

intellectual history might contribute to political philosophy and analysis of market societies.

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*Inequalities in Health: Concepts, Measures and Ethics*, edited by Nir Eyal, Samia A. Hurst, Ole F. Norheim and Dan Wikler. Oxford University Press, 2013, 348 pages.

## 1. INTRODUCTION

What happens when you ask a bunch of philosophers for advice about a policy problem? They will start by asking you to imagine all sorts of absurdly unrealistic hypothetical dilemmas, and conclude by telling you: 'its all very, very complicated!' That is why philosophers are rarely asked for advice about policy problems. Sometimes, however, policy problems really are more complicated than policy makers and their advisers realize, in important ways they need to understand. This edited collection convincingly demonstrates that health inequality is a case in point.

Recent decades have seen important advances in our understanding of the causes of health inequalities. Yet these scientific advances have not yet been matched by sustained efforts to clarify the ethical issues facing policy makers who wish to reduce health inequalities. This book contributes towards clarity of thinking about health justice by bringing together 21 essays on the ethical foundations of health inequality analysis by distinguished philosophers and philosophically minded economists, epidemiologists and physicians.

The editors express the hope that 'the chapters in this book ... will be of interest to epidemiologists, economists, philosophers,

physicians, activists and others with an interest in understanding distributive justice as it focuses on health or in identifying, explaining, and correcting inequalities in health' (2). As well as presenting original philosophical arguments, therefore, many of the chapters also communicate pre-existing philosophical analysis in a form that can more readily be understood by people without a professional background in philosophy.

My review starts with a chapter-by-chapter summary, and then picks out three cross-cutting issues that I believe will repay careful consideration by anyone involved in studying health inequality or advising policy makers.

## 2. SUMMARY OF THE CONTENTS

For a concise overview of the issues addressed in the book, I recommend starting with the Introduction by Eyal, Hurst, Marchand, Norheim and Wikler, Chapter 3 by Asada and Chapter 12 by Daniels.

Asada summarizes the ethical and methodological issues underpinning rival 'univariate' and 'bivariate' approaches to measuring health inequality. The 'univariate' approach examines all inequalities in health between individuals, whereas the 'bivariate' approach focuses on social inequalities in health. More precisely, the 'univariate' approach focuses on inequality in the distribution of a single health outcome variable: a classic example being the individual-level distribution of age at death (as discussed by Atkinson in Chapter 2). Whereas the 'bivariate' approach focuses on inequality in the joint distribution of two variables: a health outcome variable and a health determinant variable. A classic example is the headline graph from the 2010 Marmot Review of health inequalities in England, reproduced in Chapter 18 by Marmot (295). This graph illustrates a 'social gradient' in health, by presenting a scatter plot of life expectancy (the health outcome variable) by percentile group of neighbourhood deprivation (the health determinant variable). Typically, the health determinant variable is a social group variable, such as class, education or race. However, the health determinant variable can also be a continuous individual level social variable, such as income, or a variable with a blend of 'natural' and 'social' connotations, such as age or disability. More recently a hybrid 'multivariate' approach has been proposed, which allows simultaneously for multiple unfair determinants of health inequality (Fleurbaey and Schokkaert 2009, 2011). As Asada explains, the multivariate approach focuses on inequality in the distribution of a single health outcome variable that has been adjusted using multiple health determinant variables, in a 'fairness standardization' process that aims to retain all the unjust variation while removing variation that is not unjust. The resulting measure of overall unfair health inequality

can then be decomposed to examine the contribution of each health determinant.

In Chapter 12, Daniels summarizes the 'unexpected complexity' facing policy makers who wish to reduce social inequalities in health, due to potential conflicts with the goal of promoting population health fairly. I particularly recommend this chapter to idealistic left-wing students and scholars who are suspicious of the idea that there are sometimes trade-offs between reducing inequality and other ethically important policy objectives. Daniels is an eminent professor of philosophy at Harvard School of Public Health, with impeccable left-wing credentials as a former student activist in the 1960s. By taking the reader through a series of policy dilemmas, he demonstrates that the concept of an 'equity-efficiency trade-off' is not always just a rhetorical trick designed by right-wing economists to justify policies favouring the wealthy and powerful.

