



Are there different spheres of conscience?

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Abstract

Interest in understanding the meaning of conscience and conscientious objection in medicine has recently emerged in the academic literature. We would like to contribute to this debate in four ways: (1) to underscore and challenge the existing hierarchy of conscientious objection in health care; (2) to highlight the importance of considering the lay public when discussing the role of conscientious objection in medicine; (3) to critique the numerous proposals put forth in favour of implementing review boards to assess whether appeals to conscience are justifiable, reasonable and sincere; and (4) to introduce the *Universal Declaration of Human Rights* and the *Siracusa Principles* into the dialogue around conscience and suggest that perhaps conscientious objection is a human right.

Introduction

The role of conscientious objection in medicine has recently received growing attention in the academic community, particularly in response to the controversial subject of emergency contraception. We would like to contribute to this ongoing dialogue by exploring the role of conscience in medicine in four ways. First, we will challenge the existence of a conscientious objector hierarchy evidenced within the health care field. Second, we will argue the importance of considering the lay population in debates about conscientious objection in medicine. Any conclusions reached with respect to conscientious objection in medicine ought to remain consistent regardless of one's professional or lay standing. Third, we will critique proposals advocating in favour of review boards that would be established to assess conscience-based appeals. Finally, we will introduce the *Universal Declaration of Human Rights* [1] and *Siracusa Principles* [2] to the conscience debate, as these documents' use of conscience suggests that freedom of conscience is an inalienable right.

Recent scholarship suggests that understanding the role of conscience in medicine is a challenge. A common starting point for debate has been the examination of multiple definitions, views and claims of conscience [3–8]. In addition, given our pluralist society

many scholars insist that agreement on the role and significance of conscience in medicine is not likely to be achieved and therefore the discussion might be better advanced by reframing the issue. Some scholars recommend shifting the focus to explore how we should deal with moral disagreement [9] or normative difference [10]. Others suggest an emphasis on understanding what it means to act conscientiously [4]. Night [7] and Barfield [11] underscore the importance of determining *what* informs conscience and *how* conscience is informed, respectively. Another central theme in the conscience debate is whether and when health care providers can refuse to provide or perform legally sanctioned and professionally endorsed medical treatments and procedures due to their personal values and beliefs [3,4,8,12–17]. Some academics even propose and/or support the creation of review boards that would ultimately deliberate, as would a jury, not only as to whether an individual's appeal to conscience was reasonable and justified [12,17–19], but also that it is genuine, sincere and consistent with previous decisions made by the individual [5,8]. However, reframing the question only delays the arguably unavoidable challenge of addressing the fundamentals of conscience, or at least an understanding of how conscience, and appeals to conscience, should be interpreted in a pluralist world.

The intricate history of conscience and its evolution as a concept over time has inevitably led to diverse understandings of

conscience, the role of conscience and the significance of conscience for individuals. Despite the historic presence of conscience, some contemporary theorists argue that conscience simply does not exist [20]. Assuming such a position would render the debates concerning the role of conscience and, more specifically, conscientious objection in medicine irrelevant. Moreover, concluding that conscience does not exist would ultimately challenge the *Universal Declaration of Human Rights* [1] and the *Siracusa Principles* [2]. Therefore, for the purpose of this article we begin with the premise that conscience exists and should be considered within a human rights framework.

Although the specifics of conscience are difficult to identify, support exists for a general understanding of conscience, and appeals to conscience, that extend beyond faith-based interpretations [6,8,10–12,14,21]. Appeals to conscience may stem from a variety of cultural, religious, philosophical and moral frameworks. However, Wicclair [8], echoing the sentiments expressed in the *Universal Declaration of Human Rights* [1] and *Siracusa Principles* [2] suggests that appeals to conscience need not even be rooted in a recognized philosophical, religious or moral tradition: '[An individual's] appeal to conscience would have moral weight even if she were unable to ground those beliefs in a foundational ethical theory or religious doctrine' (p. 31). Curlin [21] expands on this concept and allows for an understanding of conscientious objection that includes those appeals considered 'misinformed' by a broader public:

A genuine conscientious objection, even if misinformed, is an expression of a commitment to acting morally, and although religious persons are somewhat more likely to report conscientious objections, judgments of conscience need not be informed by explicitly religious ideas (p. 31).

