ISSUE 53:1 WINTER 2023

BEGINNING OF LIFE

the abortion debate
whole genome sequencing
abortion, healing & rescue

nucleus

the student journal of the christian medical fellowship

plus: workers for Christ, night shifts, Eswatini, Irish Conference, *Black Panther*

ISSUE 53:1 WINTER 2023

nucleus

CMF Christian Medical Fellowship

A company limited by guarantee
Registered in England no. 6949436
Registered Charity no. 1131658
Registered office: 6 Marshalsea Road, London SE1 1HL

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design: S2 Design & Advertising Ltd.
printers: Partridge & Print Ltd.

international distribution
If you are the leader of an overseas Christian medical group and would be interested in receiving multiple copies of *Nucleus* please contact the editor

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editorial policy
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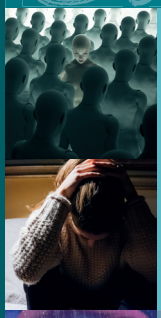

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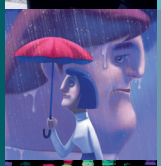

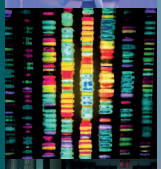

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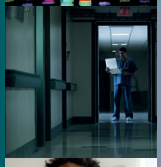

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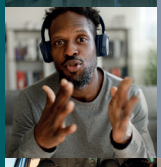

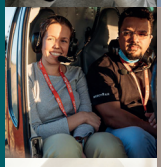

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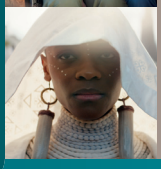

Editorial

beginnings

Liz Birdie Ong is a medical student in Dublin and *Nucleus* student editor

Hello! My name is Liz, and it is my absolute pleasure to be 'beginning my life' (hint, hint) and service as student editor of *Nucleus*. This is 'CMF's student publication – by students, for students', working with managing editor Laurence Crutchlow and the team to bring you news from the frontlines where faith and medicine meet – including stories from healthcare students like you!

Nucleus presents a low barrier to entry but high-quality support that students can capitalise on to make their voices heard. They can simply explore the myriad topics at the intersection of faith and medicine, as a means of equipping for Christ's service. Whether you are a precocious writer, a voracious reader, or one whose only written output/input is requisite for your successful completion of university, consider all that *Nucleus* has to offer as you begin your life as a healthcare student living and speaking (and writing!) for Jesus Christ.

If you haven't already guessed, this edition also centres around a beginning – specifically the beginning of life and its ethics; abortion, designer babies, and embryonic stem cells, to name a few. These issues in turn draw upon an even wider variety of ethical principles that we subscribe to – not only on the value of life and when it begins, but also on disability, justice, equality, mercy, the role of the law, and more.

The main articles of this edition touch on the recent development of whole genome sequencing (WGS) and the very current topic of abortion, in light of the overturning of *Roe v Wade* (2022), and liberalisation of abortion laws in Ireland (2018) and Northern Ireland (2019). Melody Redman and Francis Sansbury provide a snapshot of WGS, along with its challenges and controversies and how we might approach it through a Christian worldview. Laurence Crutchlow introduces the basic ethics around abortion and considers the practical questions that students may face. Paediatrician Catherine Morris shares her personal experience of abortion, the divergent responses she received from Christians, and the profound changes she has undergone since – and a reminder of God's call to us all. I attempt to explore lesser considered arguments of the abortion debate.

In our regular features, Bernard Palmer goes back-to-basics by reminding us, through anecdotes and Bible passages, of an essential part of our lives as Christians; to be workers for Christ wherever we are placed. Chris Borges Da Silva offers a close-up, specific example of when our perseverance as a worker for Christ may be acutely tested – and his personal tips to be prepared.

Ellie McBain regales us with stories from her trip to Eswatini for an elective – slices of life there, her main takeaways, and some handy tips. Julien van der Does, a doctor from France, reports on the annual Irish Conference in Athlone, run in collaboration with ICMDA Western Europe in late 2022. Finally, this edition wraps up nicely with some reviews: one on the film *Black Panther: Wakanda Forever*, and several news reviews for some quick updates on diverse issues such as artificial intelligence, the aging population, and climate change.

Although the purpose of this edition is not to provide a comprehensive dissection on all issues surrounding the beginning of life, it will hopefully provide you with some fresh perspectives and practical insights on an age-old debate. And, hopefully, you will emerge from these pages just a bit better equipped to engage in a conversation or decision about faith and healthcare – going out into the world in courage[1] and peace[2] to live and speak the truth in love[3] for God's glory. May the Lord bless you and keep you in the months ahead.

Until the next edition.

Signing off,

Liz ■

REFS

1. Joshua 1:9
2. Isaiah 26:3
3. Ephesians 4:15

abortion – an ongoing challenge

Laurence Crutchlow considers our response to abortion in a world where it is widely accepted

Laurence Crutchlow is CMF Associate Head of Student Ministries and a GP in London

The most common age of a woman having an abortion in England and Wales is 21. In 2020, 30.6 of every thousand 21-year-old women had an abortion.[1] With many students being 21 or thereabouts, a medical school year group of 270 people, 60 per cent of which will usually be female,[2] will contain five students who will have an abortion in any single calendar year.

So, although we may consider abortion as an ethical or clinical issue, we must start by recognising that it is a deeply personal issue, which is real in our own lives and those of our colleagues. As Catherine Morris' article (page 8) makes clear, it is not just those outside the church who have direct experience of abortion. US data suggests that significant proportions of those who have abortions each year identify as Christians.[3]

This article will consider what the Bible has to say, and look at how wider society acts over this issue. We'll then consider how this might look practically for a Christian healthcare student who is opposed to abortion in principle, but is training in a healthcare system that does not take this view.

what does the Bible say?

'Abortion' draws no results on *biblegateway.com*, nor in a concordance. But the church is reasonably united in not seeing abortion as a good thing, even if views may differ on the nuances of legal regulation, or the best thing to do in particularly difficult cases. Why should this be?

We often need to apply broader biblical principles when looking for guidance about specific topics in clinical ethics. Two important principles stand out that shape our views on abortion: first, the overall message of Scripture conveys God's respect for human life; second, that such respect includes the unborn.

To take the first point, the Bible is clear about the value of human life to God. He created human beings in his image.[4] When he came to earth it was in human form.[5] God gave his Son Jesus to die that humans might be raised to eternal life.[6] God is clear that we are not to kill other humans.[7] (There are narrowly defined exceptions such as war and capital punishment – these do not include abortion).

Scripture is clear that God is active in the life of the unborn. From his involvement in our intra-uterine development,[8] to his call of Jeremiah before he was even formed,[9] to the in-utero interaction of John the Baptist with Jesus,[10] we see evidence that unborn life is known to God, and interacts with him.

> Scripture is clear that God is active in the life of the unborn

Putting these two principles together, we can deduce a clear enough basic position about abortion from the Bible. I have explored the question of exactly when life begins in a previous more detailed *Nucleus* article.[11] Even though there are sometimes disputes about very early life before an embryo has implanted in the womb, these are of limited relevance to most discussions about abortion, where the fetus in question is at least several weeks old.

So, Christian opposition to abortion should be clear enough, even if there are important discussions to be had over the nuances and applications of this. How does this work for Christians in a society where very few people see Scripture as the supreme authority in matters of conduct?

legal and societal attitudes in the UK

In the modern era, abortion has been illegal in much of the world until the 20th century. In the UK, the 1861 Offences Against the Person Act and 1929 Infant Life Preservation Act outlawed abortion, and remains in place today in Great Britain. The 1967 Abortion Act (amended 1990) applies to England, Scotland, and Wales, and means that abortion is not considered an offence if certain conditions are met. Currently these include the agreement of two doctors that specific

grounds are met, the pregnancy not being beyond 24-weeks in most cases, and fulfilment of requirements for certifying and reporting. This Act also contains a conscience clause aimed at protecting those with conscientious objections to abortion from being forced to participate.

The 1967 Abortion Act never applied in Northern Ireland, where abortion remained illegal in nearly all circumstances until the UK Parliament changed the law in 2019.[12] In Ireland, a referendum in 2018 led to repeal of a constitutional provision outlawing almost all abortion.

In Great Britain, there remains pressure to change abortion laws. Groups have campaigned for 'decriminalisation', wanting to repeal the 1861 and 1929 laws referred to above, and take abortion regulation out of criminal law entirely. This would render the 1967 Abortion Act redundant, and effectively make abortion legal for any reason at any time, unless or until there was new legislation to regulate it.

Public opinion on abortion law in the UK seems relatively constant; *YouGov's* 'tracker' suggests that 85 per cent answer 'yes' and four per cent answer 'no' when asked 'Should women have the right to an abortion?' The same surveys, however, show an increase in the proportion feeling that present arrangements for getting an abortion are too difficult, now accounting for just under 40 per cent of respondents (with 42 per cent saying they are satisfactory). 42 per cent also support keeping the current 24-week time limit, with less than five per cent saying that abortion should be outlawed entirely.[13]

where does this leave us?

It is clear that society in the UK does not uphold a biblical ethic around abortion. This should not surprise us, given that only a minority self-identify as Christians,[14] and that many who would call themselves Christian might not necessarily see the Bible as their main authority over this issue.

So the Christian student needs to navigate life in a world that doesn't agree with us. This isn't a new problem. Daniel and his friends had to work out a way of living consistently as exiles in Babylon;[15] the early church faced authorities who wanted to stop them talking about Jesus.[16] Peter's description of Christians as exiles still applies today.[17]

can we rationally discuss abortion?

