

Influence of conflicts of interest on public positions in the COVID-19 era, the case of Gilead Sciences

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Abstract

Funding and gifts from the pharmaceutical industry have an influence on the decisions made by physicians and medical experts. In the context of the coronavirus disease 2019 epidemic, several treatments are available to treat patients infected with the virus. Some are protected by patents, such as remdesivir, others are not, such as hydroxychloroquine. We wanted to observe the possible correlation between the fact, for an academic doctor in infectious diseases, of having benefited from funding by Gilead Sciences, producer of remdesivir, and the public positions taken by this doctor towards hydroxychloroquine. Our results show a correlation (Spearman test, $p = 0.017$) between the amount received from the Gilead Sciences company and public opposition to the use of hydroxychloroquine in France. This should open up the debate on the role of the interest links of doctors with pharmaceutical companies in the medical and scientific public debate.

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Keywords: Conflicts of interest, COVID-19, hydroxychloroquine, remdesivir, SARS-COV-2

Original Submission: 6 May 2020; **Revised Submission:** 14 May 2020; **Accepted:** 4 June 2020

Article published online: 6 June 2020

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Introduction

The influence of private interests on scientific research is a well-studied research object [1–3]. If the payment of substantial sums is recognized as a source of conflicts of interest, small gifts or meals offered are more tolerated. However, it has been shown that they influence the behaviour of those who receive them [4]. ‘There’s no such thing as a free lunch,’ claimed Nobel Prize winner Milton Friedman [5]. For example, it has been shown that intense contact with pharmaceutical companies is significantly associated with the prescription of recent drugs [6], or more expensive drugs when an alternative exists [7]. The low value of these gifts does not take away from their influence: doctors who are offered meals by the pharmaceutical

industry prescribe more promoted drugs [8]. The influence of these gifts is not well perceived by doctors, who consider it less influential than what their patients estimate [9]. Doctors are aware that gifts from industry can influence their colleagues, but few recognize that they can be influenced themselves [10].

In France, since Law No. 2011-2012 of 29 December 2011 [11], companies producing or marketing pharmaceutical products are required to make public all the agreements that they conclude, in particular those with health-care professionals, as well as the benefits (including meals and the costs paid for attending conferences) and the remuneration that they grant them. It is the laboratories that are obliged to declare these payments, which show a link of interest. A public site, that can be consulted openly by the public, lists all these declarations: <https://www.transparence.sante.gouv.fr/>. Since the start of this coronavirus pandemic, the public authorities have had to push or limit the use of candidate treatments for coronavirus disease 2019 (COVID-19). These decisions have become the subject of public debates, in the written, digital, television and radio press. To inform the debates, infectious disease physicians were asked by the media to give their points of view on the use of the different treatments.

Candidate treatments for COVID-19 can be divided into two categories: those that are protected by a patent held by a pharmaceutical company, such as remdesivir, Kaletra (lopinavir/ritonavir)—before AbbVie abandoned its rights to the drug following negative studies on COVID-19 [12]. Others are generic: hydroxychloroquine, azithromycin. Thirty-nine companies are currently manufacturing hydroxychloroquine [13]. The choice of the drug by the public authorities therefore translates into a significant gain or loss for the various laboratories that hold the rights to a candidate molecule.

The conflict between hydroxychloroquine and remdesivir, started by a publication listing both as treatment candidates [14], has grown considerably, with announcements and counter-announcements as well as contradictory articles [15–22,27], which had a significant influence on the share price of the company Gilead Sciences, listed on the NASDAQ (see for example the statement by Anthony Fauci [23] from 29 April 2020, synchronized with an article published in the *Lancet* at the same time [24]). It therefore seems relevant to us to focus on the links of interest between Gilead Sciences and various opinion leaders, infectious disease physicians in France who are now stakeholders of this health crisis.

This debate led us to wonder about the role of pharmaceutical companies in the current therapeutic debate. We particularly question the laboratories that hold rights to a candidate molecule, in particular Gilead Sciences with remdesivir. Are the medical researchers who have spoken in recent weeks in the debate on the use of hydroxychloroquine in a position of a conflict of interest? This is the question we wanted to answer by studying the links of interest between Gilead Sciences, producer of remdesivir, and the doctors who took a stand for or against hydroxychloroquine.

Material and methods

To establish the list of French academic infectious disease physicians, we used the list of members of CMIT (Council of Teachers in Infectious and Tropical Diseases). The list we

obtained identified 98 medical researchers. Public interventions were defined as a direct expression of opinion in the media, academic or not academic. Non-academic newspapers included national newspapers, regional newspapers, television channels and radio channels. For each member of the CMIT, we performed a systematic search on Google News to identify press reports containing the word hydroxychloroquine and quoting this member of the CMIT. We carefully read their interventions and classified their positioning on a scale of 1 to 5, 1 meaning that they were very unfavourable to the use of hydroxychloroquine, 5 that they were very favourable to it. 'Very favourable' was defined as 'having expressed a call for generalization of the use of hydroxychloroquine, or reporting a successful use of the treatment in the physician's facility'. 'Favourable' was defined as 'having recognized a positive effect of hydroxychloroquine, while waiting for confirmation of results for taking further position'. 'Neutral' was defined as 'expressing the need for more studies for making any comment of the efficiency of the treatment'. 'Unfavourable' was defined as 'while still waiting for more results, expressing negative comments about hydroxychloroquine'. 'Very unfavourable' was defined as 'expression of anger towards the mediatization of hydroxychloroquine, or a strict opposition towards the generalization of the use of hydroxychloroquine'.