Although this acknowledgement and acceptance exists within the academic community, there is simultaneous unrest as to whether such appeals should be made by health care providers whose vocation is to help patients according to codes of ethics and standards of care endorsed by the profession at large [3,5,10,12,13]. Scholars have argued against enabling health care providers to refuse to perform certain medical acts based on appeals to conscience and personal values. They argue that health care providers enter the field voluntarily and are aware of the professional codes and policies that guide the practice of medicine and should therefore abide by those codes and policies [5,22]. Some scholars maintain that an individual should not enter into a field within which they will consistently seek exemptions for endorsed, legal procedures [5,22]. Other scholars endorse the design and implementation of review boards that would not only assess whether the appeal is justified and reasonable [12,17–19], but also whether the appeal is sincere and genuine [5,8,23–25].

Despite such resistance to conscientious objection in this health care context, professional organizations and state laws are increasingly supporting and protecting health care providers who seek conscientious objection – and protecting their right to do so without explanation or defence [4,12,19]. While conscientious objection status by health care providers remains controversial, such appeals are not only tolerated and accepted by the profession but they are also protected by law. Interestingly, however, it appears that not all appeals to conscience are created equal.

Is there a conscience hierarchy?

The arguments put forth by some of our colleagues reveal a constructed hierarchy of conscientious objections. For instance, conscientious objectors who ground their appeals in religion might enjoy a certain legal protection [8,12] that conscientious objectors who base their appeals on other philosophies might not (as evidenced by the fact that only 19 states recognize philosophical objections for individuals seeking exemption for vaccination) [26]. The medical act in question and the degree of involvement required by the practitioner might also contribute to the success of an appeal. Specifically, refusing to participate in an abortion might result in an unequivocal granting of conscientious objection status compared with acts that are considered 'mere assistance', such as fulfilling a prescription for emergency contraception [27].

Another indication that different spheres of conscience may exist emerges when considering the hierarchy of power within institutions. Lindsay [16] argues that doctors might be able to refuse to engage in various medical duties for conscience-based reasons more so than nurses or pharmacists on the assumption that patients have more control over who they choose to be their doctor than they do over their other health care providers [16].¹ Brody and Night [7,28] go further to relieve pharmacists who refuse to dispense emergency contraception to women from their duty to refer, suggesting perhaps that it is 'management's' job to refer the patient elsewhere, recognizing management would likely not have the luxury of a conscientious objection. As a side note on referrals, given the growing prevalence of direct-to-consumer marketing, online pharmacies and an apparent 'in store' resistance to dispensing emergency contraception, it is arguably only a matter of time before women begin ordering their medications through the Internet.

The growing number of scholars, who propose and/or support proposals for implementing review boards to assess conscience-based appeals to ensure that they are not only 'reasonable and justified' [12] but also genuine and sincere [5,18,19,23–25,29], will inevitably contribute to this seemingly arbitrary hierarchy by granting objector 'status' to those individuals who can clearly articulate their belief system. Meanwhile, individuals who cannot successfully 'convince' a panel (however, diverse and 'representative') of their appeal will be forced to conduct or endure the

¹ We disagree with Lindsay's privileging doctors as potentially more able to acquire conscientious objection status than nurses or pharmacists for three reasons: (1) Lindsay claims that 'No one is forced to become a pharmacist or nurse' (p. 26) – the same is true of doctors; (2) Lindsay also asserts that patients have more flexibility in choosing their doctor than their nurse or pharmacist (p. 26) (although he does recognize that this freedom has been curtailed significantly over the years). We would suggest that depending on one's health care package and one's place of residence (i.e. a significant number of individuals around the globe are without a primary health care practitioner) the freedom to select one's doctor is diminished further and such conclusions should not be rendered based on accessibility – as that will likely change over time and place; and (3) if a collective agreement is reached that health care professionals should be granted objections based on conscience, that status should be enjoyed by all health care professionals. If a collective agreement is reached that conscientious objection compromises the health and safety of patients, then all individuals who would find themselves needing to request exemption from certain activities should be prohibited from the professional practice in question.

medical act in question. Finally, it is unclear what standards, tools or methods could conceivably be employed to determine these qualities of belief reliably. We are unaware of any such incontestable means to determine sincerity of belief.

