12. Selecting Donors and Recipients
The Role of Old Age

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1. Introduction

When Carlton Blackburn, a retired teacher from Texas, died from a brain hemorrhage just nine days before his 93rd birthday, he became the oldest postmortal organ donor in the United States: his liver was successfully transplanted to a 69-year old woman with end stage liver disease (US Department of Health and Human Services 2012). A year later, an 83-year-old dialysis patient in the US received a living kidney donation from an 84-year-old friend. After three years, the donor as well as the recipient were healthy and leading active lives. The "world's oldest donor-recipient solid organ transplantation" (Mistry et al. 2010: 534) had been a success.

These examples appear to be symptomatic: as a consequence of historically unprecedented demographic aging in nearly all Western countries, questions of old age and intergenerational relations are receiving more and more attention in medicine and health care as well as in the relevant public, bioethical, and health policy debates. This trend also becomes manifest in the field of organ donation and transplantation medicine: as average life expectancies and population age increase, so does the age of organ donors and recipients. In 2018, one third of all organ donors and over 62 per cent of recipients in the US were over the age of 50. In the area covered by Eurotransplant, the largest European organization coordinating organ allocation in Austria, Belgium, Croatia, Germany, Hungary, Luxemburg, the Netherlands, and Slovenia, the median age of donors increased from 45 to 55 between 2000 and 2018 (Eurotransplant 2018: 18). In Germany alone, the average age of donors and recipients has risen from 33 and 42 years, respectively, to 52 and 51 years over the last 30 years.[1]

These developments also raise new questions in the ethical debate on organ donation. For example, the increasing life expectancy and population age lead to a growing demand for transplantable organs and thus intensify concerns about 'organ scarcity' and fuel controversies about the efficient use and just distribution of available donor organs between the generations (Cuende et al. 2007; Goldstein 2012). In this context, old age is discussed as a criterion for organ allocation in postmortal donation, fostering controversial proposals for age-based rationing of medical resources for the sake

1 Own statistical analysis of Eurotrasplant data (1988–2018).

of younger age groups (Reese et al. 2010). At the same time, older people are emerging as a largely untapped source of donor organs that could help to expand the donor pool. In addition, they also become incorporated into new systems of more efficient and fair utilization of the available donor organs. For example, older adults are targeted as a separate subgroup of donors and recipients in 'old for old'-schemes such as the Eurotransplant Senior Programme (ESP), or they are addressed as 'end-users' of organs with a limited lifetime in so-called domino donations (Montgomery et al. 2006).

Similar developments can also be observed in the context of living organ transplantation. Here, age and intergenerational relations within the family have traditionally played a prominent role in setting moral expectations and decisions regarding organ donation. In recent years, however, the moral significance and economy of age and intergenerational relations in the field of living donation appear to be changing. Earlier qualitative research suggested that traditional life plans and family roles made donations from parents, and especially mothers, to their minor children appear almost natural and self-evident (Zeiler et al. 2010). In the meantime, increasing life expectancies and new, more ambitious expectations and projects for the second half of life may challenge and transform the moral norms underlying traditional attitudes and decisions. Thus, recent qualitative studies indicate the growing frequency of living donations from middle-aged adults to their older relatives as a new paradigm of intra-familial care and solidarity (Kaufman/Fjord 2011; Kaufman et al. 2009).

Against this backdrop, our contribution explores the ways in which age matters in the context of organ donation. In order to illustrate the development and variety of procedural and institutional approaches, we first outline the history and organization of organ donation and transplantation with regard to aging and old age in different countries. In addition, we also provide a brief overview of the medical state of the art in transplantation medicine regarding the transfer of donor organs from or to older people. On this basis, we then describe the emerging ethical debate on the role of age in organ donation and attempt to systematize the relevant ethical aspects and arguments regarding postmortal and living donation. We conclude by highlighting the most important issues and questions and arguing for further empirical research as well as ethical deliberation on age and organ donation. Crucially, more information and critical reflection on traditional age stereotypes are needed. In a recent representative survey in Germany, almost half of the respondents wrongly assumed there were an upper age limit for organ donation (Caille-Brillet et al. 2019: 88). Indeed, many older Germans still do not even hold a donor card because they consider themselves too old and their organs unsuitable for transplantation (Caille-Brillet et al. 2015: 17, 60).

