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Living in the Biotech Century: 2025 Conference Recap

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Throughout the 1990s writers and thinkers explored visions for what would come at the turn of the millennium. They made predictions, warned of new threats to human life and dignity, and explored opportunities for growth and development. The year 2025 marked one quarter of the way into what has been dubbed the Biotech Century. Thus, for CBHD's 32nd annual summer conference, *Living in the Biotech Century: The First 25 Years*, we sought to use this time to assess where we now stand. Looking back, how accurate were the predictions, threats, and opportunities that were identified back in the 90s? What issues have arisen that were simply not on the radar then? Looking forward, how can we use this knowledge to prepare ourselves to think ethically about the developments throughout the rest of the Biotech Century?

The conference opened on Thursday evening with CBHD's 3rd annual Virtue Ethics Lecture, delivered by Brent Waters, entitled "In Praise of Mundane Healthcare."[1] Waters' address sought to answer a seemingly simple question: "When and why did contemporary healthcare take a wrong turn?" Waters was straightforward with his answer: Medicine's wrong turn occurred "when it tried to become exciting, even extraordinary, at the expense of discounting the ordinary and commonplace."

For much of history, medicine was mundane. Doctors cared for everyday aches and pains, but they lacked the knowledge and ability to treat or cure most severe illnesses. The twentieth century brought about astounding advances in our knowledge of the human body, and with it, the ability to cure illnesses that were never before treatable. Much suffering has been alleviated, and many lives have been saved. But this is also where medicine's wrong turn began.

Medicine has evolved to focus solely on the body and to deny or at least ignore any immaterial aspect of the person. And now, medicine is pushing past the limitations of the body, which "is no longer seen as an object of care, but as a problem to be solved." Even aging itself, long seen as a natural part of the human lifespan, is being treated as a disease to be cured. While Christians hold no hope that medicine can ultimately be successful in overcoming humanity's finite nature, it nonetheless offers a higher degree of control over our health and our bodies than has ever before been realized.

Control leads to a loss of attentiveness to ordinary needs. This is a problem, because "giving the mundane its due is vital to human flourishing." God has created us with very basic, mundane needs, and we ignore these at our peril. And yet medicine increasingly ignores the ordinary—the headaches, the colds, the high blood pressure—and instead focuses on the extraordinary, on the quest to gain complete control over the body. We see this in the rise of genetic screening, fetal testing, therapeutic abortion, assisted suicide, and euthanasia.

To counteract medicine's newfound focus on the extraordinary, Waters recommended a recovery of virtue for both healthcare

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providers and patients. Virtues are habituated—they start as how we act, but when consistently practiced, they transform who we are. To counteract medicine's wrong turn, Waters drew our attention to the virtues of prudence—doing the right thing for the right reason with the benefit of wise counsel—and love of neighbor. These in turn lead to the virtue of humility. Healthcare providers must come to recognize that every disease cannot be prevented, our performance should not be enhanced, life cannot be extended indefinitely, and not all suffering can be avoided. Likewise, patients must learn that they are finite creatures, not consumers who can demand whatever they want from healthcare, and that not everything can be treated. We must all come to terms with the fact that while we are embodied creatures, our bodies will eventually fail.

When we have internalized these virtues, we will learn yet another—that of gratitude. As Waters concluded, "gratitude expresses . . . the habituation of prudence and neighbor-love. These virtues should exemplify the provision and reception of medical care and again, more broadly, be foundational to the common callings and ordinary virtues of our life together with neighbors."

Friday morning began with a presentation by Maureen Condic on "The Science and Ethics of Emerging Biotechnologies."[2] Condic focused on three main technologies that have been developing in the first quarter of the Biotech Century: stem cell research, CRISPR gene editing, and synthetic embryos. Religious individuals frequently fall into one of two errors when they approach contemporary science. Because science can be arcane and intimidating, there is the temptation for some to simply leave science to the scientists (despite their poor track record of exercising moral judgment). Others take an opposite approach, condemning all scientific advances as immoral or at least questionable. Condic advocated instead for the middle path of virtue—to both understand scientific technology and make our own informed moral judgments on it.

