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## Subscription science: how crowdfunding has become a conflict of interest

Crowdfunding via subscription platforms is an important but overlooked source of revenue for physicians. It is also rife with potential conflicts of interest, write Benjamin L Mazer and Michael R Rose

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Conflicts of interest are an ongoing threat to medical practice. Studies have shown that doctors' treatment decisions can be directly swayed by industry payments.<sup>1</sup> Pharmaceutical and medical device companies also assert indirect influence through the funding of thought leaders and guideline authors.<sup>2,3</sup> Governments and professional bodies have attempted to rein in the impact of conflicts of interest in recent decades. Most medical journals now require standardised conflict of interest declarations.<sup>4</sup> The US Physician Payments Sunshine Act requires manufacturers of drugs and devices to publicly report payments to physicians.<sup>5</sup> These efforts have curtailed the overall number of US physicians receiving payments from industry, although large payments of more than \$50 000 (£39 644; €45 560) might have increased.<sup>6</sup> Financial relationships, even substantial ones, are not always nefarious. But patients, doctors, and regulators are right to be wary of the power of the purse.

Crowdfunding has become another potent but overlooked source of revenue for physicians who want to share their views on medical topics. Crowdfunding refers to payments that are voluntarily contributed by individuals who would like to support an author's work. Digital platforms such as Patreon, Substack, YouTube, and Twitter allow fans to offer recurring payments to healthcare professionals who produce opinion articles, explanatory videos, and podcasts. Although crowdfunding is often seen as a principled alternative to industry influence, these payments may also create meaningful conflicts of interest.

Physicians do not always agree about which third party payments are unacceptable. Yet two variables typically come into play: the size of the payment and how strongly the payer is associated with a specific scientific viewpoint. Crowdfunding poses a risk in both domains. For example, Substack, an online newsletter platform, is increasingly used by physicians to write medical commentary, with some newsletters reaching 10s of thousands of subscribers.<sup>7</sup> Substack estimates that 5-10% of readers will upgrade to a paid tier, and paid subscriptions on the service cost a minimum of \$5 per month.<sup>8</sup> Although \$5 sounds negligible, consider a newsletter with 10 000 total subscribers, 1000 of whom pay a \$5 monthly fee. After subtracting Substack's 10% cut, a doctor could expect \$54 000 in annual payments. If physicians accrue 5000 backers, they can expect \$270 000 in revenue. This is greater than the \$265 000 average salary of primary care physicians in the US.<sup>9</sup>

In contrast, writing commentaries for newspapers, magazines, and medical journals typically pays a token sum, often less than \$500, or nothing at all.

The ideological influence exerted through crowdfunding is less obvious than what might occur from an industry payer, but these payments are influential all the same. Consumers who choose to financially support physician-creators are not a random selection of the population or even of a doctor's overall audience. Paid subscribers represent the most engaged fans, many of whom hold a specific set of strongly held beliefs. Substack, for instance, encourages content creators to assess their audience "in terms of a shared perspective" or "passion point"<sup>10</sup> suggesting that successful writers "bring together like-minded people."<sup>11</sup> The crowdfunding platform Patreon similarly recommends that creators make "the stuff your audience is craving." If a piece of content is "getting a lot of attention online . . . this is a good sign that you're on the right track."<sup>12</sup> These are solid marketing tips but not a recipe for diversity of scientific thought. This advice implies that patrons want their beliefs reinforced, not challenged.

Healthcare professionals who initially sought to change public opinion might find themselves changed in the process of acquiring an audience. Sophisticated analytical tools now allow creators to easily identify which content garners the most engagement and subscriptions. Real time feedback encourages physicians to pursue topics and angles that are most popular with their audience even in the absence of an explicit mandate. We call this phenomenon, where fans shape scientific content and conclusions, "subscription science."

The political polarisation of the covid-19 pandemic has fuelled subscription science and its resulting conflicts of interest. Many physicians and scientists who were sincerely sceptical or supportive of public health measures, for example, have acquired large, paying audiences over the last three years. Members of the public who were outraged by perceived government over-reach or apathy sought out professionals who would bolster their political views with scientific justification. Physicians have been encouraged by their devoted admirers to draw assertive conclusions in lieu of exploring epistemic uncertainty. Subscription science can lead to doctors promoting anti-vaccine views at one extreme or fear mongering about SARS-CoV-2 at the other.

Physicians do not transform into perfectly objective and politically neutral beings simply by writing for

the mainstream media or scientific literature. But these outlets do offer useful curbs on ideological bias. Newspapers and magazines have professional editors and fact checkers. Scholarly journals perform peer review. Many outlets commission pieces from stakeholders with a range of views. Crowdfunded media, however, is popular partly because of its absence of editorial controls, which enhances the content's intimacy and immediacy. Still, traditional publishers may also be beholden to their clientele and thus at risk of falling prey to subscription science.

Physicians and scientists have a right to publicly disseminate their views, even in exchange for money. Yet the legitimacy conferred by professional credentials should come with some responsibility for accuracy and fairness. Publicly disclosing crowdfunding revenue should be the minimum required. Journal editors and professional societies should also take crowdfunding payments into account when choosing the authors of editorials and clinical guidelines. Most importantly, doctors who wish to remain trusted arbiters of medical science, in all its complexity and ambiguity, should seek to avoid any financial scheme that explicitly or implicitly circumscribes the conclusions they reach.

Competing interests: BLM writes a free Substack newsletter, has received payments for articles from magazines and newspapers, and has received honorariums for talks at academic medical centres. MRR has received payments for articles from magazines and newspapers, was previously an unpaid volunteer for The Clinical Problem Solvers podcast, which receives Patreon contributions, and previously received consulting fees from 20/20 Gene Systems.

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