2. History and Organization of Organ Donation and Transplantation from or to Older People

Allocation rules for the limited number of available donor organs have been developed since the mid-20th century. In this context, social factors such as age have been frequently proposed as rationing criteria. Historically, one of the starting points of the debate was the Admission and Policy Committee of the Seattle Artificial Kidney Center (Veatch/Ross 2015). In the 1960s, when the availability of dialysis machines was still low, this committee of doctors and citizens established rules for access to dialysis

(Alexander 1962). Besides medical factors, criteria included a sense of responsibility and emotional maturity, compliance, proximity of place of residence to the clinic, adequate financial resources, and a certain value for the community (Feuerstein 1995; following Attali 1981: 224–225). A further criterion was being between 17 and 50 years of age. Here, almost all types of non-medical criteria that were significant in later organ transplantation debates were already present.

In the US-American context, concerns about inefficiency and age-discrimination in the kidney allocation system go back to the 1990s (Veatch/Ross 2015). Indeed, between 1994 and 2000, only 0.3 per cent of the kidney recipients in the United States were older than 75 at the time of transplantation and 6.4 per cent were aged between 60 and 75 (Macrae et al. 2005). As a result of a reform of the system originally implemented by the United Network for Organ Sharing (UNOS) in 2002, the allocation method for kidneys now divides donors into two categories: standard criteria donors (SCDs) and expanded criteria donors (ECDs). ECD kidneys derive from donors older than 60 years and from donors 50 to 59 years with co-morbidities. Introduced in 2014, participation in this reformed allocation scheme is voluntary because one can choose whether to be listed for the ECD kidneys (opt in). The system is particularly advantageous for older people but less attractive for younger candidates, who often have other conditions that reduce waiting time in any case. Therefore, the vast majority of those on the ECD waiting list are older candidates. For older people, an advantage of this new system is that it uses an age-matching formula whereby recipients are entitled to kidneys from donors who are no more than 15 years younger or older (Veatch/Ross 2015, 340–341). Indeed, due to an aging population, the average age of postmortal kidney donors and recipients has risen in the US in recent years. Today, patients older than 65 make up 21.9 per cent of all kidney recipients.[2]

Within Europe, different regulations regarding age and organ donation exist. For example, Norway has a comparatively liberal policy, organized via the Scandinavian network Scandiatransplant. Patients for kidney transplantation are accepted following an individual medical evaluation without any formal upper age limit (Heldal et al. 2008). In other European countries, the indication for transplantation has been expanded for older people since the 1990s, and the age for both donors and recipients has been lifted. Under the purview of Eurotransplant, a special program for kidney transplantation from older donors to older recipients was established in 1999 – the Eurotransplant Senior Program (ESP). ESP was designed to reduce the waiting time of older patients and to achieve a higher efficiency in the use of kidneys from older donors (Smits et al. 1998). The program allocates organs between donors and recipients who are 65 years and older and does not permit these older candidates to receive younger kidneys (Frei et al. 2008; Boesmüller et al. 2011). For the first two years, participation of transplantation centers was voluntary. Since 2001, the ESP has become part of the Eurotransplant Kidney Allocation System (EKTAS) (Smits et al. 2002). Germany, the Netherlands and Belgium are the most important contributors (Doxiadis et al. 2004). Using regional allocation based on waiting time and blood group only, regardless of human leukocyte antigens (HLA) match, a short cold ischemic time (CIT) and thus a good primary organ function could be achieved (Bentas et al. 2008). The treating physicians in the transplantation centers have the responsibility to carry out the details of the program and to obtain informed

2 Source: OPTN data from 2019: https://optn.transplant.hrsa.gov/ (accessed March 18, 2021)

consent. ESP leads to significantly reduced waiting times and enhances the chance for older patients to receive a renal graft (Frei et al. 2008).

