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Introduction to Bioethics in the 21st Century

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1. Introduction

Health care is developing rapidly. So are its correlates, such as health care technology, research, education, administration, communication, and more. Such change requires ethical deliberation, as change that is not ethically guided poses unnecessary risks. This may be particularly true in relation to health care, which impacts some of the most central domains of human life. Bioethics addresses issues of health care ethics. It consists of approaches that attempt to resolve moral conflicts, viewed as conflicts among moral values that may each be acceptable in some circumstances but that require prioritizing when combined with other moral values in particular circumstances. Such approaches include the application of theories such as consequentialism, which refers to outcomes (such as happiness); deontology, which refers to duties or intentions (such as the obligation not to lie); virtue ethics, which refers to character features (such as honesty); principlism, which refers to the four principles of upholding autonomy (self-determination), beneficence (best interests), non-maleficence (least harm), and justice (as fairness, for example); and more (Beauchamp & Childress, 2009; Rudnick, 2001; Rudnick, 2002).

Bioethics ranges across many areas and its scope is still broadening. Some of its emerging areas address organizational bioethics, global bioethics, and much more. This book focuses on a sample of emerging as well as more established areas of bioethics. The chapters were selected according to various considerations, such as interest of authors. Yet in spite of not being exhaustive, this book illustrates the range and impact of bioethics in the 21st century. As part of that, some of the chapters go beyond fact and theory into some speculation (the chapters with more speculative topics can be found near the end of this book). We think this is necessary for bioethics to be constructive, recognizing that speculation must be checked by common sense as well as by known fact and theory. Indeed this is how much of bioethics proceeds (Rudnick 2007).

There are areas of bioethics that are not covered in this book, such as neuroethics, enhancement ethics, ethics of genetics, and more. We cannot touch on most of them here. Still, we would like to highlight neuroethics as a likely paradigm of an emerging area in bioethics. Neuroethics can be defined in part as the ethics of neuroscience (<http://en.wikipedia.org/wiki/Neuroethics>). More specifically, it can be viewed in part as

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the ethics of brain assessment and manipulation with advanced technology, such as transcranial magnetic stimulation (TMS) and (electric) deep brain stimulation (DBS); these technologies may induce important intended and unintended brain changes. Such brain assessment and manipulation has implications for personal identity, self-determination, social influence on health care, and more. Much if not all of this is not new, yet in neuroethics it is perhaps more prominent than elsewhere and may require new approaches and solutions. Such emerging bioethics may contribute to ethics more generally, be it by generating new problems and/or by generating new solutions to old problems that emerging and established health care practices and related technologies raise in variant forms. We hope this book will be part of this contribution in the areas that it addresses and beyond. The editor (first author of this introductory chapter), would like to point out that due to the publishing process of the book, he cannot take full responsibility for the substance and style of this book. Such open access publication is a fairly new part of bioethics in the 21st century, and as such the book exemplifies an aspect of its subject matter.

2. Overview of chapters

In chapter 2, Beca and Astete discuss the issue of decision-making in relation to patients who have no plausible prospect of recovery. They focus on examples where life support may no longer be meaningful but rather may prolong the suffering of the patient and the family members. As is illustrated in one of the four examples presented, some family members may hold an unrealistic hope for recovery, no matter what the circumstances may be. Also, it can be stressful for healthcare professionals to withdraw or limit any kind of life prolonging procedures. The authors apply the principlist approach to grapple with the difficulties involved in end-of-life decision-making (although distributive justice as related to resource allocation can be viewed as part of principlism, it is not discussed in this chapter). They argue that in terms of autonomy, the patient's values must be respected; however, the patient may not be fully capable of making his or her own decisions, and the substitute decision maker (SDM) may not necessarily know the patient's values. Considering a variety of difficulties involved in this decision-making process, the authors argue for shared decision-making by several agents, such as healthcare professionals and ethics representatives, in addition to the patient and his or her SDM. Shared decision-making pursues a balance of benefits and burdens, which may secure the patient's best interests. Such an approach may appear to have an emphasis on beneficence more than on autonomy. But, as is the bioethical standard now, the authors' argumentation portrays beneficence as what is good for the patient based on his or her values (when known). Hence, autonomy trumps, unless neither the past nor the present values of the patient can be known (in which case, autonomy may be irrelevant).

