
Chapter 11

The Ethical Issues

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The Ethical Issues

INTRODUCTION

Ethics requires people to think about the justifications for their actions. Ethical principles such as beneficence or justice provide the justification for action and are called into play when persons are faced with ethical dilemmas. In an ethical dilemma, mutually exclusive courses of action can each be supported by weighty moral arguments. A situation becomes a dilemma when the principles that ground the reasons or arguments in support of each course of action are important and serious, and none is in any obvious way the right set of reasons. Regardless of the course selected, one's choice will be desirable in some respects but undesirable in others. The dilemma thus presents a problem of choice between values, or among a hierarchy of values.

This chapter reviews the basic ethical principles and arguments entailed by alternative policy options with respect to reproductive health hazards in the workplace. The chapter begins by reviewing the moral position of the various parties at risk. The most important ethical principles surrounding reproductive health hazards in the workplace are then discussed: respect for persons, beneficence, and justice. The ethical dimensions of specific dilemmas in reproductive health hazards in the workplace are discussed in "Selected Ethical Issues in the Management of Reproductive Health Hazards in the Workplace," available from OTA and NTIS (see app. F). These dilemmas include acceptable risk in the workplace, discrimination and job termination, compensation for harm or damage, the right to know, and funding for research into and surveillance of reproductive health hazards in the workplace.

The prevention of reproductive harm shares many aspects of efforts to prevent occupationally linked diseases in general. But certain special characteristics of the reproductive health

problem must also be acknowledged and addressed.¹

In contrast to occupational injuries, but in common with other occupational diseases, reproductive impairment often lacks a clear link with occupational exposure. Data linking workplace exposure and a reproductive endpoint are almost always probabilistic in nature. The rate of occurrence of a particular reproductive endpoint is often low in the overall population, making it difficult to demonstrate a significant increase in a small worker population. A key feature is *uncertainty* at several levels: uncertainty about the existence of any relationship between workplace exposure and a reproductive disorder; uncertainty about the cause of any specific case of reproductive disorder; uncertainty about the strength of a relationship and its consequent level of risk. Although this inherent uncertainty cannot be denied, fair and reasonable public policies can nevertheless be formulated to deal with exposure to workplace hazards to reproductive health.

Exposure to reproductive health hazards raises new morally relevant problems in three areas. First, disputes over the existence and management of reproductive health hazards often focus on women workers, who have been made vulnerable to some of the negative consequences of special protective interests. Second, there may be the presence of an embryo/fetus, who cannot be asked for his or her consent to the risks that may be taken. Third, reproduction is one of the most sensitive and intimate aspects of human life. Securing information about reproductive health thus raises questions about the protection of individual privacy.

¹The introduction that follows is drawn from a contractor report prepared for OTA by Ron Bayer of the Hastings Center.

THE PARTIES AT RISK

Female Workers

Much of the scientific literature has focused solely on the risks to reproduction posed by the exposure of women to reproductive toxicants or their unborn children to developmental toxicants. The traditional approach has been a culturally informed definition of the research agenda, which is that women are the primary agents of procreation, and their exposure to potential hazards should be studied.

Efforts have consequently been made to protect female workers from exposure to toxic substances believed to pose some risk to their reproductive health. Such efforts have typically taken the form of exclusionary practices justified by concern for the health of potential offspring rather than for the reproductive health of the woman per se. Yet risk to a fetus may also be a risk to the woman herself. It may be direct, as in the risk to her own reproductive health; less direct, as in the risk to her health posed by a spontaneous abortion; or indirect, in that she may suffer psychological damage and diminished life prospects with the occurrence of a miscarriage or on the birth of a dead or damaged baby. Finally, women often risk economic loss and discrimination in the face of policies that restrict job opportunities on the grounds of protecting them from exposure to health hazards.

Male Workers

Research results are increasingly showing the vulnerability of male workers to reproductive harm. For example, mutagens are now known to affect sperm cells in ways that can compromise the viability of the embryo and fetus. Exposure to toxic substances can also cause loss of libido, disruption of hormone balance, impotence, and other adverse consequences relative to sexual and procreative function. And male workers may "bring home" toxic substances on their clothing or bodies, affecting spouses and children who would not otherwise have been exposed to reproductive harm. Male workers also share the harm caused by the birth of a dead or damaged child. However, since most protective policies are di-

rected toward the protection of women or their pregnancies, men who go on working in a hazardous environment are more likely to be exposed to risk of harm from toxic substances.