Condic began by defining some of the different types of stem cells and what they can do. She then explored the success stories of treatments using embryonic stem cells, concluding that they have accomplished very little. There have been one or two treatments with very modest success (and a slew of negative side effects), but despite their being hailed as a miracle cure, the effectiveness of embryonic stem cells in clinical trials has "consistently been unimpressive." In contrast, studies with adult stem cells have been far more successful, and these have the added benefit of not needing to destroy nascent human life. Stem cells have the potential to save lives and reduce human suffering, but while multiple treatments utilizing adult stem cells have been approved and are in use, embryonic stem cell use remains immoral and has failed to live up to its own hype.

Condic then transitioned to discussing CRISPR gene editing, giving a detailed breakdown of how the process works and how it is transforming the way genetic research can be conducted. There are several reasons one might want to edit genomes, such as being better able to conduct basic science, eliminating certain diseases, and modifying a species. That said, this technology also raises some serious ethical questions: Can this be done safely and without unintended side effects? Can the problems of chimerism (where not every gene is modified) be overcome so that patients are not left immunosuppressed? Can the current research, which immorally utilizes embryos, be done in an ethical fashion? Can the treatments resulting from CRISPR be made available cheaply and equitably? Will we be able to avoid the commodification of human beings as this technique becomes more widely practiced? As scientists use this technique to modify crops or non-human species, how are we dealing with concerns regarding species elimination, environmental impacts, and unintended consequences? And considering that this technique has already begun being used in humans, what are the potential long-term and unintended consequences of modifying the human germline?

The final topic Condic addressed was synthetic embryos. It is currently a point of debate whether synthetic embryos should be considered human, as they do not produce a full human developmental sequence. But according to Condic, there is no reason why they should not be. Though the way they are created is unique, and the way they develop is defective, "they're made out of human cells, they contain human DNA, and they're replicating human development." This is concerning, as scientists are quite eager to experiment on these embryos to perfect artificial reproductive technologies, to intentionally create embryos with genetic defects in order to study them, to test the effects of poisons, and to use them in drug development and testing. If synthetic embryos are not human, this would not be a problem, but as it is, billions of humans could be produced and destroyed every year by the pharmaceutical industry. Ethical guidelines currently lag far behind the technology, and while human synthetic embryos have not progressed as far as animal models, the research is ongoing. As Condic concluded, "we are facing a truly horrific era of human experimentation and exploitation."

For Friday afternoon's session, Nigel M. de S. Cameron, one of the founders of CBHD, returned to talk about "Biotech Promises, and Biotech Perils: A Quarter-Time Report."[3] His goal was to look back at how things have gone in bioethics over the past 25 years to give some direction for the future. At the beginning of the Biotech Century, there was enormous optimism. Cameron recounted how, in testimony before a House appropriations committee, one scientist claimed that with enough money, they could cure cancer by 2010. There was a general thought that advances in biotechnology, bioinformatics, and nanotechnology would transform medicine as we know it. While it is true that rates of cancer have dropped, this has had much more to do with declines in smoking and better early detection, and much less with radical new technologies. This is a cautionary tale—none of these technologies has brought about the radical changes that were anticipated.

In looking at the various policy debates over bioethics that have dominated the early 21st century, Cameron identified two major themes that emerged. The first was that progress in these areas required Christians and those in the pro-life movement to become interested in topics beyond abortion. According to him, "the issues of research cloning and the patenting of human embryos have served to bridge the divide between abortion and the moral and policy significance of biotechnology. Both have brought the pro-life movement into energetic engagement in questions that are only analogically related to abortion and are not part of the struggle over *Roe v Wade*. With whatever caveats the pro-life movement has

crossed the bridge, there will be no going back." He gave as an example of this bridging work an article he participated in creating, "The Sanctity of Life in a Brave New World: A Manifesto on Biotechnology and Human Dignity," which dealt with cloning, inheritable genetic modification, genetic discrimination, and patenting human genes.

