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Hydroxychloroquine and COVID-19

Policy recommendations are by definition general and individuals are advised to seek the advice of their personal doctor.

When considering hydroxychloroquine as treatment for COVID-19, two essential questions must be answered:

- 1.) Is the medication safe?
- 2.) Does the medication relieve symptoms of COVID-19 and reduce the chance of dying from it?

This paper will first focus on answering the question: is hydroxychloroquine (HCQ) safe?

Hydroxychloroquine was approved by the U.S. Food and Drug Administration in April 1955, more than 65 years ago. It is commonly prescribed and used by healthy people as a prophylaxis to prevent contracting malaria, treating malaria, managing rheumatoid arthritis and lupus, as well as many other offlabel uses.

Harvard Assistant Professor of Medicine Lisa Fitzgerald, MD, made this comparison when discussing hydroxychloroquine: "Antimalarials have almost become like a daily multivitamin" for lupus patients, she is quoted as saying in WebMD.ⁱ

In addition, the World Health Organization even included hydroxychloroquine in their list of "essential medicines."

Some of the most difficult hurdles for any drug to overcome are those encountered in order to be able to be recommended for use during pregnancy and for children. Keep in mind that over-the-counter Ibuprofen and nasal decongestants are not recommended for pregnant women. However, the Centers for Disease Control and Prevention states, "Who can take hydroxychloroquine? **Hydroxychloroquine can be prescribed to adults and children of all ages. It can also be safely taken by pregnant women and nursing mothers.**" Its website goes on to state, "[the] CDC has **no limits on the use of hydroxychloroquine**" for disease prevention. iii (Emphasis added)

Jeff Evens on MD Edge wrote the following about hydroxychloroquine:

"The anti-inflammatory compound hydroxychloroquine appears to be relatively safe during pregnancy, according to a small number of studies totaling about 250 patients." "Now, many physicians who treat about four to five pregnant women with connective tissue disorder each year regularly prescribe antimalarials to such patients," and "In fact, 69% of 52 physicians who responded to a survey about the use of antimalarials during pregnancy said they continued antimalarials in pregnancy sometimes, often, or always (J. Rheumatol. 2002;29:700–6)."

It appears that taking the correct dose of hydroxychloroquine appears safe for healthy people, pregnant people, and children of all ages, including infants.

Knowledge about this safety is evident as hydroxychloroquine is available as an over-the-counter drug (no prescription needed) in some countries, including India, Mexico, and Tanzania. in

"The safety record of HCQ is indisputable," stated Dr. Simone Gold with America's Frontline Doctors.

With substantial evidence that HCQ is a safe treatment for COVID-19, it is time to turn attention to the second question: does HCQ relieve symptoms of COVID-19 and reduce the chance of dying from it?

In a survey of 6,200 medical doctors from 30 different nations, the plurality responded that they found that hydroxychloroquine (HCQ) was the "most effective therapy amongst COVID-19 treaters from a list of 15 options." ^{ix} They also explained the following:

- The three most commonly prescribed treatments were analgesics (56%), Azithromycin (41%), and Hydroxychloroquine (33%)
- The two most common treatment regimens for Hydroxychloroquine were:
 - o (38%) 400mg twice daily on day one; 400 mg daily for five days
 - o (26%) 400mg twice daily on day one; 200mg twice daily for four days

On July 30, 2020, the Swiss Policy Research (SPR) released the following updated findings: "US physicians reported an <u>84% decrease</u> in hospitalization rates, a <u>50% decrease</u> in mortality rates among already hospitalized patients (if treated early), and an improvement in the condition of patients often <u>within hours</u>" of using a specific treatment." The treatments it recommended included the following medications: "Zinc (50mg to 100mg per day), Hydroxychloroquine (400mg per day), Quercetin (500mg to 1000mg per day), Azithromycin (up to 500mg per day), and Heparin (usual dosage)."

The SPR found that "the alleged or actual negative results with hydroxychloroquine in some studies were based on delayed use (intensive care patients), excessive doses (up to 2400mg per day), manipulated data sets (the Surgisphere scandal), or ignored contraindications (e.g., favism or heart disease)." In addition, many medical resources state that patients with psoriasis are to avoid HCQ.