Chapter 17 by Deaton and Chapter 18 by Marmot provide opposing readings of the evidence on the causes of social inequality in health – and correspondingly opposing policy conclusions. Deaton thinks that unequal social conditions and health in childhood are the main causes of social inequality in adult health, and consequently the main warranted policy targets. By contrast, Marmot thinks that evidence of the cumulative health effects of adult living and working conditions justifies additional government expenditure and regulation to reduce inequalities in adult social conditions – in particular, inequalities in adult learning opportunities, working conditions, income and housing conditions.

Other chapters provide in-depth analysis of particular health justice issues. On the complexity of equality, Chapter 1 by Temkin reviews his classic analysis of the many different aspects of inequality that potentially influence value judgements about the comparative fairness of health distributions, and Chapter 6 by Arrhenius peels a further eye-watering layer off the inequality onion by considering issues of population change.

On univariate versus bivariate health inequality, see Chapters 2, 4, 7 and 20. Chapter 2 by Atkinson cautions against borrowing univariate measures of health inequality from the income inequality literature. He points out that such measures are hard to interpret, because they have to be compared with an unknown and context-specific level of 'residual' inequality due to natural variation in health and longevity that would still occur even if income and all the other social determinants of health were fully equalized. This contrasts with univariate measures of income inequality which can be compared with zero for full equality. Atkinson's is a noteworthy voice in this debate as a leading figure in the development of the income inequality literature over the past

half century, with pioneering contributions including the 1970 Atkinson Index.

By contrast, Lippert-Rasmussen argues in favour of univariate measures in Chapter 4. His central claim is that the fundamental health justice objective should be to reduce all individual-level inequalities in health, irrespective of their origin. Chapter 7 by Hausman argues in favour of bivariate measures on both methodological and ethical grounds, including fundamental disagreement with Lippert-Rasmussen about the meaning of health justice. According to Hausman, 'health inequalities that are neither remediable nor compensable – for example, inequalities due to conditions such as Tay Sachs disease – are tragic but neither just nor unjust' (98). Chapter 20 by Sadana discusses the bivariate metrics for global health inequality monitoring developed by the World Health Organization around the time of the WHO Commission on Social Determinants of Health 2008, which contrast with the univariate metrics developed around the time of the WHO World Health Report 2000.

Chapters 8, 9 and 13 analyse the conflicts that can arise between concern for equality in health and the apparently plausible 'Pareto principle', that a policy should be chosen if it is better for some people without being worse for anyone else. Chapter 8 by Fleurbaey and Voorhoeve argues that, under conditions of uncertainty, concern for equality in *ex post* final health outcomes can justify violating the Pareto principle in terms of *ex ante* expected health outcomes; and Chapter 9 by Frick critiques this argument. Chapter 13 by Eyal defends concern for equality in health against the classic 'levelling down objection', that harming the healthy in order to bring them down to the level of the unhealthy not only violates the Pareto principle but is also unfair. This debate has important methodological implications. Indices of inequality and social welfare developed by economists – such as the Atkinson Index – are typically designed to avoid the 'levelling down objection', by giving weighted priority to the worse off rather than aiming for full equality. If Eyal is right, then it may be appropriate for analysts to explore the use of alternative, more full-blooded inequality indices – including ones that can recommend 'levelling down' in some circumstances.

Chapters 5, 10, 11, 14, 15, 16 and 19 analyse issues of health care justice in the light of broader concerns about inequality in health outcomes. Chapter 10 by Segall and Chapter 19 by Le Grand argue that the principle of equality of opportunity for health may be used to justify not only public financing of a universal and comprehensive health care package but also a degree of 'affirmative action' in the delivery of preventive health care, favouring socially disadvantaged groups. Chapters 5, 11, 14, 15 and 16 focus on health care priority setting. Chapter 5 by Nord and

Chapter 14 by Norheim address health care priority setting trade-offs between maximizing total health and giving priority to the worse off, defining the worse off in terms of current ill health and lifetime ill health respectively. Finally, Chapter 15 by Beckstead and Ord and Chapter 16 by Kamm address health care priority setting conflicts between maximizing total health and avoiding invidious discrimination against the disabled.

### 3. THE COMPLEXITY OF INEQUALITY

Health inequality experts are already well aware that different inequality metrics can yield strikingly different conclusions. For instance, if mortality falls by the same amount in two groups, the inequality ratio will rise while the inequality gap remains constant. And if the same data are turned into life expectancy – switching from a negative measure of ill-health to a positive measure of health – the inequality ratio will fall. But as this book shows, things are even more complicated than that.