There are (rightly) very strongly held views on this issue, but this can make meaningful debate difficult. The recent 'cancel culture' environment can lead to an intolerance of difference such that those who hold certain viewpoints are no longer seen as worthy of any consideration at all. This is often applied to those who question abortion in any way.

Rational debate will usually come down to two fundamental principles. First, the autonomy of a woman over her body. Second, the right to life of an unborn child. People on both sides of the argument are likely to be sympathetic to both principles; very few pro-life activists would deny that a woman should normally have such autonomy, and few pro-choice campaigners would deny any worth at all to an unborn child. The difference comes in which is seen as more important. For the pro-life advocate, the right to life of the unborn child ultimately supersedes a woman's bodily autonomy in this (near unique) circumstance; for the pro-choice writer, nothing can trump a woman's bodily autonomy, even the effect on another life.

If we don't recognise the fundamental differences above (which are summarised in general terms only here), it will be difficult to have meaningful discussion about abortion. We need to try to get down to these basics in discussion, never forgetting that these are discussions about real pregnant women, fathers, and babies, rather than philosophical exercises.

how involved should we be clinically?

There are more immediate decisions to make for medical students. Do you attend the morning of lectures on abortion which are billed to include no discussion at all of ethics? Do you observe in theatre during an abortion procedure? Do you help

with routine procedures like cannulation that are not directly part of an abortion, but necessary for it to happen? Do you assist in the procedure to gain insight, given that it will happen anyway? Do you take the blood pressure and pulse of the patient after the procedure as part of her post-operative care?

Not every student comes to the same conclusion. The BMA is clear that the right to conscientious objection in the 1967 Abortion Act implies that students should be able to opt-out of participating in abortion while studying.[18]

It is important to draw a distinction between learning about something that is currently a reality in society, and actively participating in, or promoting, something you believe to be evil.

Therefore, I think CMF student members should be attending lectures and teaching on abortion; both to learn about this phenomenon that is unlikely to go away in the UK (unless there is a signifcant change in the attitudes of society), and to raise more searching questions when given the chance.

Observing an abortion procedure is a matter of individual choice. I did so as a medical student having thought it through before, and it did raise some opportunity to discuss the ethics of this with the consultant responsible. They were quite open to the discussion after I had made it clear at the beginning that I was uncomfortable about it and didn't want to assist in any way. If you feel too strongly about the issue to hold a rational discussion, it is probably better to opt-out; it is quite understandable that some students will prefer to do this, as some of my Christian colleagues did.

I do not think students should be undertaking procedures that directly facilitate an abortion if they are opposed to it; this would mean we shouldn't be inserting cannulas, honing our airway management skills with these patients, or assisting in theatre. Post-operative care is a different matter I feel; the procedure has already occurred and cannot be 'undone', and you are then caring for a patient with needs like any other.

Most importantly at this stage, even if you are in your first year at medical school, think through what your position is; abortion doesn't just come up in obstetrics. You may encounter it in anaesthetics, as well as in referral discussions in general practice, and it is much easier to do the right thing if you have planned what to do and say beforehand.

what else can we do?

A wider discussion of public policy is beyond the scope of this article; suffice to say that there are continued opportunities to influence debate, whether through contacting your MP when this issue comes up in Parliament, responding to consultations, or being involved in discussions in Royal Colleges or the BMA. Others have become involved in crisis pregnancy centres, caring for women considering abortion, or affected by it in some way.[19]

So this is an important topic, even if it has not yet directly affected you personally. You need some understanding, both as a friend or relative, so that you can support someone affected who potentially might be a Christian as well. But you also need to consider your current and future professional role, and work out what you will and will not do in good time. And bear in mind the influence you have as a healthcare professional in helping society consider its attitudes to the unborn. ▪

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abortion, healing & rescue

Catherine Morris shares her experience and considers the position of women today

Dr Catherine Morris graduated in the UK, and is now a paediatrician in India

I found out I was pregnant in my third year of medical school, during my first clinical attachment in 1999. Both my view of sex and my self-esteem had been smashed following an assault at 18 years old, and I had spent the first few years of university partaking in risk-taking behaviour as a skewed way of trying to numb the pain and make myself feel 'better'. Then it all came crashing down. I remember sitting in A&E as a student doctor on my placement not knowing at all what to do.

I was not from a religious family but had some great housemates who were Jesus followers at the time. I was thankfully able to tell my mum and sister. To all three of us, the only option as a single third year med student was abortion. No one had had a child outside of marriage across all my cousins and it just wasn't on the radar of our family. My dad didn't speak to me for months.

I knew I was pregnant for about three weeks before having the abortion. I told the guy and he was supportive of my decision. I spent every night as I went to sleep dreaming of the baby and then would sob that I knew I couldn't do it. Mum took me to the clinic in another city. I was in and out of British Pregnancy Advisory Service in a few hours after the briefest of counselling sessions. For about 24 hours I was so relieved and ate for the first time in ages. After that the guilt and loss hit me like a bus. I returned to university and went straight into doing obstetric and paediatric placements. It was harrowing and I went home and cried, clutching my empty tummy every night and starting to have suicidal thoughts. Somehow, I managed to get through that year and at Easter my housemates invited me on a weekend away with their church. Over that weekend I met Jesus. The main thing I remember is a feeling of liquid peace settling on me and just a sense of knowing I was deeply loved.

The journey after that was rocky. I had to extricate myself practically from a risk-taking lifestyle and I continued to slip up. My housemates were amazing. They said at the time they would support me with whatever choice I made, even though it wouldn't be the choice they'd have made. Some people, mainly men at the church, weren't so good. When people found out my background a number of men said they would never marry someone like me, and that I would never be allowed to lead anything after what I'd done. The difference between my new-found faith in Jesus and the male voices around me were so incongruous! After finding it difficult to change my lifestyle I applied for some Christian counselling. In the run up to it, I cried and prayed with the curate's wife, which was the start of my healing. I went to one counselling session after that and spilled out my story. At the end a God-moment happened and the counsellor said one sentence, 'you say yes to risky sex because when you tried to say no the first time you were assaulted, so it's easier to go along with it and say yes'. That day I was freed from so much.

for about 24 hours I was so relieved and ate for the first time in ages. After that the guilt and loss hit me like a bus

The last 20 years have been a journey of healing. A life event like an abortion changes you. I am now a paediatrician which I could never have previously imagined! I've lived in India since 2007. My best friend and I set up a charity, *Love the One*, which helps thousands of children every year with health, education and childcare. I've just adopted the most beautiful little boy who is severely disabled, but teaches me every day what it is to love and be human.

My stomach lurched when there were rumblings about overturning Roe v Wade (a 1973 judgment of the Supreme Court in the USA which effectively legalised abortion across all 50 states). What happens there tends to have repercussions on the

rest of us, especially in developing countries, which are more reliant on international aid (and which often follows US rules, even if the law is different in the receiving country). I prayed and felt compelled to speak. This is a summary of what I wrote on social media in the lead up to *Roe v Wade* being overturned:

> *'Do you think abortion should stop? If you do, then let's imagine a world where all men respect women, and no woman is ever raped or coerced into sex in or outside marriage across every culture and country. Where no child is ever sexually abused and any woman who has an unplanned pregnancy has the full support of all her relatives, the whole community and government to the point where the government, charities and her family will fully support her to bring up the child in all ways, and she will not be judged because of it.*
>
> *Where all children in all countries and cultures, boys and girls, are brought up in a loving and stable family, are always protected from harm, are taught emotional intelligence, safe sex, loving relationships and therefore will only ever make choices which are good.*
>
> *Where no woman ever has a complex pregnancy or a medical condition where her life is at risk if she doesn't end the pregnancy, and no pregnancy is a multiple (or other complex) pregnancy where ending the life of one fetus will save others. Where patriarchy does not exist at all in any country and every female fetus across the world is loved and wanted before it's born. Where all governments have female representation such that the rights of women are equal to the rights of men. Where every woman and man on the planet has full access to contraception of all types that suits them.*
>
> *At the moment this world does not exist. If it did then abortion would rarely be needed, if at all. Until most of the above is eliminated, there should be access to safe and legal abortion. The way to reduce the abortion rate is to work towards this world in all ways. Before Mary became pregnant with Jesus, the Angel Gabriel gave her a choice whether to go through with it and she accepted.*[1] *In the same way, I believe that girls and women who find themselves in desperate situations should be able to choose whether they continue a pregnancy or not.'*

I've spent the last 15 years tackling many of the points above in some small way and have counselled a number of pregnant women. As a charity, we have helped women practically so they can birth and keep their babies. Thankfully so far they have all opted to keep their babies, but if they'd chosen the option of abortion, we would have also walked with them through the process.

> privately I had messages from many Christian women thanking me for sharing, a number whom are church leaders and some who have lived with having had an abortion

I shared another post from a more prominent female Christian after *Roe v Wade* was overturned, who'd also had an abortion and she talked about her experience. She had more liberal views than me on when life begins, but I shared it more from the perspective of a Christian woman in leadership who had had an abortion when she was a lot younger, which is also my situation. Since then, I've been told publicly, mainly by men and US Christians, that they are 'extremely disappointed in my views' and we've lost funding for the charity due to my personal opinion. Privately I had messages from many Christian women thanking me for sharing, a number of whom are church leaders and some who have lived with having had an abortion.

Why do I share this? So many points come out from my personal experience and where I've landed with whether safe abortion should be available. I live in a culture where over half the population as is sexually abused in some way as a child[2] and where nearly half the country still lives in poverty.

It is a patriarchal culture which means many women have virtually no agency over their bodies, who they marry and have to have sex with, contraception, and how many kids they have. If you take the right to safe abortion away too, more women will be plunged further into the darkness.

