'hamster test', an assessment of human sperm's fertility done by testing whether the sperm would fertilise a modified hamster egg. Some argue this gives rise to a true hybrid embryo. Another possible use of research on human-nonhuman hybrids is to facilitate human reproductive cloning. While most governments and international bodies have condemned this goal, some scientists and individuals actively seek to achieve it.

In addition to agriculture and biomedical science there are other reasons for someone to seek to create a human-nonhuman admixed organism. In the 1920s a serious attemp was made by Russian scientists to cross a human being with a chimpanzee in the belief that a race of such creatures could be used as soldiers.[21] This now seems fanciful, but the possibility of developing novel biological weapons by inducing diseases to cross the species barrier is not at all fanciful. A pandemic due to a zoonosis (a disease such as Avian Flu crossing the species barrier) remains a potent threat to the human race. It would be

naïve to think that no government has considered the possibility of engineering such a disease.

Although those concerned with GMOs in agriculture are sometimes unaware of or unconcerned by admixed organisms in biomedicine, it is not easy to separate these goals. For example, Chinese scientists have recently genetically engineered a cow to produce human milk.[22] Should the production of human milk be thought of as a part of agriculture, or has it crossed over to healthcare? It should be noticed that the Roslin Institute, where Dolly the Sheep was conceived, primarily focuses on research into agricultural biotechnology, but the technology it developed was used in biomedical research and subsequently in research into human reproductive cloning. Research in one area can be picked up for other applications and what is at one point 'pure research' can later find applications. Whether scientists are hopeful of positive spin-offs or concerned about slippery slopes, the effects of research are potentially much wider than the explicit goals. In evaluating the ethics of research involving admixed organisms, it becomes necessary to estimate not only the intended effects but also, as far as it is possible to do so, both the positive and negative consequences.

Diverse Ethical Considerations

To propose that human and nonhuman cells or genetic material be mixed has manifold ethical implications: for nonhuman animals, for human beings as individuals, for human society, and for the ethical understanding of what it is to be human. Let us, then, take these areas in order, beginning with the impact on nonhuman animals, moving next to human beings, and especially those likely to be affected most (including the impact on women and on the unborn). After these we will look at more general effects on society before finally considering the implications for our fundamental ethical concepts and principles, the very idea of human nature and human dignity.

Nonhuman Animals

The context for creating or using chimeras in research is the widespread use of nonhuman animals in agriculture and in medical research. Indeed, it is arguable that human use of nonhuman animals is even more deeply entrenched in biomedical research than it is in agriculture. Modern pharmaceutical regulation always requires testing of drugs on nonhuman animals before these same drugs can be tested on human beings. It is very difficult to imagine how the culture of contemporary biomedical research could be sustained in its present form without the use of nonhuman animals. The point here is to acknowledge that discussion of research using admixed organisms presupposes more fundamental questions about any use of nonhuman animals in research: how we justify it and what limits we set on it.

From the perspective of animal welfare, one question to be asked concerning admixed organisms is whether a new technology will lead to new and more extensive uses of nonhuman animals (as, for example, with xenotransplantation), and also whether this new technology will lead to these animals' suffering. After the cloning of Dolly, scientists argued that the procedure used in her case would not be safe for human beings due to the high incidence of foetal defects and 'a stillbirth rate typically of more than 90%'[23]. However, these same considerations also represent a welfare issue for the cloning of nonhuman animals. Cloned animals suffer from a range of ill-health effects[24] and, as

was widely reported at the time, Dolly was euthanized at the age of six (roughly half the healthy life expectancy).

Dolly was destroyed because she suffered from ovine pulmonary adenocarcinoma, a relatively common in sheep kept indoors. This may have had nothing directly to do with the cloning process, but it raises another issue in relation to transgenic and other modified animals: they may be raised in artificial and highly restricted environments which prevent healthy activity. If transgenic pigs were used for xenotransplantation they would have to be confined to a sterile environment. They would certainly not be free to forage. Even if one accepts the use of nonhuman animals in agriculture and biomedicine, each use has to be justified by the prospective benefits. We should consider not only the effects on the animals immediately under consideration but also whether this technology establishes or reinforces dependence on use of nonhuman animals.

Human Recipients and Research Subjects

By and large, proposals for creating chimeras or hybrids have as their aim the creation of some human benefit, whether agricultural, economic, military, or medical. Most proposals, in fact, will concern biomedical research that has prospective benefits for human beings suffering from a range of diseases. This is most obvious in the case of human insulin produced by transgenic animals. Nonhuman animals are used for the benefit of human patients.

Though Human beings are, generally, the beneficiaries of research into admixed organisms, some human beings may be harmed by these developments. All medical developments must be tested on human beings, and the first recipients of nonhuman or transgenic material may incur a significant risk. The attempt to save a dying child by transplanting a baboon heart was highly controversial not least because it was thought highly unlikely to succeed while the child was subject to a highly intrusive procedure. Even if consent is given by the parents or by an adult recipient, the recipient is likely to be in such a desperate state that they are easily prey to false hope.

In addition to the possible negative effects on the recipients themselves, there is also a possibility that the procedure could have a negative effect on others. The greatest public health risk in relation to xenotransplantation and other similar attempts to combine human and nonhuman animals is the generation of a new disease to which human beings have no immunity. The risk of zoonosis does not constitute a reason to prohibit every kind of hybrid and chimera, but it is a reason to consider admixed organisms as a biohazard, as they could, in principle, lead to a pandemic. If such research can be otherwise justified, the risks need to be mitigated by careful containment until the particular case is shown to be safe.

A key protection for research subjects is the need for informed consent. This clearly applies when the research subject is placed in danger, but also applies when something personal to the patient is used, such as human tissue, gametes or genetic material. Human genetic identity is personal in such a way that there is at least a *prima facie* right of citizens to determine the uses to which it is put. Many legal systems have resisted the idea that human tissue, before or after death, belongs to anyone. Nevertheless, the scandal at Alder Hey Children's Hospital in Liverpool, UK[25], during which organs were taken from children without the consent of parents, shows the continuing human significance of body parts and the importance of consent. It is reasonable for someone to object to

their sperm or eggs being used against their wishes to conceive a child. They may also object to their tissues being used for research using animals if they have objections to the research. For both reasons, it cannot be ethical to use human tissue to create an admixed human-nonhuman embryo without the consent of the donor.[26] Yet the need for consent for using tissue poses practical problems for researchers, especially when the tissue is stored in tissue banks and the original donors may be difficult to contact.

Impact on the Unborn

The possibility of creating admixed embryos raises ethical questions in relation to the treatment of those embryos, especially if they are regarded as predominantly human. The creation of cybrids was at first defended on the basis that they would be '99.9% human'.[27] However, if cybrids and other chimeric and hybrid embryos are human enough to be of interest to biomedical scientists, then, arguably, they are human enough to share the same moral status as other human embryos.[28] For example, the European Convention on Human Rights and Biomedicine forbids the creation of human embryos for research.[29] Similarly the European Patent Office has been reluctant to patent human embryonic stem cells.[30] Although European law does not imply or presuppose that the human embryo constitutes a human person, it does imply that the human embryo shares in human nature to such an extent that it should not be created merely as a means to an end. If admixed embryos share, even in part, in that same human nature, it stands to reason that they should share in this protection.

In addition to the impact on embryos, work on cybrids is controversial because it could help improve the SCNT technique, which could then be used for human reproductive cloning. The successful creation of cybrids would represent a step towards the cloning of a human adult. This connection is not fanciful or the result of scare-mongering. When research on cybrids was being debated in the United Kingdom, its advocates cited with approval the work of a scientist named Panayiotis Zavos.[31] However, in 2009, very shortly after the new law passed into effect, Zavos claimed that he had made progress towards the goal of reproductive cloning and that his work on cybrids was helping to improve the cloning technique. This seemed to vindicate those who had warned that cybrid technology, if allowed to develop, would lead to reproductive cloning.[32] Though the ethical analysis of human reproductive cloning is not straightforward, a significant ethical issue is raised when the impact on the future of cloned child is considered.[33]

Impact on Women

The creation of admixed embryos is a significant step that merits ethical scrutiny, but the implantation of such embryos into the womb of a nonhuman animal or, even more so, into a woman, represents an even greater step. If an admixed embryo is able to develop in the womb, a question of whether the creature will suffer in the birthing process must be raised. If the embryo is implanted into a woman, her welfare may also be compromised. The experiments of Russian scientists in the 1920's involved attempts to impregnate women with nonhuman sperm without their consent. This was clearly an outrageous violation of the dignity and rights of these women and would have been far worse had the experiments been successful and the women been placed in physical danger.

The impact that the creation of admixed embryos has on women is an often-overlooked feature of this line of research. Such studies generally impact women because

the creation of human embryos needs human eggs. For example, in 2006 a notorious scandal arose in South Korea when Hwang Woo-suk, a scientist, falsely claimed to have derived stem cells from a cloned human embryo. What was less widely reported at the time was that his misdeeds also included illegal payments to women for their eggs.[34] The process of obtaining eggs involves some risk, risk that is seemingly compounded by the commercialisation of biotechnology. This is a key ethical consideration that lies behind restrictions on the funding of embryo research that remain under President Obama. While research on embryos can be funded by the National Institute of Health, the creating of human embryos for research cannot be funded.[35]

The creation of cybrids has been presented in the past as a way to protect women from exploitation. However, this argument has borne heavy criticism by feminist scholars such as Francoise Baylis.[36] It is clear that nonhuman eggs were used only to improve the efficiency of a technique that would, in turn, return to using women. This is evident from the behaviour of the International Centre for Life in Newcastle, the only centre in the United Kingdom to do cybrid research. While pursuing such studies, the same laboratory continued to pay women in kind for their eggs, providing half the cost of fertility treatment, equivalent to £1500. Such a practice is archetypal of the commodification of women's bodies which has been criticized by a number of feminist commentators.[37]

Impact on Society

The case of Hwang also helps to draw attention to the ethical importance of honesty in scientific research. Hwang deceived both the public and the scientific community, and his fall seriously endangered public trust in stem cell research. In the United Kingdom, the Human Fertilisation and Embryology Authority (HFEA) was created to build public trust in the area of fertility treatment and embryo research. However, like other arms-length bodies and government departments, this role is sometimes compromised by prior commitments to its own agenda.[38] In relation to its consultation process on chimeras and hybrids, a recent review article is scathing, 'It follows that although HFEA's rule-guided and strategic modes of public consultation on the ethical and social implications of creating human/ animal embryos in research may be legitimate in a strict sense, they fall far short of embracing the democratic ideal of input-oriented legitimacy'.[39]

Part of the pressure that skewed the HFEA consultation on hybrids was an intense media campaign that was going on at the time that argued in favour of legalising the creation of cybrids. Typical of the early coverage was an article by Mark Henderson, Science Editor of *The Times*, warning that, 'Patients with incurable crippling diseases may be denied the first effective treatments because of government plans to outlaw the creation of "human-animal" embryos'.[40] The aim of the science lobbyists was to overcome public misgivings[41] and enable research on the entire range of human-nonhuman combinations. There was, thus, widespread public astonishment when immediately after the successful passage of the new law, and even before it came into force, the only two grant applications for research in this area were turned down by the UK Medical Research Council, a body that provides government grants in biomedicine. The supposedly 'vital'[42] avenue of research had already been eclipsed by better alternatives.[43] The impression of urgent was a reflection, not on the true value of this branch of science, but on the result of hype, generated for political or commercial reasons.

The Roots of Our Ethical Principles

The distorting effects of the debate in the United Kingdom over the creation of admixed embryos were caused by a struggle to overcome public unease at the proposals. The case for this kind of research had to be exaggerated because people needed a strong reason before agreeing to the generation of mixed human-nonhuman creatures. But what lies at the roots of this public resistance?

This resistance does not arise as the result of concern for the welfare for the creature that is produced. If the embryo never becomes implanted, welfare issues do not arise. However, the question remains: is the crossing of the species boundary in itself an offence against 'human dignity' or '*ordre public*'?[44] The affirmative is especially the case if the mixing involves changes in the brain or in characteristics that can be inherited.[45] The intrinsic question is often dismissed as the 'yuck factor', but such emotional reactions, while they do not settle ethical issues, provide an important starting point. Leon Kass, in a well-known essay, 'The Wisdom of Repugnance', states that, 'revulsion is not an argument; and some of yesterday's repugnances are today calmly accepted… in crucial cases, however, repugnance is the emotional expression of a deep wisdom, beyond reason's power to fully articulate.'[46] The British philosopher Mary Midgely makes the same case.[47]

The crossing of the species boundary raises questions about the very basis of ethics in what it is to be human, our human nature, and the dignity of that nature. The word 'dignity' in bioethics has provoked a great deal of criticism. John Harris, for example, has attacked the concept as 'comprehensively vague'[48], while others have accused it of encompassing a 'basketful of extraordinary meanings.'[49] Even defenders have admitted that it seems 'too nebulous to be of use... ill-defined within bioethics and... therefore risks being dismissed as meaningless or uselessly vague'.[50] Nevertheless, the concept of human dignity has been central to bioethics since its use in the 1948 Universal Declaration of Human Rights, which invokes human dignity as the very basis such rights.

Human rights are rooted in a dignity, not given by society, but inherent and inalienable. Such a dignity is shared equally by all human beings,[51] at least from birth, and possibly (according to some accounts) before birth.[52] The uncertainty surrounding whether admixed organisms possess the same dignity as human beings undermines the sense of dignity that is inherent and equally possessed by all. It threatens to dilute the concept of dignity to something that can be possessed, more or less, in different individuals. The conviction that all human beings possess an equal dignity has been hard won and has not been held in every age or in every place. The potential loss of a sense of human equality would be a very great cost to weigh against the purported potential benefit from these technologies.

Patchwork Ethics

It is characteristic for individuals, government departments, professional bodies, and activists to be concerned with a limited range of interests or issues. To expect people to be equally concerned about all moral issues is unrealistic, for in practice they will be more committed to some causes than to others. Some people are more concerned with animal welfare, others the question of public safety, others the human embryo, others the impact on women. A few also notice the impact these moral issues have on society and the distorting effects that political debates can have on the honesty of public discourse.

In addition to issues concerning nonhuman animals, human individuals, and society, there is an important intrinsic question to consider: does crossing human beings with other animals threatens human dignity? I think a strong case can be made that the creation of human-nonhuman embryos is an offence against human dignity.[53] Nevertheless, it would be a mistake to see even this issue as *the* essential question, as if other ethical concerns were not significant. Any mixing of nonhuman and human living beings will impact both the nonhuman and the human. This mixture impacts the human as an individual (disproportionately to some) and collectively influences society in addition to raising deeper questions in relation to human nature. The issues covered in this paper are all simultaneously in play in relation to the creation and use of chimeras and hybrid organisms; therefore all demand consideration. There may well be other perspectives that need to be added to this picture, but the key argument of this paper is that it is necessary to consider a range of issues and also to have some overall ethical vision within which these considerations may fall.

With so many issues in play, public debate fractures and law becomes something of a patchwork, depending on whether it is law relating to human embryos, law relating to consent to use of tissue, law relating to research on human subjects, or law relating to animal welfare etc. This can lead to legal discontinuities between admixed organisms '*in which the animal [sic] DNA is not predominant* '[54] and those that are, for example, predominantly nonhuman. Such discontinuities signal not only a problem for regulation but also a more fundamental dilemma: a failure to develop a coherent ethical framework within which to fit an understanding of admixed organisms.

There is a challenge here also for those who wish to give greater prominence to one issue, or set of issues, which they feel is too often neglected (for example the moral status of the human embryo). For, even if one or another issue too often gets neglected, what is needed is not the assertion of one ethical consideration or another as primary, nor even the fundamental consideration of human dignity. Rather, an integrated vision is needed that will give due weight to a broad range of concerns so that these ethical aspects can all be addressed at the same time. Therefore, the consideration of admixed organisms needs an approach that looks less like a patchwork ethical chimera and more like a vigorous ethical hybrid.