In addition, the SPR quoted from the website https://c19study.com which is a frequently updated compilation of medical studies. It has more than 65 medical studies, with at least 40 of them peer-reviewed with extensive medical data regarding treatments of COVID-19.

In addition, America's Frontline Doctors published the following in their White Paper:xi

[S]even months into the pandemic there is overwhelming evidence accumulating that HCQ is also effective for Covid-19. There are dozens of studies demonstrating its effectiveness from all around the world. From China to France to Saudi Arabia to Iran to Italy to India to New York City to Michigan to Brazil.

This is not surprising. As far back as [2005], chloroquine (CQ) the first cousin of HCQ and previously known to be effective against SARS-CoV-1, was stated by China to be a treatment for Covid-19.

- February 19, 2020 China: "The drug [chloroquine] is recommended to be included in the next version of the Guidelines for the Prevention, Diagnosis, and Treatment of Pneumonia Caused by COVID-19 issued by the National Health Commission of the People's Republic of China for the treatment of [COVID-19] infection in larger populations in the future."
- March 4, 2020: France: "The first results obtained from more than 100 patients show the superiority of chloroquine compared with treatment of the control group in terms of reduction

of exacerbation of pneumonia, duration of symptoms and delay of viral clearance all in the absence of severe side effects."xiii

- March 20, 2020: New York: 1450 patients. 1045 mild and not requiring meds (all recovered), 405 treated with HCQ + AZM + Zinc of which six were hospitalized and two died. xiv
- March 22, 2020: India: The country of India recommends HCQ prophylaxis broadly.xv
- March 22, 2020: China: "Among patients with Covid-19, HCQ could significantly shorten time to complete recovery and promote the absorption of pneumonia." "xvi
- April 11, 2020: France: All patients [treated with HCQ + AZM] improved clinically except [two]... A rapid fall of nasopharyngeal viral load was noted. ... Patients were able to be rapidly discharged from IDU [Infectious Disease Unit]... "xvii"
- April 13, 2020: NY: 54 long-term care/nursing home patients received HCQ+ Doxycycline and only 5.6% died. (this population can have >50% mortality) xviii xix
- April 17, 2020: Brazil: Of 636 symptomatic high-risk outpatients, only 1.9% of those treated needed hospitalization vs., 5.4% of the untreated.**x
- April 21, 2020: 16 countries: "The difference in dynamics of daily deaths is so striking that we believe that the urgency context commands presenting the analysis ..." "xxi xxii"
- April 24, 2020: Iran: Hydroxychloroquine ...can be potential treatment options. xxiii
- April 30, 2020: Saudi Arabia: "Chloroquine and hydroxychloroquine have antiviral characteristics in vitro. The findings support the hypotheses that these drugs have efficacy in the treatment of COvid-19." "xxiv"
- May 15, 2020: China: We found that fatalities are 18.8% in the HCQ group, significantly lower than 47.4% in the non-HCQ group. These data demonstrate that addition of HCQ on top of the basic treatments is highly effective in reducing the fatality of critically ill patients of Covid-19 through attenuation of inflammatory cytokine storm. Therefore, HCQ should be prescribed as a part of treatment for critically ill Covid-19 patients, with possible outcome of saving lives. 29 xxv
- May 16, 2020: France: 1061 Covid-positive patients treated with HCQ+AZM "no cardiac toxicity was observed" and "good clinical outcome and virological cure were seen in 92%. xxvi
- June 6, 2020: France: "In conclusion, a meta-analysis of publicly available clinical reports demonstrates that chloroquine ... reduces mortality by a factor 3 in patients infected with Covid-19." xxvii
- June 20, 2020: India: "Consumption of four or more maintenance doses of HCQ was associated with a significant decline in the odds of getting infected... This study provides actionable information for policymakers to protect healthcare workers at the forefront of Covid-19 response." xxviii xxix
- June 29, 2020: Portugal: The odds ratio of [Covid-19] infection in patient with chronic treatment with HCQ is half.^{xxx}
- June 29, 2020: Detroit: "In this multi-hospital assessment, when controlling for Covid-19 risk factors, treatment with HCQ alone and in combination with AZM was associated with reduction in Covid-19 mortality." xxxii

- June 30, 2020: NYC: 6493 patients who had laboratory confirmed Covid- 19 with clinical outcomes between March 13-April 17, 2020 who were seen in 8 hospitals and 400 clinics in the NYC metropolitan area. "Hydroxychloroquine use was associated with decreased mortality." xxxiii
- July 3, 2020: NY: Covid-positive patients treated with HCQ + AZM + Zinc vs. untreated.**xxxiii
 - hospitalized: treated 2.8% vs. untreated 15.4%
 - death: treated 0.7% vs. untreated 3.5%,
 - No cardiac side effects
 - 5x less all-cause deaths

There is a preponderance of evidence that hydroxychloroquine is safe. And when combined with a full treatment of the recommended drugs to treat COVID-19, it can have a powerful impact to save lives.

