Aggregation and the Allocation of Health Care Resources*

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1 Aggregation and aggregation skeptism

According to some moral theories, the combined gains and losses of different individuals are allowed to constitute grounds for the rightness and wrongness of action-type. I call this method of moral justification *interpersonal aggregation*, or *aggregation* for short. According to aggregative moral principles, heavy burdens on some limited number of people can be justified by the benefits to others, no matter how small these benefits may be as long as the recipients are sufficiently numerous. Obviously, utilitarianism appeals to aggregation. Many critics of utilitarianism are opposed to aggregation. They usually try to rule out any aggregative feature from their moral principles, because aggregation would open the door to the (allegedly) implausible form of utilitarianism.[1]

Consider the *television studio case* that is discussed by an influential non-utilitarian moral philosopher, Tim Scanlon (1997: 235).

> Suppose that Jones has suffered an accident in the transmitter room of a television station. Electrical equipment has fallen on his arm, and we cannot rescue him without turning off the transmitter for fifteen minutes. A World Cup match is in progress,

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[1]The most extreme case would be Taurek (1977).

> watched by many people, and it will not be over for an hour. Jones's injury will not get any worse if we wait, but his hand has been mashed and he is receiving extremely painful electrical shocks. Should we rescue him now or wait until the match over? Does the right thing to do depend on how many people are watching – whether it is one million or five million or a hundred million?

Scanlon claims that the justifiability of a moral principle depends only on various individuals reasons for objecting to that principle and alternatives to it. He grounds the wrongness of an act in that act's being unjustifiable to some individual. In the television studio case, Scanlon contends that it is wrong to continue sending out the World Cup match and let Jones in severe pain, regardless of the number of World Cup viewers, because Jones's claim would be perfectly justifiable to each of World Cup viewers whereas each World Cup viewer's claim would not be justified in the face of Jones's urgent need. Thus, Scanlon would not combine the small inconvenience of one billion World Cup viewers in order to identify grounds for a right action-type. Utilitarianism holds that it is right to contue sending out the World Cup match if the number of World Cup viewers are sufficiently great. Many critics of utilitarianism agree with Scanlon.

I disagree with aggregation skeptics like Scanlon, and have developed a general case for aggregation elsewhere.[2] I will not attempt to present it here. In this paper, I am interested to examine three questions. The first question is what makes aggregation implausible in cases like the television studio case? The second question is whether aggregation should be allowed when we distribute the scarce health care resource to different patients with different types of disease. The third and final question asks what would be the aggregative distributive principle that meets the demand of aggregation skepticism. To consider these three questions, I will agree with Scanlon and other aggregation skeptics in that it is right to rescue Jones from the severe pain in the television studio case.

[2]Hirose (2004, 2009b).

2 What makes aggregation implausible?

Is it plausible to disallow any aggregative element in every context? Suppose that we are faced with a choice between saving a person's life and sparing an arm of each of ten people. It is not clear whether critics of utilitarianism would rule out aggregation in this example. It seems to me that a sufficiently large number of arm-losing people would outweigh the loss of one life, and that aggregation should be allowed in certain contexts.

For aggregation skeptics, what makes aggregation implausible in a certain context? As I understand it, aggregation is thought to be implausible when and because the types of benefit or harm weighed against one another, *pro tanto*, belong to different broad categories in two respects.[3] One respect is the quality of the benefit or harm. The other respect is the intensity of the benefit or harm. One type of benefit or harm is made irrelevant (invalidated, silenced, or excluded) in the face of another type of benefit or harm when and because it belongs to the category that is noticeably less important than the other in terms of quality and intensity.

Consider the television studio case again. It would be reasonable to believe that the two types of harm in this example belong to, *pro tanto*, different broad moral categories in terms of both quality and intensity. As for quality, frustration for the World Cup viewers is merely non-fulfilment, whereas Jones's severe pain is an extreme suffering. As for intensity, fifteen minutes of frustration and one hour of suffering, *pro tanto*, belong to different broad moral categories. The differences in both quality and intensity jointly *urge* us (at least those among us who are aggregation skeptics) to react in a certain way, and demand us to rescue Jones from the severe pain, no matter how many people are enjoying the World Cup match across the world. It is the consideration of *urgency* that the differences in both quality and intensity jointly give rise to; and it is also the consideration of urgency that eliminates aggregation in certain contexts.[4]

[3]See Scanlon (1997). Scanlon uses "different broad categories". This can be a bootstrapping. Scanlon's contractualism is supposed to explain grounds for our moral judgments, but individuals reasons are already morally categorized. In order to avoid this type of bootstrapping, I will use the word "different broad categories" instead.

[4]Scanlon (1975).

