

Sam Leinster considers the relationship between faith and research

Integrity in RESEARCH

key points

Fraudulent research harms patients, ruins careers and wastes resources. Yet the pressure to succeed academically can be immense and one in five new consultants is tempted to carry out research fraud. As Christians we need to recognise that any kind of deception is wrong. Our scientific understanding can improve our theology, and our faith should spur us on to improve our world by serving other people through research. We need to conduct our research with integrity, diligence, honesty and humility. In so doing, we will be salt and light to our academic colleagues.

Research has long been regarded as an aid to advancement in medicine. Indeed, in some disciplines it is almost a necessity. It is therefore not surprising that individuals have been tempted to falsify the reports of their research, given the increasingly competitive nature of medical careers. There have been well-reported cases of fraud: reporting groundbreaking procedures that never actually took place;¹ deliberate falsification of data;² falsification of ethical approval;³ and falsification of consent forms.⁴

A study of the attitudes of 194 newly appointed consultants to research fraud found that 55.7 percent claimed to have witnessed research misconduct while 5.7 percent admitted to personal misconduct in research.⁵ When asked whether they would perpetrate misconduct in research in the future, 18.7 percent either agreed that they would or were unsure if they would. Much of the observed misconduct involved claims of authorship on papers by individuals who had had little or no real input to either the research or the writing up. While this may seem a relatively trivial offence, it can lead to problems, especially when a senior figure lends authority to falsified data as happened in two of the cases referred to above. In both cases the senior person appeared before the GMC charged with serious professional misconduct.

Harming patients, wasting money

Fraudulent reporting of research can harm patients

and can lead to a waste of resources. High dose chemotherapy supported by stem cell infusion or bone marrow transplantation was suggested as a potential adjuvant treatment for patients with early breast cancer who had a high risk of early recurrence. One trial was reported as showing significant benefit for the high dose regimen compared with standard treatment. On the basis of this trial, there were moves to introduce this regimen into routine practice, exposing women to high levels of morbidity and placing a heavy burden of cost on the health economy. However, the reported trial results were found to have been falsified and, to date, the evidence for the benefit of high-dose chemotherapy remains inconclusive.⁶

A Christian attitude

In this environment, what should our attitude to research be? Are there any specifically Christian considerations over and above the basic requirement of integrity that is expected of all medical practitioners? To put it another way – why should Christians be involved in research and how should they conduct themselves in it?

Our duty to God

The Lord Jesus taught us that the greatest commandment was, 'You will love the Lord your God with all your heart, and with all your soul, and with all your mind, and with all your strength'.⁷ The assumption that Christianity is anti-intellectual

is as far from the truth as it possibly could be. We are called upon to use our minds as part of our worship. God has given us the faculty of curiosity and we honour him when we seek to understand the world around us. Scientific research is a channelling and a refining of that natural curiosity to make it more effective and productive.

Improve our theology

The Apostle Paul tells us, '...since the creation of the world God's invisible qualities have been clearly seen, being understood from what has been made'.⁸ In other words, we can understand God's wisdom and his power by contemplating the world around us. It follows from this that the more we understand of the way things work, the greater will be our understanding of God. Far from being the arch-enemy of the Christian, science is a tool by which we come to know more about God. We still tend to fall into the error of supposing that once we have found a scientific explanation for something then we have eliminated God from it. We need to regain Kepler's understanding that in research we are thinking God's thoughts after him. Genomics, proteomics and metabolomics do not diminish our understanding of God's role in creation; they enhance it so that we are led to exclaim with the Psalmist, 'I am fearfully and wonderfully made'.⁹

Improve the world

In Genesis, humanity is given the much misunderstood command, '...fill the world and subdue it'.¹⁰ While the accusation has often been levelled that this justifies the exploitation of nature, it is in reality our mandate for caring for the Earth. We Christians cannot turn our backs on ecological issues on the grounds that our concern is for the Kingdom of God and is purely spiritual. We need the insights that come from good research to understand and fulfil our duty in this regard. The development of modern medicine is part of this duty; Christians have been, and must continue to be, heavily involved in this activity.

Called to serve others

If the first command is to love God, the second is 'Love your neighbour as yourself'.¹¹ Acting in the best interest of our patients means providing them with the best evidence based management. A false dichotomy is commonly drawn between person-centred medicine and scientific medicine. Good medicine is an amalgam of the two. In order to meet our patients' needs in the most effective ways possible we must be familiar with the latest science and technology. Involvement in research is a natural concomitant of this.

How should we conduct ourselves?

Integrity essentially means wholeness. The principles governing our approach to research are the same as the principles that should govern everything that we do. There are three particularly important principles – diligence, honesty and humility.

Diligence

Every Christian's primary duty is to God but this should show itself in the way we approach our everyday lives. No task should be routine or unimportant because we are told, 'What ever you do work at it with all your heart, as working for the Lord'.¹² This applies to our approach to research as well as everything else.

Good research requires hard work and attention to detail. This starts even before the planning of the project with a systematic review of the literature. Unless you know what is already known, you will not know which questions you should be asking. The planning should be meticulous and must meet the best scientific standards for the type of study that is proposed. This includes an assessment of the resources needed to obtain a valid and useful result.

Perhaps the commonest failing in clinical studies is the recruitment of inadequate numbers of patients to evaluate the hypothesis. Analogous considerations apply to other types of study. All of the possible ethical issues must be considered. Data collection should be thorough and as complete as possible. Missing data can distort an analysis and lead to false conclusions; the effective sample that can be analysed may then be much smaller than the one from which the data was collected. The analysis must be appropriate, making use of all of the available data.

Honesty

Jesus himself exhorted us to be both plain and trustworthy in what we say.¹³ Quite apart from the pragmatic reasons for honesty already discussed, Christians are called to follow the one who is the truth; that must mean the truthful reporting of our findings, whether or not they support our cherished hypotheses.¹⁴

Humility

Humility should be a defining characteristic of our lives as Christians and this applies especially to our approach to research.¹⁵ Our value in God's eyes does not depend on our cleverness or our discoveries. If God has called us to research and given us the talents necessary to be successful in this field, then we must follow that calling faithfully but not think that it makes us in any way superior to others whose calling is different.¹⁶

We are called to be salt and light in the world.¹⁷ One element of this calling must be the application of the highest standards in the planning, conduct and reporting of research, and the promotion of these standards to others.

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Scientific research is a channelling and a refining of God-given curiosity

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