

DEFENDING THE SOCIAL VALUE OF KNOWLEDGE AS A SAFEGUARD FOR PUBLIC TRUST

ABSTRACT

The “socially valuable knowledge” (SVK) principle has been widely acknowledged as one of the most important guiding principles for biomedical research involving human subjects. The principle states that the potential of producing socially valuable knowledge is a necessary requirement, although not sufficient, for the ethical conduct of research projects. This is due to the assumption that the social value of knowledge avoids exploitation of research subjects and justifies the use of health resources. However, more recently, several authors have started interrogating the validity of SVK in research and offered various lines of argument against the SVK principle as a necessary constraint to research. In this paper, I will reconstruct the main arguments of this discussion between defenders and debunkers of the SVK principle and offer a third way to consider the social value of knowledge in research studies. I will argue the social value of knowledge can be supported by an independent justification. This justification of the SVK principle addresses the rationality and common interest of researchers. Thus, I will introduce the SVK principle as a safeguarding principle for public trust based on a conceptual framework by Alex John London. My approach justifies keeping the principle as a precautionary and rational requirement for human health research all rational stakeholders can agree upon.

INTRODUCTION

One of the widely acknowledged guiding principles of international ethics guidelines for the conduct of biomedical research involving human subjects¹ is the “socially valuable knowledge (SVK)” principle.² The in 2016 revised CIOMS guidelines state that the social value of research offers the ethical justification of biomedical research involving humans. Research is the prospect of generating knowledge or the means necessary to protect and to promote people’s health and welfare. The Nuremberg Code formulates this principle by stating that medical experiments ought to be designed such as to yield fruitful results for the good of society. Furthermore, the anticipated results of research have to justify the performance of the experiment and the knowledge produced should not be procurable by other methods or means.³ Likewise, the Declaration of Helsinki puts

¹ Generally, by “biomedical research involving human subjects” or “research”, I will refer to biomedical or clinical human health research, including phase I to phase IV trials that test new interventions or indications. Synonymously, I will use the term “human health research”.

² D.M. Wenner. The Social Value of Knowledge and International Clinical Research. *Developing World Bioethics* 2015; 2: 76-84. I adopt Danielle Wenner’s (2015: 76, 80) formulation of the social value requirement as the SVK (socially valuable knowledge) principle.

³ Council for International Organizations of Medical Sciences (CIOMS), World Health Organization (WHO). 2016. *International Ethical Guidelines for Health-Related Research Involving Human Subjects*: paragraph 1. Available at: <http://www.cioms.ch/index.php/12-newsflash/400-cioms-international-ethical-guidelines>.

The Nuremberg Code. 1949. *Trials of War Criminals Before the Nuremberg Military Tribunals Under Control Council Law No. 10*. Washington, DC: U.S. Government Printing Office: 181-2, paragraph 2. B. Freedman (1987). Scientific value and validity as ethical requirements for research: a proposed explication. *IRB: Ethics & Human Research* 1987;

emphasis on the promotion of knowledge that helps to alleviate human suffering. Paragraph 16 states that medical research involving human subjects may only be conducted if the importance of the objective outweighs the risks and burdens to the research subjects.⁴

Most notably, in the paper “What Makes Clinical Research Ethical?”, the research ethicists Ezekiel Emanuel and colleagues maintain the common consensus that research is ethically permissible only if certain principles are fulfilled, and the SVK principle is one of them. Social value is linked to the main aim of research to attain generalizable knowledge. This knowledge ought to serve the social good and improve the provision of health care. Also, it provides the ethical justification for a research design in which individual human participants are intentionally exposed to potential harms and scarce resources used.⁵ According to Danielle Wenner’s reconstruction of the SVK principle, biomedical research with human subjects is not ethically justifiable if biomedical research does not yield valuable epistemic outputs, including negative results. Additionally, she argues that the social value of knowledge produced in research avoids exploitation of the community where

9.6: 7-10. The National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research (National Commission).1979. *The Belmont Report: Ethical Principles and Guidelines for the Protection of Human Subjects of Research*. Washington, DC: Department of Health, Education, and Welfare.

⁴ World Medical Association (WMA). 2013. *Declaration of Helsinki: Ethical Principles for Medical Research Involving Human Subjects*: paragraph 16. Available at: <http://www.wma.net/en/30publications/10policies/b3/>

⁵ E.J. Emanuel, C. Grady, D. Wendler. What Makes Clinical Research Ethical? *JAMA* 2000; 283.20: 2701–2711.

A. Rid & D. Wendler. A framework for risk-benefit evaluations in biomedical research. *Kennedy Institute of Ethics Journal* 2011; 21.2: 145-146.

Wenner, *op. cit.* note 2.

research is conducted. It is ethically illegitimate to place research subjects at risk if the corresponding community where the research is conducted does not partake of the fruits of research.⁶

However, while defenders and international research guidelines view the SVK principle as a necessary although not sufficient⁷ condition for ethical research, opponents put forward the critique that the principle does not serve as a necessary ethical requirement. Critics, such as Alan Wertheimer, Douglas K. Martin et al., David Casarett et al., Nancy King, and Benjamin Freedman revisited the discussion on the ethical justification of research projects.⁸ As we shall furthermore see, there are various different critiques that are quite heterogeneous and address distinct levels of the discussion about the SVK principle as an ethical requirement.⁹

⁶ See Wenner, *op. cit.* note 2 and 5, p. 76.

⁷ CIOMS-WHO, *op. cit.* note 3.

