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Pharmaceutical Access and the Human Right to Science

Michelle Brotherton

***Abstract*—Access to medicines is a pertinent human rights issue: inadequate access to necessary medications poses severe consequences, including preventable deaths. The right of access to medicines is recognised as a fundamental aspect of the right to health, which is widely integrated into international and domestic legal systems. A right that has received less attention, however, is the right to benefit from scientific progress and its applications (hereinafter referred to as 'the right to science'). This is a long-standing right, but has only recently begun to draw attention in the discourse on human rights. There is an interdependence between the two aforementioned rights, primarily in that science is required for the research and development of medicines. Thus it can be argued that, without the right to science, the right to medicines cannot be fully realised. This inquiry lays the foundation for further exploration of the utility of the right to science in alleviating prominent global issues such as inadequate access to medicines.**

***Index Terms*—Access to Medicine; Health Rights; Medicine Shortages; Right to Science; Socio-economic rights.**

I. INTRODUCTION

> "Nearly 2 billion people have no access to basic medicines, causing a cascade of preventable misery and suffering."[1]

This statement, by the World Health Organisation (WHO), highlights an alarming reality: masses of people across the globe do not have access to medicines they need, many of which can be life-altering and even life-saving. Necessary vaccines should be available to those who need them for preventive health. Individuals reliant on chronic medications should have access to them. Emergency medicines should be universally accessible. Such issues all relate to illness and, sadly, deaths, that are preventable through access to the necessary medications. As WHO goes on to note:

> "Lack of access to medicines causes a cascade of misery and suffering, from no relief for the excruciating pain of a child's earache, to women who bleed to death during childbirth, to deaths from diseases that are easily and inexpensively prevented or cured. Lack of access to medicine is one inequality that can be measured by a starkly visible yardstick: numbers of preventable deaths."[2]

The impact on health of a lack of access to medicine is disturbing; health is a recognised human right,[3] and access to medicines is a fundamental aspect of that right.[4] Ahmadiani & Nikfar capture the connection:

> "[h]ealth is a basic human right and access to medicines is a basic tool to ensure health".[5]

Access to medicine, then, is fundamental to ensuring that the right to health can be realised. Good health requires access to medicine.[6] At the very least, essential medicines (such as determined by WHO every two years)[7] should be accessible to aid

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[1] World Health Organization, 2017. Ten Years in Public Health, 2007-2017—Report by Dr Margaret Chan, Director-General "Access to Medicines: Making Market Forces Serve the Poor" https://www.who.int/publications/10-year-review/chapter-medicines.pdf? (accessed 23 July 2019).

[2] Ibid

[3] UNGA Res 217 A(III) Article 25.

[4] International Covenant on Economic, Social and Cultural Rights, Adopted by United Nations General Assembly Resolution 2200A (XXI) of 16 December 1966 article 12(2).

[5] S Ahmadiani & S Nikfar, 2016. "Challenges of access to medicine and the responsibility of pharmaceutical companies: a legal perspective" *Journal of Pharmaceutical Sciences* 24:1, 6.

[6] World Health Organization, 2017. Ten Years in Public Health, 2007-2017—Report by Dr Margaret Chan, Director-General "Access to Medicines: Making Market Forces Serve the Poor" https://www.who.int/publications/10-year-review/chapter-medicines.pdf? (accessed 23 July 2019).

[7] WHO Model List of Essential Medicines (updated every two years by Expert Committee on Selection and Use of Essential Medicine) https://www.who.int/publications/i/item/WHO-MHP-HPS-EML-2023.02 (accessed 10 April 2025).

the realisation of the right to health. WHO recognises that the medicines available today have the capacity to prevent and treat illnesses and diseases that, in prior years, would have resulted in death.[8] Yet, despite this acknowledgement of the role that medicine can and does play, billions of people still lack access—effectively, as WHO puts it, "shutting them off from the benefits of advances in modern science and medicine."[9]

The right to science is also a recognised human right.[10] Generally recognised as the right to benefit from scientific progress and its applications, it is also entrenched in international law. Arguably, this right has not received the attention it deserves. As Smith notes:

> "The human right to science is perhaps more relevant today than it has ever been, with access to innovations in healthcare, information technology and climate-friendly energy production being some of the defining issues of present-day life."[11]

Science and technology have had a major impact on society and on our quality of life, and this impact continues to grow. By drastically changing our means of communication and transport, the way we work, our housing, clothing and food, as well as our lifespan, science has affected every aspect of modern life.