References

1. A version of this paper was presented at a conference hosted by the University of Chester University on *Animals as Medical Subjects.*
2. The term 'admixed organisms' used throughout this paper is a deliberate echo of the term 'human admixed embryo' used by the Human Fertilisation and Embryology Bill 2008, Section 4A(6).
3. Homer. The Iliad 6/180, taken from the 1024 English translation by AT Murray.
4. Hesiod. Theogony 319-325
5. A variant of this theme is revived in H. G. Wells' *The Island of Doctor Moreau.*
6. The most famous perhaps being the Piltdown man.
7. C. MacKellar and D.A. Jones *Chimera's Children: Ethical, Philosophical and Religious Perspectives of Human-Nonhuman Experimentation* (London: Continuum, 2012) p. 22. This is a generalisation from the definition given by Human Fertilisation and Embryology Authority (HFEA), *Hybrids and Chimeras: A Consultation on the Ethical and Social Implications of Creating Human/Animal Embryos in Research,* April 2007, paragraph 2.15. 'A chimera is an animal or human which contains cells from a different animal or human'.
8. C.B. Fehilly, S.M Willadsen, and E.M. Tucker, 'Interspecific chimærism between sheep and goat,'

Nature (1984) 307 (5952): 634-636; UK Animal Procedures Committee *Report on Biotechnology*, June 2001, pp. 18-20.

9. A variant on the definition given by MacKellar and Jones *Chimera's Children* p. 24. This distinction is implied by the HFEA Consultation, paragraph 2.11-215.
10. James Mallet, 'Hybridization, ecological races and the nature of species: empirical evidence for the ease of speciation' *Philosophical Transactions of the Royal Society B: Biological Sciences* September 2008, 363 (1506): 2971–2986; J. Roach, 'Grizzly-polar bear hybrid found — but what does it mean?' *National Geographic News* May 16, 2006.
11. O.M. Mine, K. Kedikilwe, R.T. Ndebele, and S.J. Nsoso, 'Sheep-goat hybrid born under natural conditions,'*Small Ruminant Research: the journal of the International Goat Association* 2000 Jul 1;37(1-2):141-145.
12. This definition is a generalisation based on that given in MacKellar and Jones *Chimera's Children* p. 25: 'A human-nonhuman transgenic individual is a human being into whom one or a small number of nonhuman genes have been transferred, or a nonhuman life form into which one or a small number of human genes have been transferred.'
13. Hence in the HFEA Consultation paragraph 2.14 the transgenic human embryo is described as a 'kind of hybrid embryo' whereas later in box 5 (on page 10 of the report) the word 'hybrid' is not applied to transgenic human embryos.
14. G.B. Anderson, 'Interspecific pregnancy: barriers and prospects,' *Biology of Reproduction* 1988 Feb;38(1):1-15.
15. A. Fernández-Arias, J.L. Alabart, J. Folch, and J.F. Beckers, 'Interspecies pregnancy of Spanish ibex (Capra pyrenaica) fetus in domestic goat (Capra hircus) recipients induces abnormally high plasmatic levels of pregnancy-associated glycoprotein,' *Theriogenology* (1999) 51 (8): 1419–30.
16. Throughout this paper the phrase 'human-nonhuman' combinations has been used in preference to 'human-animal' combinations which would seem to imply that human beings were not animals. While it is true that the word 'animal' is sometimes used to mean 'nonhuman animal', in the present context it is important to recognise that human beings are animals of a particular species. The specific animal nature of human beings grounds both the possibility of human-nonhuman combinations and also the moral evaluation of this possibility.
17. S.P. Golovan, R.G. Meidinger, A. Ajakaiye et al.. 'Pigs expressing salivary phytase produce low-phosphorus manure,' *Nature Biotechnology* August 2001, 19 (8): 741–5.
18. H. Nagashima, H. Matsunari and K. Umeyama, 'Recent advances in production of genetically modified pigs for xenotransplantation,' *Xenotransplantation* 2010: 17: 94–120.
19. A. Pollack, 'F.D.A. Approves Drug From Gene-Altered Goats,' *New York Times* February 6, 2009.
20. This example also shows that the development of cell-line based research does not necessarily replace the use of animals, but in practice tends only to change the way the animals are used. This is because it is not based on the ethical imperative to reduce suffering to animals but on the technological imperative to find new, more efficient or effective ways to solve a technical problem. It is only accidental that fewer animals may be used.
21. Kirill Rossiianov, 'Beyond Species: Il'ya Ivanov and His Experiments on Cross-Breeding Humans with Anthropoid Apes,' *Science in Context* 2000, 15 (2), 277–316, page 291. MacKellar and Jones *Chimera's Children*, pp. 13-17.
22. R. Gray, 'Genetically modified cows produce "human" milk,' *Daily Telegraph* 2 April, 2011.
23. L.E. Young, 'Scientific hazards of human reproductive cloning' *Human Fertility* 2001 6 (2): 59.
24. R. R. Sakai, K.L.K. Tamashiro, Y. Yamazaki and R. Yanagimachi, 'Cloning and assisted reproductive techniques: Influence on early development and adult phenotype,' *Birth Defects Research Part C: Embryo Today: Reviews*, 2005. 75: 151–162.
25. M. Redfern, J.W. Keeling and E. Powell, *The Royal Liverpool Children's inquiry report* (London: HMSO, 2001).
26. D.A. Jones and C. MacKellar, 'Consent for biobank tissue in somatic-cell nuclear transfer?' *The Lancet* 12 September 2009, Vol 374, Issue 9693: 861 -863.
27. M. Henderson, '"Cybrid" exemption for stem-cell research,' *The Times* 1 March, 2007.
28. R. DiSilvestro 'A neglected solution to the problem of the metaphysical and moral status of the human-animal chimera' *Ethics & Medicine* 2004 Summer 20(2):5-23.

29. Council of Europe, *Convention for the Protection of Human Rights and Dignity of the Human Being with regard to the Application of Biology and Medicine: Convention on Human Rights and Biomedicine*, (ETS No.: 164), 18 (2) 'The creation of human embryos for research purposes is prohibited' (Oviedo: Council of Europe 1997).
30. D.B. Resnik, 'Embryonic Stem Cell Patents and Human Dignity' Health Care Anal (2007) 15:211–222. S. Sterckx. and J. Cockbain 'Assessing the Morality of the Commercial Exploitation of Inventions Concerning Uses of Human Embryos and the Relevance of Moral Complicity: Comments on the EPO's Warf Decision' *SCRIPTed* (2010) 7 (1): 83-103.
31. K. Illmensee, M. Levanduski and P. Zavos 'Evaluation of the embryonic preimplantation potential of human adult somatic cells via an embryo interspecies bioassay using bovine oocytes,' *Fertility and Sterility* (2006) 85(Suppl 1):1248-126 cited by Human Fertilisation and Embryology Authority, *Hybirds and Chimeras: A Report on the Findings of the Consultation*, October 2007, at paragraphs 1.2.11, 4.3.1.1, 4.3.2.14, and 4.4.1.1.
32. While the UK government maintained its opposition to reproductive cloning, it is also noteworthy that the Human Fertilisation and Embryology Act 2008 repeals the Human Reproductive Cloning Act 2001 and contains a loophole that could legally permit reproductive cloning: the exception was deliberately introduced to allow cloning-like procedures if these prevent the inheritance of mitochondrial disease.
33. S. Holm, 'A Life in the Shadow: One Reason Why We Should Not Clone Humans', *Cambridge Quarterly of Healthcare Ethics*, 7:160-162, 1998; H. Watt, 'Thinking twice: cloning and in vitro fertilization. Watt' Ethics and Medicine 18(2):35-43, 2002.
34. D. Dickenson *Body Shopping* (Oxford: Oneworld, 2008) pp. 166-7.
35. National Institutes of Health, 'National Institutes of Health Guidelines on Human Stem Cell Research,' *National Institutes of Health Resource for Stem Cell Research*, 7 July, 2009.
36. F. Baylis, 'Animal Eggs for Stem Cell Research: A Path Not Worth Taking,' *The American Journal of Bioethics*, 8(12): 18–32, 2008.
37. D. Dickenson, 'The Lady Vanishes: What's Missing from the Stem Cell Debate,' *Journal of Bioethical Inquiry* (2006) vol. 3, pp.43-54; K. George, 'Women as Collateral Damage: a Critique of Egg Harvesting for Research,' (2008) 31(4) Women's *Studies International Forum*, Special Issue: Women and Technologies of Reproduction, 285-292; J. Reynolds and S. Fogel, 'Letter to the New York stem cell research program ethics board,' *Centre for Genetics & Society*, 21 January, 2009.
38. D.A. Jones, 'Is the Human Fertilisation and Embryology Authority fit for purpose?' *BioNews* 13 September, 2010.
39. F. Baylis, 'The HFEA Public Consultation Process on Hybrids and Chimeras: Informed, Effective, and Meaningful?' *Kennedy Institute of Ethics Journal* (2009) 19 (1): 59.
40. M. Henderson, 'Medicine faces ban on rabbit-human embryos,' *The Times* 5 January, 2007.
41. D.A. Jones, 'What Does The British Public Think About Human-Animal Hybrid Embryos?' *Journal of Medical Ethics* 2009;35:168-170.
42. Briefing from the UK Association of Medical Research Charities March 2008, emphasis added.
43. I. Sample, 'Rival stem cell technique takes the heat out of hybrid embryo debate,' *The Guardian* 13 January, 2009; D.A. Jones, 'Nothing but a sideshow' *Guardian: Comment is Free* 16 January, 2009.
44. MacKellar and Jones *Chimera's Children* pp. 163-164.
45. E. Balaban, 'Changes in multiple brain regions underlie species differences in a complex, congenital behaviour,' *Proc Natl Acad Sci USA* (1997) 94 (5): 2001-2006; Pontifical Academy for Life, *Prospects for Xenotransplantation - Scientific Aspects and Ethical Considerations* (Vatican: Pontifical Academy for Life, 2001); Academy of Medical Sciences *Inter-species Embryos* (London: Academy of Medical Sciences, 2007), pp.34-35; P. Karpowicz, C.B. Cohen and D.J. Van der Kooy, 'Developing Human-Nonhuman Chimeras in Human Stem Cell Research: Ethical Issues and Boundaries,' *Kennedy Institute of Ethics Journal* (2005) 15 (2): 107-134; J.D. Loike and M. Tendler, 'Reconstituting a Human Brain in Animals: A Jewish Perspective on Human Sanctity,' *Kennedy Institute of Ethics Journal* (2008) 18 (4): 347-367.
46. L. Kass, 'The Wisdom of Repugnance,' in *The Ethics of Human Cloning*, eds. L. Kass, and J. Wilson, (Washington DC: American Enterprise Institute, 1998), p. 18.

47. M. Midgely, 'Biotechnology and Monstrosity; Why We Should Pay Attention to the "Yuk Factor",' *Hastings Center Report*, vol. 30, no.5 (2000), September-October, 9.
48. John Harris, *Clones, Genes, and Immortality* (Oxford: Oxford University Press, 1998) 31
49. R. Horton, 'Rediscovering human dignity', *Lancet* 364, 1081–1085 (2004).
50. **J. Johnston,** C. Eliot**, 'Chimeras and "Human Dignity"',** *The American Journal of Bioethics*, 1536-0075, Volume 3, Issue 3, 2003, pp. 6 – 8
51. G. Vlastos, 'Human Worth, Merit, and Equality' in J. Feinberg *Moral Concepts* (Oxford: Oxford University Press, 1982), 141-152.
52. Evident in the World Medical Association Oath of Geneva, also agreed in 1948: 'I will maintain the utmost respect for human life from the time of conception, even under threat, I will not use my medical knowledge contrary to the laws of humanity'
53. D.A. Jones, 'Is the creation of admixed embryos "an offense against human dignity"?' *Human Reproduction and Genetic Ethics* 2010, 16.1: 87-114.
54. HFE Act 1990 (2008), section 4A(6)(e). Academy of Medical Sciences *Animals Containing Human Material* (London: Academy of Medical Sciences, 2011), p. 59. See MacKellar and Jones *Chimera's Children* pp. 60-64.

David Albert Jones is director of the Anscombe Bioethics Centre, Oxford, research fellow at Blackfriars Hall, Oxford and visiting professor at St. Mary's University College, Twickenham, UK.

Vol. 28:3 Fall 2012

Irresponsible Reminders: Ethical Aspects of Direct-to-Consumer Drug Advertising

CHRISTOPHER LA BARBERA, PHD

Abstract

Prescription drug advertising has flourished in recent years; consequently, so has our consciousness of the availability and variety of prescription medications. But just as the direct-to-consumer advertising of prescriptions becomes ubiquitous in our media culture, so too do many of the dangers of manipulative marketing, dangers that enhance demand beyond necessity and pose hazards to consumers. This article provides a historical overview of the primary ethical problems posed by direct-to-consumer advertising of prescriptions, and points to one form of legally permissible advertisement, "reminder advertisements," as particularly prone to deceptive marketing. Three case studies (examining ads from Vioxx, Levitra, and Rozerem) demonstrate the potential for ethical problems specific to reminder ads. Recent changes in advertising have pointed to the industry's self-regulation, yet reminder advertisements for prescription drugs continue to be lawfully utilized. I argue that only by eliminating reminder advertisements and replacing them with full, product- claim advertisements will we have the prospect of ethical marketing of prescription drugs to consumers.

Introduction

While attending a conference in Manhattan in 2007, I had the rare luxury of staying at a four-star hotel overlooking Times Square. This was not an experience for the claustrophobic. I found, upon arrival, that my room was not much larger than a bedroom closet. However, my hotel room had one redeeming feature: the windows. The room boasted a spectacular, pleasantly distant view of the daunting tourist hub. From the horizon of glistening skyscrapers to the frenetic activity of Broadway, the view struck me with the wonder and the awe felt by a first-timer. However, one feature of this model city scene struck me as awry. Covering the entire first six stories of a neighboring building was a billboard advertisement, clear to both the north-facing occupants of the hotel and the wayward tourists crawling uptown, which featured a lone, giant beaver in front of a bright yellow backdrop. No product was displayed and no legible information was imparted, except a cryptic web address written in black italics: *theymissyou.com*. As I later discovered, the ad was not promoting some beaver-obsessed internet startup, nor was it the brainchild of some nature outreach organization looking to grab the ecological sentiment of city dwellers. The advertisement was for Rozerem, a prescription sleep aid.

This fact wouldn't have been so strange had I seen any relationship between the oversized beaver and the product being advertised. Any reference to the effect of the medication was noticeably absent; let alone any mention of the drug's chemistry or side effects. A strange coincidence occurred when, on the train ride home, I encountered three more *theymissyou.com* ads in the car where I was seated on the train ride home. They again featured the beaver, though this time paired with an actor dressed as Abraham Lincoln. The beaver and Honest Abe were seated side-by-side like father and son in an

antique motorcycle with sidecar. I remember noticing that the weary city commuters on that rush-hour train looked dazed as they made their way through another day. My fellow riders seemed less perturbed by, or too overworked to observe the strangeness of, the *theymissyou* ads. As they drifted in and out of consciousness, they seemed to be hoping for nothing more than a good night's sleep.

The direct, strategic marketing of prescription medications to the public is a fairly recent phenomenon, but one that has become almost ubiquitous in the last decade. Still, it is not a method of advertising used by the industry worldwide: only two countries, the United States and New Zealand, currently permit drug companies to market directly and fully[1] to consumers (CBC News, 2007). Yet, a lack of prevalence worldwide has not hindered the popularity of direct-to-consumer advertising here: in the U.S., the top ten prescription drug brands alone spent $1.1 billion dollars in television advertising dollars in 2009 (Nielsen Wire, 2010); this, despite an environment of "economic recession."

Drug companies should, and have had, the ability to market their products by providing information to practitioners. However, until recently this marketing was done with the professionalism appropriate for the industry: through drug representatives who market directly to doctors. In this system, physicians combine information garnered from drug representatives with their own medical expertise in order to help patients make informed choices about treatment options. These recommendations should, ideally, account for highly case-specific patient needs.