One final polarizing distinction occurs in the literature characterizing conscientious objection among health care providers and the characterization of lay people seeking exemption from mandatory vaccination. Conscientious objection is the phrase that consistently frames the arguments involving health care providers. Such language underscores a recognition that appeals to conscience expand beyond a limited religious interpretation to include philosophical arguments, ethical arguments, or no arguments for that matter, as articulated by Wicclair [19]. Conscientious objection is used less frequently in the vaccination literature, for example, although this is where the concept originated in common law. Interestingly, academic debates surrounding conscientious objection and vaccination shift towards creating specific categories within which objectors fall rather than using the language of conscientious objection consistently as done with the health professionals. For instance, individuals who object to vaccination seek religious exemption, philosophical exemption, or personal exemption, a more recently developed category. Such rigorous efforts made to pigeonhole individuals into one exemption category or another suggest that different *kinds* of objections carry different moral (and arguably legal) weight.

The role of conscientious objection in public health

The discussion of the role, place and significance of conscientious objection in medicine should also include conscientious objection status sought by lay people in response to mandated public health initiatives, such as vaccination. Such consideration is necessary to ensure either a unified assessment of how conscientious objection is to be treated among individuals at odds with a specific medical and/or health practice or to provide cogent arguments as to why some groups should be free to live according to their conscience and others not. Public health and clinical medicine have different mandates: the former is responsible for improving the health of the population whereas the latter is responsible for the health of the individual. However, as public health continues to move towards implementing new medical technology (i.e. tandem mass spectrometry for expanded newborn screening), maintaining a rigid public health/clinical care divide will become increasingly difficult. Another primary challenge that public health officials face is finding a balance between the rights of the individual and the rights of the community.

The nature of vaccination, for instance, is such that agreement will never be reached to endorse vaccination as an unequivocal benefit or harm. Mandatory vaccination (whether interpreted in the more contemporary understanding as bureaucratic and social barriers constructed to discourage exemption [30] or the more punitive consequences traditionally instated in health epidemics and pandemics) [31–33] will never go uncontested by the public. Since the beginning, vaccination programmes have been met with resistance by anti-vaccination campaigns, anti-government individuals, and the sanitation, hygiene, and physical culture movements, and more recently alternative medicine. Libertarianism, alternative understandings of healthy living and immunization, and not

wanting to harm oneself (or loved ones) through vaccination (a common explanation for many of today's exemptions) are all standards by which individuals live and base health care decisions. When individuals are faced with a perceived threat to these core beliefs, such as vaccination, or the mandatory nature of vaccination more specifically, conscience-based appeals will be made. Vaccines are, without question, an allopathic, biomedical construct that not everyone (including some health care providers) will endorse.

As increased numbers of individuals seek conscientious objection status with respect to mandated vaccination, two different responses have emerged: (1) efforts to create review boards similar to those proposed for health care providers; and (2) approaching public health through a human rights lens, emphasizing the protection of civil liberties in an effort to improve population health [34,35].

Conscientious objection and review boards

The idea of establishing review boards to judge the justifiability, reasonableness and sincerity of an appeal to conscience is a proposal that gets discussed at length in the literature when faced with conscience-based objections by health care providers and lay people [5,8,12,17–19,23–25,29]. Proponents of such boards or panels emphasize that such a review mechanism would endeavour to assess whether an individual's claim is legitimate, well-informed and consistent with previous life decisions, granting objections only to those individuals deemed to have passed the 'test'. However, as previously established, understandings of conscience are diverse and often rooted in religious, cultural or philosophical traditions. Although recommendations for such boards articulated the necessity of diverse representation with respect to ethnicity, culture, religion, education and profession [18], there are no distinct guidelines to assess those appeals considered 'misinformed' or not clearly linked to a specific ethical framework. Moreover, if conscience is deemed too difficult to define, or at least not considered the crux of the challenge with respect to health care providers and conscientious objection [4–7,9,11], how can review boards possibly begin to assess such conscience-based appeals?