Making sense of confusing information:

Since the 1950s, doctors have known that overdosing on hydroxychloroquine can cause heart arrhythmia. This is one of the facts shared by America's Frontline Doctors. Overdosing on almost ANY medication will cause problems. Even too much Tylenol can be deadly due to acetaminophen overdose. *xxxiv*

In spite of this public knowledge, a pharmaceutical company in Brazil "Farmanguinhos," (translated the Institute of Technology in Pharmaceuticals) funded a study to overdose COVID-19 patients on 1,200 mg of chloroquine (CQ), which is a stronger cousin to HCQ. Eleven people died.xxxv

By comparison, Lupus patients commonly take 100-200 mg of HCQ twice a day. As a prophylaxis (to prevent malaria) people will take 310 mg base once a week. To treat malaria, they will take 620 mg base max. That is half the dose of the weaker cousin drug to what was used in this "study." In addition, this study used roughly 6 times the dose given to Lupus patients.

Yet, this rigged "study" was trumpeted across the news to discredit HCQ, even though its stronger cousin (CQ) was used at a very high dose. One article is titled, "Hydroxychloroquine: Using anti-malaria drug is a risky business"xxxvi with the preview text stating, "Fatal study in Brazil. A small phase II study in Brazil, in which 11 patients died ..." A large section of the article criticizes President Trump and other leaders who support HCQ.

Why would large pharmaceutical companies want to discredit HCQ? Because billions are at stake with a vaccine. This illustrates how cherry picking "facts" to completely change the perspectives of doctors can manipulate you based on misinformation.

One of the locations that is filing online prescriptions for hydroxychloroquine to patients with a confirmed diagnosis of COVID-19 is https://www.healthwarehouse.com/-94847.html. Lives are hanging in the balance right now.

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ⁱ Griffin, R. Morgan. *WebMD*. Lupus Medications and Treatments. (Accessed (2020, August 4). https://www.webmd.com/lupus/features/lupus-medications-treatments#1.

World Health Organization. The Selection and Use of Essential Medicines: WHO Technical Report Series 1021 Report of the WHO Expert Committee on Selection and Use of Essential Medicines. (2019). Page 632. (Accessed: 2020, August 6). https://apps.who.int/iris/bitstream/handle/10665/330668/9789241210300-eng.pdf.

^{III} Centers for Disease Control and Prevention. Medicines for the Prevention of Malaria While Traveling: Hydroxychloroquine (Plaquenil™) (Accessed 2020, August 4). https://www.cdc.gov/malaria/resources/pdf/fsp/drugs/Hydroxychloroquine.pdf.

iv Evens, Jeff. *MDedge ObGyn.* Hydroxychloroquine 'Probably Safe' in Pregnancy. (Accessed 2020, August 1). https://www.mdedge.com/obgyn/article/50681/obstetrics/hydroxychloroquine-probably-safe-pregnancy.

