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Abstract:

Public health ethics has grown out of the medical ethics movement. However, public health is a different enterprise than medicine, dealing with communities rather than individuals. The author develops public health principlism based on the idea of common citizenship in the community. When the four principles of public health ethics—solidarity, efficacy, integrity, and dignity—are in balance, a state of justice exists. The goal is programs that are the least destructive to communities and the least restrictive to people. These principles guide moral reasoning when analyzing programs and interventions such as mandatory HPV vaccination.

Key Words: Public Health Medicine ; Public Health Principlism : Ethics

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Introduction

As a result of terrorism, the social and moral climate of the U.S. has changed with greater emphasis being placed on common goods such as defense, safety, and disease surveillance. Jonathan Moreno believes that after September 11, 2001, an individual-centered bioethics finds itself operating in a society that is more concerned about common social goods such as security: “The emphasis on autonomy and individual rights may come to be tempered by greater concern over the collective good…Increased emphasis on solidarity over autonomy. . . .” (Moreno 2002, p. 60). Many of the tools bioethicists created to ethically examine programs and interventions are based on a biomedical model instead of one that assumes precedence of the community. With few exceptions, bioethics has not engaged an ethics of public health (Turner 1997, p. 42). The emphasis in bioethics on individual ethics has overshadowed common needs (Benatar 2003, p. 199).

The author presents the framework for public health principlism, an ethical method that focuses on the primacy of the community and the common good. For this paper, a community is a collection of people who live or work in a similar geographic region and share a governing authority. By drawing on the obligations and duties that all people owe to the commons, this proposal draws on the values of partnership, citizenship, and community (Beauchamp and Steinbock 1999). Public health principlism borrows from the communitarian tradition to create a critical ethics *in* public health by proposing guidelines for moral deliberation of public health programs and interventions (Gostin 2001). After discussing ethics and public health, the author introduces the prima facie principles of *solidarity*, *efficacy*, *integrity*, and *dignity* that need to be considered in enacting public health programs that are the least destructive to cultural communities and the least restrictive to individuals. The goal is to preserve and improve the aggregate health of the community by reducing overall morbidity and mortality. These public health principles are not moral laws, but are guiding tools for ethical deliberation.

Ethics of Medicine

Several authors have written on the differences between medicine and public health (Gostin 2003, 2001, 2000; Benatar 2003; Jennings 2003; Childress et al. 2002; Kessel 2003). Of prime importance is that medicine and public health are working on two different levels. Medicine and medical ethics are based on the model of a discrete, atomistic individual (patient) who is autonomous, rational, and unencumbered by outside influences (Jonsen 1998). Therefore, biomedical ethics has been concerned with decision-making for individual patients and their physicians (O'Neill 2002, p.35). Medicine focuses on caring and curing individual persons through “diagnosis, treatment, relief of suffering, and rehabilitation” (Mann 1999). In general, a person goes to a medical practitioner for treatment. Medicine is typically practiced in the U.S. by professionally educated and licensed MDs, DOs, and RNs.

Medicine holds individual liberty, rights, and autonomy as the highest goods (Benatar 2003). The American Medical Association's (AMA) Principles of Medical Ethics is a professional code that is used in governing the profession and its practitioners. Such a code details the mission of the profession, its goals, competencies of practitioners as well as promoted and forbidden behaviors. Such codes, however, are about professional conduct and are not designed as the basis of ethical decision-making. While many frameworks for medical decision-making in ethics have been used, the most popular and most widely taught is the *Principles of Biomedical Ethics* formulated by Dan Beauchamp and Tom Childress in 1979. Their prima facie duties of autonomy, beneficence, nonmaleficence, and justice are meant to help practitioners in applied ethical decision-making.

Ethics of Public Health

The Institute of Medicine says public health is about communal action to create healthy environments in which people can flourish: "Public health is what we, as a society, do collectively to assure the conditions for people to be healthy" (Institute of Medicine 1988, p. 19). This venture seeks to increase the aggregate health of the community. Public health fulfills its function through assessment, policy development, and assurance that health measures are followed (IOM 1988; Mann 1999). Public health comes to people and may not be recognized as being effective since one only sees public health when it fails (e.g. an outbreak of salmonella in chicken).