Beyond the theoretical and conceptual challenges of implementing such review boards, there are practical concerns as well. For instance, review boards threaten to render conscientious objection status to individuals who can clearly and convincingly articulate and frame their argument within a religious, philosophical, cultural or other moral framework, thus raising questions of justice and fairness. Further questions of justice and fairness emerge as one considers the likely financial expenses incurred by individuals forced to defend their conscience-based objection. For instance, within the context of vaccination, studies have found that financial barriers (such as child care, transportation, potential lost income, etc.) exist for many individuals who might otherwise consider vaccination [30,31,36–38]. Similarly, Blendon *et al.* [39] conducted a study exploring the extent to which Americans could cooperate with public health mandates in the event of a pandemic flu outbreak. These scholars found that approximately 25% of Americans reported not being able to afford time off for illness (or to prevent an illness) – a statistic that, when applied to vaccination,

corroborates Colgrove's [31] conclusion that some individuals seek exemption from vaccination given the concern of side effects, other adverse events and the ultimate financial threat of time off work. Given the economic constraints many individuals face, instituting a mechanism that would require individuals with limited resources to defend their conscience-based exemption request would only result in the creation of additional barriers that would further marginalize people.

In addition to the feasibility and financial barriers associated with conscience review boards, other challenges concern the mandate of these boards to assess whether a claim is justifiable, reasonable and sincere. The current debate and disagreement within the academic community with respect to conscience epitomizes the difficulty associated with assessing the justifiability and reasonableness of a claim. We would like to argue that assessing the sincerity might be even more difficult not only because many of the medical and health issues in question do not necessarily occur on a regular basis, but also because individuals make health care decisions at a certain point in time and in certain contexts. How a person responds in one instance might not be how they respond in another – not because they are necessarily inconsistent, but because decisions are made in a particular time and place often with competing external variables.

To illustrate these points we have provided two examples. For instance, what if the pharmacist seeking appeal is new to the job and has never encountered a request for emergency contraception until the appeal in question? If no life circumstance has occurred prior to this appeal, on what basis is sincerity and consistency to be judged? Similarly, say a young adult in her 30s seeks conscientious objection from a mandatory influenza vaccine and yet she has had the gamut of childhood vaccines as well as the hepatitis B vaccination – would a conscientious objection to the influenza vaccine on the basis that she has since embraced holistic medicine be deemed insincere given her vaccine history? A comparison to advance directives and informed consent (specifically, people are free to change their advance directives over time and similarly withdraw from a given health procedure or research study once having given consent) would show that people evolve and change over time, thereby challenging the assumption that such sincerity could ever be proven. In addition, what sort of precedent would such 'sincerity' judging have for other areas in medicine?

The expenditure of time and money should also be considered from an institutional and structural perspective when assessing the feasibility of constructing conscience review boards or panels. The medical conditions/situations for which individuals seek conscientious objection often occur in emergency situations, at the beginning and end of life, and during epidemics or pandemics. Although considering the time expended by individual review board members and conscientious objectors is important, one might question the actual time it would take to render a decision (considering the potential possibility for appeal) [18] in situations that require quick and immediate responses. In addition, the cost of sustaining such an operation (or operations) will likely be expensive: are such boards the best use of government or hospital resources? Perhaps the money considered for review boards could be put to better use. For instance, in situations where people seek conscientious objections to vaccines, more resources could be spent either improving public education and

allaying fears and concerns associated with vaccination or providing financial assistance to individuals who want the vaccine in question but cannot afford it. After considering the financial costs that would be expended to sustain a health care provider review board, perhaps such funds could be targeted towards establishing mechanisms that would aid those patients left without options as a result of a health care provider abstention or refusal. For example, perhaps a pharmacist hotline could be established whereby a pharmacist who does not have issues with dispensing legal medications would be available to speak to patients and then could express delivery the pills if necessary. Of course, a mechanism would need to be put in place to determine that the patients availing themselves of such a service cannot in fact get the desired medication in his or her hometown. Another possibility might be to send doctors and/or nurses on a need basis to areas where patients are left without anyone to care for them given their medical request.