Is it right? Every time an unborn life ends, it is a tragic event, but life is messy, very messy and is the decision so easy and black and white? I am a white, middle-class doctor from one of the richest nations on the planet. I have so much privilege and I'm totally aware of that. I had the choice. Was it the right choice? It seemed so at the time when I made it. Would I do the same if I was a third-year medical student with my story in 2022? I can't say as society has changed so much and is more accepting in many ways. Whatever value you place on human life at this early stage, the ability for a woman to choose whether she has a baby or not is often central to her health, her well-being, and occasionally, her very life.

My life was a mess and thanks be to God that he rescued me. I have never felt any sense of judgment from Jesus himself, but I've faced and still face a whole lot from Christians. Jesus is my first love and my life. He saved and helped me. Surely, that's the role of each of us? To help those around us in all ways? The abortion rate is only likely to decrease when we better support those around us. If we love our neighbour, wherever they are, as we would want to be loved and not judged; if we aim to create, as Martin Luther King called it, the '*Beloved Community*' where everyone works for the common good, or alternatively '*Heaven on Earth*' which we pray in the Lord's Prayer every time we say it, then the abortion rate will vastly decrease.

Act justly, love mercy, walk humbly[3] and don't judge, please don't judge; Jesus commands us not to in Matthew 7:1. Let's then see what happens in society as a whole. I think we'll all be absolutely amazed. ▪

final thought

We are very grateful to Catherine for sharing her story in such an open and vulnerable way. We feel immense compassion for all that she went through and the life circumstances that led to her belief at the time that she had no other choice.

We share Catherine's vision of a society where fetuses, children, girls and women are treated with the dignity God intended. And we believe that such societal change is fundamental to reducing the demand for abortion, both in the UK and overseas.

CMF continues to work to prevent the liberalisation of abortion law in the UK, and to lower time limits for abortion in all cases except where the life of the mother is at stake. We are also working with others to improve support for women facing unexpected pregnancies, aiming to ensure that they never feel that abortion is their only choice. We long for and work towards the day when abortion is both unnecessary and unthinkable. ▪

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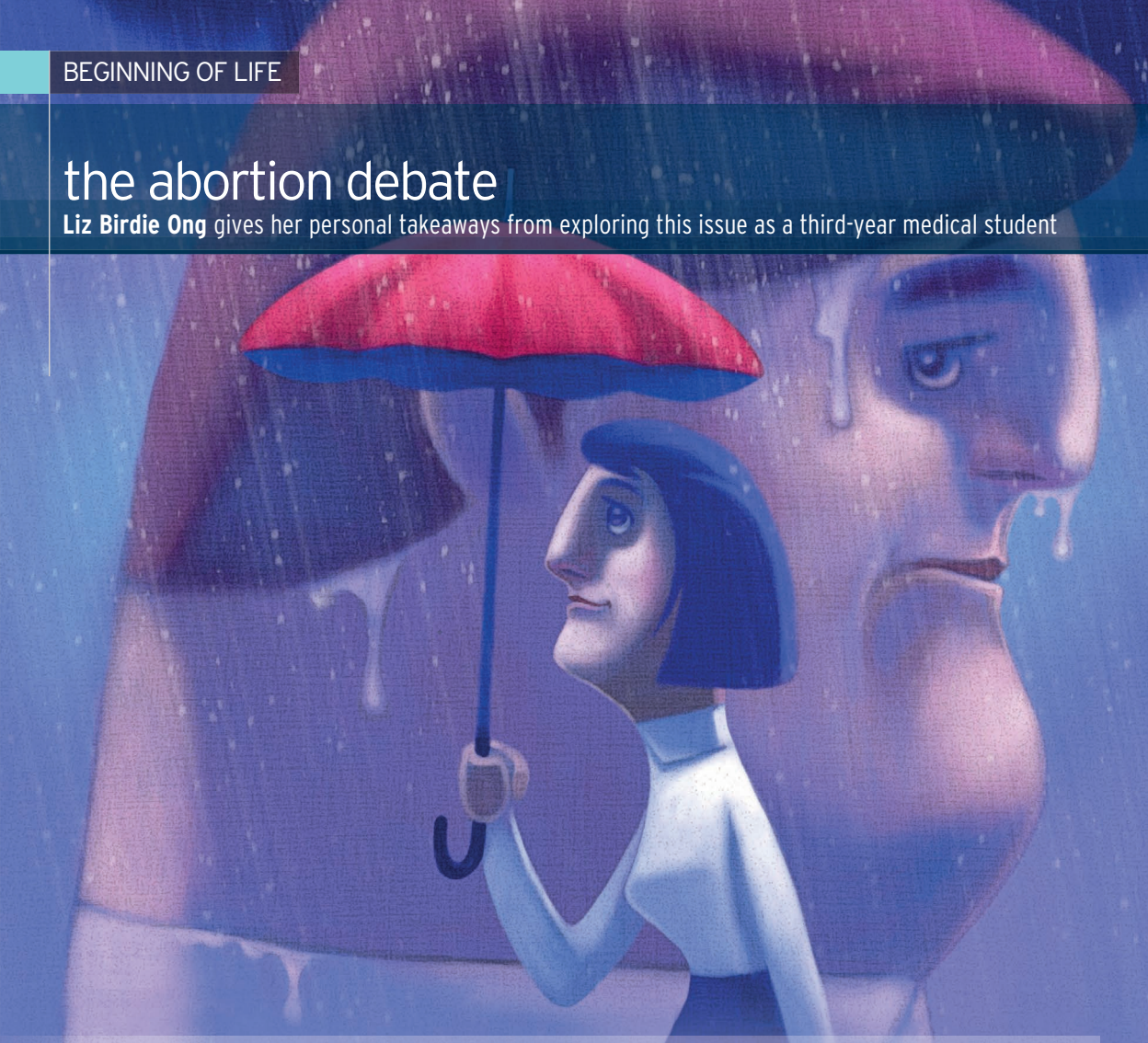
the abortion debate

Liz Birdie Ong gives her personal takeaways from exploring this issue as a third-year medical student



'Pro-lifers don't like complexity', began a recent tweet.[1] Suzanne experienced placental abruption at 17 weeks and was advised to terminate the pregnancy she had waited eight years for; yet she faced the cruel, callous screams of pro-life protesters shouting to her young son in the car, 'Your mother is killing her baby!'. Suzanne's Twitter thread was posted a day after the historic overturning of the *Roe v Wade* Supreme Court judgment in the USA in June 2022.

The judgment was supposedly a 'win' for pro-lifers – but where was my joy as a Christian? A short article cannot do justice in comprehensively dissecting an issue that entire books have been devoted to, but this piece simply tries to shed some light on some of the lesser discussed arguments within the abortion debate, and potential reasons why this issue is so incredibly complex.

classic arguments

The pro-life versus pro-choice dichotomy is often not represented well in culture or media. Extreme advocates of both positions get portrayed, despite being unrepresentative of the majority in those positions. Both sides have strong arguments – but these mostly make sense only in the context of core beliefs held by their advocates. Failure to recognise those core beliefs only leads to futile conversation.

Socioeconomic concerns in providing for a child are the most commonly cited reasons for abortion.[2,3] Known fetal abnormality is another classic argument, and closely related is the worry of being unable to

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provide a good upbringing for the child. More recently, bodily autonomy, as well as sexual and economic liberty and equality, are being increasingly advocated for – the overarching causes that pro-choicers champion; the right to choose. What I consider to be the strongest pro-choice arguments are those around the reason for the abortion itself (specifically, cases of coerced pregnancy, or where the mother's life may be at risk if the pregnancy continues), and the safety of abortion services when none are legally sanctioned.

Pregnancies following rape or incest are an incredibly sensitive topic. Attitudes to resultant pregnancies vary tremendously between individual survivors – from those who suffer from abortion regret, to those who are glad they kept the child, or for whom abortion was a great relief. We should note that these comprise a small minority of abortion cases.[4] Each victim should be cared for on a case-by-case basis – uniquely, holistically, and with utmost compassion. Two wrongs don't make a right, and abortion is a second act of violence against the mother and her child conceived in rape. Ultimately, for the pro-lifer, the core issue remains clear – does rape justify the killing of the child in the womb?

the argument for life

The core of all arguments on either side can be drilled down to beliefs that root individuals to their own position: those around life and choice – or more specifically, the extent of the autonomy and right to life of mother and fetus.

When does life begins to have value? Sonography now allows the high-resolution 4D visualisation of fetal movements, including facial expressions. Prenatal surgery is now a reality, indicated for conditions such as neural tube defects and congenital heart disease. The point of fetal viability outside the womb has progressively decreased over the decades, with one surviving baby reportedly being born at 21+1 weeks gestation, defying a sub-one per cent chance of survival.[5] The evidence presented by modern technology is irrefutable – to be pro-science is to believe in the undeniable humanity within the womb.[6]

However, if you believe otherwise (or that such life is less valuable in any way), even the most well-considered arguments will be meaningless to you. At the core of every case, the moral argument for life is where the two sides fundamentally diverge. In Paulsen's piece in the *Public Discourse*, titled *The One and Only Pro-Life Argument*, he stated:

> *The focus of pro-life advocacy should always be on the fact that the unborn child is a human being, with a moral status equal to a born child, and not on distractions about social policy, sexual ethics, or other rights claims that overlook this biological reality…If taking the life of the living, unborn human fetus amounts to the same thing as taking the life of a living, born human child, then all or nearly all the 'good' reasons for such killing, and all the 'bad' reasons for banning such killing, tend to wash away.*[7]

Is the 22-week-old fetus sustained in their mother's womb worth less than its 22-week-old born counterpart who is just as dependent on artificial supports to survive? Don't new-born babies also require a 'burdensome' level of care and are not fully developed in a way similar to a fetus in the womb? Yet, passage through the birth canal seems to confer personhood unquestionably in many eyes; almost no-one would support post-birth infanticide in the modern world, regardless of how much of a 'burden', how vulnerable and voiceless, or how early in their development this born child may be.