In particular, the impact of science on health has been huge, given the advancements in technology and medicine—both lifespan and quality of life have been significantly increased. Science is integral to advancements in medicine, creating an intersection between the right to science and the right to health: the former has the practical potential to support the realisation of the latter. The United Nations (UN) Special Rapporteur in the field of cultural rights states that "[t]he right to science is usually regarded as a means to advance the realization of other human rights and to address the needs common to all humanity."[12] This inarguably includes the potential to use the right to science to achieve the right to health, with particular regard to access to medicines.

On the subject of access to medicines, Ozawa *et al.* state:

> "Ensuring access to medicines requires a complex systems approach involving diverse stakeholders and disciplines, from law and pharmacy to economics, with a global accountability mechanism. It is essential to push existing boundaries to generate evidence and implement successful interventions to improve access to medicines through health systems."[13]

This paper seeks to examine the potential of the right to science to realise an aspect of the right to health. In making this argument, it will consider the nature and scope of the rights in question, as well as instances in which the right to science has been utilised for the advancement of other rights. Given the number of people affected by inadequate access to basic medicine, further means to ensure access (through applying the right to science) should not be overlooked, particularly in cases that allow for the issue to be litigated. The crux of this paper, therefore, is how the right to science can aid in improving access to medicine—a human right, and a dire need for many.

II. INTERSECTION OF RIGHTS

The Right to Health and Medicines

The United Nations (UN) Charter was the first document in international law to recognise the right to health.[14] Article 55 stipulates that the UN is to promote solutions to health problems;[15] furthermore,

[8] World Health Organisation, https://www.who.int/health-topics/medicines#tab=tab_1 (accessed 10 April 2025).

[9] World Health Organization, 2017. Ten Years in Public Health, 2007-2017—Report by Dr Margaret Chan, Director-General "Access to Medicines: Making Market Forces Serve the Poor" https://www.who.int/publications/10-year-review/chapter-medicines.pdf? (accessed 23 July 2019).

[10] International Covenant on Civil and Political Rights (adopted) 16 December 1966, entered into force 23 March 1976) 999 UNTS 171 Article 15.

[11] T Smith, 2020. "Understanding the nature and scope of the right to science through the Travaux Préparatoires of the Universal Declaration of Human Rights and the International Covenant on Economic, Social and Cultural Rights" *International Journal of Human Rights* 24(8) 1156 -1179, 1179.

[12] Special Rapporteur on the field of cultural rights, 2012. "Report of the Special Rappoteur in the field of cultural rights, Farida Shaheed" Human Rights Council, 20th session, para 2.

[13] S Ozawa, R Shankar, C Leopold, & S Orubu, 2019. "Access to medicines through health systems in low- and middle-income countries" *Health Policy and Planning* 34.

[14] Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI.

[15] Ibid Article 55(a) & (b).

the Charter recognises health and medicine as essential to international peace and security.[16] Whilst this document does not recognise individual health rights *per se*, it imposes a commitment on States parties to the UN to promote solutions to health problems and a higher standard of living.[17]

The Universal Declaration of Human Rights (UDHR), adopted in 1948, includes specific reference to health rights.[18] Article 25 provides:

> "Everyone has the right to a standard of living adequate for the health and well-being of himself and his family, including food, clothing, housing and medical care and necessary social services, and the right to security in the event of unemployment, sickness, disability, widowhood, old age and other lack of livelihood in circumstances beyond his control."

In this document, health is treated not as a standalone right but as a means to realise a certain standard of living. This underscores the interdependence between health and other socioeconomic rights.

The UDHR is a resolution of the United Nations General Assembly and therefore not legally binding; rather, it serves as an accepted standard for the realisation of rights by all nations.[19] It was the non-binding nature of this document that, in part, motivated the United Nations Commission on Human Rights to draft the International Covenant on Economic, Social and Cultural Rights (ICESCR), as well as the International Covenant on Civil and Political Rights—both of which documents do impose legal obligations on member states. Of these, the ICESCR is arguably the most significant binding international human rights treaty providing for the right to health, recognising explicitly the right to health in article 12(1):

> "The States Parties to the present Covenant recognize the right of everyone to the enjoyment of the highest attainable standard of physical and mental health."