Our final critique of these conscientious objection review boards is that perhaps in the end people should be able to object without having to provide an explanation or defence – an argument consistent with the *Universal Declaration of Human Rights* [1] and the *Siracusa Principles* [2].

Conscientious objection as a human right

Human rights activists and scholars advocate for an approach to public health that is non-coercive and protects individual liberties. Specifically, if public health goals can be achieved voluntarily, then governments should implement voluntary programmes rather than mandatory ones. However, despite efforts to minimize public health policing powers, the USA has the authority to enact any and all force in the event of a national emergency, such as an influenza pandemic or bioterrorist attack. Consequently, under such a threat to the State all but bona fide medical exemptions would be accepted and appeals to conscience would no longer be granted – conscientious objections may, perhaps, be considered a luxury of 'healthy' regions. Yet, if one were to look at both the *Universal Declaration of Human Rights* [1] and the *Siracusa Principles* [2], perhaps freedom of conscience is a right regardless of the health of the State.

The *Universal Declaration of Human Rights* [1] and the *Siracusa Principles* [2] are two documents that explicitly incorporate conscience in their text. We appeal to these documents in an effort to explore the possibility that perhaps freedom of conscience is a human right, and, according to the *Siracusa Principles* [2], a non-derogable right that should be respected at all times, even in State emergencies:

No state party shall, even in time of emergency threatening the life of the nation, derogate from the Covenant's guarantees of the right to life; freedom from torture, cruel, inhuman or degrading treatment or punishment, and from medical or scientific experimentation without free consent; freedom from slavery or involuntary servitude; the right not to be imprisoned for contractual debt; the right not to be convicted or sentenced to a heavier penalty by virtue of retroactive criminal legislation; the right to recognition as a person before the law; and freedom of thought, conscience and religion. These rights

are not derogable under any conditions even for the asserted purpose of preserving the life of the nation. (Section D) Under Article 18 of the *Universal Declaration of Human Rights* [1], conscience is also underscored as unique and separate from freedom of thought and freedom of religion:

Everyone has the right to freedom of thought, conscience and religion; this right includes freedom to change his religion or belief, and freedom, either alone or in community with others and in public or private, to manifest his religion or belief in teaching, practice, worship and observance.

Nowhere in these documents does it read 'Everyone has the right to freedom of thought, conscience and religion' *provided* a review board finds these claims to conscience to be reasonable, justified and sincere. Article 18 even protects individuals' right to change their religion or beliefs – adding yet another measure of difficulty to the aforementioned review boards and their challenge of assessment.

Although conscience is used repeatedly in these universal texts, conscience is not explicitly defined. How are individuals, governments and health care institutions meant to interpret conscience as depicted in these secular documents? Of course, many unanswered questions exist: is there a presumed shared, global understanding of the meaning of conscience? Given the complexity of conscience and the ongoing philosophical and theological debates surrounding its nature, was this apparent assumption appropriate? Perhaps the vague use of conscience was intentional, as it consequently encapsulates and protects the diverse understandings held by a global audience.

Conscience and appeals to conscience are protected by the *Universal Declaration of Human Rights* [1] and the less well-known *Siracusa Principles* [2], and seem not to require huge explanation on the part of the individual seeking conscientious objection. We suggest that perhaps appealing to conscience without needing to defend one's claims is a basic human right. Of course, the possibility exists that if all appeals to conscience are granted, whether considered sincere or insincere, justified or unjustified, reasonable or unreasonable, negative consequences for individual and population health may undoubtedly arise. However, given the privileged and protected status of individual conscience in society, does it matter if such health consequences do arise? Perhaps the onus is on the health care community to convince individuals, health care professionals, and lay people alike, why participating in a particular medical act or public health initiative would not lead to violations of individual conscience.