In 2002, the Public Health Leadership Society published the 12 "Principles of the Ethical Practice of Public Health" (PHLS 2002)—hereafter referred to as the "12 Principles." These principles create a vision or mission for public health programs and practitioners. The history and development of this code of ethics is found in an editorial written by James C. Thomas, et al. (2002). Codes of ethics define the essential honorable behavior of a profession. Although attempts to use this public health code of ethics for decision making have been made (Thomas, et al., 2005), such efforts are misguided since they try to apply a code of professional behavior to specific applied policy decision-making. Such articles try to apply an ethics *for* public health practitioners to a question of ethics *in* public health, which such codes are not intended to do.

Similar to the AMA's Principles of Medical Ethics, these codes are about professional conduct and governance: "Code of ethics are typically relatively brief; they are not designed to provide a means of untangling convoluted ethical issues…Nor does a code typically provide a means of resolving a particular dispute" (PHLS 2002). Thus, even with the 12 Principles, public health still needs a means for ethical decision-making, a framework that plays an equivalent role to Beauchamp and Childress's principles of biomedical ethics.

A framework for ethical decision-making can have several sources. One approach would be to adopt medical ethics. A second method would be to use philosophical approaches, such as human rights. A third tactic is to base the framework on professional public health practice, such as epidemiology (Weed & McKeown 2001).

One of the first attempts at bringing public health into the fold of bioethics was a collection edited by Dan Beauchamp and Bonnie Steinbock in 1999. This volume seems to define public health ethics as a medical ethics that takes a population perspective, considers the community, and focuses more on prevention. The authors of that book take a medical ethics perspective and adopt those ideas and values for use in public health by emphasizing notions of justice over autonomy. Although such a notion goes far in developing a community perspective, their method still has its base in a medical ethics tradition of individuality and thus does not truly address the need for an ethics *of* public health.

Jonathan Mann and Lawrence Gostin developed a public health ethics based on a notion of basic human rights (Mann 1999; Gostin 2000, 2001, 2003). Gostin offers several steps for evaluating interventions: "demonstrate risk, demonstrate the intervention's effectiveness, assess the economic cost, assess the burdens on human rights, assess the fairness of the intervention" (Gostin 2003, pp. 185-186). The idea of using human rights as the basis of a public health ethics is problematic since human rights declarations are addressed to the individual rather than the community. Sometimes public health interventions may require curtailing individual liberty and a human rights perspective makes such a move difficult. As Solomon Benatar suggests, rights language requires someone to ensure those rights exist and are fulfilled (Benatar 2003). Human rights should not be ignored, but rather they may not be the most important consideration. The right of a person to refuse treatment or inoculation may need to be overridden in order to protect the health of the general population if a refusal could harm others.

One of the most well-developed suggestions for public health ethics comes from Nancy Kass who presents a "framework of public health ethics" (Kass 2001). Kass offers a set of six questions that one can use when deciding whether a public health intervention is ethical:

> 1. What are the public health goals of the proposed program; 2. How effective is the program in achieving its stated goals; 3. What are the known or potential burdens of the program; 4. Can burdens be minimized? Are there alternative approaches; 5. Is the program implemented fairly; 6. How can the benefits and burdens of a program be fairly balanced? (Kass 2001, pp. 1777-1781)

Kass's focus on burdens (as she defines it under each question) indicates an emphasis on individuals' liberty. She looks at how the community perspective impacts the individual. Such a outlook is common in attempts to create a public health ethics. For example, Childress, et al. offer a tool for conflict resolution in public health based on effectiveness, proportionality, necessity, least infringement, and public justification (Childress et al. 2002). These guidelines start from an assumption of primacy of the individual and limitations to freedom for the common good must be justified.

Public Health Principlism

As Anthony Kessel (2003) states, attempts at creating a public health ethics have adopted medical ethics principles and frameworks sans theoretical foundations (p. 1443). The basis for public health principlism is in the notion that people share a common citizenship: "As members of a society in which we all share a common bond, we also have an obligation to protect and defend the community against threats to health, safety and security" (Gostin 2003, p. 179). This citizenship recognizes that the members of a community hold a set of shared loyalties and obligations to the community including health (Beauchamp 1999, p. 58).

Many health projects are best done on a communal rather than an individual level, such as clean air, clean water, safe food (Garrett 2000, p. 437; Beauchamp 1999; Gostin 2003). It is not possible or reasonable for each person to be responsible for making sure his or her air is clean, water is clean, or food is safe since these are communal resources. By protecting the community's health, one protects individuals' health. Therefore, the claims of the community, since they affect many people, take precedence over the claims of the individual, which affects mainly one person.