Article 12(2) then provides for steps to be taken by the States parties to realise such right. Included in these is the requirement for the "creation of conditions which would assure to all medical service and medical attention in the event of sickness." Discourse on the wording of the right identifies article 12 as seeking two goals: the recognition of a right to health, and an obligation on states to ensure a certain standard of health care.[20] This, then, incorporates both the right to health as well as the socioeconomic conditions that impact health.[21]

The United Nations Committee on Economic, Social and Cultural Rights issues General Comments, which seek to provide interpretive guidance on the rights contained in the ICESCR. These provide insight into the Committee's understanding of rights and the steps necessary to realise them. They elaborate further on the obligations imposed by the ICESCR, and seek to ensure compliance through, *inter alia*, periodic reporting procedures.[22] Whilst General Comments are not legally binding, they hold persuasive value as authoritative interpretations.[23]

General Comment 14 on the Right to Health, issued by the Committee in 2000,[24] reiterates the definition of the right health provided in Article 12 of the ICESCR and lists obligations imposed by the

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[16] Charter of the United Nations (adopted 26 June 1945, entered into force 24 October 1945) 1 UNTS XVI, Article 55; D M Chirwa "The Right to Health in International Law: Its Implications for the Obligations of State and Non-State Actors in Ensuring Access to Essential Medicine" (2003) 19 *SAJHR* 541 544; World Health Organisation *The First Ten Years of the World Health Organisation* (1958).

[17] S D Jamar "the International Human Right to Health" (1994) 22 *Southern University Law Review* 1 19.

[18] UNGA Res 217 A(III).

[19] H Hannum "The United Nations and Human Rights" in C Krause & M Scheinin (eds) *International Protection of Human Rights: A Textbook* 2 ed (2012) 61 63. Some articles of the UDHR have attained the status of customary international law, O De Schutter "The Status of Human Rights in International Law" in C Krause & M Scheinin (eds) *International Protection of Human Rights: A Textbook* 2 ed (2012) 39 41.

[20] B Saul et al *The International Covenant on Economic, Social and Cultural Rights* (2014) 979; M Ssenyonjo *Economic, Social and Cultural Rights in International Law* (2009) 324; B C A Toebes *The Right to Health as a Human Right in International Law* (1999) 300.

[21] M Ssenyonjo *Economic, Social and Cultural Rights in International Law* (2009) 324.

[22] Articles 16-25 of the ICESCR concern reporting procedures; A Hendricks "The Right to Health" (1994) *European Journal of Health Law* 187 187; E Riedel "Economic, Social and Cultural Rights" in C Krause & M Scheinin (eds) *International Protection of Human Rights* 2 ed (2012) 131 144.

[23] E Riedel "Economic, Social and Cultural Rights" in C Krause & M Scheinin (eds) *International Protection of Human Rights: A Textbook* 2 ed (2012) 131 145-146.

[24] United Nations Committee on Economic, Social and Cultural Rights General Comment No.14: *The Right to the Highest Attainable Standard of Health (art 12)* UN Doc E/C.12/2000/4.

right.[25] It also recognises that the right to health includes socioeconomic circumstances that have an impact on health, further emphasising the interrelationship between socioeconomic rights.[26] The four essential elements of the right to health recognised in General Comment 14 are availability, acceptability, quality, and accessibility [27] Availability speaks to the "functioning public health and health care facilities, goods and services, as well as programmes, [that] must be available in sufficient quantity".[28] Thus there is an obligation on States parties to make available sufficient health care resources. Accessibility has four dimensions: non-discrimination, physical accessibility, economic accessibility, and accessibility of information. Health care must be accessible in all four of these. In terms of acceptability, goods and services must be acceptable and conform to medical ethics. Lastly, the quality dimension requires that "health facilities, goods and services must be scientifically and medically appropriate and of good quality."[29] These essential elements offer a framework for understanding the normative content of the right to health.[30]

It is evident from General Comment 14 that medicine and technological development are considered essential components of realising the right to health in its various aspects. For instance, paragraph 16 of General Comment 14 provides:

> "The control of diseases refers to States' individual and joint efforts to, *inter alia*, make available relevant technologies, using and improving epidemiological surveillance and data collection on a disaggregated basis, the implementation or enhancement of immunization programmes and other strategies for infectious disease control."