Others may describe depriving a mother of an abortion as 'killing the mother' – saving the baby's life at the expense of the mother's physical and psychological health, potential future prospects,

and social standing. However, surely autonomy must have limits when another life will be harmed, weighed on the basis of the costs to both parties. The only argument that will sensibly stand to the argument of the inviolable right to life – a moral stance held by many across race, religion (or non-religion), and occupation – is when another life is at stake.

the feminist argument

With every pregnancy and birth come inevitable difficulties, such as the stresses and sacrifices of parenthood, and the reality for some of abandonment by family and friends. Rather than pointing to abortion as the solution, such situations should galvanise society to consider ways to support the pregnant mother and to educate the public on misconceptions that fuel the vicious cycle of shame, stigma, and fear associated with pregnancy.

In her landmark speech, *The Feminist Case Against Abortion: the Pro-Life Roots of the Women's Movement*, Serrin Foster (president of Feminists for Life of America) states that: *abortion betrays the basic feminist principles of nonviolence, nondiscrimination and justice for all. Abortion is a reflection that we have not met the needs of women – and that women have settled for less.*[8]

In *The Progressive Roots of the Pro-Life Movement*, *New Yorker* staff writer Emma Green summarises some interesting points covered in Daniel K. Williams' book *Defenders of the Unborn: the Pro-Life Movement Before Roe v. Wade*.[9] Although the pro-choice movement may seem outwardly feminist, the pro-abortion and birth-control movements actually stem from a dark, race-based and misogynistic history grounded in the control of 'poor, sexually promiscuous, or mentally disabled women – especially those who were African American'. The pro-life movement was, in fact, rooted in female empowerment and not oppression.

The *Brief of 240 women scholars and professionals, and prolife feminist organisations* presented to the US Supreme Court echoes the stance held firmly by the prominent early feminists – and in support of the petitioner (Dobbs), it states:

> *Data regarding women's participation in the labour market and entrepreneurial activities, ... their educational accomplishments, professional engagement, and political participation, reveals virtually no consistent correlation with abortion rates or ratios...*
>
> *[The] imprimatur on a male normative experience of reproduction as the model for economic and social participation has retarded meaningful accommodation of pregnancy and motherhood in the workplace and other spheres of society...[and] failed to recognise the possible damage that the unrestricted availability of abortion could visit upon authentic progress toward sexual equality in light of 'inherent difference[s] between men and women'.*[10]

Reducing the solution for the discrimination around pregnancy to abortion is an injustice to women worldwide. It provides no real fix and actively shifts the focus away from the injustices of deep-seated stigma, discrimination, and inequality perpetuated in families, communities, and workplaces that cause women to even consider abortion in the first place.

law and the ethical slippery slope

What is the role of the law? One argument for legal abortion is as a means to improve safety and reduce rates of illegal back street abortions, an issue that disproportionately affects women of lower socioeconomic statuses. However, a thorough exploration would also have to consider complications from legal abortion; it may be hard to quantify these as they are potentially more influenced by gestational age, and reporting laws on abortion do not always cover complications and/or death.[11, 12, 13]

Additionally, the law can also affect attitudes. The slippery slope argument proposes that the legal acceptance of a small action could potentially lead to the acceptance of other small actions that ultimately culminate as an undesirable action that the law initially deems unacceptable. This has been

illustrated by recent experience in Ireland. Abortion rates rose dramatically in the years after the 2018 referendum that legalised abortion up to the twelfth week of pregnancy. This rose from a reported 32 abortions in Ireland[14] and 2,859 Irish residents obtaining abortions in England/Wales in 2019,[15] to 6,666 in 2019 and 6,577 in 2020 locally, not including overseas abortions.[16]

The complex and intimate nature of pregnancy can make the involvement of law seem like an invasion of privacy. However, for similar reasons to why theft and violence should be an issue in which law has a say, the autonomy of a mother should be primary only in so far as it does not endanger the life and wellbeing of the child she is carrying. This is the moral view for the right to life and against life-ending violence that even secular pro-life activists hold. Not all pro-life advocates would agree that criminalisation is the answer – particularly in nuanced situations like pregnancy arising from rape.

closing thoughts

I understand that taking this stance may cause many to label me as crazy, regressive, antiquated, unempathetic, legalistic, moralistic, extremist, bigoted – but where Christ has led me, through ways including my conscience, is where I will stand until he has revealed to me otherwise. In the meantime, as I continue to wrestle through each ethical dilemma, I simply strive to approach every unique case with utmost love and compassion, which Christ himself modelled throughout his life on Earth.

Indeed, only when we carefully listen to the views of those on the other side can we see that there is often unexpected beauty, valid reasoning, tremendous pain, and conflicting dilemmas behind them. It is often ignorance that fuels self-righteousness, hostility, and intolerance. It is crucial that we never stop questioning the reasons for our beliefs and the beliefs that those on the other side hold, and to put aside assumptions and simply listen. This is the stance I hope I have taken in my attempt to better understand both sides on an issue that I want to better prepare myself to face, with greater knowledge and compassion, while remaining true to my faith and convictions.

The abortion debate has proven to be a much bigger slice of cake than I had originally envisioned, layered with nuances and complexities perhaps unrivalled by that of any other ethical issue. Yet, incredible medical, personal, statistical, societal, and historical evidence continues to form a compelling case for the moral view of the humanity of the unborn child and their right to life is upheld by people regardless of race, beliefs, religion, sexual orientation, and even dietary habits![17] Ultimately, compassion over condemnation should be the status quo. Greater pressure should be placed on governing bodies and communities to work towards a world where women do not ever have to consider the horror that is an abortion. ■

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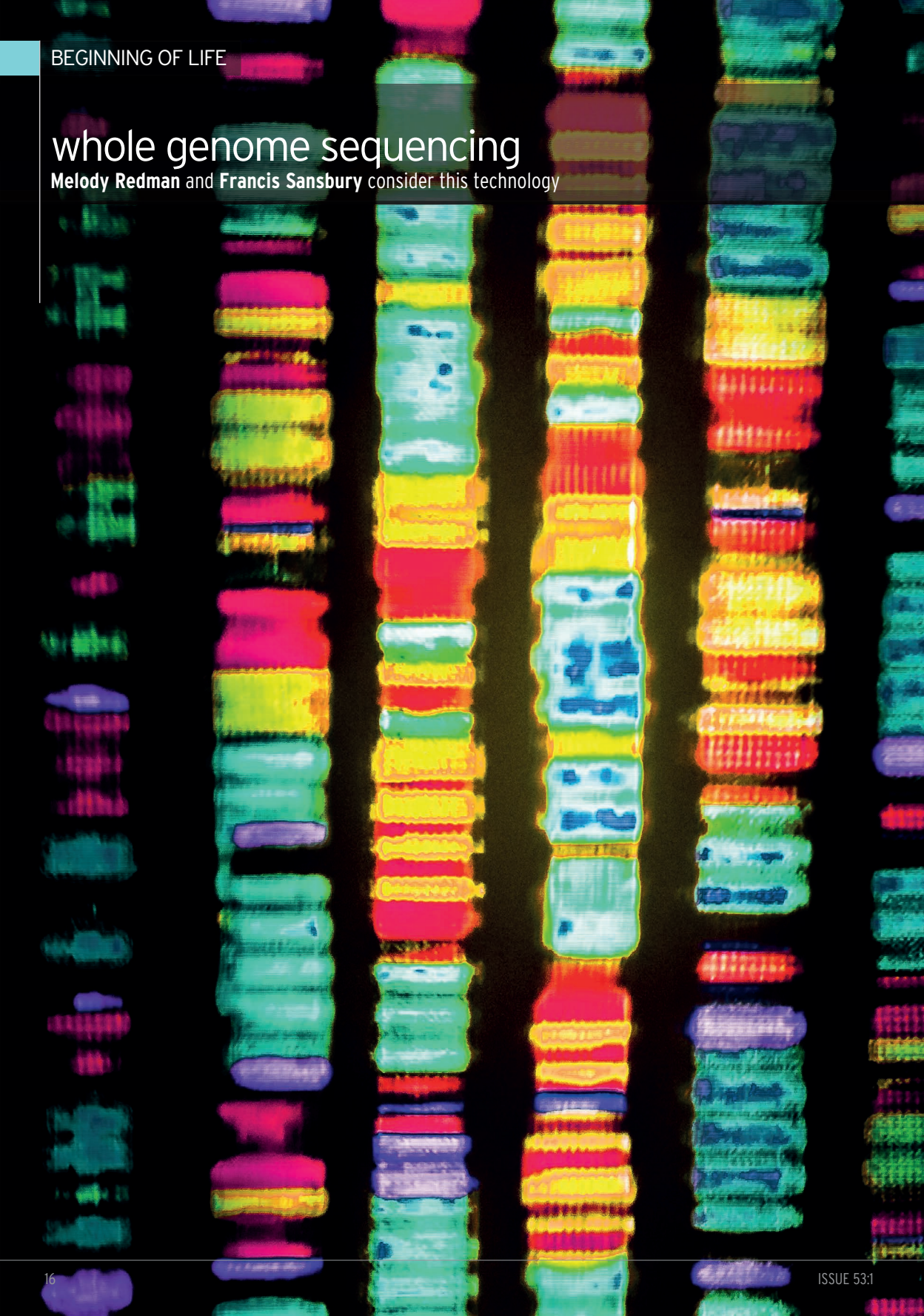
whole genome sequencing

Melody Redman and **Francis Sansbury** consider this technology



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You may have heard of Whole Genome Sequencing (WGS). You may be wondering what the words mean. Is it an exciting new way to improve health and wellbeing, or is it a modern tower of Babel?[1] This article aims to help us understand WGS to better think about what it means for us as Christian medics.

what is whole genome sequencing?