With public health's community focus and its interest in the underlying conditions upon which health is predicated, a framework of values which links directly with societal structure and function may be better adapted to the work of public health than a more individually oriented ethical framework (Mann 1999, p. 87). By looking at all of the frameworks and guidelines proposed by others, this author finds several common ideas. Among these ideas are *solidarity, efficacy, integrity,* and *dignity*. Thus, the author suggests a public health principlism based on these four guiding principles. The principles are tools for moral deliberation and should be viewed as prima facie, though with greater weight given to solidarity and efficacy than integrity and dignity. The goal of these principles is to provide for the aggregate health and well being of the community, to ensure that public health interventions can effectively fulfill their purpose, and to acknowledge community and individual interests.

Solidarity

The notion of solidarity holds that as a result of common needs and interests, a community comes together to improve its aggregate health by reducing morbidity and mortality. This principle asks if the program meets public health goals and furthers the health of the population at large (Kass 2001, p. 1777). Solidarity derives from Bentham's Principle of Utility which holds that in making ethical choices, the action taken should provide the greatest utility, in this case health, to the greatest number of people. The principle depends on equity, community autonomy, and paternalism.

Although codes of ethics and frameworks for decision-making have different foci and function within a profession, they should reflect similar values and priorities. Thus, within the notion of solidarity, one can find several of the concepts found in the 12 Principles. Specifically, solidarity incorporates the notions of preventing bad health, promoting social justice, working with its community mandate, and to be competent professionals:

1. Public health should address principally the fundamental causes of disease and requirements for health, aiming to prevent adverse health outcomes;
4. Public health should advocate and work for the empowerment of disenfranchised community members, aiming to ensure that the basic resources and conditions necessary for health are accessible to all;
7. Public health institutions should act in a timely manner on the information they have within the resources and the mandate given to them by the public;
11. Public health institutions should ensure the professional competence of their employees (PHLS 2002).

One of the foundations of solidarity is achieving *equity*, or the idea of fairness in distribution of goods and services. In other words, burdens and benefits should be shared at all levels of society and balanced to benefit the largest proportion of the population (Kass 2001, p. 1781). The value of equity in public health is to improve all the public's health and to eliminate health disparities among groups.

The idea of *community autonomy*, according to Megan Black and Gavin Mooney is that the community's elected or appointed representative authority has the power to make choices. The community can draw upon its own values and goals in making decisions (Black and Mooney 2002, p. 199). In other words, the community, or its designated authority, determines the common needs and interests, what levels of morbidity and mortality are acceptable, and how to go about making public health changes.

Solidarity takes a paternalistic stance toward members of the population in matters of communal health. This framework assumes that people do not always know what is best for themselves or for others. Gerald Dworkin defined *paternalism* as "interference with a person's liberty for his own good" (Dworkin 1999, p. 118). Many people in the United States and within bioethics tend to have a knee jerk reaction against paternalism. Such a response though, often goes against common sense (Feinberg 1973, pp. 45-52). Public health professionals have knowledge, skills, resources, and legal powers to preserve health and welfare that individuals lack. In some cases paternalism is not only acceptable but necessary even if it requires restrictions on individual liberty.

Efficacy

Efficacy is the idea that a program should be scientifically sound and have a significant chance of being successful in achieving its goals of improving a community's health and wellness. An efficacious program is one that is feasible in regard to social, political, and cultural climates. This principle is based on the philosophical notion that *ought* implies *can*. Having passed the solidarity test, efficacy asks if the program or proposal can be successfully completed.

In other words, efficacy asks Kass' question of "How effective is the program in achieving its stated goals?" (Kass 2001, p. 1778)

In relation to the 12 Principles, both that code of ethics and efficacy deal with the ideas that scientific information is important for implementing effective policies in a way that most improves physical and social health. Both also recognize that the effectiveness of any intervention requires collaborating with communities to build trust:

> 5. Public health should seek the information needed to implement effective policies and programs that protect and promote health;
> 9. Public health programs and policies should be implemented in a manner that most enhances the physical and social environment;
> 12. Public health institutions and their employees should engage in collaborations and affiliations in ways that build the public's trust and the institution's effectiveness (PHLS 2002) .

Integrity

This principle holds that cultural communities have value and are deserving of respect. Integrity creates an obligation to preserve the nature and character of a cultural community, to include the community in program development, and to provide interventions that match community values and are explained in terms of local knowledge. The idea of integrity is based in Black and Mooney's concept of community autonomy and tolerance discussed earlier.