In Austria, Belgium, Luxembourg and Slovenia, kidneys from ESP donors are allocated to ESP recipients from the reporting centers' local waiting list. In the Netherlands and Croatia, kidneys from ESP donors are allocated to ESP recipients according to the national waiting list.[3] In Germany, kidneys from ESP donors are allocated to ESP recipients by the national organ procurement organization, the German Organ Transplantation Foundation (Deutsche Stiftung Organtransplantation (DSO)). Kidneys from ESP donors are first allocated to ESP recipients registered within the same country area as the donor and then to ESP recipients registered within other sub-regions.[4] Due to the current low donor rate in Germany, waiting times in the ESP program are significantly longer than when the program was first introduced, at present over 3.6 years on average (Heldal et al. 2008). Still, this is significantly shorter than in the standard allocation system, where patients on the waiting list may have to wait for over ten years. Older patients therefore benefit from ESP. However, recipients over the age of 65 must choose between ESP or standard allocation (EKTAS) without ESP; a simultaneous listing for both programs is not possible (Heemann/Renders 2018). Overall, the percentage of kidney recipients over the age of 65 rose from 3.6 per cent to 19.7 per cent between 1991 and 2007, and the proportion of kidney donors over 64 rose from 2.3 per cent to 18.1 per cent during the same period (de Fijter 2009). Since the beginning of the ESP, the average age of donors and recipients increased by two years in both groups (see Figure 1). In addition, the figures show that the drop in organ donation rates also affected the 'old-for-old' program. This decline was repeatedly attributed to public mistrust in the system, although this explanation is controversial (Schicktanz et al. 2017).

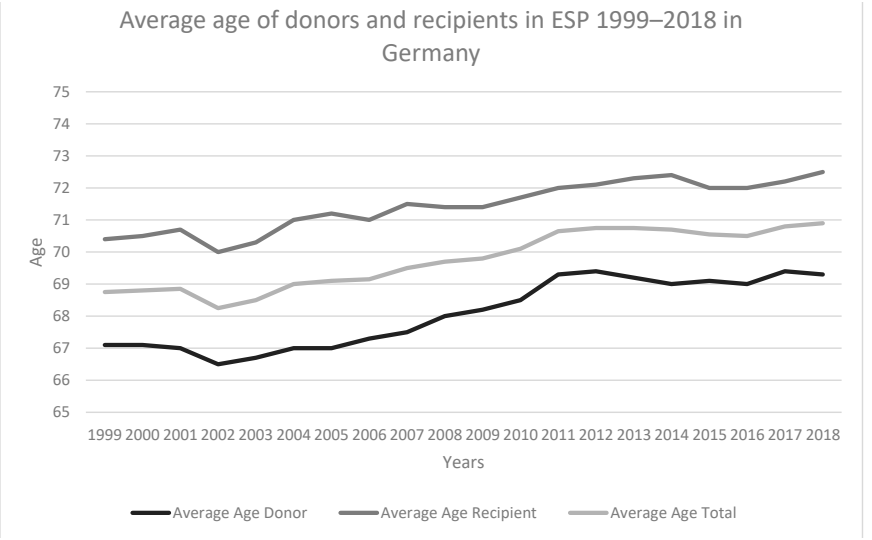

Figure 1: Average age of donors and recipients in ESP 1999–2018 in Germany (Source: Eurotransplant 2019)

3 https://www.eurotransplant.org/cms/index.php?page=esp (accessed March 18, 2021)

4 https://www.eurotransplant.org/cms/index.php?page=esp (accessed March 18, 2021)