Certainly one should recognize the force of free market economics in a democratic society, and its relationship to individual choice as a theoretical goal in political liberalism. I do not want to argue that this direct-to-consumer advertising does not serve a potentially beneficial end. However, such advertising may present hazards to the consumer even as it serves to inform. I believe there has been insufficient discussion of the power of persuasion on consumer choice, and, as a result, there may be a risk of stimulating consumer demand beyond actual necessity. To be truly philosophical about these ads is to remember that advertising must be subject to laws and, more importantly, to the ethical scrutiny of potential harms to autonomous decision-making. Healthcare practitioners and bioethicists have frequently recognized higher ethical requirements given the nature of the medical industry. From the ethos of the Hippocratic oath to the professional ethics of current practice, it is clear to many in medicine that mere compliance with the law is insufficient to fulfill health care's heightened onus of morality.[2] Although it is, admittedly, difficult to assess the precise impact of direct-to-consumer advertisements (do these ads provide consumers with product information, or do they artificially inflate consumer demand beyond actual patient need?[3]), one may still assess the ethicality of these advertisements given their stated ends.

Market theorists justify the use of direct advertising to ordinary, medically untrained consumers for several reasons. Firstly, it is often stated that these advertisements provide product information to consumers, including new treatment options to those with medical conditions. Expanding technologies, it is argued, only enhance the access to this information (Donahue, 2006; Ralston, 2005). This argument asserts that direct-to-consumer ads serve a beneficial end in many cases, especially as they aid in establishing informed consent for patients, which has long been held as a vital standard for medical decision-making. If these advertisements do serve to inform patients (while avoiding

potential harms), a convincing case for both their usefulness and their place as morally laudable social functions can be made.

Secondly, it is argued that consumer ads encourage patients to initiate conversations with their physicians about treatment options. Although I concur that these advertisements may be able to achieve the stated end of encouraging patient-initiated discussions about treatment options, a survey of health care professionals found that 71% of physicians believe these advertisements increase the pressure that patients place on them to prescribe brands outside of those they would normally recommend for treatment (Lipsky, M. S. & Taylor, C. A., 1997). If, then, direct-to-consumer advertising is so influential, it should also provide information about the product being promoted. To this end, the encouragement of patient-initiated conversations, though necessary, is not sufficient to ethically justify direct-to-consumer (hereafter, DTC) marketing of prescription drugs.

My goal is to assess the ethics of prescription drug advertising with regard to the claim that this DTC marketing is justified because it "informs those with medical conditions about new treatments" (Ralston, 2005). I assert that, in some cases, DTC advertising provides little or no substantive information about the product to the consumer and, as a consequence, these advertisements constitute unethical advertising. In addition, with regard to those prescription drug advertisements that potentially do serve to "inform" or educate the medically untrained consumer, I argue that these advertisements are only sometimes responsible. Consumers often lack the specialized medical knowledge and access to health care required to make informed judgments about the product. The result is a dangerous potential for persuasive advertising, which hinders rather than promotes consumer choice.[4]

Responsible Advertising & The Lanham Act

Though advertisements have the legal and ethical responsibility to provide accurate product information to the consumer, a company suspected of false or misleading advertising may not be heavily penalized in the free market. Still, we have seen cases of self-regulation and litigation for these ads when they are deemed harmful. Such was the case for cigarette advertising, which in the early-to-mid 1900s tragically featured doctor testimonials on the power of menthol cigarettes to clear up nasal congestion.[5]

Precedent for responsible advertising can be traced back to the 1946 Lanham (Trademark) Act, which initially introduced false advertising as an actionable cause for civil suit. The Lanham Act states:

> Any person who, on or in connection with any goods or services…uses in commerce any word, term, name, symbol or device, or any combination thereof, or any false description of origin, false or misleading description of fact, or false or misleading representation of fact, which – in commercial advertising or promotion, misrepresents the nature, characteristics, qualities, or geographic origin of his or her or another person's goods, services, or commercial activities…shall be liable in a civil action by any person who believes that he or she is or is likely to be damaged by such act.

Irresponsibly false advertising is difficult to prove, as claims to harm are often contested. Increasingly, the gap between the content of advertising and the content of the product is widening: an advertisement for a soft drink is as likely to depict a beach volleyball tournament as it is to depict a can of soda. For our relatively unregulated advertising

market, ads are given the liberty to portray a free flow of audio-visual information. Misrepresentation of a product's "nature, characteristics or qualities" becomes, then, increasingly difficult to discern.

Yet, stricter scrutiny and tighter regulations exist for those consumer products that pose particular health risks to the consumer: alcohol, cigarettes, and, of course, prescription medications. Ethical and legal limitations on the consuming party's ability to form unencumbered contracts of purchase with a seller are justified when the product presents these risks.

The general principle of *caveat emptor*, "buyer beware", still has substantial force in legal considerations of responsibility. Given the nature of contract law, a purchase is understood as a contract of exchange between the buyer (for prescription drugs, the patient/consumer) and the seller (pharmaceutical companies). Yet, the standards of ethical advertising have shown that additional attention must be paid to consumer protection given the nature of the product. *Caveat emptor* is unable to fully protect the consumer when it comes to specialized and potentially harmful products. As may be obvious, underage consumers should not have unbridled access to cigarettes or alcohol, and neither should the public have unhindered access to prescription medications.

In addition, the consumer's potential to offer informed consent is at stake when forming a contract of purchase. Bioethicists have generally recognized that, given the nature of pharmaceutical drugs and medical procedures, it is necessary to have "heightened emphasis on the legal requirements of informed consent" (Mappes, 2006, p. 3). The intention of the Lanham Act is to regulate those conditions that mitigate the consumer's ability to offer genuine consent: misrepresentation of the product. For important reasons, we invoke authorities (physicians, and other medical authorities) to help present drug products to consumers. These authorities help to determine when prescription medications are appropriate for individual cases. We presume that physicians will not only treat the patient with genuine goodwill toward her interests,[6] but also have the knowledge necessary to aid in making an informed choice (or to defer to a specialist who will). Since physicians have specialized expertise, these authorities should be granted the power to prescribe.

One may rightly wonder: what is the impact of direct-to-consumer marketing of prescriptions drugs on medical authority? Do we need to take special precautions to regulate drug advertising in order to prevent misleading consumers or creating an unnecessary demand for prescription medication? In the argument that follows, I will offer an assessment of three specific direct-to-consumer broadcast advertisements in relation to existing legal and ethical guidelines. I argue that even in a world in which drug companies are permitted to directly market to the patient as consumer, considerations of medical authority must prevail over unrestricted choice given the nature of the product.

The Suggestive Sell: Brand Names as Floating Signifiers

Specific advertising techniques exist in the world of prescription drug advertising that warrant ethical inquiry. Much may be said about the use of suggestive symbols and brand names in prescription drug advertisements. The invention of easily memorable brand names for complex chemical compounds is worthy of our critical attention.

The stakes for which drug advertisements play are huge: in the U.S. alone, spending on prescription drugs topped $234 billion in 2008 (Gu, 2010). The trend of both awareness of prescriptions and their use is steadily increasing: 91% of the American public claims to have seen or heard a broadcast or printed prescription drug advertisement (Kaiser Family Foundation, 2000, p. 7). In addition, about half of all Americans now take one or more prescription drugs, and recent trends have shown prescription drug use increasing in all age groups (Gu, 2010; Langley, 2012). Prescription drug use among children has also increased, with one in five children now taking at least one prescription medication (Gu, 2010). We should recognize that prescription drugs and their brand names are rapidly entering public consciousness. The result is increased acceptance of drugs by the public, which may afford increased treatment options. However, the marketing methods employed in the distribution of these drugs, as well as the overall lack of a major increase in Americans' life expectancy or quality of life, invites skepticism with regards to the prospective benefits of such an increase.[7]

Many prescription drug companies market their products aggressively in order to increase revenue, and this makes utter economic sense for their business. However, danger lies in the prospect of overuse and the potential for creating a culture that unquestioningly accepts prescriptions as necessary to a good life. It's not unreasonable to imagine a future in which the brand name "Ambien" becomes synonymous with "a good night's sleep," a trend that echoes certain *Brave New World*-like themes.

One need not be a market analyst to see that marketing zoldipem tartrate, the active chemical compound of Ambien, is not as effective as marketing simply "Ambien." Clearly, the public can more easily process these brand names, without bothering to wonder what zoldipem tartrate is or does. Drug brand names transform long, complex chemical compounds into convenient catch phrases. Suggesting positive associations through fractured etymology, Ambien is clearly derived from "ambient", a word meaning "an encompassing atmosphere" or "music intended to serve as an unobtrusive accompaniment to other activities… characterized especially by quiet and repetitive instrumental melodies" (The Merriam-Webster Dictionary, 2012). Lunesta, another prescription sleep drug, is clearly a composite of "luna" – the ancient Roman goddess of the moon – and "siesta" – an afternoon nap or rest (ibid.).

While these names may seem innocuous enough, a mythologically notorious example of a drug's twisted etymology is that of Quaaludes. Originally Methaqualone, Quaalude is a sedative drug that was widely abused for its euphoric and hypnotic effects in the 1960s and 70s. It was trademarked as "Quaalude" by the developer of the drug, William H. Rorer, Inc. At the time, the company's biggest-selling and best-known product was Maalox. Hoping to maximize product recognition, the company used the recognizable double-A (aa) from Maalox, while the remainder of the drug name "qu/lude" is a contraction of "quiet interlude," offering a "soothing, even poetic description of the drug's effect" (American Heritage Dictionary of the English Language, 2000, s.v. "Quaalude").

Combine suggestive branding with free floating audio-visual information in DTC advertising, and the result is a potentially hazardous situation in which brand names become empty placeholders for meaning. The brand names become signifiers that serve to connect the drug to ideology unrelated to the product itself. Legal theorist Patricia J. Williams, adapting a concept introduced by Levi-Strauss, argues that brand names

have a troubling tendency to become floating signifiers of the products to which they refer: "Surfaces, fantasies, appearance, and vague associations are the order of the day. So completely have substance, reality, and utility been subverted that products are purified into mere wisps of labels, floating signifiers of their former selves" (Williams, 1991, p. 39).

Williams is right to argue that product brand names can take on meaning that is fungible, and that a tendency toward free-floating meaning may present moral hazards. "Pepsi", as a brand name, is a signifier that can obtain multiple meanings, floating away from the reality of the actual product (a can of carbonated corn syrup). When a brand name becomes a floating signifier, is it prone to becoming a misrepresentation of the actual product. We may argue over the extent to which we should prohibit or claim actionable misrepresentation in the case of ads for Pepsi. However, standards of ethical advertising, especially when applied to DTC prescription drug ads, should not permit product names to represent free-floating ideas rather than actual product descriptions.

Advertising for Autonomy: Informing the Consumer

Patient autonomy is in vogue in today's medical circles. Patients are becoming more informed, perhaps to their benefit, about the conditions and care they receive and the treatment options available to them. In the history of philosophy, concepts of personal liberty have asserted the intrinsic value of autonomy to ground a right to bodily integrity, granting power to the individual as the sovereign master of body and mind.[8] Respect for autonomy and bodily integrity allows for patient liberty in self-governance, freedom of choice, and the ability to cause one's own behavior. Patients, some argue, are becoming educated consumers by virtue of DTC ads. And if patients are becoming educated about drugs, this increases their freedom to choose between the competing therapies available on the pharmaceutical market.

Further, respect for autonomy requires that patients are "free from both controlling interferences by others and personal limitations, such as inadequate understanding, that prevent meaningful choice" (Berlin, 1969, pp. 118-72; Feinberg, 1986, chs. 18 and 19). Product information may seem to broaden patient awareness of medicine, fulfilling the imperative for informed consent. But do direct-to-consumer ads always promote patient autonomy by providing the information that will foster meaningful choice? One must reply that DTC ads do not universally promote patient autonomy and encourage meaningful choice. This is true simply because, in some cases of DTC advertising, no requirement exists for the provision of substantive information concerning the drug being promoted.

Direct-to-consumer broadcast advertisements take three major forms: reminder advertisements, help-seeking advertisements, and product claim advertisements. Product claim advertisements include a major statement of the drug's uses, risks and side-effects. Reminder and help-seeking advertisements are not subject to full regulation under the FDA's Regulation on Prescription Drug Advertising (21 U.S.C. 202). I focus primarily on regulation-exempt reminder advertisements and the fully-regulated product claim advertisements in this paper.

In order to comply with FDA regulations, a full DTC product claim broadcast advertisement should provide both a brief summary and a major statement. The FDA's Guidance for Industry states that product claim advertisements must include a brief

summary that provides information "relating to side effects, contraindication, and effectiveness" (21 U.S.C. 352 (n)). They also must include a major statement, defined as the disclosure of "the product's major risks in the audio or audio and visual parts of the presentation." Reminder advertisements, defined as those which "call attention to the name of the drug product but do not include indications or dosage recommendations for the drug product" (21 U.S.C. 202.1), are exempt from these regulations and do not require a major statement of the product's health risks. Help-seeking advertisements are also exempt from the major statement requirement, since these ads "focus on a disease but don't name a specific drug," simply prompting the patient to ask her doctor about treatment options (ibid.).

Reminder advertisements, as non-substantive DTC advertising, provide no actual product information regarding the use, function or health risks of the prescription drug. These ads simply feature a pleasing audio-visual schema (for instance, a couple on a bench, hugging, with classical music in the background). Typically, these ads would then present the brand name of a drug, and simply state, "Ask your doctor about [drug brand name]." As in the case of Rozerem, there is no requirement to prominently display the product being advertised.

Product claim advertisements are generally longer and provide information about drug function. The ads typically use similar innocuous imagery, which may or may not be related to the drug treatment itself. Product claim advertisements also provide a major statement disclosing the possible side effects and risks of the drug, and generally conclude by saying: "Ask your doctor about [drug brand name] and find out if it is right for you."

Reminder Advertisements and Consumer Abuse: Three Case Studies

I want to address reminder advertisements as a form of uninformative and, therefore, irresponsible advertising. As I will argue, reminder advertisements constitute unethical advertising. Such is the case even under the ethical considerations of proponents of DTC prescription drug ads, whose strongest argument is that reminder ads inform those with medical conditions about new treatments. Reminder ads fail to provide information about the product, and if there is no substantive information about the product, then the advertisement cannot serve to enhance the patient's informed consent.

Because reminder advertisements are largely exempt from regulation, these ads also open the door for companies to provide suggestive or inaccurate information without the necessary disclosures that the FDA otherwise requires. Reminder advertisements serve directly to build brand-name recognition and promote free associations evoked by vague audio-visual cues. While these ads may indeed encourage patients to initiate conversations with their physicians, they fall short of a necessary standard of responsible advertising by failing to provide relevant product information with which to educate the consumer. These ads serve only to introduce a drug brand name into popular consciousness, reducing the brand to a floating signifier. The drug's use, function, and application is then left entirely to the imagination of the consumer and whatever random associations the advertisement may inspire. Reminder advertisements provide all too many opportunities for drug companies to suggestively sell their prescription products without reference to the drug's actual function or risks. Thus, by perpetuating suggestive sales techniques, reminder advertisements open the door for irresponsible advertising by allowing drug companies to make product claims with broad regulatory exemption. I would like

to advance this argument by using three case studies of reminder advertisements that warranted governmental regulation.

The Case of Vioxx

The hazards of reminder advertisements are real, and the temptation for drug companies to abuse standards of ethical advertising is large. In several cases, drug companies have deliberately and manipulatively used reminder advertisements to avoid the retail quagmire of mentioning potentially worrisome side effects. I wish to address three of these problematic cases.