- ^v Fior Markets. *Globe News Wire*. Global Hydroxychloroquine Market Is Expected to Reach 5,549.65 Million by 2027: Fior Markets. (2020, April 10). https://www.globenewswire.com/news-release/2020/04/10/2014779/0/en/Global-Hydroxychloroquine-Market-Is-Expected-to-Reach-5-549-65-Million-by-2027-Fior-Markets.html.
- vi Fry, Wendy. San Diego Union Tribune. Consumers in Tijuana take a chance on over-the-counter medicine as coronavirus spreads. (2020, March 19). https://www.sandiegouniontribune.com/news/border-baja-california/story/2020-03-19/consumers-in-tijuana-take-a-chance-on-over-the-counter-medicine-as-coronavirus-spreads.
- vii Kaur, Harparkash, Catherine Goodman, Eloise Thompson, Katy-Anne Thompson, Irene Masanja, S. Patrick Kachur, and Salim Abdulla. *PLOS ONE*. A Nationwide Survey of the Quality of Antimalarials in Retail Outlets in Tanzania. (2008, Oct 15). https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0003403.
- viii Gold, Simone. *America's Frontline Doctors*. White Paper on Hydroxychloroquine. (Accessed: 2020, August 4). https://drive.google.com/file/d/1-gsn Ye2EYDDkV 79Ag1tgUqZLNCMSt-/view.
- Example 12 No. Largest Statistically Significant Study by 6,200 Multi-Country Physicians on COVID-19 Uncovers Treatment Patterns and Puts Pandemic in Context. (2020, April 2). https://www.sermo.com/press-releases/largest-statistically-significant-study-by-6200-multi-country-physicians-on-covid-19-uncovers-treatment-patterns-and-puts-pandemic-in-context.
- * Swiss Policy Research. On the treatment of Covid-19. (Updated: 2020, July 30). <a href="https://swprs.org/on-the-treatment-of-covid-19/tps://swprs.org/on-
- xi Gold, Simone. *America's Frontline Doctors*. White Paper on Hydroxychloroquine. (Accessed: 2020, August 4). https://drive.google.com/file/d/1-gsn_Ye2EYDDkV_79Ag1tgUqZLNCMSt-/view.
- xii Gao, Jianjun, Zhenzue Tian, and Xu Yang. *BioScience Trends*. Breakthrough: Chloroquine phosphate has shown apparent efficacy in treatment of COVID-19 associated pneumonia in clinical studies. (Received: 2020, February 18. Published: 2020, March 16). https://www.jstage.jst.go.jp/article/bst/14/1/14 2020.01047/ article.
- xiii Colson, Philippe, Jean-Marc Rolan, Jean-Christophe Lagier, Philippe Brouqui, and Didier Raoult. *National Center for Biotechnology Information: National Institutes for Health*. Chloroquine and hydroxychloroquine as available weapons to fight COVID-19. (2020, March 4). https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7135139.
- ^{xiv} Risch, Harvey A. *American Journal of Epidemiology in partnership with Johns Hopkin Bloomberg School of Public Health and Oxford Academic*. Early Outpatient Treatment of Symptomatic, High-Risk Covid-19 Patients that Should be Ramped-Up Immediately as Key to the Pandemic Crisis. (2020 May 27). https://academic.oup.com/aje/article/doi/10.1093/aje/kwaa093/5847586.
- xv Bhargava, Balram. *Ministry of Health and Family Welfare: Government of India*. Advisory of the use of hydroxychloroquine as prophylaxis for SARS-CoV-2 infection. (2020, March 22). https://www.mohfw.gov.in/pdf/AdvisoryontheuseofHydroxychloroquinasprophylaxisforSARSCoV2infection.pdf.
- xvi Chen. Zhaowei, Jijia Hu, Zongwei Zhang, Shan Jiang, Shoumeng Han, Dandan Yan, Ruhong Zhuang, Ben Hu, and Zhan Zhang. *MedRXIV in partnership with Yale, BMJ (Formerly the British Medical Journal) and the Cold Spring Harbor Laboratory*. Efficacy of hydroxychloroquine in patients with COVID-19: results of a randomized clinical trial.

(2020, April 10). https://www.medrxiv.org/content/10.1101/2020.03.22.20040758v3.