Conclusion

Given the pluralist environment within which we live, the complexity embedded within notions of conscience, appeals to conscience and freedom of conscience is inevitable. As scholars continue to challenge the role of conscientious objection in medicine, it is important to consider the possibility that conscientious objection may in fact be a human right. Consequently, a constructive focus for moving forward in this ongoing debate of the role of conscientious objection in medicine might be to consider how the health of individuals and populations can be preserved if conscientious objection is in fact a non-derogable human right.

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References

1. United Nations. *Universal declaration of human rights*. Adopted and proclaimed by U.N. General Assembly Resolution 217A(III) (December 10, 1948). Available at: <http://www.un.org/en/documents/udhr/> (last accessed 4 February 2010).
2. United Nations. United Nations Economic and Social Council, U.N. Sub-Commission on Prevention of Discrimination and Protection of Minorities, Siracusa (1984) *Principles on the limitation and derogation of provisions in the International Covenant on Civil and Political Rights, Annex, UN Doc E/CN.4/1984/4*. Available at: <http://he.unige.ch/~clapham/hrdoc/docs/siracusa.html> (last accessed 4 February 2010).
3. Adams, M. P. (2007) Conscience and conflict. *The American Journal of Bioethics*, 7 (12), 28–29; discussion W21–22.
4. Emerson, C. I. & Daar, A. S. (2007) Defining conscience and acting conscientiously. *The American Journal of Bioethics*, 7 (12), 19–21; discussion W11–12.
5. LaFollette, H. (2007) The physician's conscience. *The American Journal of Bioethics*, 7 (12), 15–17; discussion W11–12.
6. Lawrence, R. E. & Curlin, F. A. (2007) Clash of definitions: controversies about conscience in medicine. *The American Journal of Bioethics*, 7 (12), 10–14.
7. Night, S. S. (2007) Negotiating the tension between two integrities: a richer perspective on conscience. *The American Journal of Bioethics*, 7 (12), 24–26; discussion W21–22.
8. Wicclair, M. R. (2007) The moral significance of claims of conscience in healthcare. *The American Journal of Bioethics*, 7 (12), 30–31; discussion W31–32.
9. Cook, E. D. (2007) Always let your conscience be your guide. *The American Journal of Bioethics*, 7 (12), 17–19; discussion W11–12.
10. Savulescu, J. (2007) The proper place of values in the delivery of medicine. *The American Journal of Bioethics*, 7 (12), 21–22; discussion W21–22.
11. Barfield, R. (2007) Conscience is the means by which we engage the moral dimension of medicine. *The American Journal of Bioethics*, 7 (12), 26–27; discussion W21–22.
12. Card, R. F. (2007) Conscientious objection and emergency contraception. *The American Journal of Bioethics*, 7 (6), 8–14.
13. de Melo-Martin, I. (2007) Should professional associations sanction conscientious refusals? *The American Journal of Bioethics*, 7 (6), 23–24.
14. Hardt, J. J. (2007) The necessity of conscience and the unspoken ends of medicine. *The American Journal of Bioethics*, 7 (6), 18–19.
15. Ladd, R. E. (2007) Some reflections on conscience. *The American Journal of Bioethics*, 7 (12), 32–33; discussion W31–32.
16. Lindsay, R. A. (2007) When to grant conscientious objector status. *The American Journal of Bioethics*, 7 (6), 25–26.
17. Richman, K. A. (2007) Pharmacists and the social contract. *The American Journal of Bioethics*, 7 (6), 15–16.
18. Meyers, C. & Woods, R. D. (2007) Conscientious objection? Yes, but make sure it is genuine. *The American Journal of Bioethics*, 7 (6), 19–20.
19. Wicclair, M. R. (2007) Reasons and healthcare professionals' claims of conscience. *The American Journal of Bioethics*, 7 (6), 21–22.
20. Langston, D. C. (2001) *Conscience and Other Virtues*. University Park, PA: The Pennsylvania State University Press.