Integrity incorporates three of the 12 Principles including notions of inclusiveness, community consent, and respectful tolerance:

> 3. Public health policies, programs, and priorities should be developed and evaluated through processes that ensure an opportunity for input from community members;
> 6. Public health institutions should provide communities with the information they have that is needed for decisions on policies or programs and should obtain the community's consent for their implementation;
> 8. Public health programs and policies should incorporate a variety of approaches that anticipate and respect diverse values, beliefs, and cultures in the community.

As an autonomous entity, the community invests in a representative authority that forms the common health vision. Autonomous communities have a say in how a program should be implemented for them. Programs ought to be explained using ideas and terms that local populations understand. For example, a research project on women's health in Russia experienced difficulty because of subject frustration. Western informed consent standards did not translate into Russian cultural traditions. In the United States, informed consent standards require that subjects be reminded that they can withdraw participation at anytime. In Russia, subjects could not understand why their stated commitment to partake in the project was questioned (Klugman et al. 2002). Understanding local lifeways, beliefs, and histories can lead to more effective programs and policies that cultural communities will accept, understand, and feel they own. A public health program can only succeed if the community has a part in planning and implementation.

Second, under tolerance and respect, programs should attempt to not fundamentally change a local way of life if at all possible. Local rules, traditions, and beliefs native to a population should be preserved. In certain circumstances, a population's way of life may be threatening its health or the health of people around them. In that case, a change must be made to preserve lives. However, the policy should choose the *least destructive alternative* to minimize the change to the culture. For example, in the New Guinea region known as South Fore, anthropologists determined that the neurodegenerative disease kuru was being spreading through a funerary custom where women and children would consume the body of the deceased (Matthews, Glasse, and Lindenbaum 1968). In this situation, changing a cultural custom was necessary for saving the population. Defining the least destructive alternative differs by situation and requires collaboration with local authorities. The goal is to preserve as much of the local lifeway as possible.

Dignity

Dignity is the recognition that human life is vulnerable and needs to be protected. All people are equally worthy of moral respect and consideration. Therefore, dignity says that one should respect people as members of the interconnected community and choose the least restrictive alternative in programming. The idea of dignity is based on Mann's notion of ethics through universal human rights (Mann 1999). Although this author rejected human rights as a foundation for the totality of public health ethics, he suggests that when used in a limited fashion, it has value. Dignity defines individuals in terms of their relationships and protects human rights and vulnerabilities. This lower value serves as a check on higher values but does not override them.

Dignity says that even though the focus of public health is the community, communities are composed of individuals who have interests and potential harms which must be considered. These concepts are reflected in two of the 12 Principles:

> 2. Public health should achieve community health in a way that respects the rights of individuals in the community;
>
> 10. Public health institutions should protect the confidentiality of information that can bring harm to an individual or community if made public. Exceptions must be justified on the basis of the high likelihood of significant harm to the individual or others (PHLS 2002).

The Universal Declaration of Human Rights sets out that "all human beings are born free and equal in dignity and rights" (UN 1948). Such rights are necessary because human life is vulnerable. People can easily be harmed, maimed, killed, or exploited (Rendtorff and Kemp 2000, p. 47). Dignity holds that the authority needs to respect and protect the liberty and interests of an individual insofar as it does not conflict with the other three principles. Individual interests such as autonomy, privacy, confidentiality, self determination, and liberty are considered but do not take precedence over community health interests (Gostin 2000, 2001; Kass 2001, p. 1779).

With the weighted prima facie nature of this framework, placing dignity last means that in some circumstances personal preferences and individual interests will be overridden. An individual may personally experience some morbidity, or in rare cases mortality, to increase the aggregate health of the community. As in integrity, though, any proposal should respect human beings by seeking the least restrictive alternative. Also like integrity, human rights are unlikely to override the higher principles, but could alter the manner in which the proposal is implemented to respect dignity, even if that alteration reduces efficiency.

Applying the Principles

Gardasil is a vaccine produced by Merck which "may help guard against diseases that are caused by human papillomavirus (HPV) types 6, 11, 16, and 18" (Merck 2006a). The manufacturer suggests that all girls between ages 9 and 26 receive the vaccine even if they have already been infected with HPV (Merck 2006b). HPV has been implicated in causing cervical cancer, vulvar and vaginal lesions, and genital warts (Gross 2007). The vaccine requires a series of three injections given over six months (Merck 2006b).