First: in 2002, Merck (a drug-making company) faced regulatory action after showing a pair of ads for their arthritis pain medication, Vioxx. Though Merck voluntarily pulled Vioxx from the market in 2004 after studies showed that it doubles patient risk of heart attack and stroke, Vioxx was forcefully advertised by Merck prior to its industry removal (DeNoon, D., 2004). Industry spending on DTC broadcast ads for Vioxx topped $160 million in 2000, making it number one for industry spending on an individual drug in that year (CBS News, 2002).

Merck received a regulatory warning from the FDA in 2002 after a pair of regulation-exempt advertisements was released. The first advertisement featured Olympic figure skater Dorothy Hamill. The ad shows Hamill in an ice rink, surrounded by mountains. After lacing her skates and skating around the rink, Hamill is heard in a voiceover: "I love to skate at that time of day, but it's also the time when the pain and stiffness of osteoarthritis can be at their worst." Then, an authoritative voiceover states: "Ask your doctor about ways to help relieve the pain of osteoarthritis." The ad refers to a free telephone number by which one can obtain more information, including the Merck company name.

This first advertisement may be classified as a help-seeking ad, which is technically exempt from the FDA's major statement regulation since it does not mention a specific drug product (it never said "Vioxx") but only refers to a specific medical condition (osteoarthritis). Therefore, this ad need not provide the otherwise requisite major statement of drug risks and side effects.

Does this ad constitute irresponsible advertising? Standing alone, the ad seems unproblematic, and as a help-seeking ad it is exempt from the major statement requirement. However, Merck simultaneously released a second advertisement, using identical background music and scenery, as well as the same Hamill skating theme. In the second ad, Hamill is again seen lacing her skates and skating about the rink, yet this time, over an identical visual scenario, a voice announces: "Ask your doctor about Vioxx, a prescription medicine from Merck. And find out if Vioxx is right for you." This second advertisement, standing alone, would technically be classified as a reminder advertisement. Although it specifically mentions the drug product Vioxx, as a reminder ad it is also exempt from the FDA regulation that requires the drug company to make a major statement of the drug risks and side effects.

However, though each of Merck's individual ads does not raise ethical questions, in tandem the two advertisements constitute unethical advertising. These ads, taken together, utilize identical scenarios to mention both Vioxx and its use (treating arthritis pain), but neglect to state the major risks and side effects of the drug. Given the opportunity to produce two regulation-exempt advertisements, Merck sidestepped the requirement to provide a major statement of drug's risks. To accomplish this, Merck used a virtually

identical audio-visual schematic to produce two regulation-exempt broadcasts, under the guise of providing separate help-seeking and reminder advertisements. The FDA raised an inquiry into the two advertisements on the basis that the advertisements, if displayed next to one another is sequence, would be considered one ad that violates FDA standards (Josefson, D., 2002, p. 1).

The Case of Levitra

A more startling abuse of the reminder advertisement exemption can be seen in the advertising campaign for the prescription erectile dysfunction drug, Levitra. In 2005, Bayer pharmaceuticals, the maker of Levitra, began an advertising campaign of reminder ads that depicted an intimate heterosexual couple who "appear romantically involved," "engaged in flirtatious behavior" (including hair-strokes and embraces). The ad made no explicit mention of erectile dysfunction or the function of the drug but, instead, showed a woman striking a match, saying:

> "In the mood for something different? How about Levitra? Ask your doctor if Levitra is right for you. It's the best way to experience that difference. Ask about a free sample. Ask about Levitra. Levitra…when it counts" (Hankin, J., to Evanich, M. E., 2005, pp. 2-3).

This reminder ad was suggestive to the point of making a product claim by showing a couple engaged in sexual activity. The fact that images can indeed "speak" about the product was so clear that this depiction warranted regulatory action on the part of the Department of Health and Human Services, which demanded an immediate pull of the ad. The ad was generic enough to avoid stating the drug's function; instead, the *imagery* did the talking. The visual scenario was actually providing information, and the swift regulatory action confirms this vital point: ads speak through imagery.

We are fortunate to be alive in the age in which many of these advertisements are preserved as they were originally aired via YouTube. In another Levitra reminder ad, which is available online (http://www.youtube.com/watch?v=fWkmbNjD6vY), we see a middle-aged man taking a football out of his storage shed. Walking through his backyard, he sees a tire swing, and he sluggishly attempts to throw the football through the hole in the tire. He fails, and winces disappointingly. Meanwhile, an energetic voiceover states, "Sometimes you need some help staying in the game. Ask your doctor about Levitra."

In the next scene, the man is seen running vigorously through the yard, tossing the football and this time: success! He tosses the football through the tire repeatedly, as his female partner looks on from afar. She smiles adoringly from the porch. The voiceover continues: "Once you get in the zone, it's good!" The ad concludes with romantic embraces from the couple. Again, there was no actual information being provided about the drug's uses or side effects through words, but the imagery is enough to carry to point. Levitra's marketing department has clearly mastered the art of the suggestive sell.

The issue is this: abuse of suggestive symbolism in reminder ads may promote false assumptions about the drug's function, without recognizing the possible side effects that present a legitimate prospect of harm to consumers. The Levitra ads are just another reminder that "reminder" advertisements open the door to incomplete and coercive product claims while enjoying broad regulatory exemption.

The Case of Rozerem

A final example of ethical concerns in reminder advertisements can be observed in the case of the prescription sleep aid mentioned in the introduction to this essay, Rozerem. Rozerem's presence on both billboards and the railroad posters that I witnessed in New York was no mistake: Dale Taylor, President and CEO of Abelson Taylor, Inc. (the advertising agency charged with promoting Rozerem), confirmed his campaign to "create buzz" and provide a "different" advertising campaign in order to gain notoriety for the drug (Mack, 2006). The result was a pervasive, aggressive marketing campaign for Rozerem in a variety of formats. The idea behind the marketing campaign was the catch phrase, "Your dreams miss you." The ads featured images of Abraham Lincoln and a beaver in a variety of free-association scenarios. What is more, the ads were effective: according to one research firm, Rozerem ads were the second most recalled of all prescription drug advertisements in 2007 (McGuire, 2008).

However, one advertisement released by Rozerem raised not only the scrutiny of the FDA, but also many parents' eyebrows. This ad, a ten-second reminder advertisement, aired on MSNBC News in September 2006. The ad featured the familiar images of school: a schoolboy writing on a chalkboard, a stack of notebooks, a bright yellow school bus, computers, children with backpacks. The voiceover states, "Rozerem would like to remind you that it's back to school season. Ask your doctor today if Rozerem is right for you." The ad closed with the brand name of the drug featured at center-screen, and underneath, the statement: "Back to School."[9]

It is probably not surprising that Rozerem is not indicated for pediatric use. The FDA, in its warning letter issued in early 2007, found this particular reminder advertisement "especially concerning" due to the complete lack of information regarding safety and effectiveness in pediatric patients.[10] This did not prevent the ad from insinuating to its viewers that the sleep aid may help with those countless sleepless nights associated with anyone who goes "back to school."

Medical Authority vs. Consumer Sovereignty: Ethical Considerations for Product Claim Ads

Product claim advertisements have the potential to adhere to the standards of responsible advertising. These advertisements are designed to fulfill both requisite components to responsible drug advertising: they inform the consumer and encourage patient-initiated conversations with medical professionals. One may argue that these ads help achieve a useful social goal: the provision for the consumer of substantive information and the enhancement of consumer choice. The patient benefits from increased autonomy, more information about the nature of the product, and an improved ability to make an informed judgment about treatment options: thus achieving the medical standard for informed consent.

However, the argument that DTC product claim drug ads are increasing patient autonomy through consumer education is unsound. The relevant information regarding the chemistry, side effects, and appropriate use of prescription drugs is not something that most consumers have the ability to assess on their own. In addition, advertising prescription drug medications differs fundamentally from advertising for soda, cell phones, or almost any other product. There is a clear difference between products that

function to meet the healthcare needs that are a condition of autonomous agency, and a product that serves solely to satisfy consumer desires. For the latter, the convenience, satisfaction, and gratification experienced by the consumer are not *conditions* of autonomous choice-making ability; for the former, they clearly and indisputably are. In other words, being physically healthy is one of the presumptions of autonomy, and healthcare helps to guarantee this prerequisite.

The conditions of human life warrant special consideration in discussions of ethical necessity. While a cell phone may serve to fulfill the consumer's concept of the good life as certainly as a prescription drug could, the necessity of assuring the life and liberty of the consumer is precisely the condition to be satisfied prior to the prospect of a good life. This distinction is echoed in the history of ethical philosophy: for example, Plato clearly offers a division of necessary and unnecessary appetites in *Republic*, distinguishing goods that are necessary for our survival from goods that merely supplement our quality of life. More recently, Rawls makes a distinction between chief goods such as "health and vigor," which are both natural *and* primary, and social goods like income or material wealth, which are only primary.[11] So too should we recognize the necessity of basic, functioning human health as a superior and necessary prerequisite for what may supplement one's quality of life. I hope that this claim, in today's medical circles, is relatively uncontroversial.

Consequently, upon identifying human health as a necessary prerequisite for quality of life, one must grant the ethical necessity of healthcare as a condition of full personhood. The dictates of patient care needs, rather than sheer consumer demand, should drive sales in a responsible medical market. Medicine is not in the business of merely fulfilling consumer preferences, and consumer demand is not the driving force behind drug sales (nor should it be). The contrast between traditional business models of economic demand and the specific nature of consumer choice in medical ethics is well established in theoretical scholarship. For instance, in their assessment of advertising for cosmetic surgery, Miller, Brody and Chung recognize:

> From the time of the ancient Greeks to the present, medicine as a professional practice has been distinguished from business. Governance by an internal morality underlies this distinction…Central to business in a market economy is the doctrine of consumer sovereignty: that subjective preferences and money determine access to commodities in the marketplace. In medicine consumer sovereignty is attenuated, if not foreign to the domain (2000, pp. 353-5).

Further, most consumers lack the medical expertise required for making an educated choice. It is from this assertion that we may understand how the consumer's choice between sneakers is intrinsically different from the consumer's choice between sleep aids. For the latter, the average consumer does not have the medical knowledge to fully understand information about drug efficacy and chemistry. If the consumer lacks medical expertise, she (standing alone) does not meet the criteria to fairly assess these advertisements.

This true lack of expertise makes specious the argument that DTC advertisements are increasing patient autonomy. Assuming that DTC product claim drug ads are received by the vast majority of Americans not educated in or employed by the medical world, one of the primary arguments for the ads falls apart: namely, that these advertisements inform the consumer. Of course, this is not to say that product claim fail to provide information. Many have probably overheard somewhat embarrassing primetime television ads detailing the adverse side effects of male erectile dysfunction drugs, warning of blue vision and

informing the consumer to contact a physician if an erection lasts more than four hours. But even when the advertisements do provide information, the consumer is ill equipped to fully assess the facts they are given.

The FDA Guidance for Industry statement attempts to address the issue of the uneducated consumer. In it, the FDA includes a provision for "consumer-friendly" language, especially for product indications and major risks; yet, this has not stopped quickly delivered medical jargon in television and radio broadcasts or the often indecipherably small print included in a printed advertisement's statement of drug chemistry and side effects. We need to ask whether the average patient-consumer would be able to understand a printed advertisement's major statement, such as that which defines Levitra as: "an oral therapy for the treatment of erectile dysfunction. This monohydrochoride salt of vardenafil is a selective inhibitor of cyclic guanosine monophosphate (cGMP-specific) phosphodiesterase type 5 (PDE5)" (Levitra Prescribing Information, 2005).

Medical distinctions require professional clarification to the medically untrained patient/consumer. For instance, recent sleeping medication ads make the seemingly contradictory claim that prescription sleep drugs are "non-addictive" but "may be habit-forming," noting that "some patients develop a dependency" on the drug's use.[12] The distinction between addiction and habituation, along with the hazards of drug dependency and withdrawal symptoms, are significant considerations that are not clearly discussed in these advertisements.[13]

The consumer will also need to be given access to medical professionals in order to detangle such jargon, a privilege that many of us do not enjoy. The lack of access to medical resources can also be seen as a constraint on medical decision-making. Bioethicists have recognized the increased potential for coercion when subjects are impoverished. In the case of experimental treatments, poverty can be a condition that hinders autonomous decision-making capacity: the subject will be unable to make meaningful choices because, with limited resources, she is "in no position to decline" (Mappes & DeGrazia, 2006, p. 231). For those who do have the resources to seek medical aid, a troubling tendency can be seen in consumers who forgo consultation with physicians entirely, or directly demand certain drugs of their practitioners. The data supports this idea: research has shown a correlation between increased market expenditures in advertising and increased sales, raising the potential dilemmas of over-prescription and overuse (Donahue et al. 2007).

Moreover, we are now quickly entering into a stage in our society in which consumers will take it upon themselves to medicate, evading medical professionals to procure drugs whether or not such medication is warranted.[14] This presents the troubling prospect of access to medication dictated by sheer economic demand. Such demand is not something that originates *ex nihilo*: demand is often fostered and influenced by (if not created as a result of) product marketing. Consequently, prescriptions increasingly become consumer-driven objects, available for purchase at whatever the market will bear.[15]

Advertisements clearly foster an artificial demand for drugs. As the market for underground prescription sales grows and the access to illicit internet pharmacies lingers, our world has become one in which the medical community can easily be circumvented by consumer demand, creating a troubling market of recreational and unnecessary treatment.

Lastly, it should be said that, in medicine, appeals to authority are frequently *not* fallacies; they are often valid on the basis that medical practitioners have specialized knowledge in their field. Trusting one's physician to prescribe an antibiotic that will

not induce an allergic reaction to penicillin exhibits the same specialized trust in authority that we extend to a jewelry salesperson when she or he tells us a ring has genuine diamonds. Specialists in consumer products are those who, by definition, have extraordinary knowledge of those products. This extraordinary knowledge should grant these specialists a degree of legitimate authority, an authority that many members of the general public may not possess.

Consequently, the argument that DTC product claim drug advertisements provide product information for the consumer's benefit is specious for several reasons: the consumer's lack of expertise in the medical field, the potential lack of access to medical resources, the danger of misuse or overuse (often driven by economic demand), and the specialized nature of medical knowledge.

Responsible Advertising and Medical Ethics: Conclusions & Proposed Changes

Given these considerations, certain things must happen to promote ethical DTC drug advertising. These ads must fulfill two important ends: first, to inform the consumer; and second, to encourage discussions about treatment options with health care providers.

Reminder advertisements fail one of the requirements of responsible DTC advertising: to inform the consumer about the drug. Further, since reminder advertisements are exempt from full standards of regulatory scrutiny, they provide too many opportunities for companies to use suggestive advertising and sidestep the responsibility to inform the consumer of appropriate use and health risks. As a result, reminder advertisements present the potential for grave ethical harms that warrant their prohibition.

The recent trend in industry advertising has been to utilize longer, product claim advertisements. Consequently, many pharmaceutical companies now avoid the overuse of the brand of reminder ads that were so ubiquitous in earlier pharmaceutical advertising. This trend is promising in that it points to industry self-regulation. However, such a trend, I would argue, results directly from increasing scrutiny on the part of the FDA's Division of Drug Marketing, Advertising, and Communications (DDMAC). Only in the past five years, after the Food and Drug Administration Amendments Act authorized the FDA to impose civil penalties for "false and misleading ads" in 2007, have we seen the trend toward the longer and more detailed product claim ads prevail (Huh et al., 2010).

Even given this recent trend, reminder advertisements are still legally permissible and continue to be utilized by the industry and permitted by the FDA.[16] Industry warning letters from the FDA have increased as attention to irresponsible (or, as the FDA calls it, "incorrect") DTC advertising grows. But, there is still skepticism surrounding the trends in regulation, in particular with regard to letters relating to DTC advertising. Many scholars have called attention to the impression that the FDA offers weak oversight (Donahue et al., 2007). While this research does not conclusively suggest a moratorium on all drug advertisements, reminder ads, which are the least substantive and the most prone to manipulation through suggestive sales, are highly suspect.