The Embryo/Fetus

It is well known that exposure of workers to reproductive and developmental toxicants can kill an embryo/fetus or produce live offspring who are permanently harmed.

Exposure to developmental toxicants in the workplace poses a grave problem for those who view the embryo as possessing moral rights to survival from the moment of conception. Even those who disagree about the validity of such embryonic and fetal rights, however, recognize the possibility of spontaneous abortion or fetal harm as profound concerns.

Unique ethical problems surround the fetus. First, because it is voiceless and unconsenting, the fetus can have no say in decisions affecting its well-being, and cannot be assumed to consent to whatever risks it may encounter.

Second, the welfare of the fetus who eventually becomes a live-born child is ineluctably tied to the welfare of its parents. A fetus whose parents are denied work because of a perceived reproductive hazard is not necessarily better off as a result. One or both parents may be forced to accept even riskier employment elsewhere, or to remain unemployed and face the financial and psychological consequences associated with unemployment.

Third, the fetus has an ambiguous and changing moral status. The multitude of views expressed in the abortion debate underscores the apparent paradox: a grievous but nonfatal injury to a fetus who is then born and lives with severe disabilities is an unambiguous wrong. Yet a fatal injury to the same fetus, resulting in early spontaneous abortion, may be a wrong but is not unambiguously or universally regarded as a wrong.

Fourth, most observers regard the maturing fetus as having an evolving moral status. That is, the propensity to regard the fetus as deserving

protection and being under the care of the moral community grows stronger as the fetus approaches term. The Supreme Court's major abortion decision, *Roe v. Wade*, implies that by the third trimester the welfare of the fetus is an appropriate concern of the State, whereas in the first trimester no such grounds for State involvement exist.

MORAL PRINCIPLES AT STAKE

Three ethical principles are relevant to the issue of reproductive hazards in the workplace: 1) respect for persons, 2) beneficence, and 3) justice.²

Respect for Persons

The principle of respect for persons must be considered in the context of reproductive health hazards. This principle applies to both the *workers* exposed to hazards, and the *offspring* and *potential offspring* of these workers.

Workers

Respecting the autonomy of workers generally entails allowing workers to make their own informed and voluntary choices. This implies a duty on the part of those in a position to inform workers—principally employers, their labor unions, and the government—to disclose existing information about reproductive hazards in the workplace. Certain practical questions then arise: Should every conceivable risk be disclosed, no matter how poorly established or improbable? Is it sufficient to give the information to workers, or is there a duty to see that the information is understood?

Both of these questions have been asked about disclosure of risks in research and in medical treatment. One widely accepted answer to the first is to use a "reasonable person" standard: disclose those risks that a reasonable person would want to know about. This leaves out very improbable risks, although serious but not well-documented risks might have to be disclosed under

Workplace fetal protection policies often further complicate these ethical problems. Because employers can be sued when exposure to workplace toxicants results in a damaged child, they institute such policies, which may impinge on the woman's employment opportunities.

the "reasonable person" standard. Reasonableness is again crucial in the answer to the second question: a reasonable effort must be made to ensure that the person has understood the risk. This includes eliciting what the person thinks he or she has been told, and attempting to correct any misunderstandings therein revealed. A second possible implication of properly informing workers might be a duty to seek out information that is likely to be relevant to a reasonable person's decision to accept hazardous employment. For example, it might literally be true for an employer to say that there is "no scientific evidence" that a certain chemical is hazardous to reproductive capacity in humans. But such a disclaimer is disingenuous if research has not been done on the question. It would also leave open the possibility that the substance has been found to be harmful in animals, or that suspicious cases have been found in humans, but that no relationship has been firmly established.

Whether employers or the government have an ethical duty to seek out information is not well established. Nor is the scope of such a duty well defined. Should it apply to all new chemicals, or only to those for which there is some strong reason to suspect that they pose a hazard to human reproduction—e.g., that a chemical is structurally very similar to a chemical known to be a reproductive hazard? The "duty to seek out information" is a plausible extension of the duty to inform.

