

THE JOURNAL OF LAW, MEDICINE & ETHICS

Special Supplement to Volume 51:4 • Winter 2023

A Journal of the American Society of Law, Medicine & Ethics • www.aslme.org



SYMPOSIUM

Promoting Drug and Vaccine Innovation and Managing High Prices: Three Proposals for Policy Reform

GUEST EDITED BY Aaron S. Kesselheim, Ameet Sarpatwari, and Benjamin N. Rome

- 41 If Left Unchecked: Lessons Learned from Unfettered U.S. Government Support of the NIH-Moderna Vaccine**
Reshma Ramachandran
- 46 Addressing High Drug Prices by Reforming Pharmacy Benefit Managers**
Benjamin N. Rome
- 52 Pharmacy Benefit Management: The Cost of Drug Price Rebates**
James C. Robinson
- 55 Aiming at the Right Targets on Drug Price Reform**
Stacie B. Dusetzina

- 5 INTRODUCTION**
Aaron S. Kesselheim, Ameet Sarpatwari, and Benjamin N. Rome
- 7 Government Support of Meaningful Drug and Device Innovation: Pathways and Challenges**
Aaron S. Kesselheim
- 16 Rethinking Innovation in Drugs: A Pathway to Health for All**
Mariana Mazzucato
- 21 Doubling Down: Will Large Increases in the NIH Budget Promote More Meaningful Medical Innovation?**
Bhaven N. Sampat
- 24 NIH Licensing Would Benefit from Free-Market Provisions**
Robin Feldman and Zachary Rosen
- 28 Public Returns on Public Investment: Moderna's Violation of the Social Contract**
Ameet Sarpatwari
- 35 The NIH-Moderna Vaccine: Public Science, Private Profit, and Lessons for the Future**
Christopher J. Morten

The Journal of Law, Medicine & Ethics (JLME): Material published in *The Journal of Law, Medicine & Ethics* (JLME) contributes to the educational mission of the American Society of Law, Medicine & Ethics (ASLME), covering public health, health disparities, patient safety and quality of care, and biomedical science and research, and more.

The Journal of Law, Medicine & Ethics is published by Cambridge University Press on behalf of the American Society of Law, Medicine & Ethics.

ISSN: 1073-1105

E-ISSN: 1748-720X

Copyright © 2024, the American Society of Law, Medicine & Ethics. All rights reserved. No portion of the contents may be reproduced in any form without written permission from the publisher

Printed in the USA by The Sheridan Group

Editorial Office

Journal of Law, Medicine & Ethics, 765 Commonwealth Avenue, Suite 1704, Boston, MA 02215 USA
Phone: 617-262-4990; Fax: 617-437-7596
E-mail: thutchinson@aslme.org

Letters to the Editors: Comments on articles in the Journal should be addressed to the Editor at the editorial office or emailed to thutchinson@aslme.org

Submission Guidelines: For submission guidelines, please contact the editorial office at thutchinson@aslme.org or go to cambridge.org/jlme/submit

Supplements: Initial inquiries should be directed to the Editor at the editorial office or emailed to thutchinson@aslme.org

Subscribe or Recommend a Subscription to your Librarian: Go to cambridge.org/jlme/subscribe or email subscriptions_newyork@cambridge.org (in the USA, Canada or Mexico) or journals@cambridge.org (elsewhere).

Copyright and Permissions: To request permission for republishing, reproducing, or distributing material from this journal, please visit the desired article at cambridge.org/jlme and click "Rights & Permissions." For additional information, please see cambridge.org/about-us/rights-permissions.

Advertising and Reprints: Contact ad_sales@cambridge.org. Acceptance of advertising in this journal in no way implies endorsement of the advertised product or service by Cambridge University Press, the American Society of Law, Medicine & Ethics or the journal editor(s). We reserve the right to reject any advertising it deems as inappropriate for this journal.

Member Subscription Information: American Society of Law, Medicine & Ethics member inquiries, change of address, back issues, claims, and membership renewal requests should be addressed to Membership Director, American Society of Law, Medicine & Ethics, 765 Commonwealth Avenue, Suite 1704, Boston, MA 02215; telephone: (617) 262-4990. Requests for replacement issues should be made within six months of the missing or damaged issue. Beyond six months and at the request of the American Society of Law, Medicine & Ethics, the publisher will supply replacement issues when losses have been sustained in transit and when the reserve stock permits.