⁸ A. Wertheimer. "The Social Value Requirement Reconsidered." *Bioethics* 2015; 29.5: 301-308. D. Casarett, J. Karlawish, J. Moreno. "A Taxonomy of Value in Clinical Research," *IRB: Ethics & Human Research* 1987; 24.6: 1–6. Freedman, *op. cit.* note 3. N. King. "Defining and describing benefit appropriately in clinical trials." *The Journal of Law, Medicine & Ethics* 2000; 28.4: 332-343. D.K. Martin et al. "The Incommensurability of Research Risks and Benefits: Practical Help for Research Ethics Committees." *IRB: Ethics & Human Research* 1995; 17.2: 8–10. F. Miller, A. Wertheimer. "Facing Up to Paternalism." *Hastings Center Report* 2007; 37.3: 24-34.

⁹ Wertheimer, Martin et al., Freedman, *op. cit.* note 8.

My aim is to defend the SVK principle on the basis of an argument that requires the collective rationality of researchers and of all stakeholders gaining from research results. To do this, I will first reconstruct the debate between the debunkers and the defenders of the SVK principle. However, I will not directly intervene in the debate. The suggestion I make is that we should even keep the SVK principle for researchers and other stakeholders as a principle independent of the ethical arguments to prevent the intentional exposure of individual research participants to risks and the squandering health resources. In this regard, I will introduce an additional justification that restates the SVK principle as a precautionary and safeguarding principle for public trust, based on a conceptual framework by Alex John London.

DEFENSE OF THE "SOCIALY VALUABLE KNOWLEDGE" PRINCIPLE AS A NECESSARY CONDITION FOR THE ETHICAL PERMISSIBILITY OF BIOMEDICAL RESEARCH WITH HUMAN SUBJECTS

In order to clarify the discussion about the SVK principle, I will introduce several conceptual frameworks for the social value of knowledge and then proceed to its ethical justification of human health research. Emanuel et al. put forward that the knowledge produced in research studies involving human subjects must aim for a social *benefit* for society, namely, an improvement in well-being and health care, or increased scientific knowledge. Still, when referring to benefits, we have to deal with the potentiality of benefits related to the epistemic output of research.

Emanuel et al. argue that it is possible to compare the relative social values of different research projects that go along with the potential improvement of health

care or the augmentation of well-being; given the condition investigated, the state of scientific understanding, and the feasibility constraints of the implementation.¹⁰

Likewise, Annette Rid and David Wendler explain in their paper on risk-benefit evaluations in biomedical research that researchers need to ensure the research study's social value.¹¹ Much like Emanuel et al., Rid and Wendler believe that the social value of knowledge in research studies should potentially generate a clinical benefit. This is the case when research prevents future patients from risks or gives better insights into options for novel therapeutic interventions and future investigations.¹² To give an example, some post-marketing studies, and more precisely so-called "seeding trials" lack social value if the purpose of the trial is to influence clinicians who participate in the study to prescribe a new medication. Here, the major concern is that "[...] post-marketing trial arena is a backwater in which pharmaceutical companies use the simulacrum of scientific investigation to hawk their products."¹³ In turn, producing knowledge that concerns the efficacy of an intervention yields social value, such as the benefit to improve health care.

As aforementioned, Wenner also draws on the social value of knowledge as a requirement that provides the "[...] ethical grounding for the intentional subjection

¹⁰ Emanuel et al., *op.cit.* note 5, p. 2701. See A. Wertheimer. 1996. *Exploitation*. Princeton: Princeton University Press. See L.D. De Castro. Exploitation in the use of human subjects for medical experimentation: a re-examination of basic issues. *Bioethics* 1996; 9.3: 259-268.

¹¹ Rid and Wendler, *op. cit.* note 5, p. 145-147.

¹² *Ibid*: 145-147.

¹³ A.L. London, J. Kimmelman & B. Carlisle. Rethinking Research Ethics: The Case of Postmarketing Trials. *Science* 2012; 336.6081: 544. R.D. Bernabe. *Ethical issues in postauthorization drug trials*. Utrecht University, 2013. See CIOMS-WHO, *op. cit.* note 3, paragraph 1.

of human participants to risks of harm in scientific experiments.”¹⁴ She refers to this as the “socially valuable knowledge” (SVK) principle.¹⁵ Wenner furthermore offers a nuanced specification of what we actually mean by “socially” valuable pieces of knowledge. She explains that the SVK principle demands more than just methodologically sound research. The social value should not only be interpreted as an inherent value of knowledge, but rather as an instrumental value. She does not deny that there may be an inherent value to knowledge, but this value must include some instrumental component.¹⁶ By instrumental component of value, Wenner refers to the “usefulness” of certain pieces of knowledge to society which varies on the basis of contextual features, such as disease prevalence, infrastructure, or health recourses.¹⁷ Hence, according to Wenner, “[...] the SVK principle has to operate on the basis of expected or intended epistemic outputs of clinical trials, and the value which can be ascribed to the knowledge anticipated.”¹⁸ Furthermore, the foreseeable epistemic value of pieces of knowledge has only social value and is ethically sound within the constraints of a certain community that potentially profits from the conducted research.

Nevertheless, what makes the social value of knowledge a necessary ethical requisite for human health research? The defenders of the SVK principle, as well as various research ethics guidelines, support the common consensus that social value

¹⁴ Wenner, *op. cit.* note 1, p. 81.

¹⁵ Wenner, *ibid.*: 76, applies the social value claim to the context of international clinical research. However, I will apply her concept of social value to the general context of research with human subjects.