- xvii Gautret, Philippe. Jean-Christophe Lagier, Philippe Parola, Van Thuan Hoang, Line Meddeb, Jacques Sevestre, Morgane Mailhe, Barbara Doudier, Camille Aubry, Sophie Amrane, Piseth Seng, Marie Hocquart, Carole Eldin, Julie Finance, Vera Esteves Vieira, et al. Science Direct. Clinical and microbiological effect of a combination of hydroxychloroquine and azithromycin in 80 COVID-19 patients with at least a six-day follow up: A pilot observational study. (Received: 2020, April 3, Published: 2020, April 11). https://www.sciencedirect.com/science/article/pii/S1477893920301319.
- xviii ABC News. Coronavirus News: Long Island doctors embrace combination drug therapy in fighting COVID-19. (2020 April 13). https://abc7ny.com/coronavirus-treatment-long-island-news-nassau-county/6093072/.
- xix Yu, Bo, Chenze Li, Peng Chen, Ning Zhou, Luyun Wang, Jia Li, Hualiang Jiang, and Dao-Wen Wang. *PubMed.gov of National Library of Medicine: National Institutes of Health*. Low dose of hydroxychloroquine reduces fatality of critically ill patients with COVID-19. (2020, May 15). https://pubmed.ncbi.nlm.nih.gov/32418114/.
- ** Rodrigo Barbosa Esper M.D., Ph.D., Rafael Souza da Silva M.D., Fernando Teiichi Costa Oikawa M.D., Ph.D., Marcelo Machado Castro M.D., Alvaro Razuk-Filho M.D., Ph.D., Pedro Benedito Batista Junior M.D., Sergio Wilhelm Lotze M.D., Cleber Nunes da Rocha M.D., Roberto de Sá Cunha Filho M.D., Saulo Emanuel Barbosa de Oliveira M.D., Philipe Leitão Ribeiro, M.D., Valéria Cristina Vigar Martins M.D., Fernando Silva Braga Bueno M.D., Priscila Ligeiro Gonçalves Esper M.D., and Eduardo Fagundes Parrillo M.D.. Empirical treatment with hydroxychloroquine and azithromycin for suspected cases of COVID-19 followed-up by telemedicine. (Accessed 2020, July 7). https://pgibertie.files.wordpress.com/2020/04/2020.04.15-journal-manuscript-final.pdf.
- ^{xxi} Izoulet, Maxime. *SSRN (formerly known as Social Science Research Network)*. Countries which Primarily Use Antimalarial Drugs As COVID-19 Treatment See Slower Dynamic of Daily Deaths. (2020, April 21). https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3575899.
- xxii Izoulet, Maxime. *MedRXIV in partnership with Yale, BMJ (Formerly the British Medical Journal) and the Cold Spring Harbor Laboratory*. National Consumption of Antimalarial Drugs and COVID-19 Deaths Dynamics: an Ecological Study. (2020, May 28). https://www.medrxiv.org/content/10.1101/2020.04.18.20063875v2.
- Ashraf, Mohammad. Nasim Shokouhi, Elham Shirali, Fateme Davari-tanha, Omeed Memar, Alireza Kamalipour, Ayein Azarnoush, Avin Mabadi, Adele Ossareh, Milad Sanginabadi, Talat Azad, Leila Aghaghazvini, Sara Ghaderkhani, Tahereh Poordast, Alieh Pourdast, and Pershang Nazemi. *ResearchGate*. COVID-19 in Iran, a comprehensive investigation from exposure to treatment outcomes. (2020, May). https://www.researchgate.net/publication/341197843 COVID-19 in Iran a comprehensive investigation from exposure to treatment outcomes.
- ^{xxiv} Meo, Sultan Ayoub. D.C. Klonoff, and J. Akram. *European Review for Medical and Pharmacological Sciences*. Efficacy of chloroquine and hydroxychloroquine in the treatment of COVID-19. (2020). (https://www.europeanreview.org/wp/wp-content/uploads/4539-4547.pdf.
- xxv Yu, Bo, Chenze Li, Peng Chen, Ning Zhou, Luyun Wang, Jia Li, Hualiang Jiang, and Dao-Wen Wang. *PubMed.gov of National Library of Medicine: National Institutes of Health*. Low dose of hydroxychloroquine reduces fatality of critically ill patients with COVID-19. (2020, May 15). https://pubmed.ncbi.nlm.nih.gov/32418114/.
- xxvi Million, Matthieu. Jean-Christophe Lagier, Philippe Gautret, et al. Méditerranée Infection. Early treatment of 1061 COVID-19 patients with hydroxychloroquine and azithromycin, Marseille, France. (Accessed 2020, July 29). https://www.mediterranee-infection.com/wp-content/uploads/2020/04/MS.pdf.
- xxvii Million, Matthieu. Philippe Gautretac, Philippe Colson, Yanis Roussel, Gregory Dubourg, Eric Chabriere, Stéphane Honore, Jean-Marc Rolain, Florence Fenollar, Pierre-Edouard Fournier, Jean-Christophe Lagier, Philippe Parola, Philippe Brouqui, and Didier Raoult. *Science Direct*. Clinical Efficacy of Chloroquine derivatives in COVID-19 Infection: Comparative meta-analysis between the Big data and the real world. (2020, June 6). https://www.sciencedirect.com/science/article/pii/S2052297520300615.