All four elements of the right under article 12(2) require medicine and scientific or technological advancements for their realisation. Particularly, General Comment 14 further holds that the right to health facilities, goods and services under article 12(2)(d) of the ICESCR includes:

> "[T]he provision of equal and timely access to basic preventive, curative, rehabilitative health services and education; regular screening programmes; appropriate treatment of prevalent diseases, illnesses, injuries and disabilities, preferably at community level; the provision of essential drugs; and appropriate mental health treatment and care."[31]

With particular reference to the provision of essential drugs, General Comment 14 also includes such provision under its list, in paragraph 43, of core obligations on states. The central role of medicine, and its advancement in terms of science and technology, is core to this article's argument. It is precisely this recognition that links the right to health with the right to enjoy the benefits of scientific progress, particularly regarding access to medicine.

The right to medicine is a recognised component of the right to health, as well as a means by which to realise that right. This international recognition underscores the importance of medicines, and of scientific research and development, to address emerging health issues as they develop, as evidenced by the COVID-19 pandemic. The United Nations General Assembly recognised this point in a 2009 resolution, stating that:

> "[A]ccess to medicine is one of the fundamental elements in achieving progressively the full realization of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health"[32]

Medicine relies on research and development, and thus requires the process of science. It follows, then, that the realisation of the right to health, in terms of the right to access medicine, requires science. The next section will examine another socioeconomic right: the right to benefit from scientific progress and its benefits and applications. (the right to science) We will then consider the intersection

[25] Ibid para 4
[26] Ibid para 11.
[27] Ibid para 12
[28] Ibid para 12(a).
[29] Ibid para 12(d).
[30] J Tobin, 2001. *Right to Health in International Law* 174.
[31] United Nations Committee on Economic, Social and Cultural Rights General Comment No.14: *The Right to the Highest Attainable Standard of Health (art 12)* UN Doc E/C.12/2000/4 para 17.
[32] UN GA Resolution Access to medicine in the context of the right of everyone to the enjoyment of the highest attainable standard of physical and mental health A/HRC/Res12/24 12 October 2009.

between these two rights, and examine how the right to science can serve to realise the right to medicines under the right to health.

The Right to Benefit from Scientific Progress and its Applications

In the face of today's global socioeconomic and developmental problems, people are increasingly looking to science and technology for solutions.[33] Science can address issues such as malnutrition, development, and infectious diseases, as well as enhance quality of life in various other aspects. The right to science, as it has come to be known, provides an avenue by which to address myriad socioeconomic issues. This is not something novel, but a right that has long been recognised: the first mention of the right to enjoy the benefits of scientific progress (the right to science) can be found in the American Declaration of Rights and Duties of Man, 1948.[34] It is after this that the right became a binding norm following continued recognition in international legal instruments. The Universal Declaration of Human Rights (UDHR) recognises the right to science in article 27(1):

> "Everyone has the right to freely participate in the cultural life of the community, to enjoy the arts and to share in scientific advancement and its benefits."

The International Covenant on Economic, Social and Cultural Rights (ICESCR) recognises the right to science in article 15(1)(b), which states that persons have the right "[t]o enjoy the benefits of scientific progress and its applications". More recently, in 2009, the right to science received further attention when it was examined at a meeting of experts in Venice, Italy. The result was the 'Venice Statement',[35] which elaborates on article 27 of the UDHR, considering the normative content of the right. This recognises, *inter alia*, that the right applies to all fields of science and its applications; that it has links to other rights; that the right can be enjoyed individually and collectively; and that "in conformity with the principles of universality, indivisibility, interdependence and interrelatedness, this right is relevant to the realisation of other civil, cultural, economic, political, and social rights".[36] In light of this, and as suggested by Muller,[37] the right to science constitutes not only a human right, but also a crucial element in the realisation of other rights.

In 2012, the Special Rapporteur in the field of cultural rights, Farida Shaheed, considered the right to science under the ICESCR.[38] She emphasised that the right to science can be a "prerequisite" to the realisation of other socioeconomic rights,[39] noting that:

> "The right to science is usually regarded as a means to advance the realization of other human rights and to address 'the needs common to all humanity'"[40]

The Special Rapporteur considers regional law that recognises the right to science, including the Charter of the Organization of American States;[41] the Arab Charter on Human Rights;[42] the Charter of the African Union;[43] and the European Charter of Fundamental Rights.[44] This international recognition gives credence to the right to science and its utility for realising other socioeconomic rights. In the context of such recognition, the Special Rapporteur considers the scope of the right:

> "Science must be understood as knowledge that is testable and refutable, in all fields of inquiry, including social sciences, and encompassing all

[33] Y Dondurs. 2011, 'The right to enjoy the benefits of scientific progress: in search of state obligations in relation to health' Med Health Care and Philosophy 14:371-381.