3 Is aggregation justifiable in health care resource allocation?

Health care resources are scarce. They are constrained in terms of budget, personnel, donors, equipments, time, and so on. We cannot treat all patients. We must choose to treat some patients based on a distributive principle that is justifiable to patients. Many people go to the hospital because they have some minor disease such as sore throat, itchy skin, dry eyes and so on. On the other hand, some people are denied publicly-funded treatment for painful and life-long diseases because such treatment uses up too many resources. If we stopped treating minor diseases, we could save a sufficient amount of resources and allocate them to the very expensive treatment of a few patients, who have developed painful and life-long diseases. Should aggregation be allowed when we distribute scarce health care resources to different patients with different types of disease?

Consider what I call the *sore throat case* (as distinguished from Frances Kamm's (1993) original example). Suppose that we are to allocate a limited amount of health resources to either the inexpensive treatment of minor diseases such as sore throat, itchy skin, and dry eyes for a million patients or the very expensive treatment of extremely painful and life-long disease for a few patients. A patient's sore throat appears to be trivial in the face of another patient's painful and life-long disease. Simple-minded critics of utilitarianism would contend that aggregation is implausible in the context of health care resource allocation for the same reason that aggregation is implausible in the television studio case. That is to say, a sore throat and an extremely painful disease belong to different categories in terms of quality and intensity, and the urgency of treating the patient with serious disease makes a sore throat irrelevant, silenced, invalidated, and excluded. This would lead us to a non-aggregative distributive principle in health care resource allocation.

But few socialized health care systems would stop treating sore throats for the sake of the expensive treatment of a few patients with severely painful diseases. It seems to me that these socialized health care systems are not implementing something wrong or unjust. I believe there are at least two important differences between the television studio case and the sore throat case, and hence that the argument against aggregation in the television

studio case cannot be applied directly to the sore throat case.

The first difference is concerned with the quality of minor bad. In the television studio case, the relevant minor bad is a short-time loss in the enjoyment of World Cup viewers. The brief interruption of a live football broadcast would not undermine a fundamental aspect of a World Cup viewer's life. On the other hand, sore throat is concerned with a fundamental aspect of patients' life, i.e. health. Sore throat is a loss in health condition, and a person's health condition is one of the most basic aspects of human well-being. Even if the effect of sore throat is very small, it should carry *some* importance in health care resource allocation.

The second difference is concerned with the scope of the relevant minor bad. Sore throat, itchy skin, and dry eyes can be early symptoms of serious diseases. If we stop treating sore throats for the sake of a few patients with serious diseases, we may end up with a greater number of patients with serious diseases. Thus, there is good reason to take a minor symptoms seriously. On the other hand, in the television studio case, it is hard to believe that the frustration of 15 minutes worth if viewing time would develop into more serious suffering.

From these reasons, we can see the important differences between the two cases. Even if critics of utilitarianism disallow aggregation in cases like the television studio case, they should not be embarrassed by allowing aggregation in deciding about how we allocate scarce health care resources.

4 Is urgency relevant in health care resource allocation?

Critics of utilitarianism, however, would have the following concern. Once we allow aggregation, we will start down on slippery slope toward utilitarianism, which is hard to accept even in the limited case of health care resource allocation. An aggregative distributive principle would demand that we maximize benefit from health interventions, and our concern for urgency, which motivates to disallow aggregation in other contexts, would be completely ignored. I have spelled out the notion of urgency in terms of quality and intensity. Health conditions are diverse in terms of quality and intensity. Consider again the comparison between a sore throat and a serious disease that includes severe pain. In the previous section, I argued that a

sore throat is not an irrelevant bad in health care. I also argued that there is a sufficiently large number n such that the bad of sore throat of n patients would outweigh the bad of serious disease of a few patients. However, it is obvious that the disease with severe pain gives raise to the concern for urgency because it is more severe in terms of quality and intensity. I think this kind of concern is understandable, and deserves serious scrutiny.

Is there any way to take into account our concern for urgency in the way that is consistent with aggregation? I believe there is. In what follows, I will propose one such procedure.

Here is a simple fact. Utilitarianism entails aggregation. But not *vice versa*. Aggregative distributive principles do not need to be utilitarian distributive principle. Utilitarian distributive principles only care about the total sum or average of net benefit, and does not care about how benefits are distributed amongst different individuals. Many non-utilitarian distributive principles care about the distribution of benefits. We can support aggregation as well as broadly construed egalitarianism at the same time.[5] By egalitarianism, I mean a set of distributive principles that give priority to the worse off. Egalitarians aggregate different people's net benefit in such a way that the worse off receives a greater moral concern than the better off. More precisely, given the total sum of benefit being equal, a more equal distribution is better than less equal one.[6]

Why should we give priority to the worse off in health care resource allocation? Imagine the following situation. Suppose that we must spend $100 per month in order to keep the condition of a seriously ill patient from

[5]Nagel (1979: 125) disagrees in principle. He thinks that the notion of urgency must rule out aggregation. He writes "if egalitarian urgency is itself sensitive to numbers in this way, it does not seem that any form of unanimity criterion could explain the foundation of the view. Nor does any alternative foundation suggest itself".