Cameron's second theme is the necessity of pro-lifers becoming willing to work with those with whom they have disagreements, especially on the issue of abortion. From the 1970s–90s Evangelicals and Catholics learned to set aside their theological differences because of their agreement on abortion. Now, both must learn to work with those who might be in favor of abortion but are in agreement on ways in which advances in technology pose threats to human freedom. Quoting from an early article, Cameron shared that

> we have seen the beginnings of cooperation between those divided by the question of abortion. They have discovered that once abortion itself is taken off the table, a surprising degree of agreement emerges on matters as varied as cloning, whether for research or to produce a live-born baby, genetic discrimination, the patenting of embryos and genes, the prospect of designer babies, and broader issues affecting the integrity of the human condition, including the potential significance of new technology such as nanotechnology and cybernetics to enhance and thereby demean human dignity. The spectre of a new eugenics hangs ineluctably over this new century, powered by technologies of vastly greater power for blessing and bane than the primitive barbarities of eugenic sterilization, widely practiced in the US during the early 20th century (and in fact still in the mid-20th century in some states) and in the more consequent hands of the Nazis with their eugenic killing.

Cameron discussed numerous ways in which new coalitions between unlikely partners have formed in order to address some of the most pressing bioethical questions of the day. While not every venture was a success, building relationships among groups that are usually polarized will be key if we are to successfully address the bioethical issues that we face over the rest of the Biotech Century.

Friday's final presentation was given by members of CBHD's Chinese Bioethics Initiative (CBI).[4] The CBI was started nearly 10 years ago by John Kilner and Curtis Chang in order to train a small group of Chinese-speaking Christian doctors in bioethics so that they could in turn pass their training along to others in Hong Kong, Taiwan, etc., and eventually in mainland China as well. Funds were generously donated in order to help the initial cohort obtain an MA in bioethics at Trinity Graduate School, and many in the cohort were so excited that they offered to pay some of their own costs so that there would be funds for even more to join.

Six members of the CBI were able to speak and give updates on their work: Drs. Curtis Chang, Vivian Lee, Chun-Wai Chan, Juliana Tze-Wah Kao, Benjamin Kuo, and Grace Chang. Though each came from different backgrounds and medical specialties, they shared how their participation in the CBI influenced their lives and ministries and turned their attention to the ways in which their biblical beliefs and convictions could be brought into their medical contexts. Following their training, nearly all of the participants have had opportunities to teach bioethics and pass on what they learned to a new generation of bioethicists in Chinese-speaking countries. Their testimonies were a great encouragement to those in attendance about the work God is doing in bioethics in other parts of the world, and CBHD is honored to have been able to facilitate this program.

Friday evening ended with a casual pizza party—a time for sharing a meal together, chatting, and catching up with one another. Friday dinners have become a tradition at CBHD conferences and are a great opportunity for meeting new people, catching up with old friends, and hearing more about bioethics in a more casual environment.

Saturday morning opened with a presentation by Canadian physician Ewan Goligher titled "How Should We Then Die? A Christian Response to Physician-Assisted Death."[5] It has been ten years since physician-assisted death was legalized in Canada, and during that time, it has both become normalized throughout society and expanded in scope. While Canadian law initially only allowed euthanasia in cases where death was "reasonably foreseeable," it was later amended to include those with physical disabilities and mental illnesses (although the implementation of the latter revisions has been delayed). There is ongoing discussion about further expansions, such as allowing for euthanasia by advance directive or opening it up for mature minors.

Goligher argued that physician-assisted death has been embraced because it "fit with the moral intuitions of society." Therefore, to address physician-assisted death as Christians, we need "absolute moral clarity" as well as to understand "the underlying cultural, philosophical, and theological drivers that make this intuitive for people." Goligher gave three issues that we must have moral clarity on. First, we must recognize that physician-assisted death undermines human value. Both proponents and opponents of euthanasia claim to value human life and human dignity. But, euthanasia treats people as if they have only extrinsic value—when they tell their physician they want to die, they are saying their life no longer matters or has value. Rather than remind them of the intrinsic value they have as human beings created in the image of God, a society that approves of PAS tells them they are correct—their life has lost meaning, and there is therefore nothing wrong with ending it.