Regarding living organ donation and transplantation, it is harder to determine both the role and relevance of age as well as changes in average donor and recipient age. Living donation is usually not organized within the framework of larger institutional structures but rather handled in local and regional contexts. In many countries such as Austria, Finland, France, Germany, or Hungary, living donation is restricted to family members and perhaps close friends and thus does not require any intermediate distributing organizations (Lopp 2013: 89). Legal regulations vary between different countries, but age does not seem to play a prominent role. In several countries – e.g., Austria, Germany, the Netherlands, Italy, and Spain – living donation is only allowed from the age of 18, but there are no upper age limits (ibid: 78). However, advanced age may become an issue in the context of specific living donation schemes, such as cross-over or chain donations, which imply some idea of equity or proportionality between donors and recipients. Due to the fragmented nature of living organ donation, there are often no central registries. As a consequence, large-scale and reliable sociodemographic figures on donor and recipient ages are frequently hard to obtain. Qualitative studies indicate that the practice of organ donation from adult children to their older parents or between older spouses may be becoming more relevant (Kaufman et al. 2009; Heldal et al. 2008). Statistics from the US show that living kidney donors have become older over recent decades (Hart et al. 2019). The annual number of living kidney recipients over 65 has almost tripled in the last 20 years, their proportion rising from 6.2 per cent in 2000 to 18.7 per cent in 2019 (November).[5]

3. Medical Aspects of Organ Donation and Transplantation of Older People

Special transplantation programs for older people have been existing for more than 20 years. As a result, the age cutoff used to study outcomes in older patients varies between different studies. In general, patient and transplant survival are the essential parameters for success after transplantation. Most research on the ESP analyzes the initial function of the transplanted kidney in relation to the cold ischemia period, recipient age, and dialysis duration. Yet, the factors that predict clinical outcomes in older transplant patients have not yet been fully determined (Hebert et al. 2019).

Overall, older patients benefit from organ transplantation. In the US and Europe, a survival advantage for older people (>60 years) vis-a-vis patients on the waiting list who remain on dialysis could be observed (Heldal et al. 2008). Compared to dialysis, organ transplantation doubles the life expectancy of older people (Frei et al. 2008). Survival improves after the first year in patients between 60–74 years with a predicted increased life expectancy of five years and a 61 per cent reduction in long-term mortality risk (Oniscu et al. 2005; Rao et al. 2007). Even in ESP kidney transplantation, the quality of life and the survival rate are significantly better than in patients of the same age who are dialyzed (Fritsche et al. 2003).

Nevertheless, donor age obviously has a significant impact on the success of transplantation. Overall, patients who are transplanted within ESP still have the lowest five-year survival rate. EKTAS-patients who received older transplants have a similarly

5 Source: OPTN data from 2019: https://optn.transplant.hrsa.gov/ (accessed March 18, 2021)

poor transplant survival rate. The rate is more favorable when older patients receive younger organs (Schulte et al. 2018). Schamberger and colleagues (2018) also found a correlation between the smoking status of the donor and the survival of the transplant in ESP patients. Regarding living organ donation, several studies point out that carefully selected older kidney donors provide good organs and do not face a higher risk of death than younger donors (Reese et al. 2014; Wu et al. 2008).

From the very beginning of ESP, it became apparent that most recipients had a delayed graft function. A few had a spontaneous graft function, and some had no function admission (Schlieper et al. 2003). Despite 'immunosenescense', an age-associated deterioration of the immune system that is hoped to reduce pharmacological immunosuppression and improve allograft or even xenograft tolerance, the risk of acute rejection must be considered (Rickert/Markman 2018). Acute rejection in older patients is often associated with a worse graft survival and lower patient survival. Frei and colleagues (2008) show that most rejections among older patients occur during the first six months, with less than three per cent more than one year after transplantation. Increased kidney immunogenicity from older donors as well as the HLA mismatches and the poorer ability of older kidneys to recover from tissue damage are the main causes of a poorer graft survival of older patients (Schamberger et al. 2018).

As potential recipients, older patients clearly pose certain physiological challenges. McAdams-DeMarco and colleagues (2017) point out that transplantations in older patients often coincide with frailty, which is associated with delayed graft function, longer hospital stays, higher readmission rates, immunosuppressive intolerance, and mortality. Moreover, severe cognitive impairment could increase the risk of poor outcomes and require the provision of strong social support after transplantation (Hebert et al. 2019). A primary cause of mortality in older organ recipients is severe infections after transplantation. At the beginning of the ESP, 51 per cent of patients suffered from serious infections, and more than 50 per cent of all deaths could be attributed to infection events (Frei et al. 2008). Another problem arises from a high mortality rate due to the longer dialysis time before transplantation. Older patients with a shorter waiting time perform better in terms of survival and organ function than patients with long-term dialysis prior to kidney transplantation (Smits et al. 2002). Hence, careful preliminary examinations of older patients for comorbidities are deemed necessary to help minimize early morbidity and mortality after transplantation. Overall, however, age per se is not considered a limiting factor in organ transplantation anymore (Zhou et al. 2008; Heldal et al. 2008).

