

Pharmacoeconomics Journal. Article Title: Health Economists on Involving Patients in Modelling: Potential Benefits, Harms, and Variables of Interest. Online Resource 2: Advance Material for Expert Informants. Authors: Stephanie Harvard and Gregory R. Werker. Corresponding Author: Stephanie Harvard, University of British Columbia Faculty of Pharmaceutical Sciences, harvards@mail.ubc.ca.



Advance Material for Expert Informants

You have been invited to be interviewed as an expert informant for the qualitative research project "*Social, Ethical, and Other Value Judgments in Health Economics and Simulation Modelling*".

The purpose of the proposed interview is to know your views on values and value judgments in health economics and simulation modelling studies.

The reason for this research project is that people still disagree about the precise role of values in science, including health economics and simulation modelling. Your interview will help us know more about how experts view the role of values in this research area.

The purpose of this brief is to inform you about terms and concepts that would come up in the interview. This brief will be available during the interview for those who choose to participate; there is no need to memorize or study the material. If you have questions, please email Stephanie Harvard (harvards@mail.ubc.ca).

Values

For the purpose of this project, the term "values" will be defined in a very broad sense, to refer to anything good or desirable.

During the interview, where it is helpful to do so, a rough distinction will be made between two types of values.

The first type of values includes things that are considered to be good in science, such as predictive power, accuracy, robustness, etc. These values will be referred to as "scientific criteria".

The second type of values includes things that are considered to be good outside of science too, such as relevance to decision-makers, comprehensiveness, usability, etc. These values will be referred to as "social and ethical values" or just "social values".

Many people say it is hard to draw sharp lines between scientific criteria and social values. It will be up to you to use or not use the rough distinction.

Value Judgments

The term "value judgments" can be hard to define, partly because of ambiguity between scientific criteria and social values. In the interview, value judgments will be roughly defined as decisions where:

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- i) There is flexibility from a scientific perspective, in that scientists agree there is more than one legitimate method or way of doing things; AND
- ii) There could be social or ethical consequences following the decision, whether these consequences are immediate or down the line.

If this definition raises difficulties for you at any point, you are invited to make that part of the discussion.

Concepts for Discussion

There are a few arguments that scholars make about how social values become part of science, which continue to be debated. The interviewer will be interested in hearing your views on these arguments, which are listed below.

Argument from Value-Laden Background Assumptions: Scientists never start from scratch, but must incorporate at least some background assumptions into their work. For example, it may be assumed that a diagnosis of disease has only negative consequences for a patient. Certain assumptions align with and advance certain values and not others.

Boundary Challenge- Version 1: It is not always possible to distinguish between scientific criteria and social values, and some scientific criteria can introduce social values. For example, we might describe gender using 2 categories, because this can simplify data analysis. But this also perpetuates the binary conception of gender, which aligns with certain social values and conflicts with others.

Boundary Challenge- Version 2: It is seldom possible to maximize all scientific criteria in a single model, and social values are used to make tradeoffs between scientific criteria. For example, there may be necessary trade-offs between accuracy and speed of generating results, which are informed by the goal of the research and therefore social values.

Argument from Inductive Risk- Version 1: Scientists must decide when there is enough evidence to make a claim. This requires considering the ethical consequences of error, so requires social values. For example, if testing whether a batch of parachutes was defective, one might use a higher standard of evidence than if testing whether a batch of hairclips was defective.

Argument from Inductive Risk- Version 2: Scientists must decide when there is enough evidence to take action under uncertainty- for example, to classify ambiguous data one way or another, to use a certain model, or even populate a parameter value. This requires considering the ethical consequences of error, so requires social values.

Cascade Argument: Value judgments in the early phases of science, such as picking the topic to study, picking the model structure, prioritizing model features, etc., have downstream consequences for knowledge and our conceptions of objectivity.