Governor Rick Perry, the governor of Texas, signed an executive order mandating that all girls receive Gardasil before entering the sixth grade (Blumenthal 2007). The program is expected to effect 170,000 Texas sixth-grade girls at a cost of $60 million paid for by private insurance and federal assistance (Blumenthal 2007). At least twenty other states are considering mandating the vaccine (Saul & Pollack 2007). Governor Perry has met with criticism regarding the cost of the program and removing parental choice. The question is not whether the availability of Gardasil is a good thing, the question is whether as a public health measure, states ought to be mandating its use.

Solidarity

In the United States, 75 percent of adults aged 15 to 50 will be infected with HPV over their lifetime (WHO 2007). Twenty million people are currently infected, and there are 6.2 million new infections yearly (CDC 2006). According to the Centers for Disease Control & Prevention (CDC), cervical cancer was once a leading cause of death for women. However, over the last nearly half-century, the incidence has decreased because of the frequent of use of the Papanicolaou (Pap) test which detects abnormal cervical cells (CDC 2007). In the United States in 2003, 11,820 women were diagnosed with and 3,919 women died from cervical cancer (CDC 2007). The American Cancer Society (ACS) estimates that in 2007, 11,150 cases will be diagnosed and 3,670 deaths will occur (ACS 2006). U.S. women diagnosed with cervical cancer have a 5-year survival rate of 72 percent (ACS 2006).

The World Health Organization estimates that 250,000 women die of cervical cancer each year, the second leading cause of female cancer deaths (WHO 2007). Worldwide, over 500,000 women develop cervical cancer with over 80 percent of those incidences in the developing world (WHO 2007).

The CDC has recommended that Gardasil be given to all girls from 11 to 12 years of age, but all women from 9 to 26 should be vaccinated (CDC 2006). Given the large numbers of American adults infected with HPV and the large number of potentially avoidable deaths, preventing the spread of this sexually transmitted infection would serve the goals of reducing morbidity and mortality. Many vaccines, such as those for hepatitis A and B, smallpox, whooping cough, measles, mumps, and rubella are required for students to attend public schools. In some cases, exceptions to the mandated vaccines can be petitioned for based on religious or philosophical beliefs. However, vaccines work on the idea of herd immunity, that if enough people are resistant to the infection, then the infection cannot spread freely throughout the population. It is necessary to ensure that a large enough percentage of the population is inoculated to make the process effective for public health purposes.

One must also consider the equity of the intervention: benefits and burdens. The benefit to an HPV inoculation is mainly to women who suffer the highest morbidity and mortality from HPV infection. Although men can be infected with HPV, they rarely seem to suffer diseases caused by the virus.

Thus, from the perspective of solidarity, mandating this vaccine for all girls before they are sexually active will prevent much morbidity and mortality with few side effects. The potential drawback is that mandating a vaccine may override community autonomy. When a state such as Texas requires a public health intervention, communities which may object lose their voice. The importance is deciding at what level of community the decision should be made: Federal? State? County? City? Individual? An article in the *New York Times* reported that community autonomy may have been violated in legislative debates on Gardasil. Merck hired a lobbying firm to convince legislators to mandate the vaccine (Pollack & Saul 2007), thus circumventing the opportunity for community input and preventing the exercise of community autonomy. Merck is not an objective entity in this debate, as the market for HPV vaccines approaches $5 billion a year (Saul & Pollack 2007).

Efficacy

Clinical trials have found few side effects, though these include pain, swelling, itching, redness, fever, nausea, and dizziness (Merck 2007b). Gardasil is effective in preventing infection of four strains of HPV. These strains are effective for over 70% of worldwide cervical cancers (Ames & Gravitt 2007). However, Gardasil was approved under the FDA's priority review process with only six months of testing, meaning that future side effects might be discovered ("New vaccine prevents cervical cancer" 2006). Beyond the science, efficacy depends on development of an infrastructure to deliver the vaccine in sufficient quantities at affordable prices and that it is accepted by the community (Gross 2007).

While the scientific discussions from the CDC have suggested the strong potential for saving lives, a six-month priority review for the vaccine does not empirically prove efficacy of Gardasil (such a definitive project would be unethical since it would require knowingly exposing young women to HPV). Even before the development of the vaccine, U.S. cervical cancer rates were on the decline. This decline is due to an increasing use of the Pap smear test (CDC 2007; Roden, Monie & Wu 2006). The cost of a pap smear is approximately $35. The cost of three injections of Gardasil is $360 (Blumenthal 2007) to $400 (Saul & Pollack 2007).