[34] American Declaration of Rights and Duties of Man, 1948, Article XIII.

[35] Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications https://www.aaas.org/sites/default/files/VeniceStatement_July2009.pdf (accessed 10 January 2025).

[36] Ibid 12(c).

[37] Müller, Ameri. "Remarks on the Venice Statement on the Right to Enjoy the Benefits of Scientific Progress and its Applications" *Human Rights Law Review*, 2010, 10:4, 765-784.

[38] Special Rapporteur on the field of cultural rights, 2012. "Report of the Special Rapporteur in the field of cultural rights, Farida Shaheed" Human Rights Council, 20th session.

[39] Ibid para 23

[40] Ibid para 2

[41] Charter of the Organization of American States, https://www.oas.org/dil/1948%20charter%20of%20the%20organization%20of%20american%20states.pdf (Accessed 10 January 2025).

[42] Arab Charter on Human Rights, https://www.ohchr.org/sites/default/files/Documents/Issues/IJudiciary/Arab-Charter-on-Human-Rights-2005.pdf (Accessed 10 January 2025).

[43] Charter of the African Union, https://au.int/sites/default/files/pages/34873-file-constitutiveact_en.pdf (Accessed 10 January 2025).

[44] European Charter of Fundamental Rights, https://www.europarl.europa.eu/charter/pdf/text_en.pdf (Accessed 10 January 2025).

> research. The terms 'benefits' of science and 'scientific progress' convey the idea of a positive impact on the well-being of people and the realization of their human rights. The 'benefits' of science encompass not only scientific results and outcomes but also the scientific process, its methodologies and tools."[45]

The United National Committee on Economic, Social and Cultural Rights defines science slightly differently:

> "[S]cience, which encompasses natural and social sciences, refers both to a process following a certain methodology ("doing science") and to the results of this process (knowledge and applications)."[46]

The Committee issues General Comments to provide interpretive guidance on various rights under the ICESCR, as discussed above in relation to the right to health. In 2020, the Committee issued General Comment 25 on Article 15: science and economic, social and cultural rights .[47] General Comment 25 contemplates the essential elements of the right in terms of availability, accessibility, quality, and acceptability. Regarding the scope of the right, Boggio holds that the right to science has five components: the right to science; the right to responsible science; the right to contribute to science; the right to scientific knowledge; and the right to scientific applications.[48]

Especially relevant to this inquiry is the commentary in General Comment 25 regarding the core obligations imposed by the right. It recognises these to include ensuring "access to those applications of scientific progress that are critical to the enjoyment of the right to health and other socioeconomic and cultural rights". [49] Furthermore, under 'Special Topics of Broad Application', the scope of the right to science is recognised to include health and medicine in that:

> "The links between the right to participate in and to enjoy the benefits of scientific progress and its applications and the right to health are clear and diverse. Firstly, scientific progress creates medical applications that prevent diseases, such as vaccinations, or that enable them to be more effectively treated. The right to participate in and to enjoy the benefits of scientific progress and its applications is therefor instrumental in realizing the right to health. States should promote scientific research, through financial support or other incentive, to create new medical applications and make them accessible and affordable to everyone, especially the most vulnerable. In particular, in accordance with the Covenant, States parties should prioritize the promotion of scientific progress to facilitate better and more accessible means for the prevention, control and treatment of epidemic, endemic, occupational and other diseases."[50]

The Special Rapporteur echoes these sentiments in her recommendation that states "ensure that innovations essential for a life with dignity reach everyone".[51] The right to science is explicitly recognised as relevant to the realisation of other rights, including the right to health (and how that pertains to access to medicines). Such recognition speaks to the utility of the right to science: whilst it has intrinsic value, it can also serve as a tool to aid the realisation of other human rights. The intersection between the right to health (as it pertains to access to medicines) and the right to science will now be examined to determine *how* we can utilise the right to science, and why we should.

III. UTILISING THE RIGHT TO SCIENCE FOR ACCESS TO MEDICINES

Interrelationship Between The Rights

It is recognised that "the REBSP [right to enjoy the benefits of scientific progress and its applications] is closely related to other human rights enshrined

[45] Special Rapporteur on the field of cultural rights, 2012. "Report of the Special Rapporteur in the field of cultural rights, Farida Shaheed" Human Rights Council, 20th session, para 24.