4. Ethical Implications of Old Age in Organ Donations

The biomedical expert discourse on old age and organ donation mainly focuses on considerations of medical efficiency and success. However, as the overview on the historical development and current state of the art in transplantation medicine indicates, the relevant empirical assumptions need to be clarified, continuously critically examined, and updated in light of medical progress. Otherwise, outdated information and unfounded prejudices regarding the feasibility and success of transplantation from or to older people may bias medical decision-making processes and health policy regulations. In addition to these seemingly objective scientific aspects, an ethical perspective

must also reflect the moral significance of the underlying conceptions and criteria of efficiency and success. In particular, their utilitarian underpinnings must be made explicit and weighed against other ethical principles such as individual autonomy and distributive justice (Ladin/Hanto 2011).

4.1 Postmortal Donation, Organ Allocation, and Distributive Justice

From the point of view of distributive justice, there has been comparatively little systematic ethical consideration and discussion of the moral significance of age in organ donation and allocation. As far as postmortem donation is concerned, general debates on old age as a criterion for resource allocation seem to play a role in this context, too. Some prominent ethical arguments in favor of age rationing – that is, the limitation of access to health care based on age – have also been applied in the field of organ allocation (Veatch 2002: 339–340)

Utilitarian arguments often refer to aspects of cost-efficiency (Meier-Kriesche et al. 2005). There has been a long discussion about the unfair implications of using cost-efficiency measures as criteria for the allocation of medical interventions. A prominent case is the concept of quality-adjusted life years (QALYs), which systematically disadvantages older people due to their limited average life expectancy (Tsuchiya 2000). Similar concerns about ageism have also been raised regarding proposals to use such assessment instruments in the context of organ transplantation. One example is the life years from transplant (LYFT) approach to allocate donor kidneys to those patients with the greatest potential survival benefit (for allocation principles, see also chapter 9 in this book). While LYFT would definitely extend the lives of kidney recipients, it would at the same time discriminate against older people by restricting their chances of obtaining a kidney transplant (Reese et al. 2010).

Another argument in favor of age rationing, the so-called 'natural lifespan' account, is based on communitarian considerations. It states that after a fulfilled life of about 80 years, extensive and expensive life sustaining interventions should be withheld in favor of good care and palliative treatment (Callahan 1987). This perspective is sometimes extended to the field of organ donation because transplantation medicine is widely seen as the epitome of advanced medical technologies (Callahan 1992). However, an application of the 'natural lifespan account' would require the definition of a sharp chronological cut-off age for organ transplantation that would be hard to justify and would ultimately appear arbitrary (Veatch 2002: 339). Indeed, at closer inspection, the natural lifespan account seems to presuppose a certain traditional notion of an adequate temporal extension and structure of human life without further explanation (Schweda 2017).

A prominent liberal-egalitarian argument is the 'prudential lifespan account.' It holds that if each person had to distribute a total amount of medical resources over their entire lifespan without knowing their actual age and state of health, it would be reasonable for everyone to allot the bulk to young and middle age instead of later life (Daniels 1988). Similar considerations have also been alluded to in the discussion of age in organ allocation (Kilner 1988). However, the 'prudential lifespan account' does not provide any concrete criteria to identify the specific claims different age groups may have for donor organs (Veatch 2002: 340). Moreover, against the backdrop of increasing average life expectancies, the prudence of the underlying rationale for

apportioning limited health care resources such as donor organs may be called into question (Schweda 2017).

