

On the Prohibition of Human and Non-Human Gene Patenting

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Even when accounting for inflation, healthcare spending per capita increased by nearly 510% between 1970 and 2018 [1]. Furthermore, according to data published in the Health Affairs journal, the percentage of household income devoted to healthcare-related expenditures increased to 30% in 2016 [2]. Thus, it has become apparent that the matter of falling coverage rates, as well as rising premiums must be addressed. In doing so, one might turn to the practice of **patenting** in the healthcare sector, specifically in fields presenting a high cost of entry. Pharmaceuticals, for example, have been notorious for their fiscally-intensive research and development (R&D) requirements, and were estimated to incur costs of around \$2.8 billion in 2013 [5]. By contrast, genomic and CRISPR-based medical solutions were found to cost as much as five times *more* than their pharmaceutical counterparts to develop [4]. Thus, the employment of medical patents by pharmaceutical and biotech companies is necessary to foster continued innovation in the healthcare industry. However, it is with consideration to the rulings and opinions of the supreme court, as well as the claims of the plaintiffs in relevant cases of arbitration that the assertion may be safely made that the patenting of **non-synthetic** genes, human and nonhuman, should be prohibited on the basis of the practice's categorical illegitimacy, as well the demonstrable harm done to humans as a result of its adverse market consequences.

By definition, a patent describes an invented process, product, or methodology [6]. Patents on non-synthetic genes, by contrast, do not describe *invented* products, but *discovered* realities of nature —the specific location of genes on a strand of DNA. As such, their existence is categorically and inherently illegitimate, as it contradicts the legal definition of a patent. In 2012, this definition was upheld by both the Southern District Court of New York and the Supreme Court in *Association for Molecular Pathology v. Myriad Genetics, Inc.* on the basis that such patents, "covered products of nature." [7]

References

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