[46] United National Committee on Economic, Social and Cultural Rights General Comment No. 25 (2020) on article 15: science and economic, social and cultural rights, para 5.

[47] Ibid

[48] A Boggio, 2021. "The right to participate in and enjoy the benefits of scientific progress and its applications: a conceptual map" *New York International Law Review* 34:2, 43-77.

[49] United National Committee on Economic, Social and Cultural Rights General Comment No. 25 (2020) on article 15: science and economic, social and cultural rights, para 52.

[50] Ibid para 67.

[51] Ibid para 74(a).

in the ICESCR, such as the right to health, and therefore can facilitate and accelerate the realisation of these rights, as a 'facilitatory' and 'enabling' right."[52] With the intersection between the right to science and the right to health—and thereby access to medicines—established, we can now examine *how* the right to science can be utilised in this regard. In doing so, some examples of its intersections and its utility of the right to science are relevant.

Dondurs notes that "The development of vaccines and medicines against widespread diseases has done much to improve life expectancy".[53] She argues that examples such as these showcase the inherent link between the right to science and other human rights, in particular the right to health.[54]

It is worth noting, however, that some health issues have received less scientific attention than others, and therefore very little investment into research and development of therapeutics and treatments. Tuberculosis (TB) is one example: this disease is more prevalent in poorer countries, with the consequence, common in such cases, that it receives less scientific investment. For example, until 2012, no new TB treatment had been developed for 40 years.[55] This is a startlingly long time considering the speed at which medical science has progressed. Such issues speak to the tension that exists between the protection of intellectual property and the right to benefit from science, especially in terms of pharmaceuticals and where investments are focused. The right to science is sometimes interpreted in a limiting manner, with the focus on protection of intellectual property rather than the potential universal benefits of science. This issue, while outside the scope of this article, remains an aspect of the right to science, as it relates to medicine, that deserves attention.

Utilising The Right to Science

The ICESCR provides for four steps essential to realising the right to health; all four arguably rely on science. The step of reducing infant and child mortality requires medicines, therapeutics such as rehydration treatment, and vaccination against prevalent diseases, all of which depend on scientific research and development. The step of realising environmental and industrial hygiene requires scientific research to determine the underlying causes of poor environmental health and the issues pertaining to industrial hygiene, followed by further research and development to provide the means of ensuring environmental and industrial hygiene. The third step, the prevention, treatment and control of epidemics, involves scientific research into their causes and effects, as well as the development of prevention and treatments. The last step is realising the provision of medical services, to which science is integral in that the provision of medicines is a component of 'medical services'. Medicine, which cannot be developed without science, is a prime example of how the public can benefit from scientific progress and its applications.

Given the scope of the right to science, as outlined in Section 2 above, it is worth examining its potential as a litigation tool in seeking to realise other rights, such as the right to access to medicines under the right to health. That is to say, if utilised with the right to health, the right to science may offer further legal means to help secure access to medicines. We analyse a case in which access to medicines was litigated through reliance on the right to science, foregrounding the procedural and substantive hurdles encountered. By contrasting this matter with decisions that explicitly engaged the right to science, we illuminate the added value of invoking this right as a strategic vehicle for realizing cognate rights—where a demonstrable nexus exists between the resource at issue (for example, essential medicines) and the right to science. This comparative lens clarifies how the right to science can strengthen arguments on availability, accessibility, quality, and affordability, and can sharpen judicial scrutiny of state obligations to respect, protect, and fulfill.

The case of *Lopez, Glenda, et al. v Instituto Venezolano de los Seguros Sociales*[56] is an example in

[52] R Shawa, F Coomans, H Coz, & L London, 2023. "A promising potential: Using the right to enjoy the benefits of scientific progress to advance public health in South Africa" *African Human Rights Law Journal* 23, 30-47, 47.

[53] Y Dondurs. 2011, 'The right to enjoy the benefits of scientific progress: in search of state obligations in relation to health' Med Health Care and Philosophy 14:371-381.

[54] Ibid

[55] S Tiberi, R Buchanan, J Caminero, R Centis, M Arbex, M Salazar, J Potter, G Migliori, 2017. "The challenge of new tuberculosis drugs" *Quarterly Medical Review* 46.