Finally, the so-called 'fair innings' argument appeals to the common intuition that it makes a moral difference whether someone still has their whole life in front of them or has already completed a full lifespan. The approach suggests that it can be fair to give priority to younger people when it comes to lifesaving medical care and limit access for those who have already arrived at old age (Harris 1985: 94). Analogous arguments have also been formulated regarding the just distribution of donor organs (Persad et al. 2009). Thus, it could be argued that the prioritization of younger people in the allocation of donor organs would help to ensure equal opportunities for everyone to complete a full life cycle (Veatch 2002: 341). However, in times of increasing life expectancies and more promising prospects and ambitious expectations for later life, it appears less than clear when a life can actually be regarded as completed (Schweda 2017).

These general lines of argument also play a role in the discussion of more concrete aspects of allocation policies and programs. Thus, Veatch and Ross (2015: 335) argue that serious moral problems can arise if the graft survival time of organs from older donors is shorter than the normal life expectancy of their recipients or, conversely, if older recipients have a lower life expectancy than the organs they receive from younger donors. Against this backdrop, they consider a certain age matching between donors and recipients ethically justified. At the same time, however, Veatch and Ross (2015) point out that insufficiently reflected age-based algorithms can have adverse effects. Thus, if age became a criterion for prioritization, older patients might end up having a higher chance of receiving a donor organ than younger patients: they would not only receive the organs that are regularly assigned to them but also those that have previously been rejected by younger potential recipients. In order to avoid such inadvertent detrimental effects, Veatch and Ross argue for organ allocation based on age difference between donor and recipient rather than a categorical cutoff for older persons. Evaluating recent formulas for taking age into account in organ donation, they argue that need over a lifetime should have priority over present need (Veatch/Ross 2015: 351). With regard to the ESP in particular, they criticize that the old-for-old practice restricts patient autonomy and does not promote principles of utility and justice that could justify such a restriction (ibid: 341; also see Süsal et al. 2020).

4.2 Living Donation, Familial Responsibilities, and Autonomous Decision Making

When it comes to the topic of living organ donation, the moral significance of age appears even more complex and less discussed. In contrast to the focus on distributive justice in postmortal donation, the ethical debate on living donation concentrates on questions of donors' voluntariness and self-determination. Especially in the family context, these questions are frequently intertwined with matters of age, parental and filial claims and responsibilities, and intergenerational relations between organ donors and recipients (Schweda/Wöhlke 2013; Lock/Crowley-Makota 2008).

Several socio-empirical studies have highlighted how traditional, often gendered family roles and relationships play into decision-making processes for living organ donation, posing challenges to the implementation of individualistic conceptions of

personal autonomy and informed consent. This not only holds true for cultures with a traditionally strong inclination towards family decision making and moral duties based on kinship (Lee 2015), but also for late-modern Western societies (Wöhlke 2015; Crombie/Franklin 2007; Crouch/Elliot 1999). In particular, the responsibility of parents – especially mothers – to donate to their children often seems to be considered almost natural and self-evident, all the more so when minor children are concerned (Schweda/Wöhlke 2016; Zeiler et al. 2010).

However, recent ethnographic research conducted in the United States also indicates the increasing relevance and changing moral implications of age and generational roles and relations in this context. Due to advancing medical possibilities, increasing life expectancies and changing expectations regarding later life and intrafamilial care relationships, there appears to be a trend toward living organ donation from young or middle-aged persons to their older relatives. Adult children in their thirties, forties, and fifties feel inclined to donate an organ to their parents in their sixties and seventies in order to keep them alive, to express their gratitude, or to 'give something back' (Kaufman et al. 2009). In turn, the respective members of this older generation often seem to feel obliged to accept the offered organ donation in order to comply with what has become routine medical practice and to be around some time longer for the sake of their descendants (ibid.). The consequence seems to be a shift in the 'moral economy' of living organ donation between the generations of a family: what once may have appeared morally inappropriate or even 'unnatural' seems to be becoming more and more common, commendable, or even appropriate (ibid.).