¹⁶ *Ibid.*: 82. See J. Kimmelman. 2010. *Gene Transfer and the Ethics of First-in-Human Research: Lost in Translation*. Cambridge, MA: Cambridge University Press: 92–97.

¹⁷ *Ibid.*: 81.

¹⁸ *Ibid.*: 82.

is one of the crucial principles that make research with human subjects ethically permissible.¹⁹ In particular, Emanuel et al. identify two fundamental reasons why the social value of knowledge is an ethical requirement.

(1) On the one hand, the SVK principle justifies the use of finite resources.

Since funding agencies are restricted with respect to the financing of research projects, resources should only be spent on the socially most fruitful projects. Also, research subjects themselves can be considered as a scarce resource, e.g. when rare diseases are investigated in clinical trials where only few participants potentially enroll. Similar to scarce financial resources, scarce research subjects should participate in research projects with the highest attainable social value. I will furthermore refer to this as the “allocation argument”.²⁰

(2) On the other hand, beyond wasting resources, researchers should not expose research subjects to risks without aiming at social benefits in their research. According to Emanuel et al., this is equal to the argument that the social value of knowledge avoids exploitation of research subjects.

Without the generation of social value, research exposes participants to risks for no good reason.²¹ This is of special importance when no great direct benefits to the research individuals are expected. For instance, Habets et al. point out that research, such as first-in-human research, that does not expectably yield benefits to research subjects, needs to be assessed by the anticipated social value to prevent research subjects from participating in futile studies. Moreover, Wenner adds that that research

¹⁹ Ibid: 80-81.

²⁰ Anticipating Wertheimer’s, *op. cit.* note 8, position, I will refer to call this the “allocation argument” which is introduced as such by him.

²¹ Emanuel et al., *op. cit.* note 5, p. 2703.

should yield a potential value to the community in which research is conducted to avoid exploitation of vulnerable communities.²² I will refer to these considerations as the “exploitation argument”.

Before continuing with the critique of the opponents, I would like to summarize the outlined interpretation of the SVK principle, as well as the ethical justifications given by the SVK principle. The social value of knowledge produced through human health research refers to foreseeable or *potential benefits* of the epistemic output research yields. Thus, social value must have an instrumental component that can be interpreted as useful pieces of knowledge. This usefulness of knowledge is moreover subject to the contextual needs of a community in which research is conducted. Furthermore, the SVK principle is a core principle that makes research with human subjects ethically permissible. This is based on two arguments, namely the allocation and the exploitation argument.

CRITIQUE OF THE SVK PRINCIPLE AS A NECESSARY REQUIREMENT FOR THE ETHICAL CONDUCT OF BIOMEDICAL RESEARCH WITH HUMAN SUBJECTS

Critics of the SVK principle bring into question whether the social value of knowledge is a valid justification for the ethical conduct of research with humans. There are actually various lines of argument in opposition to the SVK principle and to the defenders’ reading of it. These critiques target both, (1) the allocation argument, and most prominently the (2) exploitation argument. With respect to the latter, critics identify the problem that the SVK principle is not a necessary

²² Wenner, *op. cit.* note 1, p. 80-82. M.G. Habets, J.M. van Delden & L. A. Bredenoord.

The unique status of first-in-human studies: strengthening the social value requirement. *Drug Discovery Today* 2016; 1-5.

requirement for the ethical conduct of research because it does not prevent research subjects from exploitation. Furthermore, they express different concerns against the integration of the SVK principle into the practice of research ethics. They either propose to consider socially valuable knowledge in the risk-benefit analysis of a research study, or they propose banning it completely from the ethical evaluation of research.

(1) The allocation argument.

Wertheimer criticizes the allocation argument when he says that the squandering of resources argument does not apply to commercial research.²³ However, he admits, that even in the privately funded research endeavors, ethical concerns can play a role to a certain extent because it is morally preferable to not use resources on mere “luxury concerns” when people have serious health needs at the same time.

Nevertheless, he also explicitly states that the allocation argument for the SVK principle does not appeal to all general considerations about beneficence and distributive justice in the private industry. This is due to the view that something has value if people want to pay for it. In this scenario, it is not only possible but also likely that people have a false consciousness about the evaluation of goods which can be based on factual mistakes and false predictions about their future.

Thus, it may happen that people eventually want to pay for useless products.

However, these private decisions cannot be subject to social control unless private actors violate some specific obligation towards others. Furthermore, according to Wertheimer, public policy itself may be mistaken when identifying the value of knowledge of research outputs. Thus, the social value of knowledge should be considered as “[...] more subjective, less comparative, and less enforceable” and

²³ Wertheimer, *op. cit.* note 8, pp. 302-304.

not as a *condicio sine qua non*.²⁴ In consequence, Wertheimer admits that the SVK principle may apply to a certain extent as a justification for publicly funded research, but not in the same way to commercial research.

(2) *The exploitation argument.*

I will start with a general consideration by Wertheimer who criticizes the SVK principle as neither sufficient nor necessary to avoid exploitation of research participants. Due to the different lines of argument of the more specific critique towards the exploitation argument, I will introduce two sub-arguments to facilitate the understanding of each critical argument. I will subcategorize the expressed oppositions as (2a) net risk argument and as (2b) incommensurability argument.