21. Curlin, F. A. (2007) Caution: conscience is the limb on which medical ethics sits. *The American Journal of Bioethics*, 7 (6), 30–32.
22. Charo, R. A. (2005) The celestial fire of conscience – refusing to deliver medical care. *New England Journal of Medicine*, 352 (24), 2471–2473.
23. Salmon, D. A., Haber, M., Gangarosa, E. J., Phillips, L., Smith, N. J. & Chen, R. T. (1999) Health consequences of religious and philosophical exemptions from immunization laws: individual and societal risk of measles. *Journal of the American Medical Association*, 282 (1), 47–53.
24. Salmon, D. A. & Omer, S. B. (2006) Individual freedoms versus collective responsibility: immunization decision-making in the face of occasionally competing values. *Emerging Themes in Epidemiology*, 3, 13.
25. Salmon, D. A. & Siegel, A. W. (2001) Religious and philosophical exemptions from vaccination requirements and lessons learned from conscientious objectors from conscription. *Public Health Report*, 116 (4), 289–295.
26. Salmon, D. A., Moulton, L. H., Omer, S. B., DeHart, M. P., Stokley, S. & Halsey, N. A. (2005) Factors associated with refusal of childhood vaccines among parents of school-aged children: a case-control study. *Archives of Pediatrics & Adolescent Medicine*, 159 (5), 470–476.
27. Zohar, N. (2007) Moral disagreement and providing emergency contraception: a pluralistic alternative. *The American Journal of Bioethics*, 7 (6), 35–36.
28. Brody, H. & Night, S. S. (2007) The pharmacist's personal and professional integrity. *The American Journal of Bioethics*, 7 (6), 16–17.
29. Salmon, D. A., Teret, S. P., MacIntyre, C. R., Salisbury, D., Burgess, M. A. & Halsey, N. A. (2006) Compulsory vaccination and conscientious or philosophical exemptions: past, present, and future. *The Lancet*, 367 (9508), 436–442.
30. Wynia, M. K. (2007) Ethics and public health emergencies: encouraging responsibility. *The American Journal of Bioethics*, 7 (4), 1–4.
31. Colgrove, J. (2005) 'Science in a democracy': the contested status of vaccination in the Progressive Era and the 1920s. *Isis*, 96 (2), 167–191.
32. Colgrove, J. & Bayer, R. (2005) Manifold restraints: liberty, public health, and the legacy of Jacobson v Massachusetts. *American Journal of Public Health*, 95 (4), 571–576.
33. Mariner, W. K., Annas, G. J. & Glantz, L. H. (2005) Jacobson v Massachusetts: it's not your great-great-grandfather's public health law. *American Journal of Public Health*, 95 (4), 581–590.
34. Gostin, L. O. (2004) Pandemic Influenza: public health preparedness for the next global health emergency. *The Journal of Law, Medicine & Ethics*, 32 (4), 565–573.
35. Mann, J. M., Gostin, S., Gruskin, T., Brennan, Z., Lazzarini, Z. & Fineberg, H. (1999) Health and human rights. In *Health and Human Rights* (eds J. M. Mann, S. Gruskin, M. Grodin & G. Annas), pp. 7–20. New York: Routledge.
36. Bradley, P. (1999) Should childhood immunisation be compulsory? *Journal of Medical Ethics*, 25 (4), 330–334.
37. Dare, T. (1998) Mass immunisation programmes: some philosophical issues. *Bioethics*, 12 (2), 125–149.
38. McIntyre, P., Williams, A. & Leask, J. (2003) Refusal of parents to vaccinate: dereliction of duty or legitimate personal choice? *The Medical Journal of Australia*, 178 (4), 150–151.
39. Blendon, R. J., Benson, J. M., Weldon, K. J. & Hermann, M. J. *Pandemic influenza and the public: survey findings*. Presented to the Institute of Medicine, October 26, 2006. Available at: <http://www.hsph.harvard.edu/press/releases/press10262006.html>? (last accessed 4 February 2010).

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