Claims or Change of Address for Non-Members: Should be directed to subscriptions_newyork@cambridge.org (in the USA, Canada or Mexico) or journals@cambridge.org (elsewhere).

Discover the Entire JLME Back Archive: cambridge.org/jlme/read

Follow JLME on X: @JLME_ASLME

THE JOURNAL OF LAW, MEDICINE & ETHICS

SPECIAL SUPPLEMENT TO VOLUME 51.4 • WINTER 2023

BOARD OF EDITORS

Anita Allen-Castellitto, J.D., Ph.D.
University of Pennsylvania Law School

Wendy K. Mariner, J.D., LL.M., M.P.H.
Boston University School of Public Health

R. Alta Charo, J.D.
University of Wisconsin Law School

Maxwell J. Mehlman, J.D.
Case Western Reserve University

Ellen Wright Clayton, M.D., J.D.
Vanderbilt University School of Medicine

E. Haavi Morreim, Ph.D.
University of Tennessee College of Medicine

Bernard M. Dickens, Ph.D., LL.D., LL.M.
University of Toronto Faculty of Law

Thomas H. Murray, Ph.D.
The Hastings Center

Barry Furrow, J.D.
Drexel University Earle Mack School of Law

Wendy E. Parmet, J.D.
Northeastern University School of Law

Jay A. Gold, M.D., J.D., M.P.H.
MetaStar, Inc.

Karen H. Rothenberg, J.D., M.P.A.
University of Maryland School of Law

Lawrence O. Gostin, J.D., LL.D. (Hon.)
*Georgetown University Law Center
Johns Hopkins University*

Margaret A. Somerville, A.M., FRSC
McGill University

Ana Smith Iltis, Ph.D.
Wake Forest University

Daniel P. Sulmasy, M.D., Ph.D.
Georgetown University

Nancy M. P. King, J.D.
Wake Forest School of Medicine

Lois Snyder Sulmasy
American College of Physicians

John D. Lantos, M.D.
Children's Mercy Hospital

Susan M. Wolf, J.D.
University of Minnesota Law School

Stuart J. Youngner, M.D.
Case Western Reserve University

THE JOURNAL OF
LAW, MEDICINE & ETHICS
C O N T E N T S

SPECIAL SUPPLEMENT TO VOLUME 51.4 • WINTER 2023

Symposium Articles

SYMPOSIUM

Promoting Drug
and Vaccine
Innovation and
Managing High
Prices: Three
Proposals for
Policy Reform

Guest Edited by
Aaron S. Kesselheim,
Ameet Sarpatwari,
and
Benjamin N. Rome

1
*Letter from
the Editor*

Cover image ©Getty Images

5
INTRODUCTION

*Aaron S. Kesselheim, Ameet Sarpatwari,
and Benjamin N. Rome*

7
Government Support of Meaningful
Drug and Device Innovation:
Pathways and Challenges

Aaron S. Kesselheim

The US government supports drug innovation in two important ways. First, through the National Institutes of Health (NIH), it supports the development of transformative drugs. Second, the government is the largest single purchaser of prescription drugs through Medicare and Medicaid, among other programs, and can take steps to ensure that taxpayer funds are used to provide preferential access to meaningful pharmaceutical innovation. It is therefore crucial for the government to distinguish between high-value vs. low-value innovation in purchasing expensive prescription drugs and medical devices. In recent years, the government has tried to do that by (a) issuing a National Coverage Determination to pay for the Alzheimer's disease drug aducanumab, which was initially priced at \$56,000 per year despite no clear evidence that it works; (b) proposing special payment models through the Centers for Medicare and Medicaid Innovation that would limit payment for drugs without clear evidence of patient benefits and ensure that cell and gene therapies are reimbursed according to the clinical benefits they provide; and (c) withdrawing a rule that would have forced the government to pay for medical devices authorized by the Food and Drug Administration without clear evidence of important patient benefits. Congress should take other similar steps to ensure the continued discovery of transformative drugs and to ensure that patient and taxpayer funds are not wasted on excessively priced drugs and medical devices that offer little additional meaningful benefits to patients.