As previously outlined, the exploitation argument states that the social value of knowledge avoids exploitation of research subjects. It is only ethical to expose research subjects to risks and burdens when the research yields social value, interpreted as some useful potential benefit to society. However, according to Wertheimer, social value is not sufficient to avoid exploitation of research subjects.²⁵ It is not sufficient because society should compensate people who accept risks for the sake of society. Otherwise, the beneficiaries in society exploitatively free-ride on the research subjects who participate and accept risks for the good of society. Furthermore, the SVK principle is not necessary. If there are no risks or if the individual risks are outweighed by expected individual benefits or even a monetary compensation to the research subjects, social value is no

²⁴ Ibid: 304. See A. Wertheimer. Is Payment a Benefit? *Bioethics* 2013; 27.2: 105–116.

²⁵ Wertheimer *op. cit.* note 8: 304. See A. Wertheimer. 2008. Exploitation in clinical research. In *The Oxford textbook of clinical research ethics*. E.J. Emanuel et al., eds. New York: Oxford University Press: 201-210.

necessary condition. However, with regard to first-in-human trials, we often cannot expect individuals to gain benefits at all to compensate for risks.²⁶ Hence, we may be tempted to insist even more on the social value requirement in these cases. To counter this argument, Wertheimer argues that individuals still care about their own net-benefit in trials. He argues that without individual therapeutic benefits, subjects can reasonably accept financial benefits for their participation that exceed the risks of participation.²⁷

Likewise, Benjamin Freedman observes in an earlier version of Declaration of Helsinki that research should not be prohibited on the grounds of lacking scientific and social importance if the research study does not entail substantive risks to subjects.²⁸ Casarett and colleagues argue that “[...] considerations of value are not necessary when all of a study’s risks are outweighed by its potential benefits to subjects themselves.”²⁹ So to say, even though research studies may generate little social value, this may be still ethically acceptable when no great risks to participants are expected or when the expected individual benefits exceed the individual risks.³⁰ But what happens if individual anticipated benefits do not

²⁶ M.G. Habets, J.J. van Delden & A.L. Bredenoord. The unique status of first-in-human studies: strengthening the social value requirement. *Drug Discovery Today*; 2016; 1-5.

²⁷ Wertheimer, *op. cit.* note 25: 304-5.

²⁸ Freedman, *op. cit.* note 3, p. 8. World Medical Association, *op. cit.* note 4.

²⁹ D. Casarett, J. Karlawish, & J. Moreno. A Taxonomy of Value in Clinical Research. *IRB: Ethics & Human Research* 1987; 24.6: 1–6.

³⁰ Here again, it is important to note that the risks can considerably vary between different types of research studies according to the investigated intervention and the trial phase. In low-risk research studies, for example, we may not necessarily ask for high individual benefits. See also A.J. London. Non-Paternalistic Model of Research Ethics and Oversight: Assessing the Benefits of Prospective Review. *Journal of Law Medicine & Ethics* 2012; 40.202: 930-944.

compensate for the individual risks in a research study? This leads us to the “net risk” argument that has been expressed by various authors, most notably the philosopher King.

(2a) Net risk argument. King follows the previous critique. When we interpret the value of knowledge in terms of benefits to various subgroups, it is not entirely self-explaining why exactly social benefits would justify intentional exposure of individual research participants to risks. In her analysis, she distinguishes between (i) *direct benefits* to individual participants that arise from receiving the intervention, (ii) *collateral benefits* to individual participants which arise from being enrolled in a study, as well as (iii) *aspirational benefits* to society that arise from the results of a study.³¹ All these possible sources of benefits must be critically weighed to assess the ethicality of a research project. Following King, it can be argued that social benefit is just one ingredient within an overall risk-benefit analysis of a research study and may be outweighed by other sources of benefits. In other words, social value is not a necessary requirement but should be acknowledged in the overall risk-benefit analysis.³² Nevertheless, the social value of knowledge is of special importance when direct and collateral benefits are low or when risks are high, as for instance in first-in-human trials. In these cases, the social value may be the only source of justification for a research study.

(2b) Incommensurability argument. Even though it may seem reasonable to people that there can be trade-offs between risks to their life and other benefits or goods and ends³³, there might be a theoretical objection that socially valuable knowledge interpreted in terms of social benefit can justify risks to research subjects in a

³¹ King, *op. cit.* note 8, p. 333.

³² Freedman, *op. cit.* note 8. World Medical Association, *op. cit.* note 4.

³³ Wertheimer *op. cit.* note 8, p. 305.

medical experiment. Douglas K. Martin et al. claim that there is a substantial problem when we trade-off research subjects' risks by any social benefit to society. This is because potential benefits that arise in the context of a research study affect different individuals, which makes an interpersonal cost-benefit analysis impossible from a theoretical stance.³⁴ Thus, when we weigh potential risks and benefits to one group of people, e.g. research participants, with those of another group, such as future patients, we compare benefits that are *incommensurable*. Incommensurability can be, for instance, interpreted in a utilitarian way. More specifically, one of the foundational premises of utilitarianism is that actions must lead to the greatest possible balance of good consequences of all people concerned. However, most utilitarians acknowledge that we can never exactly know how others evaluate the consequences they encounter. We may judge consequences as "good" while others would not give them the same importance. Thus, attributing and *weighing* risks and benefits concerning different individuals is a subjective enterprise which is impossible to do from an objective standpoint.³⁵

The incommensurability problem occurs most of the time in biomedical research with human subjects because the produced *generalizable knowledge* or social value for future patients is weighed against the exposure of other humans, namely, the research subjects, to *risks*. Thus, the risks of research are borne by the research subjects, but possible therapeutic effects and indirect benefits, such as the contribution to generalizable knowledge, is accrued to others including future patients and scientists. Martin et al. offer a practical solution for research ethics committees based on the consultation of communities and potential research participants. In particular, they suggest determining the acceptability of a risk-benefit "ratio", composed of risks and benefits that affect different individuals, by

³⁴ Martin et al., *op. cit.* note 8, p. 9-10.