^{xxviii} Chatterjee, Pranab. Tanu Anand, Kh Jitenkumar Singh, Reeta Rasaily, Ravinder Singh, Santasabuj Das, Harpreet Singh, Ira Praharaj, Raman R Gangakhedkar, Balram Bhargava, and Samiran Panda. *Indian Journal of Medical Research: Indian Council of Medical Research*. Healthcare workers & SARS-CoV-2 infection in India: A case-control investigation in the time of COVID-19. (2020, June 20). http://www.ijmr.org.in/article.asp?issn=0971-5916;year=2020;yolume=151;issue=5;spage=459;epage=467;aulast=Chatterjee.

xxixChatterjee, Pranab. Tanu Anand, Kh Jitenkumar Singh, Reeta Rasaily, Ravinder Singh, Santasabuj Das, Harpreet Singh, Ira Praharaj, Raman R Gangakhedkar, Balram Bhargava, and Samiran Panda. *National Center for Biotechnology Information at the National Library of Medicine of the National Institutes of Health*. Healthcare workers & SARS-CoV-2 infection in India: A case-control investigation in the time of COVID-19. (2020, July 3). https://www.ncbi.nlm.nih.gov/research/coronavirus/publication/32611916.

**X Ferreira, Antonio. Antonio Oliveira-e-Silva, and Paulo Bettencourt. *MedRXIV in partnership with Yale, BMJ (Formerly the British Medical Journal) and the Cold Spring Harbor Laboratory*. Chronic treatment with hydroxychloroquine and SARS-CoV-2 infection. (2020, June 29). https://www.medrxiv.org/content/10.1101/2020.06.26.20056507v1.

Arshada, Samia. Paul Kilgore, Zohra S. Chaudhry, Gordon Jacobsen, Dee Dee Wang, Kylie Huitsing, Indira Brar, George J. Alangaden, Mayur S. Ramesh, John E. McKinnon, William O'Neill, Marcus Zervos, and Henry Ford COVID-19 Task Force. *International Journal of Infectious Diseases*. Treatment with hydroxychloroquine, azithromycin, and combination in patients hospitalized with COVID-19. (Received first version: 2020, May 28, Published: 2020, June 29). https://www.ijidonline.com/action/showPdf?pii=S1201-9712%2820%2930534-8.

Mikami, T., Miyashita, H., Yamada, T. *et al. Journal of General Internal Medicine*. Risk Factors for Mortality in Patients with COVID-19 in New York City. (Published 2020, June 30). https://link.springer.com/article/10.1007%2Fs11606-020-05983-z.

xoxiii Scholz, Martin. Roland Derwand, and Vladimir Zelenko. *Preprints*. COVID-19 Outpatients – Early Risk-Stratified Treatment with Zinc Plus Low Dose Hydroxychloroquine and Azithromycin: A Retrospective Case Series Study. (Received: 2020, June 30, Published: 2020, July 3). https://www.preprints.org/manuscript/202007.0025/v1.

xxxiv Saljoughian, Manouchehr. *U.S. Pharmacist*. Acetaminophen Intoxication: A Critical-Care Emergency (2016, December 16). https://www.uspharmacist.com/article/acetaminophen-intoxication-a-criticalcare-emergency.

Borba, Mayla Gabriela Silva. Fernando de Almeida Val, Vanderson Sousa Sampaio, *et al. MedRXIV*. Chloroquine diphosphate in two different dosages as adjunctive therapy of hospitalized patients with severe respiratory syndrome in the context of coronavirus (SARS-CoV-2) infection: Preliminary safety results of a randomized, double-blinded, phase IIb clinical trial (CloroCovid-19 Study). (2020, April 16). https://www.medrxiv.org/content/10.1101/2020.04.07.20056424v2.

xxxvi Freund, Alexander. *Deutsche Welle*. Hydroxychloroquine: Using anti-malaria drug is a risky business. (2020, May 19). https://www.nytimes.com/2020/04/12/health/chloroquine-coronavirus-trump.html.