From an ethical point of view, the question of the voluntariness and appropriateness of these decisions deserves closer inspection and clarification. Thus, according to Kaufman et al. (2009), the decisions of patients and health care professionals about life-extending medical interventions such as organ transplantation are usually influenced by the routine pathways of treatment, the pressures of the technological imperative, and the growing normalization, ease, and safety of treating ever older patients. The respective studies indicate that "the standard use of medical procedures at ever older ages trumps patient-initiated decision making" (ibid.: 175). This could be ethically problematic as it may undermine well-informed, deliberate and autonomous choice regarding living organ transplantation. In addition, the chances and risks for the organ recipient must also be continually evaluated and reconsidered in light of the risks for the living organ donor. The provision of adequate information about risks as well as graft and patient survival is crucial for well-informed and autonomous decisions on both sides (Cooper et al. 2011). Finally, the question of living organ donation between members of different generations within the family also touches upon the intensifying ethical debate on family obligations and especially mutual intergenerational (parental and filial) claims and responsibilities (Crouch/Elliot 1999; Lindemann Nelson/Lindemann Nelson 1995).

4.3 The Moral Relevance of Concepts of Age and Aging

In the debate on both postmortal and living transplantation, positions and arguments regarding organ donation are apparently intertwined with morally loaded ideas of aging, the individual life course, and intergenerational roles and relations. They rely on certain images of old age, age norms, and social obligations, and they touch upon

more general controversies about care responsibilities, transfers between generations in the family and society at large, and fair resource allocation in aging populations. However, the relevance of these age-related categories and criteria is rarely considered and therefore less than clear in both empirical research and ethical theory.

Research on the roles and perceptions of older people in different eras and cultures makes clear that (old) age is not just an objective chronological or biological fact but also a matter of historically variable social construction and cultural interpretation (Thane 2005). For example, old age was long envisioned as a phase of social disengagement and accommodation with biological finiteness; or as a stage of natural decline in opportunities and outlooks on life; or as a state of self-containment and relinquishment in favor of younger and future generations (ibid.). Conversely, old age may also be regarded as a state of undiminished individual and social standing that should be accompanied by a fair range of opportunities and an equitable quality of life; or as a status that deserves special respect, care and gratitude from younger generations; or even as a phase of life that opens new chances and perspectives (ibid.).

As a matter of fact, a number of recent studies indicate that many of the arguments in the public political and bioethical debate on age as a factor in biomedical and health policy decision making seem to be based upon such cultural conceptions of aging and old age, especially when it comes to treatment decisions or resource allocation (Schweda et al. 2015; Ubachs-Moust et al. 2008). However, rather than being explicitly addressed and discussed, such sociocultural images and conceptions of aging and old age are usually implicit in debates, taken for granted as a self-evident basis for bioethical reasoning. Especially in modern pluralistic societies and liberal democracies, it appears increasingly problematic to presume traditional understandings of aging and old age as a basis for moral arguments, political decisions, or even legal regulations, since these may reinforce stigmatization of and discrimination against particular groups of older people. As the baby boomers are growing old, it seems likely that the changes in values accompanying this generation's pathway through life are beginning to transform our perceptions of aging and old age, for example emphasizing aspects of individual flourishing and self-fulfillment. The underlying shifts in the conception of the individual life course and the fabric of intergenerational relations challenge the traditional coordinate system of many bioethical and public health debates. A "fresh map of life" (Laslett 1989) is emerging, which calls for a systematic empirical analysis and ethical reflection on the moral significance of the life course and intergenerational relations in bioethics and public health (Schweda 2017).

To date there has been little empirical research on public perspectives regarding the moral significance of aging and old age in the context of organ donation. A few studies explore attitudes towards age rationing in the distribution of organs and hint at a growing acceptance of age as a criterion for health care prioritization (Diederich et al. 2011). In a quantitative survey, Stahl and colleagues (2008) confronted participants with trade-offs between age and urgency and found that the older the patient was the more urgency was required to receive priority. The study indicates that clinical urgency is only one of many factors influencing attitudes to allocation decisions and that respondents apply different principles of fairness, including age, depending on the relative clinical status of patients. By contrast, several other quantitative and qualitative studies show a strong rejection of the idea that young patients should be given priority over older patients (Fattore et al. 1999). Schweda and Wöhlke (2016) found that

lay people were against a general limitation of access to health care resources based solely on chronological age but nevertheless acknowledged that age can be a relevant factor in ethical decision-making processes, e.g., with regard to biographical concepts and viewpoints such as age roles, ideas of the course and prime of life, or responsibilities between generations.