³⁵ *Ibid*: 9.

acknowledging the common perspective of potential research subjects. Only those who might be potentially harmed by research are able to judge whether the potential benefits within the community justify their risks. However, this may help us getting a better grasp of what acceptable risks and benefits for a particular community of potential research subjects may be. However, this approach does not solve the theoretical incommensurability problem. This is due to the fact that we would need to level out different perspectives of research individuals and future patients, which poses again an incommensurability problem. Hence, one conclusion we could draw by taking the incommensurability problem seriously is that researchers should consider the subjects' individual risks and potential benefits instead of evaluating all sorts of risks and benefits to different individuals. Whether a research study is ethically legitimate and avoids exploitation of research participants or not may, therefore, depend on the particular risk-benefit-profile of individual research participants.

As an interim conclusion, we can put on record that there is substantial critique towards the argument that research requires socially valuable knowledge to justify the use of health resources, as well as the exposure of individual study participants to risks and burdens. Critics call into question the SVK principle as an ethical justification by following distinct lines of arguments: The first objection addresses the (1) allocation argument and states that the use of resources especially in commercially funded research requires a much *less enforceable SVK principle* as ethical justification. (2) Furthermore, the critics state that the SVK is neither a necessary nor sufficient requirement to avoid exploitation. The SVK principle as necessary justification for ethical research on the grounds of the exploitation argument can be criticized in two ways. (2a) As long as the net risk of a research study is outweighed by both, potential benefits to research individuals or society, social value *is not a necessary requirement*, but a consideration to make in the risk-

benefit analysis of research. (2b) Based on the incommensurability problem, one can even argue that the SVK principle should *not be considered* in the risk-benefit analysis of a research project. This is due to the argument that individual risks, individual benefits, and social benefits are incommensurable because they are attributed to different groups of people. Hence, the exposed critiques towards the SVK principle as an ethical requirement vary greatly among different opponents. The critiques cover the moderate statement to consider the social value of knowledge, but not as a necessary condition; as well as the suggestion to generally keep it out from all ethical considerations in individual risk-benefit analyses of research.

KEEPING THE SVK PRINCIPLE AS A SAFEGUARDING REQUIREMENT FOR HUMAN HEALTH RESEARCH

As demonstrated, the controversial question at stake in the debate between critics and defenders of the SVK principle is whether the SVK principle can serve as a necessary ethical justification for the intentional exposure of individual research participants to risks, as well as for the use of scarce resources.

Following the stated positions, the authors expressed reasons for the normative demand of the SVK principle or for rejecting the requirement as a necessary ethical principle. At this point, it would surely be an important task to elaborate in more detail whether the SVK principle serves as a necessary ethical demand. For instance, one could argue against the debunkers of SVK principle that a monetary compensation for research participants cannot rule out the criterion of social value in first-in-human trials, involving substantive risks to participants.

Nonetheless, here I will follow a different argumentative strategy to defend the SVK principle. Therefore, I will not address the question of whether the SVK

principle is ethically required or not. Instead, I will pose and answer the question of whether we still ought to keep the SVK principle. I will argue that we should keep the SVK principle for reasons *other* than an ethical demand. To do that, I will develop an additional and independent justification of the SVK principle based on the collective rationality of researchers. Thus, my aim of the next sections is neither to criticize nor defend the SVK principle as an ethical requirement, but to develop an additional justification to strengthen the SVK principle.

In order to introduce a justification to keep the SVK principle, I will reconstruct and eventually extend an argument by Alex John London. For the following, let us assume that rational agents base their actions on their own self-interested preferences. Originally, London develops his argument to justify strong ethics regulations of research involving human subjects.³⁶ In stark contrast to the dominant model of research regulations and oversight, London himself states that he is willing to give a justification for strong ethics regulations on basic liberal and political grounds. He wants to provide a credible framework to prevent the arbitrary exercise of social authority and to pave the way for research fostering the social good.³⁷

London bases his justification for strong ethics regulations of research with human subjects on the “tragedy of the commons” problem.³⁸ The tragedy of the commons is a dilemma in which individual users acting independently and rationally according to their best interest behave contrary to the common good because their common actions deplete a shared resource. It can be argued that in the long run that researchers and other stakeholders will accept regulatory interventions because it is

³⁶ London, *op. cit.* note 30.

³⁷ *Ibid.*: 931-932.

³⁸ *Ibid.*: 932-936. G. Hardin. The Tragedy of the Commons. *Science* 1968; 162.3859: 1243-1248.

their individual and collective interest to maintain the viability of the shared resource.³⁹

London explains that the common resource that research studies “consume” is the social support and trust of all stakeholders involved in research. In a scenario of mutual engagement between society and researchers, social support for research with human subjects is based on public trust and on the belief that researchers and other stakeholders involved in research are acting as responsible agents. London argues that this plays a central role in ensuring that research institutions are justifiable on basic liberal and political grounds. In particular, his approach provides a credible social assurance to society that social institutions, funded by tax dollars and empowered to advance their health and well-being contribute to “[...] respect and affirm the moral equality of all community members; prevent the arbitrary exercise of social authority; and help to create a ‘market’ in which the diverse stakeholders [...] advance the common good.”⁴⁰ Thus, all stakeholders, including physicians, patients, researchers, representatives of the health systems and others, whose contributions are necessary to make the research enterprise function, should be interested in the maintenance of social support and trust to meet the various health needs of society. Public trust is necessary for the society’s support in terms of tax dollars spent, as well as for the social mission of research.

