

SCIENCE SERIES

Section Editor's Note

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As far back as the Ancient Egyptians, healers have sought medicinals to alleviate human suffering and restore well-being. Today that pursuit is stronger than ever. Propelled by the drive to be first, a deeper understanding of pharmacology, advances in manufacturing technology, and super-sized research and development budgets, pharmaceutical companies and their scientists have repurposed existing drugs and introduced new ones to an ever-expanding and welcoming consumer audience; some—like the messenger RNA vaccines—at breakneck speeds. Parallel advances in communication, most notably social media, have added jet fuel to this booming enterprise. Although the benefits cannot be overstated, the unprecedented pace and fanfare with which “miracle drugs” burst onto the scene highlights a widening gap between scientific evidence and public perception and raises concerns in the skeptics among us about the commercializing of science at the public’s expense. Therefore, I’ve chosen to curate a series of articles for the Science Series that demonstrate the increasingly blurred lines separating science reporting from sponsor-generated marketing in the public eye and to explore a theme highly relevant to medical communicators: separating the hope from the hype surrounding the current revolution in drug development. The first 2 articles are presented here, with additional ones to appear in subsequent issues. Each piece sets out to reflect on the science communicator’s imperative to help readers distinguish genuine therapeutic advances from inflated promises.

The idea for this collection came to me during the peak of the Ozempic media campaign. The meteoric rise in popularity of the glucagon-like peptide-1 receptor agonist drugs convinced me that the scientific information landscape had radically changed and our responsibility as medical communicators would have to respond in turn. Heralded as the magic bullets that would decisively end the metabolic disease epidemic, the antiobesity drugs epitomized the promise and pitfalls of modern pharmaceutical development. Overnight, the classical approach to weight loss of diet and exercise was

dismissed; the American dream of an instant fix for our most vexing chronic disease had come true. Or had it?

As the groundswell of demand rapidly overwhelmed existing supply chains, a black market of non-Food and Drug Administration-approved alternatives of variable quality and with limited clinical support quickly materialized to accommodate new consumers. Reports of muscle loss increasing the fall risk in older people; severe gastrointestinal distress, vomiting, and dehydration; intestinal obstruction; and loss of interest in food and other pleasures began to surface, although muffled by the clamor of the converted.

Still, beneath all the hype, a newfound appreciation of obesity as a chronic disease affecting more than 40% of the US population emerged, along with a class of drugs that offered hope to the more than 120 million people at risk for obesity-related comorbidities—provided they can afford the astronomical out-of-pocket costs.

Since their introduction, new indications and unanticipated risks and benefits of the incretin-based drugs continue to emerge. But, as readers will see in the second article on the origins of the opiate crisis, the balance between beneficence and corporate greed is dictated by who is holding the scale.

As we enter an era in which pharmaceutical companies, technology giants, political ideologies, and financial interests are bound to shape the discourse, our role as educators and purveyors of trustworthy scientific information will be even more central. We will need to stay vigilant and informed, rail against an ethical climate in which facts are subject to interpretation, and tread cautiously within an information landscape lean on evidence and dominated by hallucinating artificial intelligence models. Fasten your seatbelts.

Author declaration and disclosures: *The authors note no commercial associations that may pose a conflict of interest in relation to this article.*

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