If DTC drug advertising continues to flourish, full, product claim advertisements must become the standard and they must serve to educate consumers. These ads should clearly defer to physicians as specialists with the authority to provide prescription drug information consistent with the patient's specific needs.

Because most consumers lack specialized medical expertise, pharmaceutical companies must continue to be sensitive to the FDA's Guidance for Industry that includes provisions for consumer-friendly language. The prescription's function and health risks should be clearly stated to the consumer. Thus, all broadcast and printed advertisements should offer a clear and accurate major statement, and when product descriptions utilize medical jargon they should explicitly refer the consumer to medical specialists to aid in the assessment of this information. It should be clear that a page of complex chemical compounds and specialized medical jargon printed in a single-spaced, 4-point font is insufficient to inform concerning the medication's major risks and side effects.

Still, we should be aware that ethical ambiguity will arise in allowing even the most detailed and patient-conscious DTC advertisements. We are treading on fairly new ground with regards to these ads, and we should also be mindful that, though we legally allow such controversial ads, they lack that same legality across nearly all of the remaining global healthcare market. While it is relatively easy to post a printed ad for a sleep aid in the New York City subway, it is an arduous yet necessary task to pioneer the public programs that will grant the analytical tools and healthcare resources required to truly inform our citizenry. The reality remains that many of us will lack the specialized knowledge and access to medical resources that would enable us to properly assess these ads. Until we are certain that the public has these tools, we cannot say with great certainty that DTC prescription ads serve to educate, and therefore benefit, us all.

References

American Heritage Dictionary of the English Language (2000). 4th ed., s.v. "Quaalude."

American Society of Plastic and Reconstructive Surgeons (1992). *Code of Ethics*, rev. 1992.

Bayer HealthCare Pharmaceuticals (2005). Levitra Prescribing Information [On-line]. Available at: http://www.univgraph.com/bayer/inserts/levitra.pdf.

Berlin, I. (1969). *Four Essays on Liberty* (pp. 118-72). Oxford: Oxford University Press. As quoted in Beauchamp, T. L. & Childress, J. F. (1979). Principles of Biomedical Ethics. New York: Oxford University Press.

Berndt, E. (2005). "To Inform or Persuade? Direct-to-Consumer Advertising of Prescription Drugs." New

England Journal of Medicine, 352:4. Available at: http://web.mit.edu/cbi/publications/Berndt_NEJM_2005.pdf

CBC News (2007). "U.S. Drug Ads Spending Jumps 330 Percent in 10 Years: Study." August 16, 2007. Available at: http://www.cbc.ca/news/story/2007/08/16/drug-advertising.html

CBS News (2002). "Drug Advertising Skyrockets." Available at: http://www.cbsnews.com/stories/2002/02/13/health/main329293.shtml.

DeNoon, D. (2004). "Arthritis Drug Vioxx Pulled Off Market," WebMD Medical News Archive [On-line]. Available at: http://www.webmd.com/content/article/94/102995.htm

Donahue, J. (2006). "A History of Drug Advertising: The Evolving Roles of Consumers and Consumer Protection." Milbank Quarterly, 84.4, 659-699.

Donahue, J., M. Cevasco & M. Rosenthal (2007). "A Decade of Direct-to-Consumer Advertising of Prescription Drugs." The New England Journal of Medicine, 357, 673-681. Available at: http://www.nejm.org/doi/full/10.1056/NEJMsa070502#t=abstract

Feinberg, J. (1986). *The Moral Limits of Criminal Law* (chs. 18 & 19). New York: Oxford University Press. As quoted in Beauchamp, T. L. & Childress, J. F. (1979). Principles of Biomedical Ethics. New York: Oxford University Press.

Food and Drug Administration (2012). "Prescription Drug Advertising: A Guide for Consumers." Available at: http://www.fda.gov/Drugs/ResourcesForYou/Consumers/PrescriptionDrugAdvertising/default.htm

-----. (2007). FDA Warning Letter to Rozerem. Available at: http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCcompanies/ucm054281.pdf

-----. (2007). Rozerem: Promotional Material. Available at: http://www.fda.gov/downloads/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/ucm054283.pdf

-----. (2007). Food and Drug Administration Amendments Act (FDAAA). Available at: http://www.fda.gov/regulatoryinformation/legislation/federalfooddrugandcosmeticactfdcact/significantamendmentstothefdcact/foodanddrugadministrationamendmentsactof2007/default.htm

-----. (1999). "Guidance for Industry: Consumer-Directed Broadcast Advertisements," August, 1999.

-----. "Regulation on Prescription Drug Advertising." U.S.C., Title 21, ch. I, part 202.

Gu, Q. et al (2010). NCHS Data Brief: 2010. "Prescription Drug Use Continues to Increase: U.S. Prescription Drug Data, 2007-2008." Number 42, September 2010. Available at: http://www.cdc.gov/nchs/data/databriefs/db42.htm

Hankin, J., Consumer Promotion Analyst, Regulatory Review Officer, Division of Drug Marketing, Advertising and Communications, to Evanich, M. E., Assistant Director, Regulatory Affairs, Bayer Pharmaceuticals Corporation, by facsimile, April 14, 2005. Available: http://www.fda.gov/cder/warn/2005/Levitra.pdf

Huh, J., D. DeLorme, L. Reid & S. An (2010). "Direct-to-Consumer Prescription Drug Advertising: History, Regulation, and Issues. Minnesota Medicine, March 2010.
Available at: http://www.minnesotamedicine.com/PastIssues/PastIssues2010/March2010/ClinicalJisuMarch2010.aspx

Josefson, D. (2002). "Drug Advertisers Face Scrutiny after Potentially Breaking FDA Rules." British Medical Journal, 325, 1262.

Kaiser Family Foundation, The (2000). "National Survey on Prescription Drugs," (pp.7-8). Menlo Park, CA: Kaiser Family Foundation/Harvard School of Public Health.

Langley, R. (2012). "Almost Half of Americans Take At Least One Prescription

Drug." About.com Guide: U.S. Government Info. Accessed June 6, 2012. Available at:
http://usgovinfo.about.com/od/healthcare/a/usmedicated.htm
Lanham Act: 1946, 15 U.S.C § 1125.
Levitra Reminder Advertisement (2003). Available at: http://www.youtube.com/watch?v=fWkmbNjD6vY
Lipsky, M. S. & C. A. Taylor (1997). "The Opinions and Experiences of Family Physicians Regarding Direct-to-Consumer Advertising," Journal of Family Practice, 45, 495-99.
Mack, J. (2006). "Rozerem Ads Innovatively Ineffectual." Pharm Marketing News Blog.
October 26, 2006. Available at: http://www.pharma-mkting.com/blog/
Mappes, T. & D. DeGrazia (2006). Biomedical Ethics. New York: McGraw-Hill.
McGuire, S. (2008). "Nasonex, Rozerem Ads Most Recalled of 2007." Medical Marketing & Media Magazine. February 22, 2008. Available at: http://www.mmm-online.com/Nasonex-Rozerem-ads-most-recalled-of-2007/article/107175/
Merriam-Webster Dictionary (2012). s.v. "ambient."
Mill, J. S. (1989). On Liberty and Other Writings. Cambridge: Cambridge University Press.
Miller, F., H. Brody & K. Chung (2000). "Cosmetic Surgery and the Internal Medicine of Morality." Cambridge Quarterly of Healthcare Ethics. Cambridge: Cambridge University Press.
Nielsen Wire (2010). "Most Recalled Drug Commercials are Not the Biggest Spenders." April 8, 2010. Available at: http://blog.nielsen.com/nielsenwire/media_entertainment/most-recalled-drug-commercials-are-not-the-biggest-spenders/
Pellegrino, E. (1985). "The Virtuous Physician and the Ethics of Medicine." From *Virtue and Medicine: Explorations in the Character of Medicine*. New York: Reidel.
Plato (1992). *Republic*. Translation G.M.A. Grube. New York: Hackett Publishing.
Race, K. (2005). "Recreational States: Drugs and the Sovereignty of Consumption," Culture Machine. Available at: http://culturemachine.tees.ac.uk/Articles/race.htm/.
Ralston, R. E., (2005). "Prescription Drug Advertising is Good for All of Us," Capitalism Magazine. Available at: http://www.capmag.com/.
Rawls, J. (2005). *A Theory of Justice*. New York: Belknap Press.
Richwine, L. (2007). "US FDA Objects to TV Ad for Rozerem Sleep Drug." Reuters. March 8, 2007. Available at: http://www.reuters.com/article/health-SP/idUSN0820867920070309
Rosenthal, M. B., E.R. Berndt, J.M. Donohue, A.M. Epstein, & R. G. Frank (2003). "Impact of Direct-to-Consumer Advertising on Prescription Drug Spending." Menlo Park, CA: The Kaiser Family Foundation.
Sepracor (2005). "Patients Instructions for Use" [On-line]. Available at: www.lunesta.com/lunestaOverview/lunestaPPI.html
State of New York v. Philip Morris Incorporated (1997). Complaint filed January 27, 1997. Available at: http://www.library.ucsf.edu/tobacco/litigation/ny/nycomplaint.html.
Williams, P. J. (1991). *The Alchemy of Race and Rights*. Cambridge: Harvard

University Press.
World Bank Data. (2012). Life Expectancy. Accessed from Google Data's World Development Indicators, updated June 5, 2012. Available at: http://www.cdc.gov/nchs/data/databriefs/db42.htm
World Health Organization's Expert Committee on Drugs Liable to Produce Addiction (1952). "Third session of the World Health Organization Expert Committee on Drugs Liable to Produce Addiction" (pp. 39-41). United Nations: Geneva.

Notes

1. In Canada, reminder advertisements (referring to drug brand name only) and help-seeking advertisements (referring to a condition but not a drug) are permitted, but this issue has been legally debated in Canadian courts. (CBC News, 2007).
2. An informative discussion of this issue can be found in Edmund Pellegrino's "The Virtuous Physician and the Ethics of Medicine."
3. A 2000 study conducted by MIT and Harvard University found that for every $1.00 the pharmaceutical industry spent on DTC advertising yielded an additional $4.20 in annual drug sales (Rosenthal, et al., 2003).
4. The prospect of persuasion in direct-to-consumer advertising has been recognized as a real harm by bioethicists: See, for example, Ernst Berndt's article "To Inform or Persuade? Direct-To-Consumer Advertising of Prescription Drugs" (2005).
5. In a 1943 issue of the National Medical Journal, a cigarette ad "informed" consumers about tests that show that three out of every four cases of smoker's cough cleared up when switching brands to Philip Morris (State of New York v. Philip Morris Incorporated, 1997).
6. While the stipulation of goodwill toward the patient may extend back as far as Kant's *Metaphysics*, recent bioethical literature has emphasized the presumption of goodwill in avoiding abuses of physician authority.
7. World Development Indicators, as traced by Google data's World Bank archives, have shown a slow, slight increase of life expectancy over the past five to ten years. In 2005, the average life expectancy in the U.S. was 77.34 years; in 2010, it was 78.24 years. This equates to an increase in overall life span of 1.1% (World Bank, 2012). The issue of the quality of that longer life is also a highly contested in the medical community. Notably, in Canada, Australia, Japan, France, other global industrialized nations in which DTC prescription drug ads are not legally permitted, the life expectancy exceeds 80 years.
8. John Stuart Mill's *On Liberty* famously asserts that the individual is free from social constraints in actions concerning one's own body and mind: "In the part which merely concerns himself, his independence is, of right, absolute. Over himself, over his own body and mind, the individual is sovereign" (1989, p. 13).
9. Still shots associated from the Rozerem "Back to School" campaign are available at: http://www.fda.gov/downloads/DrugsGuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/ucm054283.pdf
10. The full text of the FDA's warning and compliance letter may be obtained at: http://www.fda.gov/Drugs/GuidanceComplianceRegulatoryInformation/EnforcementActivitiesbyFDA/WarningLettersandNoticeofViolationLetterstoPharmaceuticalCompanies/ucm053260.htm; also see the Reuters coverage by Richwine, available at: http://www.reuters.com/article/health-SP/idUSN0820867920070309
11. The sophisticated division of the goods of life figures prominently in Book II of *Republic*. With reference to the distinction between necessary and unnecessary appetites in the development of the polis, see pp. 45-8. For Rawls, see his section on 'Two Principles of Justice' where he outlines the distribution of primary social goods as "[those] things that every rational man is presumed to want. These goods normally have a use whatever a person's rational plan of life" (2005, p. 678) "Health and vigor" are included among natural and primary goods.

12. Lunesta's "Patient Instructions for Use" explicitly addresses side effects of habituation and withdrawal symptoms that accompany the drug's risk of dependency (Sepracor, 2005).
13. For more on the medical distinction between addiction and habituation, see the report by the World Health Organization's Expert Committee on Drugs Liable to Produce Addiction, pp. 39-41 (1952).
14. For more on recreational consumption of prescription medicine, see Kane Race's "Recreational States: Drugs and the Sovereignty of Consumption" (2005).
15. The conflict between consumer choice and the ethical standards of medicine is addressed in "Cosmetic Surgery and the Internal Morality of Medicine," where the authors emphasize the distinction between consumer sovereignty in business and patient autonomy in medicine with regard to advertising for cosmetic surgery. The authors argue that, "advertising for cosmetic surgery routinely violates the Code of Ethics for the American Society of Plastic and Reconstructive Surgeons" (2000, pp. 353-364). Notably, this Code of Ethics parallels much of the language and scope of the Lanham Act: "Each member may be subject to disciplinary action… [If] the member…uses or participates in the use of any form of communication (including computer imaging and electronic communications) containing a false, fraudulent, deceptive or misleading statement or claim," including any claim which "is intended or is likely to create false or unjustified expectations of favorable results" (360).
16. The FDA has, to it credit, provided more specific guidance for "correct" and "incorrect" forms of reminder advertising on its website: http://www.fda.gov/Drugs/ResourcesForYou/Consumers/PrescriptionDrugAdvertising/default.htm

Christopher P. La Barbera, PhD, is Assistant Professor of Philosophy in the Department of Humanities at Colby-Sawyer College in New London, New Hampshire, USA.

VOL. 28:3 FALL 2012

ABORTIFACIENT POTENTIAL OF EMERGENCY CONTRACEPTIVES

JEFFREY D. LEWIS, PHARMD, MA, AND DENNIS M. SULLIVAN, MD, MA

Abstract

The debate over conscience rights and emergency contraceptive agents among pharmacists and other healthcare professionals centers on the potential abortifacient potential of such agents. Such an important ethical and scientific question should be guided by established facts. This paper reviews the available evidence for post-fertilization effects of the emergency contraception drug levonorgestrel, and demonstrates that such evidence is uniformly lacking. The authors then discuss the ethical implications of these findings. This lack of any substantial evidence for post-fertilization effects may significantly weaken conscience claims, and may militate against refusals to dispense or to refer.

Key Words: emergency contraception, conscience rights, professional ethics, informed consent, religious ethics, abortifacient

In November of 2005, John Menges, a pharmacist at a Walgreens pharmacy in Illinois, was dismissed for refusing to fill prescriptions for Plan B® (levonorgestrel), also known as the "morning-after pill" or "emergency contraception." One of eleven Illinois pharmacists suspended for this reason, Menges claimed that Plan B is more than a contraceptive, in that it may cause an early abortion. Dispensing the drug to customers would violate his Roman Catholic beliefs on the sanctity of human life.[1] Yet the Illinois governor had already passed an emergency rule to compel pharmacies in the state to "accept and fill prescriptions for contraceptives without delay,"[2] and Menges was dismissed on this basis.

Menges and many others have a legitimate concern that may be lost if not examined closely. In 1988, the Food and Drug Administration (FDA) granted permission for marketing of pharmaceuticals aimed at preventing pregnancy up to three days after unprotected sexual intercourse. The treatment contains a hormone that, according to FDA approved labeling, may prevent ovulation or, if ovulation has already occurred, may interfere with successful implantation. The first mechanism is contraceptive and does not raise sanctity of life concerns. However, the second mechanism is interceptive and, thus, problematic for those who hold to the conception view of personhood,[3] as such interception may destroy an early human life. What should a healthcare professional such as Menges do under these circumstances?