Chapter 1 by Temkin asks us to compare a hypothetical inequality between two groups, in which individuals gradually shift from the well-off group to the badly off group in a cumulative series that he calls 'The Sequence'. Like a complex optical illusion, fairness seems to be getting better and better from some perspectives; worse and worse from other perspectives; and worse then better from yet other perspectives. As Temkin explains, there are three different ways of assessing individual (or group) complaints about the comparative injustice of their own particular situation: relative to the best off, relative to the average, or relative to all those better off. Furthermore, there are also three different ways of aggregating individual (or group) complaints to assess the overall degree of injustice in the whole population: maximin (i.e. focus only on the worst off), additive, and weighted additive (i.e. add up complaints with extra weight for complaints from the worse off). Together, these yield nine plausible and distinct aspects of inequality that influence value judgements about justice.

Temkin goes on to describe other aspects of inequality, and concludes that 'there might be as many as twenty-four or thirty-six different ways of thinking about inequality'. Worse still, 'recognizing that other approaches to inequality are also plausible only adds further layers of complexity to the topic' (21). Chapter 6 by Gustaf Arrhenius unravels one of these further layers in his chapter on egalitarian concerns and population change, by suggesting that egalitarian judgements should be influenced by the positive value of equal relations as well as the negative value of unequal relations. He concludes, 'As Temkin has shown, inequality is an extraordinarily complex notion. If I'm right in my suggestion that egalitarians should also value equal relations positively, then what an

egalitarian should be concerned about is an even more complex notion than inequality' (90).

Does all that complexity mean that clear-thinking people can *never* make unambiguous value judgements about unjust health inequalities? No! Almost all the authors in the book give examples of health inequalities they consider to represent serious injustices. For example, Temkin himself opens with the example of infant mortality differences between children born into rich and poor families in the US city of Houston, Texas, caused by spectacular differences in the availability and quality of medical care around the time of birth. Furthermore, one can develop coherent philosophical theories of health justice that come down in favour of a particular way of assessing and aggregating individual complaints of unfairness. For example, Daniels' theory of health justice stipulates that individual complaints about inequality should be assessed relative to the best off and aggregated using a weighted additive approach that gives priority to the worse off.

What the complexity means is that policy makers and their advisers need to be *cautious* about drawing conclusions from any particular health inequality statistic. There is no single, 'one-size-fits-all' summary index of health inequality that can capture all the complex nuances of our intuitions about health justice. Instead, analysts need to measure and visualize health distributions in as much detail as the available data will allow; to produce a battery of different summary health inequality metrics; and to make the empirical assumptions and social value judgements that underpin each metric explicit. This information can then be used to help decision makers and stakeholders deliberate clearly and systematically about the implications of alternative social value judgements.

#### 4. UNIVARIATE VS. BIVARIATE MEASURES OF HEALTH INEQUALITY

When considering the appropriate role of univariate and bivariate measures, there are both social and scientific value judgements to make. The key social value judgement can be framed as follows. Do you think that all individual-level inequalities in lifetime health are unjust, like Lippert-Rasmussen, or that some individual-level inequalities in lifetime health are not unjust, like Hausman? If all inequalities in health are unjust then univariate measures are essential. If some health inequalities are not unjust, by contrast, then bivariate and/or multivariate measures are essential to focus attention on the unjust inequalities in health that do warrant public policy concern and action.

Hausman has introduced two technical terms that help clarify thinking about this question, which he elaborates in Chapter 7. He argues that health inequalities are a matter of personal misfortune, rather

than social injustice, if they are both 'irremediable' – that is, society is unable to reduce them – and 'incompensable' – that is, society is unable to compensate for them with more of other goods. Lippert-Rasmussen responds by pointing out that what counts as 'irremediable' is merely a contingent matter that depends on the available time horizon, resources and technology, rather than a fundamental matter of values. In the language of economics, making justice contingent upon these factors confuses objectives with constraints. It also has the vaguely paradoxical implication that investing in R&D to develop new technology that enables society to reduce a particular health inequality can change the justice objective, but is itself neither just nor unjust. Atkinson, Daniels, Deaton and Marmot side with Hausman in this debate, while Fleurbaey and Voorhoeve seem more inclined to side with Lippert-Rasmussen, at least insofar as they endorse concern for individual level equality in the *ex post* distribution of health.