Honoring the principle of respect for persons requires not merely informing workers, but also ensuring that their choices may be made voluntarily and without coercion. In reality, decisions about employment are seldom made on a purely voluntary basis and without financial or other

²The section that follows is drawn from a contractor report prepared for OTA by Thomas Murray of the University of Texas at Galveston.

possibly coercive pressures. People need to work for both financial and psychological reasons. Appreciating the ever-present constraints on choice with respect to employment does not vitiate the duty to foster voluntary choice, but does sometimes compel a settlement for less than absolutely free choice, and it focuses attention on the factors that make a choice more or less voluntary.

A multitude of factors can influence the “voluntariness” of a choice to accept hazardous employment. Individual alternatives are affected by: national and local unemployment rates and local employment options (whether, for example, the worker lives in a large city with many different industries, or a small, isolated one-company town). Other factors include the worker’s qualifications, his or her financial status and needs, and the disincentives for seeking work elsewhere (e.g., the emotional and financial costs of moving to another community, or rules governing pension-vesting with a current employer).

Respect for persons in this context, then, involves informing workers about hazards, and attending carefully to the voluntariness of the choices they have in practice, not merely in principle. It could, for example, lead to a preference for a regulatory policy that provided alternatives to workers over one that prescribed an all-or-none choice. Reassignment with rate and seniority retention would be preferable, under this principle, to demotion or firing of workers.

Workers’ Offspring

The principle of respect for persons offers little guidance about duties towards workers’ offspring and potential offspring. The difficulty lies in the fact that embryo/fetuses, infants, and even children legally are not rational, “autonomous” beings, although they are potentially so. The Belmont Report of the National Commission for the Protection of Human Subjects of Biomedical and Behavioral Research states that under the principle of respect for persons, “persons with diminished autonomy are entitled to protection.”

As a moral principle, respect for persons has its clearest application in cases where the free, informed choice of rational adults is in jeopardy.

In general, the interests of fetuses, infants, and children fall more naturally under the principle of beneficence, to be discussed next. In the context of respect for persons, the most that can be said about fetuses is that if they are to be brought to term, their capacity for autonomous thought and action in later life should not be impaired.

Beneficence

The principle of beneficence requires avoiding harm to others (sometimes referred to as “non-maleficence”) and maximizing the balance of benefits over harms. Beneficence comes into play in at least three relationships in the workplace: employers’ duty to workers, workers’ duty to offspring, and employers’ duty to offspring.

Employers’ Duty to Workers

Do employers have any duty to act beneficently towards employees? Both the specific and the general legal duties imposed on employers under the Occupational Safety and Health Act strongly imply that there is a corresponding ethical duty to avoid exposing workers to unreasonable risk of harm. It seems reasonable to view the OSH Act as the statutory codification of a growing social conviction that the duty exists on the moral level. If a moral duty exists, what is its scope? Does it extend beyond nonmaleficence, avoiding harm, to beneficence, maximizing the balance of benefits over harms?

There are limits to the duty to act beneficently towards employees. For example, the duty to act beneficently probably does not require employers to look after all of an employee’s health risks, only those imposed or perhaps aggravated by conditions at work. Employers may choose to concern themselves with workers’ health more broadly, for example, through health promotion programs designed to control smoking, alcohol consumption, or drug abuse, and some would argue that employers are required to do so. Beneficence, however, cannot require what cannot be done. Complete elimination of all risks is not ethically required when it is not practically possible. Therefore, employers may not have a duty of beneficence to workers, in the broad sense of a respon-

sibility to maximize the balance of benefits over harms.

But even with these limitations, the principle of beneficence in the sense of nonmaleficence clearly applies to the case of employers' duties to avoid harm to workers' reproductive capacities and outcomes. Workers are harmed physically when their reproductive capacities are adversely affected. They are harmed in other ways when a workplace exposure leads to the loss of an embryo/fetus, or to the birth of a damaged child. The child is harmed physically in this case, but the parent may be harmed physically, emotionally, and financially as well. That damage to one's child is a harm to the parent has been given legal confirmation through successful "wrongful birth" suits. It seems reasonable to conclude that employers have a duty, derived from the principle of beneficence, to avoid harm to workers through damaging their reproductive capacities or injuring their offspring. Establishing the scope of this duty is complicated by uncertainties about the probability and magnitude of risks.

Workers' Duty to Their Offspring

Do parents have any duties to their offspring during the period of fetal development? What scope might such duties have? What are the implications of these duties, if they exist, for the workplace context?