Our genome is the body's set of genetic information, including over 20,000 genes. It is present in nearly every cell in the body. We all have differences in our genomes – for example, each genome typically contains 2,100 to 2,500 structural variants.[2] These are missing, duplicated or rearranged sections of the genome. Many variants are simply benign human variations and make us individuals. However, some changes can affect the functioning of genes and cause health and/or developmental problems.

WGS aims to sequence all of someone's DNA as far as the technology will allow. Historically, genetic testing would generally involve only sequencing the relevant gene(s), or at most a 'panel' of genes associated with certain presentations or phenotypes. With WGS, the patient's whole genome is sequenced, but an NHS laboratory would only look at the relevant sections (ie panels of genes). Since early 2021, the NHS in England has introduced WGS for many indications.[3] There is also a 'Paediatric Disorders' super-panel which (at the time of writing) tests for 2,067 genes.[4]

Where possible, a trio should be used for WGS. This means testing the patient and both biological parents, which helps us identify variants and understand the likely pathogenicity of any variants found.

WGS is moving into many specialties and will become increasingly familiar to many clinicians. Rapid WGS in neonatal and paediatric intensive care settings has the potential to provide treatment-altering diagnoses far more quickly than previously.[5,6]

why now?

The rollout of WGS followed the success of the 100,000 genomes project launched in 2013, which found diagnoses in 25 per cent of recruited cases with rare diseases and no genetic explanation.[7]

It is becoming much cheaper to sequence the whole genome, although in reality, it would be an overwhelming task to analyse it fully. Bioinformatic pipelines and filters (computer algorithms) are applied to enable meaningful data processing. WGS is a platform to allow testing – the whole genome may be processed relatively quickly and cost-effectively, but the whole genome is not currently being analysed as part of NHS testing in the UK

WGS is moving into many specialties and will become increasingly familiar to many clinicians

The NHS Long Term Plan introduced many commitments around genomic medicine in England, including to be *'the first national health care system to offer whole genome sequencing as part of routine care'* and an aim to *'sequence 500,000 whole genomes by 2023/24'*.[8]

consent

With WGS testing, 'fully informed' consent may not be possible.[9] Findings may be complex, uncertain or unexpected. The NHS in England uses a 'Record of Discussion'[10] for documentation rather than a 'consent' form. We can't list all 2,000+ conditions that a paediatric disorders panel covers, but we can communicate types of situations such as uncertain/incidental findings.

the National Genomic Research Library and 'big data'

The same *Record of Discussion* form documents a

discussion around the (English) National Genomic Research Library (NGRL).[11] This is part of Genomics England, a wholly-owned subsidiary of the Department of Health and Social Care. If patients agree, the whole of their genome would be added to this resource – even though the NHS laboratory would not look specifically at the whole genome.

The NGRL keeps WGS data and can link this to the patient's wider primary and secondary care NHS records, including admissions, scans, and problems unrelated to the diagnosis. This data is kept beyond death. Because a person's DNA code is unique to them, their identifying demographics are not stored directly with the data – referred to as 'de-identifying'.

The patient information leaflet states:

Genomics England always protects your data and controls who has access to it…Approved researchers may work for not-for-profit organisations…and for-profit (commercial) companies such as drug or technology companies.[12]

potential impacts for patients (not unique to WGS):

- a label for their condition
- access to relevant patient support groups
- personalised letters for school, allowing access to funding/support
- a better understanding of prognosis
- screening (where there are known other features of the condition)
- recommended treatments for a small proportion of genetic conditions
- access to research
- reproductive 'options', eg, natural pregnancy, adoption,[13] donor gametes, invasive or non-invasive testing in pregnancy,[14] pre-implantation genetic diagnosis[15]
- predictive testing for family members (in cancer predisposition syndromes, this may enable early access to screening)
- possibility of future treatments

challenges (not unique to WGS):

incidental findings

There may be incidental or unexpected findings from WGS. This may be from genes within a large panel. Or in some cases, a tool such as the Exomiser may identify pathogenic variants outside of the panel of genes applied. Recent examples include adult-onset neurological disorders or cancer predisposition genes found when testing children. Incidental findings may also have implications for other family members.[16]

There are American guidelines on which incidental findings should be reported – including adult-onset cancer predispositions such as BRCA1/BRCA2/Lynch syndrome.[17] UK discussions are ongoing about what should be reported.

variant classification and uncertainty

Classification of genetic variants is an evolving field. Variants may be classified as benign, likely benign, a variant of uncertain significance (VOUS/VUS), likely pathogenic, or pathogenic. UK laboratories use American[18] and UK guidelines[19] to assign pathogenicity. These guidelines undergo updates, so 'likely pathogenic' variant can be downgraded to a VUS and vice versa.

VUSs can cause great difficulty for patients; clinicians may not be able to advise if they think the variant is significant. Further information (such as family segregation studies or research) may enable re-classification, but patients may be left with uncertainty. This can be difficult for them, their families, and decisions about having children. VUSs may be more common in ethnic groups that have historically been less well represented in genetic testing.[20,21]

revealing biological parentage

Because a trio would ideally be used (comparing sample to mum and dad), misattributed parentage can be identified. This unexpected information can cause complex ethical dilemmas and may not be disclosed if it is not relevant to the patient's care.

reproductive options

Couples may face challenging decisions about reproduction if they know their genetic status. This may feel empowering for some, whatever their views on prenatal testing. Pre-implantation genetic testing involves discarding affected embryos. Testing in pregnancy is particularly offered when a person plans to have an abortion if the baby is affected. For those of us who value life from the moment of conception,[22] these options can be particularly concerning.

other challenges

There are many other challenges. How do we remind people that everyone is equal, regardless of genetic condition? What might be the future impact on insurance? How do we prevent any new societal inequalities from arising? How should big data be used? Can WGS data security be guaranteed in this era? How do we safeguard against a Gattaca-style[23] future where society categorises individuals on their genetic composition (polygenic screening of embryos is already available in the US)?[24] Should Genomics England be permitted to receive fees for the use of patients' data when for-profit companies conduct research? Should patients be asked for consent for research that is so closely linked to diagnostic testing?

There are also issues around equity within the devolved nations of the UK; the NHS Long Term Plan's WGS aims relate to England only. And despite the decreasing costs of WGS, this is still beyond the reach of resource-poor countries.

applying the Christian worldview

God created human beings in his image[25] and God knows us even before we are formed in the womb.[26] However, Scripture also tells of the fall[27] and that humanity is marred by sin.[28] The genomes of humans and other organisms have become corrupted, leading to death, disease and decay. Yet through Jesus we have an eternal hope because he will return and, on that day, 'there will be no more death or mourning or crying or pain, for the old order of things has passed away.' (Revelation 21:4) Whilst we have a responsibility to care for our bodies, this must be balanced with not becoming preoccupied with the search for future risk of disease or genetic perfection, or believing that our identity lies in our genome.

Genetic conditions vary widely in the nature and severity of their effects. Many genetic conditions can cause great pain and suffering – both to the patient and to their loved ones. Families can experience feelings of guilt, fear for the future, and concern about other children or family members. Like Jesus, we must express compassion[29] and walk with people who face these experiences.

> we are all one in Christ Jesus, regardless of status or disability

As with many technologies, genetic testing, including WGS, can be used for great good. For example, WGS can help reach a relevant diagnosis for the patient. However, it can also be used for purposes which many of us would regard as potentially harmful, such as testing a fetus for the presence of a condition to decide whether to end a pregnancy. We are all one in Christ Jesus,[30] regardless of status or disability.[31] If we believe that life matters from the moment of conception, then life should still matter even if affected by a genetic condition. However, these decisions are highly emotive and complicated for families. God calls us to defend the rights of the vulnerable.[32] Jesus perfectly exemplified how to be both sensitive and compassionate, and not to compromise on sin.[33] The challenge for Christians is to do the same, whilst protecting these most vulnerable of people.

We are also called to seek justice.[34] If individuals' ability to access insurance or healthcare were affected by their genetic blueprint, or if the most genetically 'superior' embryos were chosen, this would introduce further inequalities into society. We must take care to safeguard against inequity and inequalities.

Understanding more about the genome may give us helpful insights into aspects of human health and disease, both on an individual level but also on a societal level. Big data can be beneficial for the health of the nation – such as through the identification of modifiable risk factors for illness. But big data can also be used for commercial gain or other harmful purposes. There is so much that we do not yet understand about the genome. The Tower of Babel[35] reminds us that when we seek to make a name for ourselves and build something monumental, we must carefully consider if this actually aligns with God's will.

conclusion

Many potential opportunities and challenges are posed by the wider rollout of WGS in the NHS. Our genome is unique, but it is not where our identity lies. Humans are bearers of God's image. For believers in Jesus, our primary identity is as a child of God.[36] We should seek to prevent any inequalities from new technologies. Where possible, we should contribute to policymaking and consultations. ▪

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be prepared: night shifts

Chris Borges Da Silva shares some practical tips

Chris Borges Da Silva is CMF Associate Head of Student Ministries and a junior doctor in Bedfordshire

I work as a junior doctor in the Emergency Department (ED), training in General Practice, alongside working for CMF, and serving my local church, while juggling a busy family life. It can be overwhelming at times. I am no stranger to the challenges working nights can bring; working in ED requires me to navigate shift work, described by many as antisocial.