According to London, without regulations researchers are tempted to gain a comparative advantage by conducting questionable studies. However, without

³⁹ Garrett Hardin (ibid) gives the example of cattle herders sharing a common parcel of land on which they let their cows graze. He postulated that if a herder puts more than his allotted number of cattle on the common land, overgrazing would transpire. For each additional animal, a herder could receive additional benefits, however, this would negatively affect the whole group.

⁴⁰ London, *op. cit.* note 30, p. 931.

constraints on the pursuit of their individual goals, research would reach a point in which the fund of social support would be exhausted. This would eventually constitute a cumulative disadvantage for all researchers and other stakeholders. Without a sense of trust, members of the public may not want to serve as research subjects. Also, without the production of valuable information that addresses questions of importance for health, funding bodies and philanthropic organizations may favor other researchers who pursue socially valuable projects.⁴¹ This means that even if it seems individually rational for a researcher to conduct a research study that lacks social value since the effect of an individual action on public trust in research will be small, she has prudential reasons to ensure that the research study has social value. This is based on the assumption that the collective action of researchers leads to the depletion of public trust and to the absolute deadlock of research in the long run. Hence, the collective of researchers and other stakeholders should be interested in regulations that ensure the maintenance of public trust to prevent each individual researcher from the temptation to gain a comparative short-term advantage by conducting questionable research studies.

How can London's version of the tragedy of the commons problem be applied to the SVK principle? To do this, we need to assume that the social value of knowledge for research with individual human participants is required to avoid the exhaustion of public trust.⁴² This is based on the assumption that a lack of social value can lead to the depletion of public trust that can hinder or disrupt research endeavors.⁴³ Drawing on London, research without social value refers to an

⁴¹ Ibid: 933-935.

⁴² Social value serves "the public confidence in the research endeavor", see Rid and Wendler, *op. cit.* note 5, p. 144.

⁴³ However, Wertheimer, *op. cit.* note 8, p. 308, objects that this is an empirical question that requires more investigation.

assessment that the produced knowledge will neither make a meaningful contribution to society nor to something that significantly affects the lives of people. A lack of social value can stem from a lack of relevance of the produced knowledge to clinical, social, and public health problems.⁴⁴ Moreover, a lack of social value can lead to a lack of social trust when public resources are squandered solely for the personal goals of researchers. Initially, individual researchers prefer the situation in which they have the greatest freedom to choose research projects. However, this can easily lead to an outcome of research with low social value, which everyone, including researchers, wants to avoid because public trust and support can be easily exhausted.⁴⁵

Thus, we can put on record two lines of argument. First, public trust is required to sustain research. Thus, all reasonably motivated researchers and other stakeholders should be interested in safeguarding public trust. Second, the social value of knowledge enhances or at least does not to deplete public trust. These considerations now shed a new light on the SVK principle. When we apply the argument of non-depleting public trust to the SVK principle, the social value of knowledge can now be interpreted as a safeguarding principle of public trust that helps sustain biomedical research.⁴⁶ Research involving human subjects without the social value requirement runs the risk to deplete social trust, which can eventually hinder or stop research.

Following the outlined conception of the SVK principle, we may ask if the social value is a *necessary* factor to maintain public trust. London himself does not engage in this question. Nevertheless, he already identifies the lack of social value

⁴⁴ London, *op. cit.* note 30, p. 933.

⁴⁵ Ibid: 933-934.

⁴⁶ There are other sources of public trust like “respect for research subjects” and “fair diversion of social resources”; *ibid*: 933-935.

as only one of four possible driving factors that can exhaust public trust, next to antipathy, disrespect, and unfair diversion of social resources. This position faces several critical arguments by Wertheimer.

First, one of London's concerns is to assure that people spend their 'tax dollars' to advance their health and well-being. However, according to Wertheimer, it seems unclear how much social trust is required to maintain commercial research given that the public participates in privately funded research apart from their role as consumers. Second, Wertheimer addresses the argument that prospective research participants would need 'a good reason' to participate in research studies. Without social value, the public would not be willing to serve as research subjects because it seems that the knowledge produced has no important impact on a social level.

Wertheimer argues that it is rather the case that research participants are self-interested agents who want to be adequately compensated for their risks. Thus, the social value of knowledge is a subordinate concern. After all, the major issues research subjects may be concerned about address informed consent, deception, and protection. Eventually, Wertheimer does not see the necessity why the general public should be willing to tolerate risks to research participants on the basis of social value considerations. He suggests doing empirical research to back up this hypothesis which requires more investigation.⁴⁷ Moreover, it may be argued that the general public is in any case indeed optimistic about the benefits of research.⁴⁸ Even if futile research takes place, the public is not usually aware of this. Hence, trials that go wrong pose a more serious problem for public trust.

⁴⁷ Wertheimer, *op. cit.* note 8, pp. 306-307.

⁴⁸ R. Barke. Assessing Uncertain Risks and Benefits in Human Subjects Research.

Science, Technology & Human Values 2008; 1-20.