When there is the intention to bring an embryo/fetus to term, then parents may well have certain duties to that child-to-be even while it is a fetus. For example, a person who gives drugs to a pregnant woman, knowing that the drugs will almost certainly cause gross physical or neurological abnormalities that will persist throughout life, has harmed that fetus. Most people would agree that the individual has harmed the child as surely as if the injury had been done after the child's birth. If there is a duty to avoid harming a child, then there may be a corresponding duty to avoid harming the fetus that will develop into that child. Generally, because a parent has a duty not to do grievous and irreversible harm to his or her child, it may be reasonable to assume that the same parent has a similar duty not to harm the same child before birth. This duty can some-

times conflict with the pregnant worker's autonomy in that her efforts not to harm her expected child may be constrained by workplace rules that compromise her employment opportunities.

The situation is much less clear when there is an intention to abort the fetus. To say that parents have a duty not to harm a fetus when a fetus may in fact be electively aborted raises the larger question of the moral justification of abortion, which is beyond the scope of this report.

If, however, there is a duty to the wanted embryo/fetus, the boundaries of that duty may be set. At their upper bound, such duties might equal but could not exceed the duties owed to newborn infants. This is helpful to note because it reminds us that more familiar issues are pertinent to this case. In particular, it points up a limitation to the duties towards wanted fetuses: beneficence requires one to do what is best for a person, on balance. It is not a duty to avoid any and all possible harms to the fetus, when that same action might gain some benefits to the fetus and avoid other harms. Practically, a parent might continue to work under conditions of mild or low probability of harm to a fetus, if the benefits to the fetus outweighed the likelihood of harm. Benefits could reasonably include those things made possible by the income and employment benefits derived from working, such as adequate prenatal health care, or better housing, food, and clothing for the child. Establishing that working parents may have a duty of beneficence towards their offspring, even as wanted fetuses, does not automatically mean that they must surrender their jobs, at least not when the sum total of benefits to their children-to-be might be negative.

From the standpoint of the management of exposure to reproductive health hazards, the importance of this point is that a parent who chooses to continue working in a mildly hazardous workplace is not necessarily violating any duty of beneficence to his or her unborn child.

Employers' Duty to Workers' Offspring

Do employers have a moral duty of beneficence towards the not-yet-born children of their workers? Morally, everyone has a general duty not to harm others. This would apply as well to the mor-

al duty of employers towards workers' offspring. The scope of this duty (e.g., the amount of sacrifice demanded) is affected by whether there is any special relationship between parties and the nature of that relationship.

Under the general duty clause and specific standards, the OSH Act creates a legal duty to protect reproductive health and procreative ability in that workers should not be exposed to "recognized hazards" (see chapter 7).

There is no such legal duty with regard to "unrecognized hazards," although a tort suit alleging harm to a child while in a mother's womb might succeed. Thus, there is no clear relationship between the parent's employer and the fetus. Whatever duty might exist would almost certainly be less strong than the employer's duty to the worker-parent or the worker-parent's duty to the fetus. Nevertheless, logically, a moral duty exists not to do gratuitous or easily avoidable harm to the fetus. A case can illustrate that point.

If, as an example, a particular workplace exposure were to be quite harmless to the workers, but cause severe birth defects in fetuses carried by the workers, avoiding harm to the fetus could be a morally significant reason to alter the exposure. Furthermore, if the danger to the fetus were known in advance, the employer probably would have violated a moral duty not to do avoidable harm to the fetus.

The scope of employers' duty to their workers' fetuses is difficult to determine because of considerations that point in opposite directions. On the one hand, the lack of a clear relationship between employer and fetus, in combination with ambiguities in the moral status of fetuses, suggests that the duty is more narrow and less broadly compelling than the employer's duty to workers. While the worker-parent's exposure is to some degree voluntary, the fact that the embryo/fetus has not "consented" to be exposed to hazards should not lead to the implementation of a higher standard of protection for the fetus than for the worker-parent. What this underscores is the interaction of the principles of respect for persons and beneficence: the duty to protect some persons from harm may be in conflict with the duty to permit other persons maximum latitude

for free and informed choice. Although both kinds of duties are important, they may at times conflict.

Whatever the duty between employer and fetus may be, there are questions about how it may apply in practice. There is a familiar doctrine in bioethics, in family law, and in medical decision-making for children, the mentally ill, the retarded, and other noncompetent persons. Known as the "best interest" standard, the doctrine urges that whatever decision is made be in the person's best interest.