I asked colleagues and companions what advice they would give to help people flourish while doing a run of night shifts. Most people answered, 'Don't do them!' Unfortunately, you cannot always opt-out. So how does a Christian healthcare worker practically thrive while doing night shifts?

Whatever you do, work at it with all your heart, as working for the Lord, not for human masters. (Colossians 3:23)

God speaks to us through Scripture. This brings me to four practical points inspired by my relationship with God and personal experience. Remember these are tips, not regulations. Do what works for you.

1. **Perspective** – The one, true, living God created us for this specific time in history. This way of seeing the world when I prepare for a string of nights helps me realise I am part of a bigger story – God's story. When I am reviewing that blood gas at 4am, I am working for God, and God is working through me. Attitude determines altitude. In everything I do I serve Christ. Let your godly perspective inform how you approach the night shift.
2. **Priorities** – With God we will work heartily, but remember you are weak and tired at times. This is OK. Through the finished work of Christ on the cross, I can now approach the God of the universe as my heavenly father. Unique conversations between colleagues and patients happen on the night shift that wouldn't happen in the day. We are the ambassadors of Jesus Christ. This becomes even more tangible in antisocial hours. Share his love – let that be your priority.
3. **Purpose** – That excellent history, examination, investigation, and management of clinical concerns in the twilight hours is worship to God. We were made to worship. If you are on the night shift, you have a unique opportunity to worship God. Your efforts may be unseen by the consultant in charge, but God sees. There is purpose in your pain. Work heartily – God is watching.
4. **Preparation** – Get as much help as you can. Prayer is necessary just like sleep. I have personally found preparing meals beforehand so I can grab and go, ensuring transport home is safe and organised, optimising sleep, eye mask, noise cancellers, increased calorie intake of healthy foods can all help in preparation for and during a night shift. If you fail to plan you plan to fail. Remember you have a heavenly Father who does not sleep.

For more on this topic, check out Matt Baines' *Triple Helix* article *Are you in rest deficit?* on an often forgotten commandment.[1] ■

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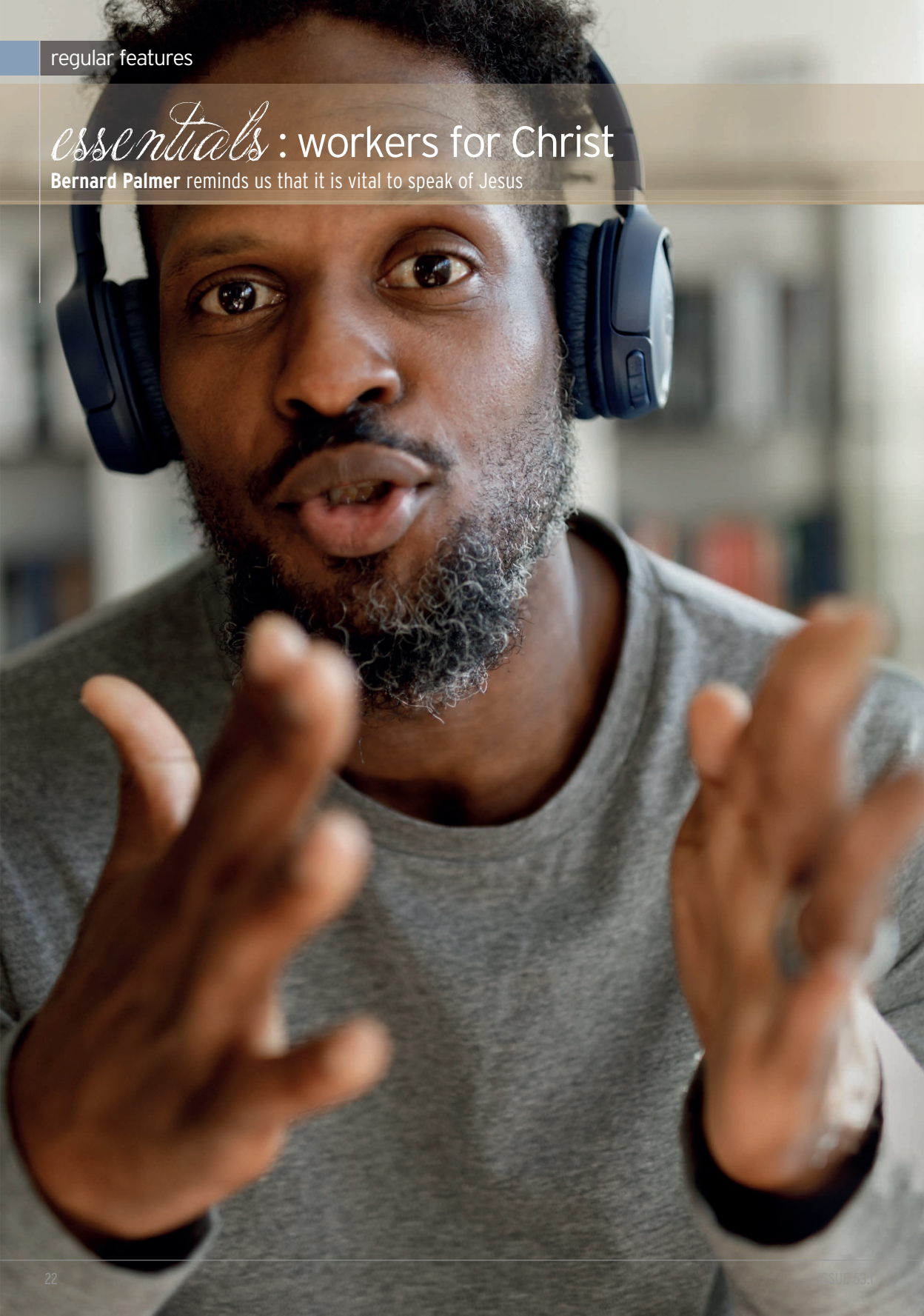
essentials : workers for Christ

Bernard Palmer reminds us that it is vital to speak of Jesus



Bernard Palmer is a retired surgeon in Hertfordshire

At a recent Christian men's lunch the topic of personal evangelism came up. One person said, 'Its easier for you because, as a doctor, you have been trained to talk to people. This gives you the confidence to talk about personal issues without embarrassment'.

What a great benefit our training is. I went to an all-boys school, an all-male college at university and then attended the Royal London Hospital for clinical training. Very soon I found myself on a gynaecology firm and was expected to take a history from ladies! How I struggled at first. I was so embarrassed and it was so difficult. However there was no avoiding it – I had to take these histories, so I got on with it. By the end of two months I was coping.

At one CMF conference I was leading a seminar on personal evangelism. At the beginning I asked the group of about thirty people whether they thought it was right for them to use their status as a doctor to share their Christian faith. Surprisingly only five of the thirty felt it was right to do so. The reasons given for not sharing their faith included: 'there is no time'; 'it is not what we are paid for'; 'it may lead to distrust', and the like. At the end of the seminar I asked the group how many of them have even led someone to Christ. It was striking that the only ones who had done so were the same five who felt it was right to share their faith!

When Jesus was training his disciples, he first sent out the twelve, his inner circle. Their responsibility was to *proclaim the kingdom of God and to heal those who were ill* (Luke 9:2). A little later he sent out 72 others. As the number of his followers after his resurrection amounted to 120, this must have represented a large proportion of the men. They were to go into every town they were approaching to prepare people for Jesus' arrival. He told them, '*The harvest is plentiful, but the* ***workers are few****. Ask the Lord of the harvest, therefore, to send out workers into his harvest field. Go! I am sending you like lambs among wolves.* (Luke 10:2). That is just what I felt like as a young clinical student on the 'gynae' firm!

There is a problem today that some Christians think they are witnessing by the moral, kind way they practise their profession. Jesus does not agree that lifestyle is sufficient. Professor David Short was the Queen's Physician in Scotland. He was very eminent and highly regarded. One day he overheard some of his colleagues talking about him. They were saying what a great man he was in so many areas. However they did not mention that he was a Christian. It then dawned upon him that much of what he had done in medicine had been for his own glory and not that of the Lord Jesus. Jesus chose us to live for his glory and nothing less.

some Christians think they are witnessing by the moral, kind way they practice their medicine. Jesus does not agree that lifestyle is sufficient

A man approached Jesus and Jesus said to him, *Follow me*. But that man had other priorities, *Lord, first let me go and bury my father*'. If his father had already died, he would, according to Jewish tradition, have already buried him. No, this was an excuse. Jesus replied expressing what should be the priority of his followers, *Let the dead bury their own dead, but you* ***go and proclaim the kingdom of God.*** (Luke 9:60)

Proclamation of the gospel has always been the priority of Jesus – we must continue to declare his rule. Another man said he would like to follow Jesus - but added the excuse of his family. Jesus replied, *No-one who puts a hand to the plough and looks back is* ***fit for service in the kingdom of God.*** (Luke 9:62) We Christians have been chosen, whatever career we follow, to serve the Lord Jesus and his kingdom.

It was immediately following this that Luke describes how Jesus embarked on training the 72

by sending them out on a mission. They needed to learn how to speak about spiritual matters. He said to them, *When you enter a house,* ***first say****, 'Peace to this house.'* (Luke 10:5) How important it is to make good first impressions. Aren't we taught this as doctors, nurses and other health professionals?