In chapter 3, Russell argues that ethical considerations involved in mental health and addiction settings do not stand alone but co-exist with clinical, legal, organizational and other considerations. Seven examples involving ethical complexities are presented in the beginning to illustrate issues arising from the care of those with mental illnesses and/or addictions; these issues are addressed later in the chapter. These examples are not as dramatic as may be often displayed to the general public through media, but are rich with issues encountered in daily healthcare practice, education and management. In these examples, we encounter patients as well as a wide range of other agents, such as their family members, a landlord, a judge, a clinical director of an organization, and others who are

related to the patient through their mental health and addiction problems or otherwise. Following discussion of being humane, being a person, being a community member, and being a care provider, all of which comprise ethical considerations, the author proceeds to discuss why other factors matter ethically. Among these are science, technology and clinical factors, law and regulations, organizational contexts, and systemic factors, such as stigma and discrimination, the social determinants of health and the health care system.

In chapter 4, Putoto and Pegoraro discuss resource allocation, which is among the most important and pressing issues in healthcare today, both in developed and in developing countries. As resources are limited, we must make a difficult choice to achieve the goal of efficient and effective healthcare. Rationing, defined by the authors as “the distribution of resources between programmes and persons in competition”, needs to be done explicitly and at various levels, i.e. from policy making to individual care. However, as the authors argue, we are far from reaching a consensus in terms of who decides and what the guiding strategies should be. Several approaches to rationing are possible. Experiences of a few jurisdictions are classified into three models. The first model, which is employed in Oregon (United States), explicitly identifies a list of treatments to be publicly funded. The second model, which is employed in the Netherlands and Sweden, adopts some principles to identify available treatments or priorities in the provision of healthcare. The third model, which is employed in New Zealand and Great Britain, relies on specific guidelines regarding treatments, and the rationing is done at the local and individual levels. However, as the authors indicate, none of these models are without problems, and no matter what model we use, there will always be ambiguities. More discussion on rationing is required regarding resource allocation.

In chapter 5, Ravez analyzes ethical criticism of employing procreation technologies. He also presents his proposal regarding the issues arising from these new technologies for couples who want to have a bio-child. From his review of literature, particularly that written in French, he classifies ethical criticism of medically assisted procreation (MAP) into three types: medicalization of procreation, the dissociation of biological and social filiation, and the controversial status of the embryo. Ravez recognizes that these criticisms are not without counter arguments and may not necessarily be limited to MAP. Moreover, these criticisms may dismiss the effectiveness of these new technologies which may enable a couple to satisfy their legitimate desire to have a bio-child. He claims that we should not deny the suffering of sterile couples and proposes a framework to address the ethical issues involved in MAP. According to him, first, we must listen to couples who are suffering from sterility and discern how their sterility may or may not relate to their suffering. Second, we must respect the complexity of life. Having a child cannot be reduced to a simple biological phenomenon but involves various other important elements, such as family relationships and psychological aspects. Third, these new technologies should be understood as a means to help the sterile couple have children (rather than preselect or enhance their children, for example). The framework urges us to acknowledge the suffering of those with sterility; concomitantly, it provides certain requirements to ethically regulate MAP.

In chapter 6, Zahedi-Anaraki and Larijani discuss ethical issues related to stem cell research and its potential clinical applications. As stem cells have the capacity to differentiate into a variety of cells which may be employed for therapeutic purposes, research has held much hope and enthusiasm for their positive contribution to the treatment of currently incurable illnesses. At the same time, such research, particularly that employing embryonic stem cells, has been criticized as it involves ethical challenges, some of which are related to personhood

and human dignity. The chapter begins with definitions and characteristics of several types of stem cells. The ethical issues discussed in this chapter include human dignity in relation to the instrumentalization and destruction of human embryos, safety concerns in clinical applications of stem cell use, informed consent for conducting procedures involving stem cells, slippery slope arguments regarding the creation and use of human embryos, resource allocation and commercialization of stem cell therapies. In addition, the authors refer to legislation and guidelines concerning stem cell research by national and international regulatory bodies as well as positions expressed by religious authorities, such as in Christianity, Judaism and Islam. The authors conclude by indicating the need for research on alternatives to embryonic stem cells, such as induced pluripotent stem cells, for realistic regulations in relation to stem cell research, for control of commercialism, and for more engagement of the public.