Second, euthanasia denies the value of the body. The process of euthanasia involves injecting a series of drugs that attack consciousness, breathing, and heart rate. Rather than treating the body as something with inherent value, it is seen as something the person uses for a time and then discards when it is no longer wanted. Finally, assisted death is "profoundly, foolishly presumptuous." In making the decision to die, a patient weighs the pros and cons of being alive or dead and chooses to be dead. The problem is neither the patient nor his or her doctors knows anything about being dead or whether that is actually the better state. Assisted death is therefore "essentially an experimental therapy practiced upon patients with no possibility of follow-up to ascertain outcome. It's quackery, and it has no place in the rational ethical practice of medicine."

Goligher acknowledged that many, if not most, people no longer hold these moral convictions. Thus, if we are to change people's perspective on physician-assisted death, we must remind them of key philosophical

and theological truths that seem to have been forgotten. The first of these is that we have lost a sense of human sacredness and instead see human persons as something to be manipulated. We must recover a view of the sacredness of humanity; only then will people understand that assisted death is "an act of desecration." Second, we have become forgetful of the body. We deny our embodiment, and the concomitant truth that we are dependent, vulnerable, and finite. We are incomplete in ourselves and require others for our full flourishing. When we recover a robust view of our embodiment, we see that life is not about autonomy (the primary value of those who promote assisted death) but rather communion, interdependence, and giving. When we have a healthy view of the body, "assisted death makes no sense because it's literally a way of cutting people off from the world."

Finally, we have forgotten how to suffer, and so the response to suffering is to attempt to take control. Physical suffering is not the primary reason people seek assisted death, but rather fear of losing abilities, being a burden, etc. Assisted death becomes a way of taking back control over one's life in the face of suffering. Thus, we need to equip people to face suffering and do so even before they are facing life-and-death decisions. As Christians, one of the best ways to do this is to point people to the Gospel, which offers meaning and hope in the face of suffering and the fear of death. The Gospel helps us to make sense of suffering, and the Christian church must recover its role of being a moral exemplar in teaching people to deal with the realities of suffering in a fallen world. As Goligher concludes, "It's inside the church that we can make euthanasia and assisted death utterly unthinkable."

The final plenary session of the conference, "Ethical Challenges in Family Medicine: Past, Present and Future," was presented by Paul Dassow and James Heid from the American College of Family Medicine.[6] One of the developments of the biotech century is an increase in organizations seeking to help physicians live out their ethical convictions, and so Drs. Dassow and Heid spoke about some of the issues they are seeing and the ways in which their organization is working to support physicians in the field of family medicine. Family medicine is the broadest medical field and covers patients from conception to death. Its largest professional organization is the American Academy of Family Physicians (AAFP), but there have been numerous developments within this body over the past decades that are worrying for pro-life physicians.[7]

It is no surprise that there has been an increase in ethical issues facing medical students. While once abortion was one of the sole techniques a student might object to performing, the list has been expanding to include such modern practices as physician-assisted suicide and the prescription of puberty blockers and cross-sex hormones. This is part of a larger shift in medicine away from the traditional Hippocratic ethic of "First, do no harm" and a move toward a utilitarian ethic that prioritizes patient autonomy. Unfortunately, the AAFP has done very little to promote rights of conscience for either medical students or doctors, and in fact has put forward numerous policy statements directly at odds with a Hippocratic, pro-life practice of medicine.

Dassow and Heid, along with several of their colleagues, via recorded video messages, gave numerous examples of this shift. They recounted the ways that language in medicine is breaking down, and basic terms like *family* or *gender* are being redefined. Likewise, many practices are being relabeled to obscure what is actually taking place, such as the push to call physician-assisted suicide "medical aid in dying" or referring to abortion as "reproductive health." Numerous AAFP policy statements are likewise concerning to physicians seeking to uphold the Hippocratic Oath. For example, there are AAFP policies that

- say if a woman faces an unintended pregnancy she should be given non-biased counseling about all options, including abortion, or referred to a physician who will provide such counseling.
- encourage all physicians to train in providing abortions
- encourage physicians to practice across state lines to perform abortions or prescribe abortive pills even if they are illegal in the state
- advocate for insurance to cover abortions and fertility treatments
- support offering and expanding access to physician-assisted suicide.