This is not just an ethical question; it is a scientific one as well. Determining the facts concerning pharmaceuticals such as Plan B will guide decision-making for Menges and others like him. At the heart of the dilemma that Menges' situation poses is a long-standing concern about emergency contraception. It seems reasonable to probe the possibility that the most commonly used pharmaceutical formulations may interfere with implantation. The available evidence for such an effect, however, is either lacking or is shrouded in politicized rhetoric.

A scientific review by Austriaco appeared in 2007, in which the author presented "mounting evidence that levonorgestrel has little or no effect on post-fertilization events."[4] Since that time, the evidence has become even more persuasive, and a survey of the more recent data is in order.

This paper will review the available evidence for post-fertilization effects of the emergency contraception drug levonorgestrel, which may act directly to either inhibit implantation or indirectly to change the hormonal nourishment of the endometrium. The authors will then briefly discuss the ethical implications of these findings for healthcare professionals.

The Scientific Context

Prevention of ovulation, while the primary effect of COCs, is not their only possible mechanism of action. So-called "escape," "on-pill," or "breakthrough" ovulation may occur occasionally, where ovarian follicular development and rupture occur in spite of compliant pill usage.[6,7] In such cases an additional effect, a change in composition of the cervical mucus, may act to prevent sperm from reaching the fallopian tubes for fertilization of the ovum.[8]

In addition to these first two mechanisms of action, of great interest in the moral debates over the use of COCs has been the possibility of a further effect, namely the inhibition of implantation. Such a post-fertilization effect could cause a conceptus to be lost that otherwise would safely implant into the inner layer of the endometrium approximately seven days after conception. For those holding the conception view of human personhood, this would truly represent an abortifacient effect of oral contraceptives. One of the authors of this report has reviewed this subject in some detail.[9]

So the moral and scientific debate over EC occurs against the backdrop of an already contentious discussion of oral contraceptives. Yet, the prevailing scientific conclusion about compliant COC use is that such agents do not have a measurable post-fertilization effect, and that moral concern over their abortifacient potential (even in light of the conception view of personhood) is unwarranted.[8-11] On the other hand, could such an effect nonetheless exist for emergency contraception?

Though there are a number of possible agents used for EC, the most common (and the main focus of this report) is a high-dose progestin called levonorgestrel, now marketed as Plan B One-Step (a registered trademark of Barr Pharmaceuticals, given as a single 1.5 mg tablet), or Next Choice (Watson Pharmaceuticals; two 0.75 mg tablets). If administered during the follicular phase of the menstrual cycle just prior to ovulation, levonorgestrel inhibits the release of luteinizing hormone (LH) from the anterior pituitary gland. Such inhibition may prevent or delay ovulation.[12] EC is therefore intended as "emergency" contraception, to prevent pregnancy in women who have not been using other forms of birth control effectively or at all, or where barrier methods have failed (e.g., condom breakage).

In a number of studies, levonorgestrel has demonstrated efficacy rates in a range from 52% to 94%.[13-18] The package insert for Plan B gives an efficacy rate of 89%. It is worth noting that efficacy decreases with increasing amounts of time between coitus and medication usage.[19] All of this data assumes, of course, that EC methods were used only during the period of the woman's cycle just prior to or immediately after ovulation;

otherwise all other considerations are moot (i.e., the woman was not at risk of becoming pregnant in the first place). These efficacy rates are well established, but the mechanism of action has been poorly characterized, opening the door for considerable speculation concerning a possible post-fertilization effect, wherein the uterine endometrium may be rendered too unreceptive for implantation.

Kahlenborn and colleagues, in their 2002 publication, summarize early studies regarding the post-fertilization effects of EC agents.[20] Based on a combination of theoretical and empirical arguments, the authors argue that the efficacy of EC agents cannot be explained by ovulatory inhibition or the inhibition of sperm transport alone. Thus, they surmise that endometrial effects must also be present.

This position is bolstered by the FDA-approved labeling of Plan B One-Step: "Plan B One-Step works primarily by: preventing ovulation, possibly preventing fertilization by altering tubal transport of sperm and/or egg, [or] *altering the endometrium, which may inhibit implantation*. Plan B One-Step is not effective once the process of implantation has begun" (italics added).[21] It is worth noting that the FDA-approved labeling of Plan B One-Step may allow for the possibility of a post-fertilization effect, even in the absence of supportive data. Computer models intended to clarify the mechanism of action have fallen short, always confirming the effect of ovulatory inhibition, but failing to rule out the possibility of a post-fertilization effect.[22]

The ability to accurately assess EC efficacy is dependent on an accurate assessment of the timing of coitus relative to ovulation; self-reporting of such data by patients has been found to be grossly inaccurate.[23-25] In 2007 Novikova published a small (n=99) study designed to remove some limitations of earlier analyses (e.g., self-reporting of the timing of menstrual cycle-related events and EC agent administration) by measuring serum concentrations of key endogenous chemicals, such as luteinizing hormone, estradiol, and progesterone.[26] Unlike earlier studies in which the estimated rate of pregnancy in treatment groups (i.e., those taking EC agents) compared to control groups (i.e., the expected rate in the absence of EC agent administration) could not be fully explained by ovulatory inhibition, the Novikova study demonstrated full congruence between observed and expected pregnancy rates. Though small, the study represents some of the most objective evidence available to date regarding the mechanism of action of levonorgestrel.

An ethically controversial study conducted in Sweden in 2007 has also been reported. There is no question that mifepristone (RU-486), an abortifacient anti-progestin, disrupts the ability of a viable embryo to remain attached to the endometrium. Lalitkumar and colleagues tested the ability of living human embryos (in a laboratory environment) to implant in endometrial tissue that had been treated with mifepristone (study group) compared to tissue that had not been so treated (control group). As expected, none of the embryos from the study group successfully implanted.

The group then conducted the same study using levonorgestrel-treated endometrial tissue, (with levonorgestrel tissue concentrations equivalent to supra-normal doses). In complete contrast to the mifepristone study, there was no difference between the study and control groups in terms of implantation effectiveness. In other words, there was no observed endometrial effect of levonorgestrel. They also observed no gross cellular changes in the levonorgestrel-treated tissue.[27]

In early 2010, Leung and colleagues published a review of the evidence available through July, 2009 regarding the mechanisms of action of levonorgestrel. The authors

concluded that the evidence "strongly supports disruption of ovulation" and that the drug is "unlikely to act by interfering with implantation, although the possibility has not been completely excluded."[28] Another review by Langston reached similar conclusions.[29] Clinical and laboratory evidence published since July 2009 strengthens these findings.[30,31] Austriaco, commenting a year after his original scientific review on levonorgestrel, has this to say: "In light of the available scientific evidence and given the inherent limitations of the studies, it is unlikely that Plan B is an abortifacient."[32] This still appears to be a reasonable summary of what we know about the mechanism of action of this agent.

For the past two decades the scientific community seems to have been burdened with the impetus to prove, in contrast with the typical protocol by which the mechanism of action for a drug is determined, the manner by which a drug *doesn't* act by proving "beyond a shadow of a doubt" the manner by which it *does* act. The authors of this manuscript would be foolish to believe that such a shadow will ever be completely removed from the inquiry at hand, at least until such a time as we have access to a test that might identify the moment of fertilization, as suggested by some writers.[9,33,34] However, present evidence provides sufficient motivation to believe that levonorgestrel, used as EC, possesses no clinically relevant effect during the post-fertilization period.

The Ethical Context

A full discussion of the ethical issues informing healthcare conscience rights is beyond the scope of this review, but a few comments are in order. With regard to ethically controversial medical procedures, the contrarian approach revolves around three different types of refusals: 1) refusal to provide a legal, requested service (e.g., abortion or contraception), 2) refusal to refer to other professionals on the basis of moral complicity, and 3) refusal to fully disclose all medically relevant information because of moral concerns. In the first arena, the right of physicians, nurses, and medical and nursing students to decline participation or any involvement in certain procedures is well established in federal law.[35] Less clear, however, is the idea that these rights are shared by pharmacists and certain other health-care professionals. In the words of one legal scholar:

> Conscientious objection laws provide *some* protection to *some* providers who conscientiously object to *some* procedures under *some* circumstances. Exactly what grounds for refusal qualify for conscientious objection is often unclear.[36]

For pharmacists, the legal landscape is confusing. A total of thirteen states have provisions for health care workers to decline to dispense contraceptives, with six specifically mentioning pharmacists. Georgia's statute expressly grants pharmacists the right to refuse to dispense EC drugs.[37] However, Illinois and New Jersey have laws mandating the dispensing of contraceptives, and in California pharmacists can only refuse to dispense with their employer's approval.[38] In addition, the California approach has been recommended as a model for states such as Washington.[39]

The central question at stake in all this is whether pharmacists can be considered "professionals" in the same sense as physicians and nurses are considered so. If we answer in the affirmative, the Hippocratic duties of beneficence and non-maleficence apply to pharmacists as well as doctors and nurses. A recent law journal review gives some insight, endorsing a balanced approach to patient autonomy versus pharmacist conscience:

> [I]f pharmacists are considered professionals, then they should have the same right as doctors and other healthcare providers to refuse to participate in procedures they find morally or religiously objectionable. This view is apparently endorsed by the American Pharmaceutical Association, which envisions a system of care where "pharmacists work with patients as well as with physicians and other healthcare providers to promote drug therapy that contributes to a patient's well-being." As professionals, pharmacists enjoy more discretion in their decision making; they are part of a team, rather than an ancillary link between the doctor and the patient. Because courts have traditionally protected physicians' moral autonomy on the basis that they exercise discretion in their practices, pharmacists' ethical decisions should deserve similar protection, according to this view.[40]

Assuming therefore, that a right of conscience is reasonable in the pharmacy profession, we come to the second arena of possible refusals, the idea of referral. If conscientious objections to dispensing certain agents are justified, the usual recommendation for pharmacists is that they refer the prescription to another nearby pharmacy. In some cases, larger employers have made allowances for conscience beliefs by stipulating that contrarians only practice during the hours when other colleagues are on duty who can fill EC drug prescriptions, thus obviating any potential conflict with clients. Such referrals or alternative provider ideas seem logical, and have been recommended by a number of authors.[41-44]

Yet the referral option is not without its problems. For some objectors to the use of EC agents, even referring to another practitioner to fill a prescription is wrong (based on the idea of moral complicity).[44,45] In one survey of physicians, a significant minority did not feel obligated to refer patients to other clinicians more willing to perform certain ethically controversial procedures.[46] Perhaps the concept of referral is more acceptable among pharmacists than among physicians, but this is by no means certain.

The third and final possible arena for contrarian refusals has been in the full disclosure of information to patients. However, according to the physician survey by Curlin and colleagues, a strong majority (83%) of physicians who objected to EC agents nonetheless felt obligated to disclose full information about that option.[46] The principle of informed consent dictates such complete provision of information, and does not seem as controversial overall. In the words of May and Aulisio, "The basic idea that informed consent must include full disclosure of options should be agreeable to all sides in the debate."[44, 36] Of course, such full disclosure must be based on accurate medical facts.

Note that none of the earlier cited state regulations specifies a basis for conscientious refusal other than for "moral or religious belief."[38] But the medical evidence (or the lack thereof) for a claimed mechanism of action of EC agents is surely relevant to any moral objections to their use, and should be subject to possible scientific refutation. Wicclair has put it succinctly:

> Although it may be inappropriate to require reasons for conscience-based objections to be "reasonable or justified," it is warranted to reject claims of conscience if they are based on demonstrably false beliefs.[47, 22]

It would be an overstatement to claim that the abortifacient claim for EC is a "demonstrably false belief." After all, a possible post-fertilization effect for EC is still included in the FDA-approved package labeling for levonorgestrel. Yet, the paucity of supportive evidence challenges the warrant for such a claim, and may call for a reconsideration of

such labeling. It is the considered opinion of the authors of this present report that the evidence for a post-fertilization effect of EC agents has been sufficiently disputed in recent studies as to constitute, at the very least, a strong indictment against clinicians who would fail to disclose this information to their patients.

Furthermore, this dearth of evidence may actually invalidate such conscience claims entirely, and may militate against refusals to dispense or to refer. Of course, our conclusion only refers to claims for an abortifacient effect, and does not apply to other possible moral judgments about such agents, such as natural law objections to oral contraceptives generally.

Conclusion

How does all this affect pharmacists such as John Menges, as well as other healthcare professionals? On the one hand, Menges should be commended for taking a costly stand based on his personal convictions. In a highly publicized interview on CNN, former Illinois Governor Rod Blagojevich said, "The right of conscience does not apply to pharmacists."[48] Predictably, this evoked a storm of protests across the country, leading to greater judicial protections for conscience rights, not only for pharmacists, but for other healthcare professionals as well.

Healthcare conscience rights remain a hotly debated matter in our society. At the very least, pharmacists, physicians, nurses, and other professionals should carefully and continually examine the scientific evidence that informs an ethical stance. It might be prudent for Menges and others like him to reexamine the evidence related to the EC issue in an unbiased manner. Certain established positions on the appropriate use of EC agents may need modification.

It is imperative that we healthcare professionals diligently maintain our knowledge of the risks, side effects, and ethical concerns related to all medications or treatments for which patients seek our assistance. Furthermore, failure to reconsider ethical positions in the light of ongoing evidence would itself be unethical.[49]

References

1. Victory J. Pharmacists Suspended for Refusing to Dispense 'Morning-After' Pill. [World Wide Web]. 2005; http://abcnews.go.com/Health/story?id=1391310. Accessed June 14, 2012.
2. A. Governor Blagojevich Takes Emergency Action to Protect Women's Access to Contraceptives. Office of the Governor, State of Illinois; 2005.
3. Sullivan DM. The Conception View of Personhood: A Review. *Ethics and Medicine*. Spring, 2003 2003;19(1):11-33.
4. Austriaco N. Is Plan B an Abortifacient? A Critical Look at the Scientific Evidence. *The National Catholic Bioethics Quarterly*. 2007;7(4):703-707.
5. Petitti DB. Clinical Practice: Combination Estrogen-Progestin Oral Contraceptives. *The New England Journal of Medicine*. 2003;349(15):1443-1450.
6. Birtch RL, Olatunbosun OA, Pierson RA. Ovarian follicular dynamics during conventional vs. continuous oral contraceptive use. *Contraception*. 2006;73(3):235-243.
7. Kiley J, Hammond C. Combined Oral Contraceptives: A Comprehensive Review. *Clinical Obstetrics And Gynecology*. 2007;50(4):868-877.
8. Rivera R, Yacobson I, Grimes D. The mechanism of action of hormonal contraceptives and intrauterine contraceptive devices. *Am J Obstet Gynecol*. 1999;181(5):1263-1269.
9. Sullivan D. The Oral Contraceptive as Abortifacient: An Analysis of the Evidence. *Perspectives*

on Science and Christian Faith. 2006;58(3).