Unless there is compelling evidence to the contrary, the judgment of what is in the child's best interest is left to the parents. Most experts would agree that the parents are well situated to decide where the child's interest lies; further, they will be motivated by concern for the child. Finally, on balance, it is better for the autonomy of the family to be preserved than to have others constantly meddling in the family's most intimate decisions.

It would be ironic if, on the one hand, wide parental discretion in health care decisions for their infant or child were to be permitted, while on the other, parents were to be denied authority to make decisions affecting the health and well-being of unborn children by being denied the right to employment that might have some effect on the fetus's subsequent development and chances for a decent life. This does not mean that parents should have absolute sovereignty over the life and death of their children, or that they can inflict with impunity any lifelong harms on their yet-to-be-born child. Courts can and have regularly intervened when parents, even with deeply grounded religious motives, have chosen a course of action that endangers the life of their child. But society has set a fairly high threshold of intervention: anything posing less than a clear and highly probable threat to life or health will not trigger intervention.

This analysis suggests that decisionmakers should seek to preserve parental autonomy, unless there is clear evidence of a highly probable threat to the infant-to-be's health or life. Therefore, policies designed to protect fetuses should grant substantial leeway to both male and female worker-parents. Information and education cam-

paigns or policies that provide for transfer without penalties are to be preferred over policies requiring involuntary transfer or job termination. It is highly unlikely that a worker-parent, informed of a grave risk to his or her yet-to-be-born child's health and given alternative employment without loss of wages or seniority, would nonetheless insist on remaining in the more dangerous workplace and thereby expose the embryo/fetus to serious hazard. In such a case, involuntary transfer or termination might be a morally defensible choice. But it is difficult to imagine a potential parent voluntarily risking his or her wanted child's health in this manner.

Justice

Justice as an ethical principle is relevant to the regulation of reproductive hazards in two ways: in the differential impact on male and female workers, and in the allocation of burdens.

Differential Impacts on Male and Female Workers

In its most basic formulation, the principle of justice requires that like cases be treated alike. Policies that have a much heavier negative impact on workers of one sex may not be just because sex, like race and age, is an immutable characteristic. At a minimum, policies with differential impact require justification, which can take the form of showing relevant differences—demonstrating that the cases are not alike in important respects.

In the case of exposure to reproductive health hazards in the workplace, "fetal protection policies" have typically targeted women, who are much more likely to be removed from or denied jobs on the grounds that reproductive hazards exist. The background of employment discrimination against women underscores the importance of scrutinizing policies that have a disproportionate impact on women. The history of discrimination increases the burden of proof for those who propose such policies. Unless it can be shown that such policies are based on relevant and important differences, they must be regarded as unjust. If, for example, a substance were shown to have an effect on both men's and women's re-

productive capacities, there would be no grounds for selectively excluding women from jobs involving exposure to the substance. There is good reason to redesign the workplace or the production process so that neither men nor women are exposed to dangerous levels of the substance, but no reason to expose men alone.

If after reducing exposure to as low a level as technologically feasible, the low levels were shown to affect only one sex, that could be a relevant difference, and justice might not be violated by a policy affecting workers of that sex. This assumes that there is good scientific evidence that the presumably unaffected sex is in fact unaffected. If there are no competent and statistically powerful studies confirming that there are no effects on the other sex, then a relevant difference has not been shown and justice has not been satisfied. This is particularly relevant for the management of exposure to reproductive health hazards since much of the research has focused on women alone, and therefore effects in men are more likely to be uninvestigated than nonexistent.

Does the obvious fact that women are the ones who actually carry the fetus constitute a relevant difference? It may, but only subject to the reservations noted earlier in the discussion of beneficence and respect for persons. Respect for persons and beneficence support policies that inform workers fully about the reproductive hazards to which they may be exposed, and that permit considerable discretion to men and women alike in deciding whether to accept work that may pose a reproductive hazard.

Allocating Burdens

A major issue is who should bear the burden of uncertainty. Uncertainty is and will always be a major component in the management of exposure to reproductive health hazards. For most substances either very little is known, or limited evidence exists suggesting that the substance is a hazard. The principles regarding allocation of uncertainty parallel those operating once a hazard is recognized.