The issue is not whether scientifically this program will be effective, the history of vaccines speaks in favor of Gardasil. The real debate is over the affordability and feasibility of a mandatory vaccination program. Those people who may be in greatest need of a vaccine—people without health insurance, the poor, and people in third-world countries—are those who are least likely to receive the vaccine. In addition, Salmon, et al. (2006) suggest that efficacy may require allowing exemptions to assist in public acceptance and prevent public backlash.

In addition, Gardasil will only prevent 70 percent of cervical cancers and protect against only 4 strains of HPV. Thus, efficacy requires continued education on the necessity for regular pap smears to detect other cervical cancers and the use of condoms to prevent the spread of the other strains of HPV.

Integrity

In the United States, mandatory vaccinations have a long history. Massachusetts, in 1809, became the first state to require inoculations when it required the entire state to be vaccinated for smallpox. One concern about integrity is whether the influence of Merck's lobbyists may have circumvented some of the democratic conversation that normally surrounds state legislation (Saul & Pollack 2007). Part of the issues is that the vaccine is being mandated only months after its release. Many vaccines are debated for years before being mandated.

Dignity

Under this principle, one examines the effect of an intervention on individual freedom and human rights. Under notions of individual autonomy, a person would have the right whether to choose to take a vaccine. An anti-vaccination voice has existed for many years usually over concerns over whether ingredients in the vaccines cause health problems, such as autism in children—no such link has been found (Taylor et al. 1999). In the case of Gardasil, some Christian advocacy groups believe that the vaccine is not necessary because a decent young woman will not have sex before marriage. Thus the debate is being seen as an invitation to promiscuity (Grady 2007).

Many mandatory vaccines have provisions which permit a person to object and thus avoid the vaccine on religious or philosophical grounds. A similar proviso could be enacted here, but such a move would decrease the efficacy and solidarity. In the highly effective smallpox eradication campaign, questionable methods were used to ensure compliance with the vaccine. In many places and cases, individuals were not given the option to refuse and often people were restrained to receive inoculation (Lachman 1998; Salmon et al. 2006). Would we be willing to do the same in order to force HPV vaccination? Given that Gardasil only protects against 4 HPV strains, eradication is unlikely and individual dignity in choosing to opt-out should be permitted.

Additionally, in a medical intervention, such as a vaccine, legal consent for the procedure is given by the parents or guardians of the child. Many of these vaccines, however, are given when a child is young and incapable of having an informed, rational opinion. But since Garadsil is meant to be given to girls over 10 years of age, should they have any say in receiving the vaccine? If the intervention was surgery or research, the child would be asked to give assent (permission). Should the same be required before a child receives an HPV vaccination? If a child is capable of making a well-reasoned decision, then he or she should have a say in receiving the vaccine.

Final Analysis

When mandated and supported with a safe and reliable source, vaccines have historically been effective in preventing the death and disability associated with infectious diseases. In the case of Gardasil, the high price is a consideration which will require insurance coverage, federal aid, or price reductions. Salmon et al. (2006) suggest that the political reality of people accepting mandatory vaccines is increased when opt-out provisions are available. Another concern is the undue influence Merck may have on the legislative conversation. In addition, given that this vaccine, unlike smallpox, will only prevent 70% of cervical cancer and infection of 4 strains of HPV, education into preventive pap smears and condom use is essential.

Gardasil, or other HPV vaccines, should be adopted as public policy on a state-by-state basis if the following conditions can be fulfilled: (1) stopping Merck from lobbying in order to permit true community debate and autonomy, (2) dealing with question of adequate funding, (3) providing a religious/philosophical exemption, (4) educating for preventive screening and condom use; and (5) girls who are viewed as capable of rational decision-making should give assent before the vaccine is given.

Conclusion

Medicine focuses on the health of individuals. Public health focuses on the health of communities. Biomedical ethics provides guidelines for an autonomous individual making choices for him or herself. By analogy, public health ethics should focus on communities making choices to protect the aggregate health and welfare of their populations. Under a social contract rubric, people are part of a common citizenry, and they have agreed to abide by the just policies of the designated authority. The public health ethics that the author proposes—a principlism based on the prima facie ideas of solidarity, efficacy, integrity, and dignity provides a strong tool for guiding ethical decision-making. Communal interests such as HPV vaccination stretch the abilities of a more traditional biomedical ethics and point to the need for a uniquely public health perspective to ethical reasoning.

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