10. Goodnough J. Redux: Is the Oral Contraceptive Pill an Abortifacient? *Ethics and Medicine.* 2001;17(1):37-51.
11. Purdy L. Is emergency contraception murder? *Reproductive Biomedicine.* 2009;18 Suppl 1:37-42.
12. Baird DT. Emergency contraception: how does it work? *Reproductive Biomedicine.* 2009;18 Suppl 1:32-36.
13. Arowojolu AO, Okewole IA, Adekunle AO. Comparative evaluation of the effectiveness and safety of two regimens of levonorgestrel for emergency contraception in Nigerians. *Contraception.* 2002;66(4):269-273.
14. von Hertzen H, Godfrey EM. Emergency contraception: the state of the art. *Reproductive Biomedicine Online.* 2009;18 Suppl 1:28-31.
15. Hamoda H, Ashok PW, Stalder C, Flett GMM, Kennedy E, Templeton A. A Randomized Trial of Mifepristone (10 mg) and Levonorgestrel for Emergency Contraception. *Obstetrics & Gynecology.* 2004;104(6):1307-1313.
16. Wai Ngai S, Fan S, Li S, et al. A randomized trial to compare 24 h versus 12 h double dose regimen of levonorgestrel for emergency contraception. *Human Reproduction.* January 2005 2005;20(1):307-311.
17. Glasier AF, Cameron ST, Fine PM, et al. Ulipristal acetate versus levonorgestrel for emergency contraception: a randomised non-inferiority trial and meta-analysis. *The Lancet.* 2010;375(9714):555-562.
18. Segall-Gutierrez P, Tilley I. *Emergency Contraception.* Wiley-Blackwell; 2010.
19. *Plan B One-Step (Levonorgestrel) Package Insert.* 2009.
20. Kahlenborn C, Stanford JB, Larimore WL. Postfertilization effect of hormonal emergency contraception. *The Annals of pharmacotherapy.* 2002;36(3):465-470.
21. Duramed_Pharmaceuticals. How Plan B One-Step Works. 2009; http://www.planbonestep.com/plan-b-prescribers/how-plan-b-works.aspx. Accessed June 14, 2012.
22. Mikolajczyk RT, Stanford JB. Levonorgestrel emergency contraception: a joint analysis of effectiveness and mechanism of action. *Fertility and sterility.* 2007;88(3):565-571.
23. Stirling A, Glaser A. Estimating the efficacy of emergency contraception: how reliable are the data? *Contraception.* 2002;66(1).
24. Espinós JJ, Senosiain R, Aura M, et al. Safety and effectiveness of hormonal postcoital contraception: a prospective study. *The European Journal of Contraception and Reproductive Health Care.* 1999;4(1):27-33.
25. Espinós-Gómez JJ, Senosiain R, Mata A, Vanrell C, Bassas L, Calaf J. What is the seminal exposition among women requiring emergency contraception? A prospective, observational comparative study. *European Journal of Obstetrics & Gynecology and Reproductive Biology.* 2007;131(1):57-60.
26. Novikova N, Weisberg E, Stanczyk FZ, Croxatto HB, Fraser IS. Effectiveness of levonorgestrel emergency contraception given before or after ovulation -- a pilot study. *Contraception.* 2007;75(2):112-118.
27. Lalitkumar PGL, Lalitkumar S, Meng CX, et al. Mifepristone, but not levonorgestrel, inhibits human blastocyst attachment to an in vitro endometrial three-dimensional cell culture model. *Human Reproduction.* 2007;22(11):3031-3037.
28. Leung VWY, Soon JA, Levine M. Emergency Contraception Update: A Canadian Perspective. *Clin Pharmacol Ther.* 2007;83(1):177-180.
29. Langston A. Emergency Contraception: Update and Review. *Semin Reprod Med.* March 29 2010;28(02):095,102.
30. Noe G, Croxatto HB, Salvaterria AM, et al. Contraceptive efficacy of emergency contraception with levonorgestrel given before or after ovulation. *Contraception.* 2010;81(5):7.
31. Meng C-X, Marions L, Byström B, Gemzell-Danielsson K. Effects of oral and vaginal administration of levonorgestrel emergency contraception on markers of endometrial receptivity. *Human Reproduction.* 2010;25(4):874-883.
32. Austriaco N. The Scientific Evidence Suggests That Plan B is not an Abortifacient. *Saint Joseph.*

2008. http://www.op-stjoseph.org/blog/the_scientific_evidence_suggests_that_plan_b_is_not_an_abortifacient.

33. Bose R. An update on the identity of early pregnancy factor and its role in early pregnancy. *Journal of assisted reproduction and genetics.* 1997;14(9):497-499.
34. Cavanagh AC. Identification of early pregnancy factor as chaperonin 10: implications for understanding its role. *Reviews of reproduction.* 1996;1(1):28-32.
35. Department_of_Health_and_Human_Services. Regulation for the Enforcement of Federal Health Care Provider Conscience Protection Laws. Vol 76: Federal Register; 2011:9968-9977.
36. Mason Pope T. Law Legal Briefing: Conscience Clauses and Conscientious Refusal. *The Journal of clinical ethics.* 2010(2):1046-7890.
37. Guttmacher_Institute. Refusing to Provide Health Services. 2012; http://www.guttmacher.org/statecenter/spibs/spib_RPHS.pdf. Accessed June 14, 2012.
38. NCSL. Pharmacist Conscience Clauses: Laws and Information. 2012; http://www.ncsl.org/default.aspx?tabid=14380. Accessed June 14, 2012.
39. Engstrom E. The "Duty to Dispense" Laws of Washington and California: A Model of Fair and Effective Policy for the Ninth Circuit and the Nation: Stormans, Inc. v. Selecky, 586 F.3d 1109 (9th Cir. 2009). *Western State University Law Review.* 2010;37(207).
40. Grealis C. Religion in the Pharmacy: A Balanced Approach to Pharmacists' Right To Refuse To Provide Plan B. *Georgetown Law Review.* August 2009;97.
41. Day AS. Emergency contraception: when the pharmacist conscience clause restricts access. *Nursing For Women's Health.* 2008;12(4):343-346.
42. Davis S, Lansing P. When Two Fundamental Rights Collide at the Pharmacy. *DePaul Journal of Health Care Law.* 2009;12(67).
43. Bradley CT. Emergency contraception and physicians' rights of conscience: a review of current legal standards in Wisconsin. *Wisconsin Medical Journal.* 2009;108(3):156-160.
44. May T, Aulisio MP. Personal Morality and Professional Obligations: Rights of Conscience and Informed Consent. *Perspectives in Biology and Medicine.* 2009;52(1):30-38.
45. Card RF. Conscientious objection and emergency contraception. *American Journal of Bioethics.* 2007;7(6):8-14.
46. Curlin FA, Lawrence RE, Chin MH, Lantos JD. Religion, conscience, and controversial clinical practices. *The New England Journal of Medicine.* 2007;356(6):593-600.
47. Wicclair MR. Reasons and healthcare professionals' claims of conscience. *American Journal of Bioethics.* 2007;7(6):21-22.
48. CNN. Lou Dobs Tonight. [Cable TV]. 2005; http://transcripts.cnn.com/TRANSCRIPTS/0512/01/ldt.01.html. Accessed June 14, 2012.
49. The authors gratefully acknowledge support for this project through the Faculty Summer Grant Program at Cedarville University.

Jeffrey D. Lewis, PharmD, MA is Associate Professor of Pharmacy Practice at Cedarville University in Cedarville, Ohio, USA.

Dennis M. Sullivan, MD, MA, is Professor of Biology and Director of the Center for Bioethics at Cedarville University in Cedarville, Ohio, USA.

Book Reviews

No Place for Dying: Hospitals and the Ideology of Rescue

Helen Stanton Chapple. Walnut Creek, California: Left Coast Press, 2010.

ISBN 978-1598744026; 322 PAGES, PAPER, $32.95.

Although more than 60% of Americans die in hospitals, the habit of denying death is alive and well within hospital culture. From one perspective, this merely reflects an American ethos, "enamored with drama and technological display, and with the idea of triumph over adversity, dependence and vulnerability." From another view, as Helen Stanton Chapple notes in her extraordinary study of medicalized dying, death hides in plain sight in hospitals because "dying" is one of the few conditions for which there is no payment code. Hospital workers are trained to fight for life, not stand by to wait for death. And the financial incentives for the medical industry are all arrayed on the side of "heroic" medical interventions rather than unexciting, undervalued, and often uncompensated palliation. Almost no one is paid to perform what has historically been called a "death watch," and the simple, low-tech "happy death" of some faith traditions is not a hospital event. The wordplay in Chapple's title reminds us that not only is the hospital a horrible place for many to die, but very little designated space is provided for death to occur there.

Chapple's two decades as a nurse with significant experience in the intricacies of critical care, combined with a Ph.D. in anthropology and graduate training in bioethics, should have made her the perfect choice to investigate the process of death behind the walls of our cathedrals of healing. But getting information on who dies in a hospital and how that event takes place was a challenging task, even for someone as well equipped as Chapple. To complicate matters, her anthropological study became focused just as the HIPAA privacy regulations emerged to hang another curtain around hospital death, shielding the details from outsiders and maintaining that subject's state of near invisibility.

It is fortunate for anyone with an interest in understanding how death often occurs in the dysfunctional, non-system of medical services in this country that Chapple persevered. Her carefully argued, well-documented book is structured around several insights about how hospitals work. She describes a process that identifies every patient as a candidate for medical rescue. Regardless of her prognosis at entry, each person who arrives at the hospital in risk of dying undergoes procedures that will interrupt her decline, and stabilize her condition in the service of the "ideology of rescue." With stabilization achieved, a "ritual of intensification," begins, where ever-more-specialized procedures occur with increasing speed. Highly developed and thoroughly routinized technologies such as cardiopulmonary resuscitation, hemodynamic stabilization, artificial ventilation and progressively more invasive surgeries are the props that signify hope in what Chapple describes as the "ultimate morality play." In this simplistic tableau, "erring on the side of life" is falsely pitted against "giving in to death," as if the inevitable could be delayed indefinitely. The elaborate system of "death prevention" is coupled with fantasies of death avoidance, spawning waste for institutions, personal indignities for patients, and social injustice for us all.

Chapple is careful to remind us that much life-saving happens in hospitals. Her complaint is not with the curative services that hospitals do perform; it is instead with the fostering of denial and the sustaining of an industry by the kind of medical Manichaeism that identifies all seriously ill patients as either on the verge of rescue or consigned to the stigmatized, dark space of the almost dead. That denial is played out in treatment protocols designed to shorten the time anyone is actually considered "dying" and make the process of death itself a very short, clearly predictable and maximally controlled event.

Chapple's penetrating discourse is anchored in a series of case studies that explore how several anonymous patients died in two hospitals. Each study shows us how patients are managed, rerouted and reclassified at the end of life, ultimately becoming nonentities to those once committed to their care. Chapple reports that even identifying the location of records that accompany the dead seems like "waste management" to some administrators.

The argument in this book takes us several steps beyond bioethics, which has often given short shrift to a structural analysis of how hospitals deal with death. Many bioethicists continue in what seems like an endless re-examination of the conflict between medical power and patient autonomy, while failing to analyze the context within which death occurs most often, or the illusions of choice presented to those caught up in the "ritual of intensification" that Chapple describes.

Recent research indicates that doctors generally wish to die outside of hospitals, and they often avoid the most intensive interventions–surgery, chemotherapy, resuscitation and the like–endured by many who meet their end in hospitals despite their desire to die at home. Doctors know the limits to medical technology better than their patients, and first-hand experience teaches them the simple truth that death comes with an unconditional guarantee, one to a customer, regardless of how much we pretend it can be forestalled.

In the current political climate, the proposal that doctors should be paid to help patients face the inescapable reality of death was perversely translated into the threat of "death panels." This is a lesson in talking honestly about how we should treat–and pay for treating–those who are dying, showing that such treatment requires a delicate dance on very thin ice. Helen Chapple, however, wants to talk about dying, and her voice is an eloquent proxy for all of us who constitute America's ultimately silent majority.

Reviewed by Paul A. Lombardo, PhD, JD, who is Professor of Law at Georgia State University in Atlanta, Georgia, USA.

The Ethics of Consent: Theory and Practice

Franklin G. Miller and Alan Wertheimer, Editors. Oxford: Oxford University Press, 2010.

ISBN 978-0-19-533514-9; 416 PAGES, CLOTH, $39.99.

If you have never considered the pivotal position that consent occupies in our lives, Franklin Miller and Alan Wertheimer's book *The Ethics of Consent* will broaden your perspective. Through a series of provocative essays by variety of experts, this book systematically analyzes the concept of consent–a communicative act that possesses not only moral authority but also the power to morally transform relationships–through an assortment of contexts in which consent performs a moral or legal function. From sex to politics, consent significantly shapes our social lives and interactions by establishing boundaries, providing gates, and even serving to bind us to one another (4). While some of the early chapters are technically challenging, the pervasiveness of consent in Western culture and the diversity of topics covered will render *The Ethics of Consent* appealing to a broad range of audiences.

The book is divided into two main sections: the first addresses theoretical aspects of consent including its nature, history, and issues of autonomy, paternalism, hypothetical consent (surrogacy), and consent to harm. The second examines practical domains in which consent plays a pivotal role–domains of sex, politics, law, contracts, research, and medicine. The pre-suppositional paradigms for most of the essays in the book are the dual concepts of personal sovereignty and social contract theory whereby individual consent grounds social relations through its protective or facilitative functions. (44). In that light, the critical concept advanced throughout the book is shown to be that consent is a transformational act, effecting the moral transformation of relationships, making interpersonal actions permissible that would be impermissible without it, and granting to others rights not previously possessed. (169)

While the book addresses a number of stimulating questions, the chapter on medical informed consent was particularly intriguing, suggesting that the pendulum of the physician-patient relationship is still in motion. In this chapter, Stephen Joffe and Robert Truog demonstrate a distinctive approach to medical informed consent, exploring it within the unique context of the fiduciary physician-patient relationship. As they observe, physicians simultaneously "straddle" both the agency and advisor models of fiduciary relationships, moving between them in their dynamic interactions with patients. Shared decision-making is essential with the allocation of responsibility for decisions being made according to a spectrum of means-ends determinations: patients determine the value-laden ends while physicians determine the

factually related means to those ends. Furthermore, the authors argue that, as moral agents, physicians possess an affirmative duty to ensure that the patient understands the facts material to their decisions (370), and are likewise responsible for challenging patient choices that conflict with their best interests (349). The important distinction between morally and legally informed consent is also clarified, both sides of which must necessarily be addressed within the medical context.

The presuppositions of this book have a powerful impact its position, for if "human relations are governed by a conception of personal flourishing whose realization is furthered through the recognition of various constraints on interpersonal behavior" (3), such relations are anemic at best. Interpersonal relationships based purely on social contract theory in its attempt to avoid a life that is, in the words of Hobbes, "solitary, poor, nasty, brutish and short" yields a highly autonomous relational model that fails to acknowledge that human flourishing necessarily entails others. As relationships become contractual, the result, ironically, is a life that becomes increasingly "solitary, poor, nasty, brutish and short"–the very character it attempted to avoid. If, however, moral relationships are relationships of duties and obligations, the ultimate question impelled by the book becomes: "what would moral transformation look like for persons standing in a relationship of responsibility to one another rather than rights?" But then, what would happen to consent?

Reviewed by Susan M. Haack, MD, MA (Bioethics), FACOG, who is a consultative gynecologist at Hess Memorial Hospital and Mile Bluff Medical Center in Mauston, Wisconsin, USA.

Case Studies In Biomedical Ethics: Decision-Making, Principles and Cases

Robert M. Veatch, PhD, Amy M. Haddad, PhD, RN, Dan C. English, MD. New York: Oxford University Press, 2009.

ISBN 0195309723; 480 PAGES, PAPER, $59.95.

Are you looking for a time-tested resource to lead discussions of biomedical ethics with groups of religious lay people, hospital employees, or medical residents? The recently republished *Case Studies in Biomedical Ethics* fills the bill.

This book's foundational material, including some of its cases, dates all the way back to 1977 when the first version of the work was published. Obviously, much has happened since, including Louise Brown, the first in-vitro baby (1978), Karen Quinlan (1985), Nancy Cruzan (1990), and more. More recent editions have appropriately embraced recent advances and added seminal changes, seeking to keep readers up to date in the ever-changing field of bioethics. The incorporation of the case of Terry Schiavo from 2005 in this edition as Case 9-5 provides proof that the current publication continues the past commitment to staying current.

Robert Veatch, a well-known philosophical bioethicist from Georgetown, is the lead author of the current edition. His continued participation represents the on-going commitment on the part of the book's publishers to the work's successful past. However, a nurse bioethicist from Creighton, Amy Haddad, and physician bioethicist Dan English from Georgetown have now been added as co-authors, broadening the authorial perspective and commentary on many of the cases.