In Wertheimer's first argument against London, he seems to presuppose that society is simply concerned with its resources used for research. This is, however, a fairly narrow reading of London's position. Society is not, as Wertheimer assumes, only concerned with spending tax dollars on research. Society is also concerned with consuming high quality research-based information and knowledge. Hence, public trust plays a crucial role in the social mission of research that generates valuable knowledge. In particular, without structures and appropriate measures to assure social value in research, 'low-quality' research without social value potentially crowds out 'high-quality' research.⁴⁹ Thus, not only researchers, but also all stakeholders who are consumers of research-based knowledge, including future patients, physicians, health systems, subsequent researchers, and third party payers, are interested in research yielding a high social value of the produced knowledge.

Furthermore, we may agree that social value is not a *necessary* principle to maintain public trust. But Wertheimer presumes in his critique that London establishes a necessary causal relation between the lack of social value and the depletion of public trust. Hence, I want to disentangle the SVK principle from any consideration of necessity by restating it as a precautionary principle for the safeguard of public trust. By 'precautionary', I mean a principle that researchers and other stakeholders would adhere to because of the following rationale: If it is likely that there is a causal relation between lacking social value and the depletion of public trust, they were at risks to end up in the tragedy of the commons dilemma, which every reasonable researcher and other stakeholder wants to avoid.

⁴⁹ London, *op. cit.* note 30, p. 938, presents in this context the so-called "lemons problem".

In a nutshell, without a functional mechanism of research review that assures social value or other ethical and epistemic standards in order to distinguish between high- and low-quality research problems that reduce the quality of research can, as a result, erode support for the research.

Rid and Wendler, therefore, consider the social value of knowledge a factor that *enhances* the public confidence in the research endeavor.⁵⁰ This enhancement indicates that we assume a positive relation between research that yields social value and the support by society. It might be true or not that social value is a subordinate concern for the public trust in the current research endeavors, as the public is very optimistic about the benefits of research despite futile studies. Nevertheless, the point in the “tragedy of the commons” example is that even if researchers and other stakeholders suspect and view it likely (but not necessary) that the common resource of public trust could be depleted, they are better off avoiding all actions that would lead to the very unpleasant result of depleting the public confidence in research completely.

This rationale can be, for instance, compared to arguments that have been put forward in environmental discussions. Climate experts usually argue that we should change our environmental behavior in order to assure that the climate change does not proceed even if we cannot be entirely sure about the final scenario. Wertheimer may be correct by saying that more research needs to be done to determine under what circumstances public trust is depleted. But then, as a precautionary measure, rational researchers and other stakeholders should be interested in the SVK principle as a safeguard for public trust. This is of course based on an assumption, namely that the lack of social value can lead to the depletion of public trust for the reasons outlined above.

Similarly, we can address Wertheimer’s second argument that research participants are primarily interested in their own benefits that they weigh against their individual risks. Martin et al. put forward that research is often conducted under the presumption that the personal benefits to research subjects do not outweigh

⁵⁰ Rid and Wendler, *op. cit.* note 5.

individual risks. Thus, there is another component, namely social value that plays a crucial role for all stake holders in society, including participants who are active contributors to the health and well-being of society. Research without social value is at risk to signal to research participants that they expose themselves to risks without meaningful contribution to a “greater” social good. This also applies to privately funded research because research participants are always part of the social discourse apart from the funding scheme of a research project. It seems unclear why researchers in the private sector would not be exposed to the problem of depleting public trust and thus, losing prospective research subjects who are willing to participate in their research projects. We cannot be entirely sure if social value plays a central role for research participants, but at least we know that social value is very likely to thwart the depletion of their confidence in the research endeavor.

Moreover, even if we could not be sure about the role of social value for research subjects, the SVK principle would gain special importance for researchers and other stakeholders interested in the produced knowledge of research when research subjects are considered a scarce resource. Then, researchers would not want to enroll participants in a futile trial if there are also trials that are likely to generate a high social value of knowledge. This may be, for example, of special interest for trials that investigate biomedical interventions for rare human diseases, where research subjects are scarce.

A “PRUDENTIAL” JUSTIFICATION OF THE SVK PRINCIPLE

Eventually, we have arrived at an argument to support the SVK principle that is now “weaker” than an ethically binding principle. It is “weak” because it is solely based on the consideration made by rational agents, namely to act first and

foremost on rational principles for their own end, and not primarily on the ethics of research. However, the SVK principle may remain an ethical requirement for individual researchers apart from the consideration of the collective interest of researchers. The justification to keep the social value of knowledge states that it is collectively prudential for those involved in the research enterprise to adhere to the SVK principle.⁵¹ More specifically, the reason for researchers to pursue their long-term interests is not based on the previous arguments to defend SVK as a safeguard of exploitation of participants or communities. Thus, defenders of the SVK principle gave initially the following justification to keep the SVK principle as necessary principle, which can be formulated as follows⁵²:

- (a) The SVK principle is a necessary requirement for research that exposes risks to human subjects. It is necessary because it makes research ethical. It guarantees that researchers aim at an expected social benefit which prevents the exploitation of participants or society and the unethical squandering of resources.

I will call this the "ethical justification" of the SVK principle to highlight the fact that the social benefit demand acts as a non-negotiable ethical constraint in research. The additional and independent justification to keep the SVK principle as a precautionary requirement is based on the collective rationality of researchers and other stakeholders and reads as follows:

⁵¹ Following Parfit, a self-benefiting choice that is rational is called prudent. Thus, I understand "prudential" in terms of rationality and self-interest. D. Parfit. Prudence, morality, and the prisoner's dilemma. *Philosophical Lecture* 1981; 539-565.