[56] *Lopez, Glenda, et al. v Instituto Venezolano de los Seguros Sociales* https://www.escr-net.org/es/caselaw/2006/lopez-glenda-y-otros-c-instituto-venezolano-seguros-sociales-ivss-s-accion-amparo/ (Accessed 10 January 2025).

which the right to science aided in litigating the issue of access to medicines. In 2001, the Venezuelan Supreme Court addressed the rights of a group of persons living with HIV who petitioned the Court in an *amparo* action. (An *amparo* action is the process of seeking judicial remedy for the protection of constitutional rights under Venezuelan law; Article 17 of the Venezuelan Constitution provides for *accion de amparo*.) The group argued that the Venezuelan Institute of Social Security (IVSS) was failing to provide antiretroviral drugs to those in need. The Court held that relief was to be granted to all persons registered with the IVSS who were HIV-positive, met the relevant criteria, and had requested the necessary medication. Various rights were argued to have been violated by this failure of the IVSS, including the right to life (under article 58 of the Venezuelan Constitution), the right to health (under article 76 of the Venezuelan Constitution), the right to personal liberty and security (under article 60 of the Venezuelan Constitution), the right to social security (under article 94 of the Venezuelan Constitution), and the right to benefit from scientific progress and its applications. Although the right to science is not specifically provided for the in the Venezuelan Constitution, Venezuela is a party to the ICESCR and the right can therefore be invoked under this framework. On the basis of the rights argued, the court held that the group was entitled to the benefits of scientific progress through access to HIV treatment, thus illustrating the utility of the right to science when invoked with other rights. As seen in this case, the right to health (particularly regarding access to medicines) arguably cannot be realised without reliance on the right to science.

The *Lopez* case illustrates how the right to science can be utilised to circumvent issues such as patents and essential medicines lists, and in cases where it is difficult to prove violation of rights such as social security and the right to health. It serves as a reminder that invoking this right can support arguments to realise other rights, on the basis that individuals are entitled to benefit from scientific progress. The right to science has arguably been underutilised in this context, considering its intrinsic connection to issues such as access to medicine under the right to health. Examples of its success in this regard are sparse, not because it is not a viable option, but perhaps because the right to science has only recently begun to receive attention regarding its utility in realising other rights. Further exploration is warranted into the potential benefits of invoking this right to overcome the hurdles associated with rights issues such as access to medicine.

IV. CURRENT CONTEXT

The potential impact of current geopolitics on trade may, for many countries, affect access to medicines via imports. This, coupled with the supply chain issues exposed by the COVID-19 pandemic, has brought closer attention to possible weaknesses in the pharmaceutical supply chain. With the responsibility on states to ensure access to medicines, countries are now, perhaps more than ever, reevaluating how they procure medicines in the event of shortages. There is potential for increased litigation over access to essential medicines, particularly where shortages exist and countries depend on fragile trade agreements for procurement. Invoking the right to science in arguments for access to medicines may strengthen such litigation, hastening the need for countries to explore local manufacturing options to guarantee consistent supplies.

Australia, for example, is facing a medicine supply crisis.[57] The Australian Medical Association is calling for the establishment of a dedicated forum to address supply chain issues regarding essential medicines. Currently, it is estimated that 400 medicines are in short supply, with 30 of these classified as critical.[58] Over 90% of Australia's medicines are imported, making supply chains fragile and unpredictable. As concerns grow over access to life-saving medicines and treatments, there remains potential for litigation should the state not address these appropriately or with sufficient urgency. Civil society has signalled its intention to demand state action;[59] arguably, invoking the right to science could only bolster such efforts.

[57] Australian Medical Association (2025 "New forum needed to improve Australia's response to medicine shortages" https://www.ama.com.au/media/new-forum-needed-improve-australias-response-medicine-shortages (accessed 10 May 2025).

[58] P Coomber (2025) "Why doesn't Australia make more medicines? Wouldn't that fix drug shortages?" https://www.uq.edu.au/news/article/2025/05/why-doesnt-australia-make-more-medicines-wouldnt-fix-drug-shortages#:~:text=About%20400%20medicines%20are%20in,nationwide%20shortage%20of%20sterile%20fluid. (accessed 14 May 2025)

[59] Australian Medical Association (2025 "New forum needed to improve Australia's response to medicine shortages"

In Iran, severe medicine shortages exist as a direct result of government actions, not least of which is the recent reductions in subsidies on imported drugs.[60] Reportedly, over 300 medicines are in short supply and over 100 unavailable in the country,[61] while those still available have become significantly more expensive. Iran has many committed civil society activists who are addressing the country's numerous issues, even approaching the United Nations for intervention.[62] Regarding the issue of access to medicines, again, the right to science could (especially in the international arena) only benefit arguments for access to essential medicines, to avoid preventable deaths.[63]

In South Africa, in litigation regarding access to cystic fibrosis medication,[64] the argument relies mainly on health rights under the South African Constitution and issues pertaining to competition law regarding the current cost of the medication, which prohibits access. The right to science is not considered, perhaps to the detriment of the case. Further developments may need to consider broadening the scope of human rights affected by such restrictive practices and pricing, in order to successfully ensure access to this critical medication.