The work consists of three main parts. Part one is entitled "Ethical Principles in Medical Ethics" and presents a background for making ethical decisions. In these three chapters, the authors introduce their own models for ethical problem solving in specific cases (chapter 1), the values that drive health decisions (chapter 2), and the potential sources of moral judgments (chapter 3).

In part two, the writers choose six foundational principles that routinely relate to, and sometimes conflict in, medical cases. In these six chapters, the authors expound on the following principles that frequently drive bioethical thinking: beneficence, justice, autonomy, veracity, fidelity and non-killing.

Finally, part three targets and deeply explores problem areas that frequently end in bioethical dilemma. Authors comment in these nine chapters on bioethical moral controversies in the following areas: abortion and contraception, genetics, mental health issues, confidentiality, organ transplants, health insurance, human experimentation, consent, and death.

The work contains over 100 cases on a wide range of topics, laid out to facilitate extensive discussions. The cases are spread throughout the 18 chapters of the book, and always include an expert commentary afterwards. Although a few are dated (such as a terminal HIV case), the majority are current, and even the older ones (including the HIV case) are still relevant to the points made by the authors. Cases are also listed and cross-referenced in multiple formats, making them easy to find for discussions.

Overall, this new edition of *Case Studies in Bioethics* continues to be a helpful resource to all charged with the task of teaching bioethics to an interested lay group, an undergraduate class, or a graduate school cadre. The work can be used as a primary bioethics textbook or as a supplementary resource that provides case studies for that class to discuss. It is well worth its cost.

Reviewed by Thor Swanson, MD, MDiv, ThM, MA (Bioethics), who continues to practice family medicine at Siouxland Community Health Center where he is also a director. He is also active at St. Luke's Regional Medical Center in Sioux City, Iowa. In addition, he is an Associate Pastor at Friendship Community Church in Sergeant Bluff, Iowa and is matriculating for a Doctorate in Bioethics (DBE) at Loyola University in Chicago, Illinois, USA.

Addiction and Virtue: Beyond the Models of Disease and Choice

Kent Dunnington**.** InterVarsity Press: Downers Grove, IL, 2011.

ISBN 978-0-8308-3901-8; 194 PAGES, PAPER, $30.

It seems that, in the past several years, America has become an addicted society. Though we used to think of this problem only in terms of substance abuse – like drugs, alcohol, or nicotine – now we include addictions to activities such as excessive use of the internet, pornography, shopping, gambling, over-eating, and a host of other activities. Moreover, recent advances in radiology have demonstrated common pathways within the pleasure center of the brain that "light up" uniquely in people with addictions to either substances or activities. Even so, Kent Dunnington, author of *Addiction and Virtue*, makes it abundantly clear that addiction does not represent simply an anatomical/physiological disorder of the brain. Rather, he avoids the polar opposites of disease and choice, suggesting that we consider the concept of habit and ask when a habit becomes an addiction.

As a physician interested in addiction, I looked forward to reading what this author would bring to the discussion, given his expertise in philosophy and his Christian perspective. However, when approaching the work of authorities discuss behavioral problems, I often wonder if they are missing something by dismissing addiction as simply undisciplined. Historically, we have made similar mistakes repeatedly with other disorders. For instance, before doctors understood the implications of an underactive thyroid, a patient might be labeled as lazy because of his lethargy and poor attention span. Likewise, the hyperthyroid patient was no doubt considered to be simply nervous, irritable, and agitated. Numerous other examples could be cited. Thus, it behooves us to approach "abnormal" people with some degree of humility and question if there may be something physiological that we are missing.

I especially appreciated the last chapter, "Addiction and the Church." In it the author points out that the addicted person's problem is one of denial and that the church can promote the biblical teachings of truth vs. falsehood in order to combat such denial. In addition, Dunnington stresses the importance of community within the church – people coming alongside those who are struggling with addictions to mentor them and form significant friendships.

One criticism of the book is the prevalence of words that only philosophers and theologians use regularly, making for difficult reading at times. Physicians fall into the same trap at times in their writing and speaking, relying too much on technical terms.

Reviewed by Warren E. Anderson, MD, MA (Counseling Psychology), who is currently retired from the practice of anesthesiology and pain management and currently resides in Lake Forest, Illinois, USA.

Adam and Eve After the Pill: Paradoxes of the Sexual Revolution

Mary Eberstadt. Ignatius Press: San Francisco, CA, 2012.

ISBN 1586176277; 175 PAGES, CLOTH, $19.95.

I grew up as a traditional Lutheran in a working class, primarily Roman Catholic, neighborhood on the south side of Milwaukee in the 1960s and 1970s. In the wake of Vatican 2 (Catholic) and the ecumenical movement (Protestant - WCC, NCC), Protestants in that city no longer viewed Catholics as "enemies." In previous generations, Catholics were not allowed to join community organizations, let alone be friends. Only in the last third of the 20th century was it possible for a Lutheran, like myself, to be best friends with Catholic neighbors such as the Sorensons.[1]

As a Lutheran teenager, differences with Roman Catholics consisted primarily of things like saying the "Hail Mary," praying to Saints, confessing to a priest, or spending post-mortem time in purgatory. It was only after I became a Protestant minister and a practicing physician that differences in approach to contraception became evident and rose in importance.[2] In her recent book, *Adam and Eve After the Pill*, Hoover Institute Policy Analyst Mary Eberstadt, a Roman Catholic, considers the disastrous breakdown in American culture that has occured since the sexual revolution of the 1960s and the publication of the Catholic teaching *Humanae Vitae* in 1968.

In chapter one, "The Will to Disbelieve," Eberstadt notes that most people in our society live in denial about the societal and relational damage caused by the sexual revolution, a social change that was empowered by the birth control pill. Eberstadt analogizes this unwillingness on the part of our society to the denial which intellectuals in the West exhibited concerning both the failure and cruelty of Marxist-Leninism in Eastern Europe, right up until its collapse in the late 1980s and early 1990s.

In chapters two through five, Eberstadt reviews the extensive evidence in social science that suggests that the sexual revolution and birth control have undermined the lives of women (chapter 2), men (chapter 3), children (chapter 4), and young adults (chapter 5). For instance, women today are more likely to be unhappy than previously, less likely to find sex, and even less likely to find romance. Men are less likely to be instinctively protective of their family or to have an interest in reproducing, and much more likely to have a problem with pornography. Children are more likely to be sexually abused, and, had it not been for the priest scandal, society would not have cared. Finally, college-age young adults are more likely to mix binge drinking and sex, leading to an increased incidence of rape and a decreased interest in romance and long-term relationships.

Interestingly, Eberstadt considers the parallels between sex and food in chapter six, "Is Food the New Sex?" She notes that, ironically, these two commodities seem to have switched roles in the last 60 years. Whereas people in the 1950's had strong opinions about sex and casual attitudes toward food, the reverse is now usually true. For example, one is far more likely today to hear about "guilt" in reference to food or eating rather than to a sexual behavior or practice.

In "Is Pornography the New Tobacco?" (chapter 7) Eberstadt discusses the similarities between the way pornography is treated today and the way in which tobacco was treated in the 1950s. Not only have record numbers of people become hooked on each in its own time, but the rationales that have been used to justify these addictions sound amazingly similar as well.

Finally, in chapter eight, "The Vindication of *Human Vitae*", Eberstadt demonstrates that, though maligned by many over the last 44 years, this document has been incredibly predictive. For instance, *Humanae Vitae* warned that the contraceptive revolution would lead to a breakdown in the nuclear family, which is exactly what has happened. Also predicted were high divorce rates, broken families, single parents, and absent fathers. Further, *Humanae Vitae* postulated that future governments might inflict contraception on unwilling participants. While this last prediction seemed unrealistically apocalyptic

and irrelevant in 1968, it was fulfilled as early as the 1980s in the case of Communist China. The Pope was able to foresee what Protestants and others thought could never happen. Finally, critics of *Humanae Vitae* predicted that the world could not survive the population explosion and that contraception was needed to keep a "Malthusian" doomsday scenario from unfolding. Ironically, the unleashing of contraception has led to such low birth rates in many places in the Western world that countries such as Germany can no longer sustain their own population and economy.

In this book, Eberstadt has amassed amazing data and footnotes to show the catastrophic societal norms 40 years after the encyclical and the sexual revolution. Is she right? At our local public school, my children are among the few who are a part of a once-married nuclear family with two sets of once-married grandparents. Among their peers' families can be found households with two moms, no mom, two dads, no dad, parents replaced by grandparents, and so on. The family structure of the 1950s is gone.

What caused the bleak picture of society that Eberstadt paints? Was it contraception? The abandonment of God? The gentrification of America? As a traditional Protestant, I question whether the cause was simply contraception, yet there is no question that the Pill has played a role in creating the society that Eberstadt describes. Was the Catholic Church right to draw the line against all contraception? Speaking theologically and ethically as a traditional Protestant, I must conclude that they are not. However, I must also add that Mary Eberstadt demonstrates in *Adam and Eve After the Pill* that the Catholic Church was correct in much of what they predicted. This book is a must read for all Protestant and Catholic theological pastors, teachers, and informed lay people with an interest in the theology of culture, pastoral theology, or ethics.

Endnotes

1. Mrs. Sorenson is an Irish Catholic who, for a time, was a nun. Mr. Sorenson was a Norwegian Lutheran who converted to Roman Catholicism before his marriage.

2. While Protestants were traditionally anti-contraceptive, the rise of new, safer contraceptives in the 1950s changed that perspective. Increasingly, more and more Protestant denominations and individuals began to accept contraceptive use within marriage. With the publication of *Humanae Vitae* in 1968, the Roman Catholic Church took the opposite approach.

Reviewed by Thor Swanson, MD, MDiv, ThM, MA (Bioethics), who continues to practice family medicine at Siouxland Community Health Center where he is also a director. He is also active at St. Luke's Regional Medical Center in Sioux City, Iowa. In addition, he is an Associate Pastor at Friendship Community Church in Sergeant Bluff, Iowa and is matriculating for a Doctorate in Bioethics (DBE) at Loyola University in Chicago, Illinois, USA.

The Law of Life and Death

Elizabeth Price Foley. Cambridge, MA: Harvard University Press, 2011.

ISBN 978-0674051041; 304 PAGES, CLOTH, $29.95

Ethics and law are vastly different subjects. Many bioethicists think they understand something about the legal arena, but are often shocked to discover the frangibility of ethical theories when addressed in the law. Of special note are the concepts of life and death that are explored in this deep but readable treatise by legal scholar Elizabeth Price Foley.

For those who believe that life and death are mutually exclusive concepts, Foley quickly dispels this idea. Pointing out that *Black's Law Dictionary* never explicitly defines life, only death, she helps us see the potential problem: "If death is the antithesis of something that is left undefined, there is trouble brewing ahead." (3)

Yet Foley has a surprisingly sanguine response to this dilemma. In describing the variety of answers to the simple question "Is X alive?" or "Is X dead?", she claims that ambiguity could be a good thing.

"Fluidity [on this question] may be frustrating, but it is often the only rational approach, in a pluralistic society, to questions about which there is passionate disagreement." (5)

Those who are looking to read a direct discourse on bioethics will be disappointed, since this book is all about the quirks and vagaries of law. However, ethicists of all stripes will find Foley's treatment cogent, engaging, and illuminating. For example, how can the unborn be protected from bodily harm, yet have no inherent right to life? The answer lies in the statutory and common law tradition that does not unambiguously consider the unborn to be a person. It therefore finds it hard to assume that personal harm can occur before birth.

In a chapter entitled "Constitutional Life," the author shows that the history of abortion law goes back to the 1930s in Supreme Court decisions relating to contraception. She deftly navigates through the major defining cases since then, with such familiar names as Nelson, Poe, Griswold, Eisenstadt, Roe v Wade, Casey, and Carhart. Along the way, she examines the more recent controversies over embryonic stem cell research, including the Dickey-Wicker Amendment and both the Bush and Obama stem cell policies.

I was greatly helped in understanding legal issues at the end of life by three comprehensive chapters: Cardiopulmonary Death, Brain Death, and Constitutional Death. While space does not permit a full consideration of these, suffice it to say that the author matches medical considerations with legal decisions in an enlightening and thought-provoking way.

The Law of Life and Death is more than a review of major state and federal jurisprudence relating to life and death issues. It is a jargon-free exposition of the legal thinking behind major decisions, helping non-legal scholars to sort through the constitutional standards at stake. Foley does not have a point of view or an axe to grind; she is amazingly neutral and dispassionate in her approach, which makes this book all the more readable. If you do not have the time to take a course in constitutional law, Foley's *The Law of Life and Death* may be the next best thing.

Reviewed by Dennis M. Sullivan, MD, MA (Ethics), Professor of Biology at Cedarville University in Cedarville, Ohio, USA, and Director of the University's Center for Bioethics.

Chimeras, Hybrids and Interspecies Research: Politics and Policymaking

Andrea L. Bonnicksen. Washington, D.C.: Georgetown University Press, 2009.

ISBN 978-1-58901-574-6, 166 PAGES, PAPER $26.95.

The stated goal of *Chimeras, Hybrids and Interspecies Research: Politics and Policymaking,* is "to direct attention to germane policy questions and, in the process, to separate out issues that do not hold up as particularly useful or genuine. Its purpose is to add to the diverse voices in the public debate that reflect a different framing - one that aims for a more mundane rendering of the role of early ISR [interspecies research] in contemporary research." (5)

Bonnicksen examines five types of ISR:

1) chimeras - the combining of "cells from two genetically different individuals" (10)

2) animal-human hybrids - the combining of a human gamete with a non-human gamete

3) cybrids - cloned hybrids - taking the nucleus of a human cell and installing it in the enucleated egg of an animal

4) cross-species embryo transfer - transfer of a human embryo to a non-human uterus, or the transfer of a non-human embryo to a human uterus

> 5) nonhuman-human transgenics - "splicing human DNA to non-human embryos . . . or non-human DNA to human embryos" (11)

Although Bonnicksen appears to find no affront to human dignity, she is often concerned about the impact such research may have upon the animal or non-human involved.

Importantly, Bonnicksen offers some understanding of how policy is made. She speaks of "softening up" – floating ideas to the public in the form of speeches, bills, proposals, etc. (16) She informs the reader, "those favoring policy change will attempt to identify problems in order to mobilize remedial action." (17) Policy agendas are impacted by the convergence of the perception of a problem, a "receptive national mood," and a "community of visible participants." (17)

It is clear that the author works to "soften up" the reader, floating ideas of academics arguing for greater latitude (and accompanying dollars) for ISR. She finds no problem with the use of human embryos in research if certain conditions are met, such as the informed consent of the progenitors "including the awareness of the nature of the studies." (23) While sounding even-handed, Bonnicksen is quick to point out in the fourth chapter that the approval of ISR by the British public was greatly increased with the inclusion of the small caveat that such research "may [or may not] help to understand some diseases . . ." (italics mine, 115)

Bonnicksen complains that "Early ISR is met with often inchoate concerns rather than substantial risks or demonstrable harms," and wants the development of policy "based on clearly articulated reasons and pragmatic queries with sufficient scientific input." (24) This is an interesting stance especially in light of her conflicting statement that "With genetic modifications, as with cloning, the impact may not be known for years." (105)

The instrumentalism of this author is cloaked in the term "scientific input," and serves neither the reader nor society well.

Reviewed by D. Joy Riley, MD, MA (Bioethics) who serves as the Executive Director of the Tennessee Center for Bioethics and Culture in Brentwood, TN, USA.

Ethics & Medicine

In Association With:

The Center for Bioethics and Human Dignity, Bannockburn, Illinois, USA
The Prof Dr G A Lindeboom Instituut, Ede, THE NETHERLANDS

CONTENTS

VOL 28:3, FALL 2012
HTTP://WWW.ETHICSANDMEDICINE.COM

bioethics PRESS

Ethics & Medicine An International Journal of Bioethics

Vol 28:3 FALL 2012 ISSN 0266-688X