Using the eurofordocs.fr website which aggregates the data from the <https://www.transparence.sante.gouv.fr/> we listed the

TABLE 2. Links of interest with pharmaceutical companies between 2013 and 2019 depending on the position towards hydroxychloroquine (HCQ)

Position towards HCQ	Number	Average (€)	Median (€)	Extreme – (€)	Extreme + (€)
Very favorable	8	6649	1558	42	30 875
Favorable	6	10 913	9999	42	24 840
Neutral	14	62 858	26 339	585	291 755
Unfavorable	7	61 519	57 529	11 842	100 358
Very Unfavorable	9	157 939	130 250	7498	543 673
Did not take position	54	32 451	19 766	0	241 267
TOTAL	98	46 970	21 978	0	543 673

Abbreviations: HCQ, hydroxychloroquine.

TABLE 1. Links of interest with Gilead Sciences between 2013 and 2019 depending on the position towards hydroxychloroquine

Position towards HCQ	Number	Average (€)	Median (€)	Extreme – (€)	Extreme + (€)
Very favourable	8	52	0	0	417
Favourable	6	1524	1208	0	4773
Neutral	14	9729	2729	0	48 006
Unfavourable	7	11 085	10 547	234	31 731
Very Unfavourable	9	24 048	26 950	122	52 812
Did not take position	54	4421	2143	0	36 706
Total	98	6924	2188	0	52 812

Abbreviations: HCQ, hydroxychloroquine.

links of interest with the Gilead Sciences laboratory of all CMIT members, as well as their links of interest with all companies subject to the declaration on the Transparency Health platform. We finally established the average of the sums received from Gilead Sciences for each of the categories of researchers established by their positioning with respect to hydroxychloroquine; similarly, we have averaged the amounts received by all reporting companies. We performed a Spearman correlation test to explore the relation between position towards hydroxychloroquine and funding received from Gilead Sciences.

Results

A total of €678 527 was paid by the company Gilead Sciences, manufacturer of remdesivir, over 7 years, to doctors who are members of CMIT (Table 1). This represents an average of €6924 per doctor. All reporting companies combined, a total of €4 603 098 was paid to CMIT physicians between 2013 and 2019 (Table 2). There was a strict correlation (Spearman test, p 0.017) between the position of doctors towards hydroxychloroquine and the average amount paid to them by the company Gilead Sciences between 2013 and 2019. In all, only 13 doctors out of 98 CMIT members did not receive any benefit, remuneration or agreement from the Gilead Sciences company between 2013 and 2019. Among these 13 doctors, seven were very favourable to the use of hydroxychloroquine, one was favourable, one was neutral and four have not taken a position. In contrast, among the 13 doctors that received the most important funding from Gilead Sciences, six were very unfavourable to the use of hydroxychloroquine, one was unfavourable, three were neutral and three had not taken a position.

Discussion

We wanted to observe the influence of conflicts of interest during the time of COVID-19. Not surprisingly, we have shown a correlation, but we have been impressed by the level of correlation, which is perhaps one of the explanations for the violence of the debate that has taken place concerning the use of hydroxychloroquine. None of the studies involving remdesivir [24] or lopinavir/ritonavir [12] could show any effectiveness of these drugs in the prevention of mortality or the reduction of the viral load of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), whereas four studies have now shown significant differences in clinical course, radiological course, mortality and viral load for hydroxychloroquine [13,25–27]. In addition, the issue of conflict of interest goes beyond that of practitioners, and also undoubtedly affects

publishers and conference organizers, who also have links of interest with the most dynamic pharmaceutical manufacturers. The COVID-19 crisis will make it possible to re-analyse many things, including the issue of conflicts of interest, a problem that is not resolved in many countries of the world, including France. It does not concern only doctors, this matter also concerns publishers and organizers of medical events, who are subject to the same types of financial conflicts. It is interesting to note that major measures have been taken in France to fight conflicts of interest in politics, including mandatory declarations of patrimony during the course of the mandates of representatives to a national authority (*Haute Autorité pour la transparence de la vie publique*), such measures have not been taken in the medical field.

Funding and Acknowledgements

This work was supported by the French Government under the Investments for the Future programme managed by the National Agency for Research (ANR), Méditerranée-Infection 10-IAHU-03.

Conflicts of interest

There is no conflict of interest.

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