Colombia's Ministry of Health faces ongoing litigation over access to medicines.[65] The Foundation for the Rule of Law found that the state has failed to take any action regarding medicine shortages; the litigation resulting from this disregard for rights could benefit from invoking the right to science.

As illustrated by the examples above, the lack of access to medicines in various parts of the world can be addressed through legal proceedings. Such litigation usually centres on rights to health; however, highlighting state neglect of the right to science could reinforce human rights approaches to such arguments. If a state fails to ensure that its public can benefit from scientific progress, that is a further human rights issue to couple with argued health rights violations. Broadening the scope of violations can aid efforts to ensure accountability and action, especially where preventable deaths are involved.

V. CONCLUSION

With over two billion people globally lacking access to essential medicines, it is necessary to explore ways in which this issue can be remedied, particularly as inadequate access to certain medicines can result in preventable deaths. Litigation is one such means of addressing this issue; however discourse is lacking regarding the utility of the right to science in this regard.

The World Health Assembly acknowledges the integral role of medicines in ensuring health rights:

> "Recognizing that the continuous supply of quality, safe, effective and affordable medicines is one of the building blocks of every well-functioning health system, which requires a reliable supply chain; and noting reports of global medicines shortages and stockouts that also infringe upon the right to the enjoyment of the highest attainable standard of health as envisaged by the WHO Constitution, that undermine the attainment of public health prevention and treatment goals and that threaten governments' ability to scale up services towards achieving universal health coverage as well as their ability

https://www.ama.com.au/media/new-forum-needed-improve-australias-response-medicine-shortages (accessed 10 May 2025).

[60] M R Mousavi (2025) "Iran's Dire and Growing Drug Shortage" https://www.stimson.org/2025/irans-dire-and-growing-drug-shortage/#:~:text=A%20combination%20of%20high%20prices,about%20a%20hundred%20are%20unavailable. (accessed 27 February 2025).

[61] Ibid

[62] Tehran Times (2025) "Civil society activists warn about US threats against Iran" https://www.tehrantimes.com/news/511498/Civil-society-activists-warn-about-US-threats-against-Iran (accessed April 10 2025)

[63] In 2024, 70 dialysis patients died as a result of incorrectly produced dialysis solutions, which the country had to rely on given the lack of access to the treatment. M R Mousavi (2025) "Iran's Dire and Growing Drug Shortage" https://www.stimson.org/2025/irans-dire-and-growing-drug-shortage/#:~:text=A%20combination%20of%20high%20prices,about%20a%20hundred%20are%20unavailable. (accessed 27 February 2025).

[64] Health Justice Initiative (2024) "Joint Statement in Response to South African Competition Commission Decision to Drop Investigation Against Vertex Pharmaceuticals on Treatment for Cystic Fibrosis" https://healthjusticeinitiative.org.za/2024/12/13/joint-statement-competition-commission-vertex-south-africa/?utm_source=chatgpt.com (accessed 10 January 2025)

[65] Time News (2024) "Ministry of Health and Invima, sued for lack of medicines" https://time.news/ministry-of-health-and-invima-sued-for-lack-of-medicines/?utm_source=chatgpt.com (accessed 10 January 2025).

> to adequately respond to outbreaks and health emergencies"[66]

The firmly grounded link between the right to science and the right to access to medicines under the right to health, underscores the potential of the former as an additional tool in realising the latter. Further exploration is warranted into the utility of the right to science in this context; as illustrated by the cases discussed, it can aid litigation on access to medicines, and thus the realisation of the right to health in this regard. Arguably, the interconnectedness of rights, and invoking more than one right in litigation, can strengthen the possibility of recourse and realisation of the rights in question. Failure to consider the broader interdependence of rights leaves those such as access to medicine overly dependent on economic and political influence.

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