⁵² To avoid confusion, I want to clarify that the justification to keep the social value of knowledge as necessary principle is different from the justification the SVK principle gives to make research ethical, namely the justification for the use of resources and for exposing research participants to risks.

- (b) The SVK principle is a precautionary and thus a safeguarding principle because research with risks to human subjects needs to have a sufficient expected social benefit to enhance and at least not deplete public trust in science.

I will call this the “prudential justification” of the SVK principle because it particularly acts as a reasonable constraint in the long-term interest of all researchers and other stakeholders.

Will the detractors of the ethical SVK be more comfortable with the prudential justification of SVK? I explained that the alternative justification of the social value of knowledge is based on the assumption that rational researchers would consent to the SVK principle to promote their common resource: public trust. This is the case because public trust is supposed to make research a more fruitful and socially supported enterprise. Thus, even if the former critiques rejected the ethical justification of the SVK principle (a view I do not intend to endorse), none of the former critiques holds when applied to the prudential justification of the SVK principle. This is the case because

- (1) Safeguarding public trust does not act as an ethical constraint to prevent the squandering of resources. London wishes to assure people that their taxes are being used to advance their health and well-being. Thus, there is a correlation between the squandering of resources and public trust. Furthermore, Wertheimer’s objection that the social value of knowledge does not apply as an ethical constraint to privately funded research, does not work for the prudential justification of the SVK principle. Even though Wertheimer also denies that commercial research would impact on public trust because no public money is spent, it also seems to be in the commercial researchers and other stakeholders’ interest to assure that

people trust private research enterprises in order to recruit research participants. Thus, the prudential justification of the SVK principle is not a necessary ethical constraint to the use of resources. It is only a safeguarding principle for the sake of prudential considerations.

(2) Safeguarding public trust does not aim to avoid the exploitation of research subjects, and does not aim to justify the intentional exposure of individual research participants to risks and burdens. Since I do not consider the prudential justification of the SVK principle to be an ethical constraint against exploitation, I only claim that public trust maintains the public consent to research projects. Thus, in this case, the SVK principle only serves public trust and does not necessarily protect research subjects or justifies intentional exposure of individual participants to risk.

(2a) Safeguarding public trust is not a necessary criterion relevant for the overall risk-benefit analysis of research projects. Safeguarding public trust does not fall under direct and collateral benefits to subjects or direct benefits to society.⁵³ Yet, if we want to ascribe a benefit to public trust, there is a benefit to researchers that gain support from society. Thus, the justification why researchers and other stakeholders would eventually need to adhere to social value is a separate consideration of whether the social value needs to be part of the risk-benefit analysis or not. It is an entirely independent principle for the sake of public trust.

(2b) Safeguarding public trust does not play a role in the interpersonal comparison of benefits. This is the case for the same reasons as in (2a). Public trust is not a component considered in the risk-benefit analysis in

⁵³ See King, *op. cit.* note 8.

which the social benefits to future patients could possibly balance risks to research subjects. Researchers that benefit from public trust are not considered in the risk-benefit evaluation of research.⁵⁴

Does the prudential justification of the SVK principle go against the position of the original defenders who justify the principle as a necessary ethical constraint to research? By introducing the prudential justification of the SVK principle, I do not argue against the principle as a necessary requirement for the ethical permissibility of research with human subjects at all. By drawing on London, my attempt is to show that we can use another justification for the SVK principle to avoid the aforementioned controversy, regardless of whether the critiques are valid or not. In this new light, the principle reflects the interests of society, research participants and researchers. By including the researchers' perspective and collective interest, the prudential justification of the SVK principle broadens the original specification of social benefits⁵⁵ of the intended epistemic research output.⁵⁶ Here, the interests of all rational parties, including scientists, are considered.

Therefore, one may object that by proposing this new justification of the SVK principle, I do not address the fundamental problem of the intentional exposure of research participants to risks. This is correct. The prudential justification of the SVK principle gives no answer to this normative question. Nevertheless, the new justification offers a justification for a valuable feature of research. The suggestion I make is to keep the SVK principle in the best interest of all researchers and stakeholder in society, independent of the ethical justification to prevent the intentional exposure of individual research participants to risks and the squandering health resources. Thus, I primarily followed London's non-paternalistic

⁵⁴ See Martin et al., *op. cit.* note 8.

⁵⁵ See Emanuel et al., *op. cit.* note 5. Rid and Wendler, *op. cit.* note 5.

⁵⁶ See Wenner, *op. cit.* note 1.

justification of research and extended his considerations to the SVK principle that I restated as precautionary safeguarding principle.

CONCLUSION

By introducing a new independent justification of the SVK principle, we have arrived at a prudential justification in which social value is assumed to be a factor to maintain or at least not deplete public trust. I argued that researchers as a collective group of rational individuals would finally consent to the new prudential justification of the SVK principle in order to fulfill their long-term self-interest of undertaking research. Safeguarding public trust and the prudential justification of the SVK principle go along with the maintenance of research endeavors involving human subjects. This prudential justification may assuage the critics of the ethical justification of the SVK principle. At least, it gives a valuable reason why researchers and other stakeholders that profit from research would be interested in keeping the SVK principle as a rational constraint to research. Thus, I suggested an additional and independent justification of the SVK principle by disentangling it from the fundamental problem of the ethical permissibility to expose individual research participants to risks and to use health resources.