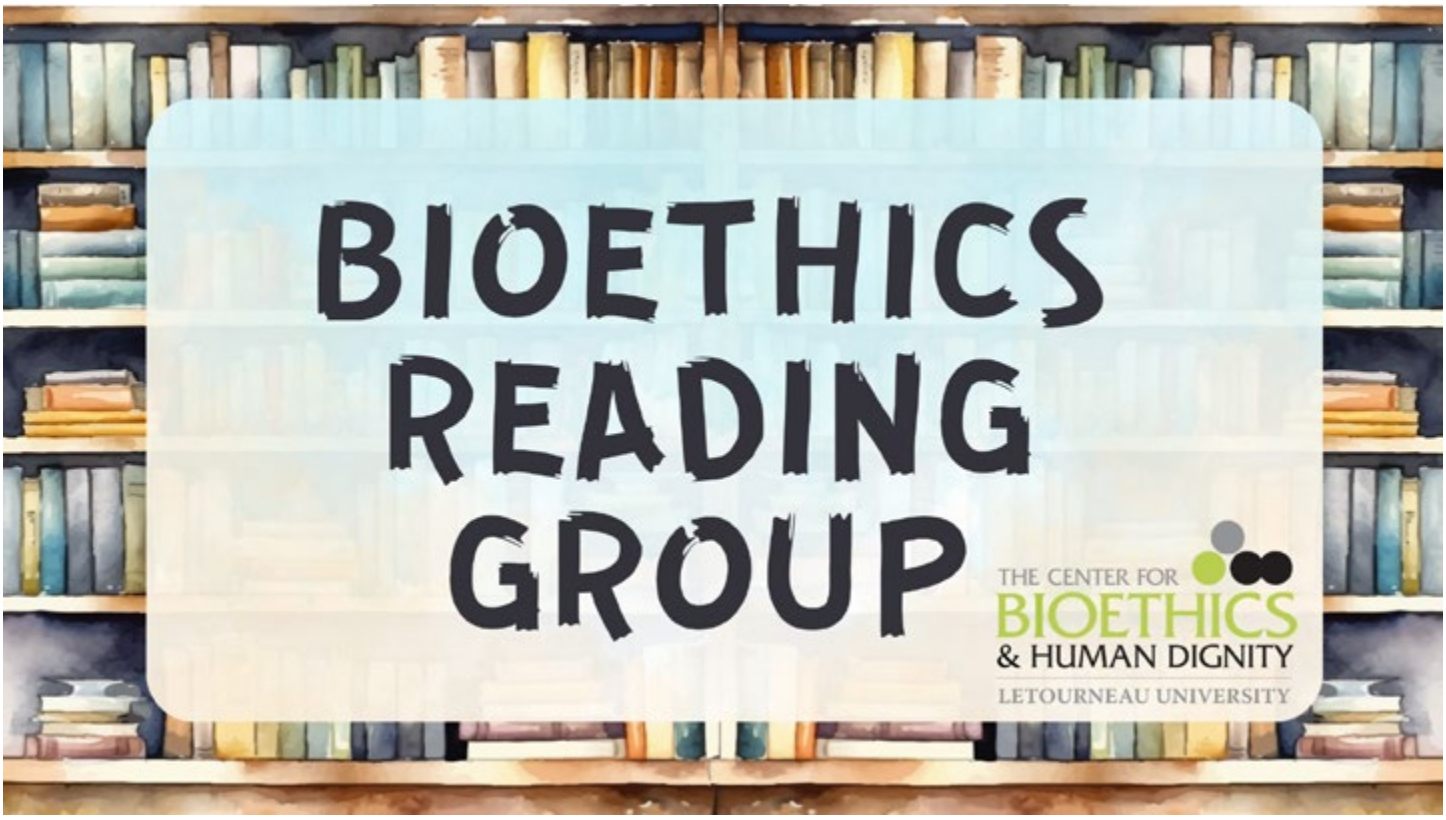
These shifts are not limited to the AAFP. Medical schools have also moved away from the principles of the Hippocratic Oath and from the sanctity of human life. This leaves many medical students feeling homeless, as their convictions are not shared by their fellow students, by their faculty, or by the professional organizations they will one day join.