[6]It would be pointed out that this broadly defined egalitarianism is not egalitarianism but what has become known as the *Priority View* or *Prioritarianism* (see Parfit 1995). This is incorrect. It is well known in economics that many versions of Telic Egalitarianism gives priority to the worse off. For example, see Champernowne and Cowell (1998). More specifically, many versions of Telic Egalitarianism satisfy the Pigou-Dalton condition, according to which, given the total benefit being constant, more equal distribution is strictly better than less equal one. Needless to say, there are differences between Telic Egalitarianism and Prioritarianism concerning what is meant by the "worse off". In Telic Egalitarianism, "worse off" means a person being worse off than another in the relative sense. In Prioritarianism, it means a person being worse off in the absolute sense. See Hirose (2009).

deteriorating slightly. Suppose further that we can cure a sore throat with $100. If we spend $100 for the sore throat cure, we can bring one patient up to the normal level of functioning although we diminish the condition of the seriously ill patient. This, I believe, fails to meet the demand of urgency. If we take the notion of urgency seriously, we should give $100 to the seriously ill patient rather than the sore throat care for one person. By assigning a greater weight to the worse off, we can have grounds for offering $100 to the serious illness in this example. Of course, if we allow aggregation in health care resource allocation, there is a sufficiently large number n such that the benefit of sore throat cure for n-patients outweigh the benefit for one seriously ill patient. However, when the size of the health benefit is the same, an egalitarian principle of aggregation gives priority to the worse off patient and meets the demand of urgency to a certain extent (if not fully).

In practice, when we decide how we allocate the health care resource, we often appeal to the Quality Adjusted Life Years (QALYs). QALYs combine the two main types of benefit from health interventions of extending life and improving health-related quality of life. According to the standard use of the QALYs measure, we simply add up the QALYs across different patients, and judge the size of benefits given the certain amount of health care resource. However, strictly speaking, QALYs are about the *informational basis* of our distributive judgment. They are concerned with what kind of information we should take into account when we decide how we distribute the health care resources. They do not need to be a utilitarian distributive principle. We can aggregate QALYs in an egalitarian way.[7]

The egalitarian way of aggregating health benefits is the following. When we aggregate health benefits, we assign a greater weight to the lower level of health condition, and add up the weighted health benefits. In practice, there would be several different ways of doing this. Here is one way. First, when we estimate the health-related quality of life, we assign a greater weight to the more serious disease. Second, we multiply by the number of years. Third, we add up the weighted QALYs, and choose the plan that maximizes the weighted QALYs. More formally, the health benefit is expressed as

[7]See Nord, Pinto, Richardson, Menzel, and Ubel (1999). It can be claimed that when we estimate the numeric representation of a health condition, the notion of urgency, be it relative or absolute, have been already built-in, and hence that there is not need to assign a greater weight when we aggregate the QALYs. If this is really true, I can endorse the unweighted health-related quality of life.

follows. Let N be a set of ill patients, and W_i be the health-related quality of life of patient $i \in N$ such that $W_i \in [0, 1]$, where 1 is the normal level of functioning and 0 is a death. m_i denotes the number of life years extended for i. The total QALYs U is represented as:

$$U = \sum_{i=1}^{n} f(W_i) \times m_i$$

where $f(\ )$ is some strictly concave function. The curve of strictly concave function goes upwards but bends downwards.[8]

This formula gives a greater moral importance to more serious illness, and hence meets the demand of urgency in the way I described earlier. However, the number of years is not weighted. This is because I believe that the notion of urgency is concerned with how we react to a person's serious situation at a given time. It might be claimed that the goodness of extending life also diminishes as the number of extended life years gets greater. This claim implies that, given the improvement of health-related quality of life being constant, we should give a greater moral importance to a smaller number of years. I have no argument for this kind of claim. I believe that this claim must be justified on different grounds (e.g. the plausibility of pure time preference), and that it cannot be justified by appeal to the notion of urgency which motivates criticism of aggregation.[9]

5 Conclusion

I have argued that interpersonal aggregation should be allowed when it comes to the distribution of health care resources. The notion of urgency motivates aggregation skepticism, but it can be reasonably accommodated within an aggregative distributive principle insofar as we give a greater moral weight to more serious health condition in aggregating the QALYs. To say we should allow aggregation is one thing. To say that we should take the notion of urgency seriously and endorse egalitarianism is quite another.

[8]This way of giving priority to the worse off appeals to Prioritarianism. But if we assign weights by the rank-order position of the health condition in the ranking of health level, we appeal to Telic Egalitarianism (or the Gini social welfare function). See Hirose (2009a) and Sen (1976).

[9]In *Equality, Priority and Health Care*, I argue against the use of pure time preference in the QALYs measure.

Aggregation and the notion of urgency are perfectly compatible even if we agree with the motivation of aggregation skepticism.

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