Quite separately from this social value judgement, there are also scientific value judgements to make about the most fruitful scientific methodology for identifying and comparing health inequalities. Advocates of the univariate approach make three important methodological points here. First, there is always the danger that group-level analysis may mask important within-group inequality patterns that can only be seen in more fine-grained individual-level analysis. Second, when making cross-national comparisons, bivariate measures suffer from serious comparability problems due to cross-national differences in the meaning and measurement of social variables such as income. Third, when making sub-national comparisons, the univariate approach can help identify unjust health inequalities that do not map directly onto traditional social inequality divisions. For example, an excessive focus on 'social' variables such as class or race may detract attention from unjust inequalities in lifetime health associated with 'biomedical' variables such as disability and mental illness. Inequalities in lifetime health associated with disability and mental illness may be no less remediable and/or compensable than those associated with class or race, and to that extent no less worthy of attention. As Marmot points out, 'even if no injustice pertained to the causes of being confined to a wheelchair, it would still be unjust for buildings not to provide access to those disabled or for local authorities not to provide help to those who have visual impairment' (288). In other words, even if an inequality in lifetime health due to disability or mental illness is irremediable it may nevertheless be compensable, and if it is not adequately compensated then it may be unjust.

Given all these complex issues, what health inequality measure(s) should be used? Unfortunately, there is no easy answer to that question, since the underlying ethical and methodological disagreements are so intractable. Asada argues for a pragmatic compromise, in using a blend



of univariate, bivariate and multivariate metrics in order to see the health inequality problem from all angles. In practice, of course, analysts have to make hard choices about which measures to present to busy decision makers. In making these choices analysts always risk relying implicitly on their idiosyncratic social value judgements, rather than those of the policy makers and broader stakeholder communities they are supposed to be serving. So analysts' reasons for choosing one kind of health inequality metric rather than another should be made explicit and open to public scrutiny.

## 5. EX ANTE VS. EX POST DISTRIBUTIONS OF HEALTH

Should policy concern focus on the *ex ante* distribution of expected health outcomes (e.g. life expectancy), or the *ex post* distribution of final health outcomes (e.g. age at death)? Inequality in these two distributions can be quite different. Furthermore, as Fleurbaey and Voorhoeve show in Chapter 8, policy makers are sometimes faced with dilemmas in which everyone is slightly better off *ex ante* but inequality is substantially worse *ex post*.

In practice, univariate measures tend to focus on *ex post* distributions, and bivariate measures tend to focus on *ex ante* distributions. But this need not be the case. For example, a bivariate measure could examine *ex post* inequality in age at death between social groups. And a univariate measure could examine the *ex ante* distribution of life expectancy at birth between individuals. Though a wrinkle here is that this individual-level distribution would only be as fine-grained as the available individual-level variables for modelling life expectancy. For example, if the only variables available for estimating life expectancy at birth were group variables such as sex, race and (parental) class then the unit of analysis would effectively be sex-race-class sub-groups rather than individuals.

To date, the univariate approach has typically been applied to observed *ex post* distributions – in particular, age at death. However, since an individual's entire lifetime experience of health is not fully observable until they die – i.e. rather too late for policy intervention – we might also consider applying the univariate approach to modelled *ex post* distributions that simulate lifetime health outcomes for people still alive. This approach would simulate the *ex post* distribution of individual lifetime health, using multiple observed health variables and health determinants and including a stochastic element to reflect the random play of chance. This would be similar to the 'multivariate' approach to estimating overall unfair health inequality described above, except in two fundamental respects. First, the aim would be to predict the individual's actual health outcome, rather than to adjust it by removing the influence of health determinants that are not considered unjust. Second, the aim would be to simulate the full *ex post* distribution of lifetime health, including



'residual' variation due to the random play of chance over which policy makers have no control.

## 6. CONCLUDING REMARKS

As well as the three general issues discussed above, the book also addresses important health justice issues that relate more specifically to health care rather than broader public policy. All of these issues share two immutable characteristics: they are highly intricate and they provoke fundamental disagreements. Reading this book will not help you resolve those disagreements. However, it may help you see the intricacies more clearly and agree more precisely what it is that you disagree about.

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*In Praise of Desire*, Nomy Arpaly and Tim Schroeder. Oxford University Press, 2014, ix + 316 pages.

This insightful book covers an impressive range of topics in moral psychology and moral philosophy. Arpaly and Schroeder ('A&S') initially bill their book as defending 'the side of Appetite in the long-standing