Once the existence of a hazard is established, the primary task of management is to limit exposure. From the viewpoint of justice, this entails

allocating burdens among all affected parties, including employers, workers, and consumers. No single formulation of the principle of justice is universally accepted in the contemporary United States that can be unambiguously translated into decisions about the allocation of burdens. In general, these issues are best decided through full public debate and congressional disposition. However, there may be some useful clarification stemming from the most general formulation of justice—treat like cases alike—and a distinction between the two principal burdens to be allocated—financial burdens and health burdens. For the most part, serious impairment to a person's health is perceived as a greater harm to that person's interests than are financial burdens, particularly when financial burdens are spread over a large number of individuals, with little impact on each. If the impairment to health were mild, and the financial loss catastrophic, the financial loss could be judged more serious. But in the great majority of cases, especially where the health of individuals is weighed against financial burdens that will be widely spread among stockholders and consumers, justice in the United States would favor avoiding the catastrophic health burden on the few in favor of the relatively insignificant financial loss to the many. Harms to health are more likely to be irreversible than monetary loss. And health may be a more fundamental good than most other goods. Health is, in an important sense, a precondition of the pursuit of most of the other goods that make up the '(good life.'

Many employers have explicitly noted that their concern about the potential harm to the offspring of workers is motivated by fear of tort actions that might be brought against them on behalf of children allegedly harmed by parental exposure to workplace hazards. The effort to avoid financial harms that could follow the successful prosecution of such suits is best viewed as an effort by employers to protect themselves from avoidable economic burdens, and thus to place the economic burden of denied employment back on the workers, usually female workers.

At least four broad strategies are possible for achieving the socially desirable goal of protect-

ing workers and their offspring. Each by itself entails a very different distribution of the burden of reproductive health: 1) transform the workplace so that the reproductive health of both workers and potential offspring is protected to the extent feasible, 2) transfer male and female workers at appropriate stages of their reproductive cycles to jobs that will substantially reduce risk, 3) permit and/or compel male and female workers to work in settings defined as posing some risk, and 4) refuse to hire fertile women or discharge pregnant women from jobs that pose some risk to the health of a fetus.

The first strategy begins with the moral assumption that those who benefit from the labor of others bear the primary obligation for providing a workplace where risk of harm is reduced as much as is technologically feasible. Because employers have the financial capacity to absorb the costs associated with adopting protective policies, and because they have the capacity to shift these costs forward to consumers, this approach involves the broadest distribution of the burden. Of meeting the problem of the protection of reproductive health,

Should some level of reproductive risk remain, even under the best of circumstances, it may still be necessary to protect male and female workers from risk of reproductive harm at points in the reproductive cycle. Like the first approach, the strategy of job transfer would place on employers the primary financial burden of protecting reproductive health. If job transfer would entail rate and seniority retention, the employer would be assuming the full burden. To the extent that workers would be expected to take on less desirable jobs at lower pay, the burden of protecting reproductive health would be shouldered by both employee and employer. If patterns of promotion and seniority rights would be disrupted by the reproduction-related transfer of workers, other workers would be forced to bear part of the burden of such policies.

The third strategy would shift the burden of reproductive harm to workers by permitting them to assume the risks. Though tort suits might be available to compensate for negative reproductive outcomes, the personal burden and social consequences of workplace-induced toxicity for

¹The section that follows is drawn from a contractor report prepared for O TA by Ron Bayer of the Hastings Center.

workers' reproductive capacity and procreative capability would not be avoided.

The fourth strategy, which is reflected in some fetal protection policies, shifts the burden of protecting society from developmental hazards entirely to female workers, who are forced to bear the consequences of job deprivation and reduced earning power. The risk to the embryo/fetus has been substantially reduced with this strategy. However, the burden for reproductive hazards is borne by male workers who will be continually exposed, and by female workers who will be "protected" only when they are pregnant or planning to become pregnant. The employer is not likely to bear the burden of potential tort liability.

Each strategy allocates the burden in a different way. The choice of a particular strategy or mix of strategies necessitates a realistic appraisal of how the burdens are to be allocated and what the ethical justifications are for allocating the burdens. In addition, this discussion focuses only on the rationale of allocation of burden; the principle of differential impact on particular groups is not discussed. Obviously, both of these principles as well as those of respect for persons and beneficence would apply in the resolution of these dilemmas.