In order to counteract these shifts within medicine and professional organizations as well as support medical students who wish to uphold traditional medical values, Dassow, Heid, and others formed the American College of Family Medicine. Their mission "is to preserve and defend the principles and practice of Hippocratic family medicine. These principles include protecting the vulnerable at the beginning and end of life, seeking the ultimate good for the patient with compassion and moral integrity, and providing healthcare with the highest standards of excellence based on medical science." This is one way of pushing back against the ethical laxness of the Biotech Century and preserving the traditional practice of medicine for the decades to come.

Perhaps fittingly given *Living in the Biotech Century's* goals of looking both backward and forward, this was the final conference to be held on the campus of Trinity International University in Deerfield, IL. Due to Trinity's impending merger with Trinity Western University, CBHD, with TIU's blessing, has found a new institutional home at LeTourneau University in Longview, TX. We at the Center are so thankful to all of those who have attended the annual conference each year in Deerfield, as well as for TIU and its hospitality throughout CBHD's history. We will be forever grateful for our first home at TIU. Preparations are now underway for CBHD's 2026 conference, *Polytechnic Bioethics,* which will be held on LeTourneau's campus. While the location might be different, our conference will continue to be a leading venue for Christians to explore and discuss the ethical implications of developments in our MedTech world. We hope to see you there!

References

1. Brent Waters, "In Praise of Mundane Healthcare" (plenary address, The Center for Bioethics & Human Dignity's 32nd Annual Conference, *Living in the Biotech Century: The First 25 Years*, Deerfield, IL, June 26, 2025), https://www.youtube.com/live/5SlIldxkkfs.
2. Maureen Condic, "The Science and Ethics of Emerging Biotechnologies" (plenary address, *Living in the Biotech Century*, June 27, 2025), https://www.youtube.com/live/X_WhqTy6ZM4.
3. Nigel Cameron, "Biotech Promises, and Biotech Perils: A Quarter-Time Report" (plenary address, *Living in the Biotech Century*, June 27, 2025), https://www.youtube.com/live/Fxxo578xkBE.
4. "From Vision to Chinese Outreach: The CBI Team's Journey in Bioethics Ministry and Transformative Impact" (plenary address, *Living in the Biotech Century*, June 28, 2025), https://www.youtube.com/watch?v=n_8BJ-sbLik.
5. Ewan Goligher, "How Should We Then Die? A Christian Response to Physician-Assisted Death" (plenary address, *Living in the Biotech Century*, June 28, 2025), https://www.youtube.com/live/XdJa0L5VWjA.
6. Paul Dassow and Jim Heid, "Ethical Challenges in Family Medicine: Past, Present and Future" (plenary address, *Living in the Biotech Century*, June 28, 2025), https://www.youtube.com/live/WoKuK7y-zjA.
7. The AAFP has provided CBHD's CME certification for the past several years.



In April 2026, we are launching a series of online book discussions that will span a full calendar year. The aim of these discussions is to reflect deeply on current and emerging medical and bioethics trends that are currently relevant to daily life or likely to become more relevant within a generation. Participants will be encouraged to engage in online written discussions and teleconferences to consider what is going on, why (or whether) it should be going on, and how Christians should live in light of these developments.

The four books we will read and discuss together are:

- David VanDrunen, *Bioethics and the Christian Life: A Guide to Making Difficult Decisions*
- Ewan Goligher, *How Should We Then Die? A Christian Response to Physician-Assisted Death*
- Paul Ramsey, *Fabricated Man: The Ethics of Genetic Control*
- TBA

Join us for one book or, even better, join us for all four. More details coming soon. Join the CBHD email list to be the first to know: https://bit.ly/cbhd-email