When you enter a town and are welcomed, eat what is offered to you. Heal those there who are ill and ***tell them****, '****the Kingdom of God has come near to you****'.* (Luke 10:8-9)

These remain our priorities – to love and speak. What were they to do when they were not welcomed as Jesus' representatives? *Go into its streets and say, 'Even the dust of your town we wipe from our feet as a warning to you'. Yet be sure of this: the kingdom of God has come near.* (Luke 10:10-11).

we do have a problem today. We are not training young Christians how to speak about Jesus to non Christians, as Jesus did

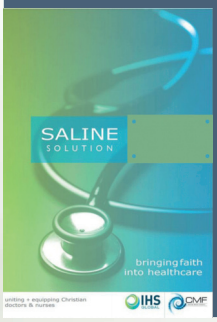
Jesus is clear that those who are not interested in what God has to say to them through his representatives will have to face dire consequences. Jesus said to the 72, *I tell you, it will be more bearable on that day for Sodom than for that town.* (Luke 10:12)

Jesus continued, *Whoever* ***listens to you listens to me****; whoever rejects you rejects me; but* ***whoever rejects me rejects him who sent me.*** (Luke 10:16) Speaking for Jesus really is important.

We do have a problem today. We are not training young Christians how to speak about Jesus to non Christians, as Jesus did. I had a patient who was churchwarden of her local village church. After the medical issues had been dealt with, I asked her how the church was going. She replied, 'It is getting very difficult. We are getting smaller and older.' 'Tell me', I replied, 'Do members of the church talk about the Lord Jesus with others in the village?' 'Oh good gracious me, no, we don't even speak about him amongst ourselves!' I could only think of one thing to say, 'If that is true, then your church must die.'

To speak about Jesus does require training.

EVENTS



Saline Solution course
9, 16, 23, 30 March 2023
Online: 20:00 - 22:00
Hosted by: CMF
Book online at:
cmf.org.uk/events

As medical students we were taught to take a clinical history. We had to ask about the present condition, past history, drug history, family history and social history. We should also ask about their spiritual history. 'Do you have a faith that helps you, or aren't you sure about such things?'

As all people are a composite of physical, psychological and spiritual aspects and each has an affect on the others, it could be said to be negligent not to take a spiritual history! The other advantage is that people will often reply with phrases such as, 'I wish I did', 'I used to have', or 'my parents did', which are great openings to help people spiritually.

It was because many of my patients wanted to find answers, and time was limited, that I wrote the book, *Cure for Life*[1] that CMF published for many years and is now available in its fifth edition. If any are unsure about whether all Christians are meant to be able and willing to talk about Jesus please do read my new book, *The Duty of a Disciple*[2].

The commission to God's church, which includes medics and nurses and midwives, has never changed, *All authority in heaven and earth has been given to me. Therefore* ***go and make disciples ...teaching them to obey everything I have commanded you.*** *And surely I am with you always, to the very end of the age.* (Mathew 28:18-20) ■

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1. Palmer B. *Cure for Life*. 5th Edition. Epsom: Lost Coin Books, 2022
2. Palmer B. *The Duty of a Disciple*. Fern-by-Tain: Christian Focus Publications, 2020

my trip to... Siteki, Eswatini

Ellie McBain reports on her elective

Ellie McBain is a medical student in Newcastle

I decided to go to Eswatini because I wanted to experience rural medicine in another culture and see what it's like at a Christian hospital. This elective destination, which I found to be incredibly eye-opening, challenging and fun, is one that is especially suited for anyone who is interested in rural healthcare, especially with a community focus, or ophthalmology.

main hospital, Ebenezer clinic, home visits

I was based in Siteki, a rural village 20 minutes from the Mozambique border. I arranged the placement with Medical Missions Eswatini (MME), who enabled me to experience a variety of different healthcare settings and services.

In Good Shepherd Hospital, which is the main hospital, I spent most of my time in the medical outpatient department, working alongside the specialist nurse. The limited number of investigations available challenged my clinical reasoning and meant that I could not just request every blood test available. Apart from the common cold, patients also came in with tropical illnesses like malaria and TB.

MME is linked with the Ebenezer Clinic, a rural nurse-led clinic, and a practical part of placement that I really enjoyed. I was often involved in history-taking, examination, and discussing with a nurse about the next steps before implementing a plan. I was also learning about different medications for conditions I had not seen before through the *British National Formulary (BNF)* app on my phone. Due to poor public awareness of a healthy lifestyle, there were many chronic disease reviews, typically diabetes and hypertension. I also became quite familiar with scabies, a disease I'd not seen before clinically.

During the one day I spent with the home-based palliative care team, with whom I'd love to have spent a longer time with, we packed up the team's 4x4 with medical supplies for home visits. Seeing nurses administer simple yet impactful care via bereavement visits, wound care and pain relief was very inspiring, especially in settings where people's homes weren't much more than straw-topped huts an hour away from more developed settlements!

eye clinic and helicopter trip

I spent a few days both in clinic and theatre with Dr Pons, a well-known ophthalmologist in both Eswatini and neighbouring Mozambique. It was a great learning opportunity in ophthalmology as the high prevalence of diabetes and hypertension meant higher rates of eye complications and retinopathies.

The eye clinic is also linked with MercyAir, a helicopter program set up to reach even further into the rural communities. I got to go as part of the dental team in what was my first ever helicopter trip and what I consider the most amazing experience! Others on the elective with me went with the SightFlight team that fits reading glasses, screens for cataracts and diabetic retinopathies and does general eye checks.

a typical day, and more

A typical day on my elective began with waking up in time for a run around Mabuda Farm, which has many nice trails, followed by a shower and then breakfast. I would head to the placement at about 8.30 am, with mornings often involving ward rounds, outpatients, or home visits depending on the team I was with. Lunch was often simply my packed lunch, though I would definitely recommend trying the 'dusty chicken' with pap from some stalls across the road from the hospital. Afternoons were much quieter, and I was often ready to go home by 4pm – usually on foot (it's only a two mile walk), though minibuses (called combis) are another option if you don't drive. I would try to be home before dark, and often head to bed early as it's not safe outside after dark due to the lack of street lighting, cows by the roadside, and drivers that sometimes do not have working car headlights.

I stayed at Pilgrim's Rest on Mabuda Farm, which is run by the Pons family, and has many lovely walking trails, horse-riding facilities, a pool, and a lovely coffee shop selling home-grown coffee and

other fruit and vegetable produce. Other expatriate doctors and workers live on the farm, which has a really friendly community with activities throughout the week, including spaghetti and Bible study on a Wednesday evening (which is for everyone, and you don't have to be a Christian), porridge together on a Friday morning, and Friday Braai-day (BBQ in the evening). A beautiful spot on the farm called 'The Rocks' is the place to catch the most incredible sunsets. Dinner then is often followed by reading, journaling, or watching TV (usually National Geographic).

The main thing that I liked doing as a tourist in Eswatini was watching the wildlife. Only 30 minutes away from where I stayed is the Hlane Game Reserve where you can go for a safari drive. Mlilwane Nature Reserve is two hours away and ideal for a weekend trip, for walks and to get up close with zebra, and I even did the annual Mbuluzi trail run and saw a giraffe while running! Heading over the border to South Africa, it's very easy to get to Kruger for your chance to spot the 'big five' and to St Lucia too for your hippo and croc fix and the stunning coastline.

differences and challenges

There were some superficial differences, such as patient drapes and gowns being reusable rather than single use (as in the UK) and so requiring sterilisation after use. Having only experienced medicine in the context of the UK's NHS before, I also found it very different seeing health services where people pay for things themselves. There were many occasions where people had stopped taking their medication because they couldn't afford it, struggled to pay for transport for hospital, self-discharged from hospital stays because they had run out of money, and so on. Witnessing such poverty and unmet needs was quite heart-wrenching.

Not only was money an issue for patients, but the resources we had available for investigations and treatments meant we couldn't always do what NICE guidelines would recommend in the UK. There are very limited specialist doctors in Eswatini, with most of these being located in Mbabane, the capital, which is an expensive bus ride away for patients. Towards the end of my time there was a shortage of normal saline in the hospital! I often felt very limited with the impact I was having, but weekly teaching sessions with Dr Pons were a really good way to reflect on my experience and discuss the things that were troubling me.

highlights and closing words

The hospitality of patients, nurses, doctors, and generally everyone in Eswatini was the highlight of my experience. People were always saying *sawubona* (hello) on the streets as you walked past, and I loved feeling part of the community. The helicopter trip with MercyAir was a once-in-a-lifetime opportunity – the birds-eye view of Eswatini was simply stunning, as were the African sunsets, of which I tried to catch as many as I could.

By the end of my four weeks, I was just scraping the surface, and there was still so much I wanted to see and do. I would recommend trying to spend at least a week with each team to get to know them and how things are done. Another bit of advice would be to embrace the fact that some things operate in 'swazi time' – there's a different pace of life and a unique culture to be experienced. Practically, your own stethoscope, the *BNF* app, and the *Oxford Clinical Handbook* are invaluable items to have with you, as are a few warm jumpers if you are heading down during the summer as Eswatini is on the opposite side of the equator. Also, journaling is a wonderful way to reflect on the highlights and lowlights and to keep a record of your days. Finally, simply enjoy yourself – say yes to as many things as possible (within reason) and make the most of this once in a lifetime experience. ▪

counterparts: ICMDA WEC 2022

Julien van der Does reports on the Western European ICMDA Conference

In late October 2022, CMF and ICMDA organised a wonderful joint conference. It lasted three days, offering us main talks, seminars, worship, activities, sightseeing and many new friendships.

