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COVID-19 Inventions: Cross Licensing and New Uses for Existing Products

The world's initial response to COVID-19 has focused on racing to adapt and deploy existing technology for use against the novel coronavirus. Examples abound, from volunteers 3D printing ventilator components,^[1] to automotive manufacturers retooling production lines to produce ventilators,^[2] to the United States president recommending administration of the antimalarial hydroxychloroquine. While some of these early measures will inevitably backfire,^[4] others will succeed. As is the pattern in the industry, intellectual property protection will be needed so that profits from the winners can offset losses from the losers. This article uses Remdesivir – a promising COVID-19 treatment^[5] – as a concrete example of innovation surrounding COVID-19 and what can be expected for patents on such innovations.

Remdesivir was originally developed by Gilead Sciences to treat Ebola.^[6] Its use in the context of COVID-19 has led to a variety of attempts to seek patent protection. Gilead has filed multiple patent applications for using Remdesivir to treat viruses in the Arenaviridae and Coronaviridae families, relying on disclosures originally filed in 2015, well before the emergence of COVID-19.^[7] Additionally, since the emergence of COVID-19, a new patent application has been filed by the Wuhan Institute of Virology specifically for the use of Remdesivir in treating COVID-19.^[8] Thus, Remdesivir provides a good case study for illustrating divergent patent strategies and how those strategies may interact with each other.

Starting with Gilead, the company has followed a strategy of extending existing intellectual property assets following the discovery of their new application to COVID-19. This has the clear benefit of allowing Gilead to obtain further protection without worrying about third party inventions developed after 2015 being treated as prior art. However, because Gilead's strategy builds on a disclosure prepared before COVID-19's emergence, it necessarily omits any details regarding how Remdesivir could be applied to COVID-19 specifically rather than to coronaviruses more generally.

Additionally, the strategy of building on existing intellectual property may not be viable in all jurisdictions, as different jurisdictions have different rules regarding how liberal/restrictive they are regarding adding new claims after an initial filing.

In contrast, the Wuhan Institute has taken the approach of seeking protection for the application of Remdesivir specifically to COVID-19. This avoids the downside of having to rely on a disclosure that addresses coronaviruses in general, and allows the Wuhan Institute to rely on treatment steps that are specific to COVID-19 when trying to convince various national patent offices to award it a patent. Because the Wuhan Institute is not relying on an existing disclosure, it does not have to worry about variations between jurisdictions in liberality/restrictiveness regarding adding new claims. On the other hand, the Wuhan Institute doesn't have the benefit of an earlier disclosure. This means it needs to show that its COVID-19 specific features are patentable relative to third party innovations since 2015. It also needs to show that those features are patentable relative to Gilead's existing patents. Even if the Wuhan Institute does obtain a patent, using the technology it describes would require either getting a license from Gilead or showing that the specific application of Remdesivir to COVID-19 doesn't fall within Gilead's protection for using Remdesivir to treat coronaviruses generally.

The differing strategies for seeking protection are likely to lead Gilead and the Wuhan Institute to work together to ensure that both Remdesivir and the specific techniques that have been developed for using it are widely adopted and available to treat COVID-19. If the Wuhan Institute's patent application is approved, then (absent extraordinary measures like a government mandated compulsory license) no one will be able to use the techniques it describes for treating COVID-19 unless the Institute and Gilead can come to some sort of agreement. However, the Wuhan Institute and Gilead can gain more from working together than simply avoiding a situation where each of them blocks the other from using their intellectual property. Because the Wuhan Institute only has a patent application with a later filing date, it, unlike Gilead, faces a risk that it may not be able to obtain any kind of protection at all. On the other hand, unlike Gilead, the Wuhan Institute, does not need

to worry about different jurisdictions being more or less liberal regarding submitting new claims based on an existing disclosure. By working together Gilead and the Wuhan Institute can help each other to address their respective weaknesses – the Wuhan Institute by providing the potential for COVID-19 focused protection all over the world, and Gilead by a baseline of protection that has already been approved even if it isn't specifically focused on COVID-19.

Trying to force a cross license agreement is likely to be a common strategy for innovators who are successful in applying existing technology to the fight against COVID-19. Even if they have no desire to enforce a patent, with no protection of their own, a follow on innovator will have no leverage to ensure that the owner of the existing technology will make it available – either to the follow on innovator or to anyone else. Based on its public statements, it appears that this was a primary concern that motivated the Wuhan Institute to apply for a patent. The Institute did not state that they wished to prevent foreign companies from using its techniques, or to seek royalties when those techniques were used. Instead, they said that they were seeking a patent in the national interest, and that they would not enforce their rights against companies helping to prevent and control COVID-19 in China.^[9] Given the prominent place that repurposing existing technology has played in fighting COVID-19, the example of Remdesivir shows that we should expect the post-coronavirus intellectual property landscape to be characterized by both patents for new uses of existing technology and cross licenses allowing both new innovators and past inventors to apply their technology to the disease.

For more information, contact [William Morriss](#) or any other attorney in Frost Brown Todd's [Intellectual Property](#) practice group.

*To provide guidance and support to clients as this global public-health crisis unfolds, Frost Brown Todd has created a **Coronavirus Response Team**. Our attorneys are on hand to answer your questions and provide guidance on how to proactively prepare for and manage any coronavirus-related threats to your business operations and workforce.*

^[1] Jay Peters, *Volunteers Produce 3D-printed Valves for Life-Saving Coronavirus Treatments*, The Verge, March 17, 2020, available at

<https://www.theverge.com/2020/3/17/21184308/coronavirus-italy-medical-3d-print-valves-treatments>.

[2] Camila Domonoske, *Automakers Might Retool to Make Ventilators*, npr.org, March 19, 2020, available at <https://www.npr.org/sections/coronavirus-live-updates/2020/03/19/818402194/automakers-could-retool-to-make-ventilators>.

[3] Rosie Perper, *Trump is touting experimental drugs for COVID-19, saying they're 'not going to hurt' people. But the drugs have severe side effects, and misuse has led to poisoning and even death.*, Business Insider, April 5, 2020, available at <https://www.businessinsider.com/trump-touts-chloroquine-for-covid-19-but-dismisses-risks-2020-4>.

[4] See Perper, *supra*, note 3.

[5] Megan Schmidt, *What is Remdesivir, the First Drug that Treats Coronavirus?*, Discover Magazine, May 6, 2020, available at <https://www.discovermagazine.com/health/what-is-remdesivir-the-first-drug-that-treats-coronavirus>.

[6] Czech News Authority, *Did Czech Scientists Create the Cure for Coronavirus?*, available at <https://rmx.news/article/article/could-czech-scientists-have-the-cure-for-coronavirus>.

[7] E.g., U.S. Patent 10,251, 904, *Methods for Treating Arenaviridae and Coronaviridae Virus Infections* (listing related application data as including provisional application No. 62/219,302, filed on Sep. 16, 2015, and provisional application 62/239,696, filed on Oct. 9, 2015).

[8] Enrico Bonadio and Andrea Baldini, *COVID-19, Patents and the Never-Ending Tension between Proprietary Rights and the Protection of Public Health*, European Journal of Risk Regulation, 2020 April 11: 1-6, available at <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7156563/>.

[9] Aaron Wininger, *Wuhan Institute of Virology Applies for a Patent on Gilead's Remdesivir*, National Law Review, Feb. 6, 2020, available at <https://www.natlawreview.com/article/wuhan-institute-virology-applies-patent-gilead-s-remdesivir>.

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