In chapter 7, Nie argues against oversimplification and dichotomy regarding views of cultural differences between China and Western countries. More specifically, he argues against the popular view that Chinese medical practice traditionally endorses no or indirect disclosure of personal health information to patients, unlike Western medical practice. He argues that China had a tradition of direct disclosure to the patient, unlike some Western traditions, and that the majority of Chinese people today wish to know the truth regarding their medical condition. Nie suggests that this historical and sociological reality is ignored in “the cultural differences argument”, which results in the widely accepted stereotype of China as being very different from Western countries in this respect. According to Nie, healthcare professionals in China are in fact making efforts to move toward honest and direct disclosure of the patient’s condition. He argues that the shift of attitudes in favour of full disclosure may not be a mere imitation of current Western practice but rather a return to traditional Chinese medical practice. More generally, he rejects cultural stereotypes, and endeavours to explore cross-cultural bioethics with more attention to the normative and shared aspects of ethics and to the complexity and internal heterogeneity of each culture.

In chapter 8, Pyrrho illustrates ethical issues involved in nanotechnology, which may include numerous technological possibilities that may impact on a wide range of industries. What seems troublesome to begin with is the lack of consensus regarding the definition of nanotechnology, other than that it deals with nanoscale particles. More importantly, it concerns the chemical and physical properties originating from the size of these particles. Without more conceptual clarity on nanotechnology, different players understand it differently. Despite inevitable uncertainties, the authors believe that it is important to analyze and discuss potential ethical issues involved in this promising technology before the actual scientific advances take place. They discuss autogenous and heterogenous ethical implications of nanotechnology. The former concerns the scientific consequences of nanotechnology, whereas the latter concerns its bearing on cultural, social, economic, environmental and political matters.

In chapter 9, King, Whitaker and Jones illustrate scientific advances that call for speculations in relation to their potential technological applications. Such technology may involve serious ethical issues. While some speculations may become real in the near future, others may be highly unlikely, such as perfectly tailored prophylactic medication for an individual based on his or her genetic data. Hence, the authors question whether it is worthwhile for bioethicists to engage in speculative bioethics where the issues are based on mere possibilities of consequences resulting from potential technologies. Speculative ethics may be a provocative term. In this chapter, genomic medicine, nanotechnology, regenerative

medicine, and cryonics are discussed, with much space given to cryonics as an extreme example involving speculation. Criticism toward ethicists' engagement in speculative ethics relates to epistemological problems and moral consequences of these problems, e.g. being less attentive to current ethical concerns that should be addressed in the present. Still, some critics support the positive role of speculative ethics in guiding the direction of science. The authors oppose such a defense of speculative ethics, arguing that one cannot consider all possibilities and that one cannot determine which possibilities are worth ethical consideration. The authors conclude that bioethicists should be cautious about ethical engagement with speculative matters, although it may not always be easy to discern whether these are scientific facts or fiction.

3. Acknowledgements

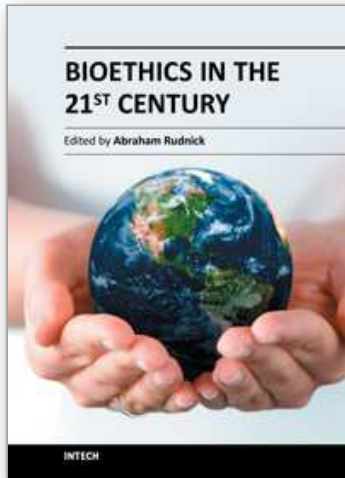
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Bioethics is primarily an applied ethics of health related issues. It is considered an important guide for health care and its discourses and practices. Health related technology, such as information technology, is changing rapidly. Bioethics should arguably address such change as well as continue to address more established areas of health care and emerging areas of social concern such as climate change and its relation to health. This book illustrates the range of bioethics in the 21st century. The book is intentionally not comprehensive but rather illustrative of established, emerging and speculative bioethics, such as ethics of mental health care, ethics of nano-technology in health care, and ethics of cryogenics, respectively. Hopefully the book will motivate readers to reflect on health care as a work in progress that requires continuous ethical deliberation and guidance.

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