It happened in Castledaly Manor, next to a little town called Athlone, in the geographical centre of Ireland, and was attended by medical and dental students, junior and young doctors from all over western Europe, including the Netherlands, France, Portugal, Belgium, Spain and Great Britain. There were also many Irish students from Galway, Dublin, and Belfast, making a very nice mix.

The weekend's theme was 'A Living Hope in an uncertain world' from 1 Peter 1:3: *He has given us new birth into a living hope through the resurrection of Jesus Christ*. It was presented by Paul Coulter, a former medical doctor from Northern Ireland who studied at Queen's University in Belfast. Paul is now working in different ministries that involve developing networks across the UK and Ireland.

Paul spoke on the first three chapters of 1 Peter. In the first chapter, the apostle encourages us to see the hope that is in the gospel, and in the second chapter, how to hold onto that hope in times of uncertainty. In the third chapter, Peter urges us to give a reason for our hope and to share it.

Seminars included a group sharing experiences in global health and mission, with reference to time spent in a missionary hospital in Egypt; coping with high stress and burnout; difficult questions about transgenderism and advocacy; and choosing our calling in the midst of so many opportunities that sometimes seem to compete with each other instead of working together for the glory of our Lord.

In between these thoughtful discussions, we were able to have some time off that included pumpkin carving and outside sports. We had wonderful weather on Saturday afternoon that deconstructed many stereotypes from southern Europeans! One group went to visit one of the oldest monasteries in Ireland at Clonmacnoise, one of the Irish historic 'seven churches'. It was founded in AD 544 by Saint Ciaran as a small wooden chapel which soon became an inspiration to many monks to go across the country to share the gospel. Even Pope John Paul II visited Clonmacnoise during his trip to Ireland in 1979.

Our guide at the site heard about the purpose of our conference and volunteered to give us a tour of the place. He explained the meaning of the different carvings on the famous Irish crosses, and about the different buildings. But he also shared about his personal life, and the fact that his daughter was a medical student at Trinity College in Dublin. I have to admit it became a little bit emotional when we prayed together in front of the beautiful Irish crosses and peaceful historic chapels.

We hope and pray for the conference to be repeated, as it was a great way to connect the Irish students with one another and with students from other countries. ▪

Julien van der Does is a medical student in France

Reviews

film: *Black Panther: Wakanda Forever*

'The king is dead' With this statement, Queen Ramonda, played by the delightful Angela Bassett, invites all human beings into the film *Black Panther: Wakanda Forever*. No matter who you are, whether the King of England or a big-city black kid, who grew up in south London, and by the grace of God got to serve the world as a medical doctor, we all experience life and death.

It is no secret the untimely passing of the lead actor Chadwick Boseman, the Black Panther, rocked the world and reminded us of our frailty. With tissues at the ready, I went to see the sequel to the first movie that had filled me with so much pride in my culture. How would I leave the cinema? Built up or torn down?

As healthcare workers we face the extremes of life and death more often than normal. This can make us less responsive to the emotions that come with being an interconnected person with relationships. To maintain the ability to live, we all adopt coping mechanisms to deal with the ups and downs of life. Is this sustainable in the long term?

In this action-packed super-hero movie I was captured not only by the drama and special effects but I was also grounded by the relatability of the human story. I must commend the director, Ryan Coogler, for finding this balance between real life and the supernatural. The clever intermingling of history and scenes beckoning you to challenge your own prejudices warrant thought. However, if you're not keen to see lots of war and fighting, *Wakanda Forever* probably isn't for you.

A recurring theme throughout is living with grief and the results of human suffering. The film reminded me of a famous thing Jesus said *I am the way the truth and the life…* (John 14:6) In this film, we see the many different ways and truths in which people take refuge when the storms of life threaten stability.

Things like; power over others and ourselves, STEM culture (science, technology, engineering, maths) saving the world, security, leadership, family, our relative social position, weapons, tradition, adaptability and motivation. But are any of these enough to live this life? To really live?

This film helped me question my coping strategies and stereotypes. I'd recommend it. I walked away yearning for the new heavens and new earth and wanting to be better in the now. If you do watch it, talk to someone about it afterwards. Conversation helps us to understand different perspectives. ▪

Chris Borges Da Silva is CMF Associate Head of Student Ministries and a junior doctor in Bedfordshire

news reviews

Marolin Watson, Laurence Crutchlow

global health & AI

With many low and middle-income countries struggling to meet their Sustainable Development Goals with regard to health, the use of artificial intelligence has the potential to reduce inequalities worldwide. *The Lancet* considers a report by USAID examining specific cases where AI was used to provide indicators of population health, patient and front-line virtual healthcare assistants, or clinical decision support for doctors.

Of course, the financial barriers to comprehensive healthcare in low-income countries (LMICs) are also barriers to the adoption of useful AI without support from donors and investors, whether private or public. *The Lancet* points to additional challenges such as the 'privacy, ethics, and data ownership' issues that complicate many efforts to digitise services.

The report acknowledges that *it is very challenging to take disruptive technology innovations from high-income countries and deploy and scale them so that they address the unique needs of, and have positive impacts on, populations in low-income environments. This paper is intended to fill a key gap by identifying both barriers to AI deployment at scale in LMICs and what actions can best accelerate the appropriate use of AI to improve health in LMIC contexts.*

The Lancet bit.ly/2Uuea1o
USAID *usaid.gov/cii/ai-in-global-health*

neurological disorders and an aging population

Although I'm sure we're all pleased to be living longer thanks to good nutrition and modern medicine, there is a downside to increased longevity, and that is the strain it is putting on health services and social care, even in high income countries. With aging comes an increased risk of many conditions, including cancers, cardiovascular disease and neurological diseases like stroke and Alzheimer's. In fact, *neurological diseases, are the leading cause of disability-adjusted life years (DALYs) globally and the second cause of deaths after cardiovascular diseases.*[1]

Prevention is considered key to reducing the burden, and education around lifestyle factors like smoking, drinking, and obesity must be part of the strategy. But there is also an urgent need for more medics entering the workplace to specialise in neurology and offset current European shortages in this increasingly important field. *It is time to bring the brain back to the centre of the world of health.*[2]

1. *The Lancet bit.ly/3ILbogp*
2. *The Lancet bit.ly/3Gqrrgl*

our future health

A new research project, funded by government, industry and the charity sector, aims to recruit five million adult volunteers in the UK with a view to *collecting health and genetic data and creating a long-term repository of health information*. The ultimate aim of the project is to catch disease processes earlier and provide the kind of treatment that will prevent them becoming chronic, life-limiting or life-threatening conditions. This is an optimistic goal, given the stretched state of the UK health service.

Volunteers will not only complete lifestyle and current health questionnaires, they will also have the results of blood and genetic testing added to their profile. The data collected will be made available to researchers working for universities and the NHS, but also companies, which might make some people think twice about signing up. However, the information shared is supposed to be anonymised.

In return, volunteers can request some of their results to heighten their own awareness of the possible health risks their genes predispose them to.

ourfuturehealth.org.uk
BBC. bbc.in/3QyiEhd

global warming & infectious diseases

It is hardly surprising that a warming planet will, amongst all the other negative impacts, increase the range (and hence the incidence) of infectious disease. A recent analysis of over 800 published studies[1] found that *climate change had exacerbated 58 per cent of infectious diseases in certain documented instances.*[2]

Diseases like malaria and certain diarrhoeal diseases like cholera, once largely limited to tropical climes, are expected to become more common in formerly temperate regions as the earth warms. Diarrhoeal disease generally is a risk whenever there is flooding, and we have seen some catastrophic floods in the last ten years,[3] even in the UK.[4]

But it doesn't end there – the team from the University of Hawai'i at M'noa (UHM) found *3,213 empirical case examples in which climatic hazards were implicated in pathogenic diseases*, and the study includes a long list of infectious diseases and the various ways in which climate change and an ever increasing human population facilitate their spread.

The study concludes: *The sheer number of pathogenic diseases and transmission pathways aggravated by climatic hazards reveals the magnitude of the human health threat posed by climate change and the urgent need for aggressive actions to mitigate GHG [greenhouse gas] emissions.*

1. Nature *go.nature.com/3GBBxLG*
2. Eos. *bit.ly/3Xi09Qm*
3. Nature. *go.nature.com/3ZvVNac*
4. UK Government. *bit.ly/2sCuq38*

COVID vaccine equity still some way off

The United Nations Development Programme (UNDP) continues to maintain data on COVID vaccination rates, which has largely vanished from UK news headlines. The headline figure used is the percentage of the whole population who have received at least one dose of COVID-19 vaccine (this is not the definition of 'fully vaccinated' in most Western countries).

In higher income countries, nearly three in four people have now received a single dose, while in low income countries only one in three have done so. Interestingly those in 'upper-middle income' countries have the highest rate (four in five). The figure for higher income countries may be skewed by vaccination rates in the populous US, which remain substantially below those in other rich countries.

Data are also presented comparing the increase in healthcare spending needed for a given country to vaccinate 70 per cent of its population with one dose. In higher income countries this averages 0.8 per cent; in low-income countries the figure is very much higher, at 56.6 per cent.

It is now more than two years since the first vaccines were given in the UK. It is still thought that these give significant protection against death and serious illness. It is harder now to separate immunity derived from vaccines and that derived from infection in the UK, but it was clear during late 2021 that high proportions of those requiring intensive care support had not been vaccinated. If this remains even partially the case, the health systems of countries with low vaccination rates will continue to suffer. ▪

UNDP. *data.undp.org/vaccine-equity*


CMF
national conference 2023
Songs
for the struggle
21-23|4|23
cmf.li/NatCon23