16
COMMENTARY
Rethinking Innovation in Drugs:
A Pathway to Health for All
Mariana Mazzucato

21
COMMENTARY
Doubling Down: Will Large Increases
in the NIH Budget Promote More
Meaningful Medical Innovation?
Bhaven N. Sampat

24
COMMENTARY
NIH Licensing Would Benefit from
Free-Market Provisions
Robin Feldman and Zachary Rosen

28
Public Returns on Public Investment:
Moderna's Violation of the Social
Contract
Ameet Sarpatwari

In January 2023, Moderna announced its intent to increase the price of the COVID-19 vaccine it co-developed with the National Institutes of Health (NIH) by 400%. Moderna's justification was three-fold: 1) the value of the vaccine, 2) its need to support research and development, and 3) minimal impact on patients in part owing to a planned patient assistance program. Careful assessment reveals major flaws in these arguments. First, although the NIH-Moderna vaccine has proven highly effective, it was created with substantial taxpayer funding of early- and late-stage research, pivotal clinical trials, and manufacturing—in addition to a \$1.5 billion advanced market commitment. For this unprecedented “de-risking,” Moderna is not justified in extracting the full value of the vaccine. Second, Moderna had ample funds to invest in research and development, reporting \$20 billion in profit in 2021-2022, but elected to spend more on stock buybacks to enrich its executives. Third, contrary to Moderna's assertion, a four-fold price increase of the NIH-Moderna vaccine will harm public health. Even with a patient assistance plan, fewer vaccinations will occur, which will increase the number of infections and deaths from SARS-coV-2 and provide more opportunities for the virus to mutate. The federal government should continue to pressure Moderna to change course and resume buying doses for all Americans, leveraging its purchasing power to obtain a fair price. This response would not threaten innovation but instead allow Moderna to profit handsomely from its efforts under reduced risk while ensuring reasonable access to treatment.

Symposium articles are solicited by the guest editor for the purposes of creating a comprehensive and definitive collection of articles on a topic relevant to the study of law, medicine and ethics. Each article is peer reviewed.

Independent articles are essays unrelated to the symposium topic, and can cover a wide variety of subjects within the larger medical and legal ethics fields. These articles are peer reviewed.

Columns are written or edited by leaders in their fields and appear in each issue of *JLME*.

Next Issue:

Tk
A Symposium
Guest Edited
by TK

35
COMMENTARY
The NIH-Moderna Vaccine:
Public Science, Private Profit, and Lessons
for the Future
Christopher J. Morten

41
COMMENTARY
If Left Unchecked: Lessons Learned from
Unfettered U.S. Government Support of
the NIH-Moderna Vaccine
Reshma Ramachandran

46
Addressing High Drug Prices by
Reforming Pharmacy Benefit Managers
Benjamin N. Rome

In the US, high prescription drug prices have resulted in many patients struggling to afford necessary medications. Recently, Congress has focused on reforms to address the role that pharmacy benefit managers (PBMs) play in high drug prices for patients. PBMs are middlemen for transactions between drug manufacturers, patients, and insurers. Several PBM business practices are problematic, including negotiating confidential rebates that are not passed on to patients who use expensive medications, charging fees tied to the list prices of medications, and encouraging patients to fill medications at PBM-owned pharmacies. To address these concerns, Congress could prevent PBMs and insurers from setting patient cost-sharing based on pre-rebate list prices, require PBMs to pass rebates along to plan sponsors so they can be used to lower premiums and offer more generous benefits, prevent PBMs from engaging in spread pricing or collecting fees based on list prices, and investigate the potential anti-competitive effects of vertical consolidation between PBMs and pharmacies. In enacting reforms, Congress must be cautious not to impose restrictions that excessively restrict PBMs' ability to negotiate with drug manufacturers; alternatively, PBM reforms could be paired with other policies that directly address the high prices of brand-name drugs set by manufacturers.

52
COMMENTARY
Pharmacy Benefit Management:
The Cost of Drug Price Rebates
James C. Robinson

55
COMMENTARY
Aiming at the Right Targets on Drug
Price Reform
Stacie B. Dusetzina