Regarding living donation, the role of age and generational relations has been even less investigated. A few qualitative studies indicate how age and relationships between generations within the family can play an important role in this context (Wöhlke 2015; Lock/Crowley-Makota 2008). Thus, as mentioned above, traditional life models and gender roles can make organ donation by adult parents and especially mothers to their minor children a matter of course (Zeiler 2010; Schicktanz et al. 2010; Motakef/Wöhlke 2013). In this context, age difference is sometimes associated with the perception of an asymmetric relationship between parents and children that involves unilateral parental obligations of care, responsibility and sacrifice for the health of the family and especially the children (Schicktanz et al. 2010). By the same token, when a child offers to help a parent with an organ donation, limits on filial responsibilities in parent–child relationships can be brought to the fore (Schweda/Wöhlke 2013). However, we have already seen that an expanding range of medical possibilities, increasing life expectancies, and social value change seem to challenge traditional age norms and facilitate organ donations from adult children to their parents, or even grandparents, as a new expression of intergenerational familial care and solidarity (Kaufman et al. 2009). In this context, traditional ideas and expectations regarding advanced age are increasingly called into question. The medicalization of aging reframes age-associated ailments and impairments as medical conditions that require professional treatment (Kaufman et al. 2004). In addition, more ambitious standards of adequate functionality, wellbeing, possibilities, and prospects in later life promote intensified efforts and expanding expenses for the health care of older people (Kaufman et al 2009).

5. Conclusions and Outlook

Population aging and medical progress promote new possibilities of organ transplantation at different stages of life and between different age groups. As a result, aspects of medical feasibility and ethical questions regarding the moral implications and consequences of age in the context of organ donation are gaining relevance. In everyday life, clinical practice, and public health contexts, such questions challenge traditional understandings of the individual life course as well as intergenerational relations, and they produce serious moral insecurities, perplexities, and conflicts. This is the case, for example, when adult children offer to donate a kidney to their parents; or when organ transplantations across considerable age differences are envisaged; or when decisions have to be made regarding old and very old persons' access to (and position on) waiting lists for post mortem donor organs.

In the academic discourse, there has been comparatively little systematic consideration regarding the significance of age and generational relations in transplantation medicine to date. While there have been at least a few studies on organ donation from and to neonates and very young children (Campbell et al. 2013; Sarnaik 2015), similar systematic research concerning old age is largely absent. On the one hand, biomedical

studies increasingly examine the different medical chances and risks of organ transplantation from and to older people. On the other hand, however, the relevant medical possibilities are still not sufficiently investigated, and the underlying measures of medical efficacy and cost-efficiency involved in this context are still in need of clarification and justification. The relevant bioethical discussion is only just beginning and still seems to be informed by mostly traditional conceptions of aging, the individual life course, and intergenerational relations. Such conceptions frequently suggest premature and poorly reflected proposals, such as implicitly agist utilitarian calculations or even age-based rationing of donor organs.

Only recently have more informed and differentiated approaches towards these issues been brought forward. They suggest that questions related to aging and generational relations actually mark an emerging field of empirical research and ethical debate in the context of organ donation. Three aspects in particular deserve closer consideration: First, it is imperative to collect more comprehensive and systematic evidence about the medical chances and risks of transplantations from and to older people, but also about the health economic benefits and costs of 'old for old' schemes like the European Senior Program. This research especially has to take into account that medical possibilities of organ transplantation are still evolving, and the health of older people will also be different in more recent birth cohorts such as the baby boomer generation. Second, since the success of transplantation medicine largely depends on the social acceptance of the principles of organ donation and allocation, empirical research on public opinion must more systematically address aging and intergenerationality. We need to know more about how ideas of old age and generational roles and responsibilities factor into public moral attitudes towards organ donation and transplantation. Third, a more differentiated ethical debate on the moral significance of age in organ donation is necessary. In this context, the analysis and critical reflection on outdated notions of old age, the life course, and generational relations remains an important desideratum.

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