A comparative analysis of moral principles and behavioral norms in eight ethical codes relevant to health sciences librarianship, medical informatics, and the health professions

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Objective: Based on the authors' shared interest in the interprofessional challenges surrounding health information management, this study explores the degree to which librarians, informatics professionals, and core health professionals in medicine, nursing, and public health share common ethical behavior norms grounded in moral principles.

Methods: Using the "Principlism" framework from a widely cited textbook of biomedical ethics, the authors analyze the statements in the ethical codes for associations of librarians (Medical Library Association [MLA], American Library Association, and Special Libraries Association), informatics professionals (American Medical Informatics Association [AMIA] and American Health Information Management Association), and core health professionals (American Medical Association, American Nurses Association, and American Public Health Association). This analysis focuses on whether and how the statements in these eight codes specify core moral norms (Autonomy, Beneficence, Non-Maleficence, and Justice), core behavioral norms (Veracity, Privacy, Confidentiality, and Fidelity), and other norms that are empirically derived from the code statements.

Results: These eight ethical codes share a large number of common behavioral norms based most frequently on the principle of Beneficence, then on Autonomy and Justice, but rarely on Non-Maleficence. The MLA and AMIA codes share the largest number of common behavioral norms, and these two associations also share many norms with the other six associations.

Implications: The shared core of behavioral norms among these professions, all grounded in core moral principles, point to many opportunities for building effective interprofessional communication and collaboration regarding the development, management, and use of health information resources and technologies.

INTRODUCTION

Background and purpose

This study grew out of the authors' shared interest in the ethical challenges surrounding the effective development, management, and use of biomedical and health information resources. We have collaborated over the past fifteen years in establishing a graduate training program in medical and health informatics involving faculty and students from many different biomedical, health care, and information management disciplines. This program has included a core course on the ethical and social challenges in informatics, including a review of biomedical ethical principles and professional codes of ethics. Our goal in this study has been to explore the extent to which the professional developers, managers, and health profession users of health information management systems and tools share a common framework of ethical and moral norms that can be leveraged to facilitate more effective interprofessional communication and collaboration.

A framework of moral principles and behavioral norms for biomedical professional ethics

Tom Beauchamp and James Childress's widely cited textbook, *Principles of Biomedical Ethics*, now in its seventh edition [1], provides a widely cited and useful "Principlism" framework for analyzing and comparing the moral foundations of the ethical statements of these health-related professional associations. In addition to four core moral principles ("Autonomy," "Beneficence," "Non-Maleficence," and "Justice"), this framework includes four core behavioral norms of particular importance in guiding ethical decisions involving work with patients, other clients, and human research subjects ("Veracity," "Privacy," "Confidentiality," and "Fidelity") (Table 1).

These principles and norms are often not enough, by themselves, to guide ethical practice in specific situations. Health care and other biomedical professions have a legitimate need to specify (that is, to codify these abstract moral principles or behavioral norms into statements with "action-guiding content" [1, p. 17]) and to clarify the profession's ethical obligations and assure persons entering into relationships with individuals in these professions that they will be ethically competent and trustworthy. Thus, professions have formulated codes of ethics to define

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Supplemental Appendix A, Appendix B, and Appendix C are available with the online version of this journal.

Table 1
Core moral principles and behavioral norm as defined and organized by Beauchamp and Childress in *Principles of Biomedical Ethics*, 7th edition [1]

Core biomedical moral principles (The clusters of behavioral norms that underlie ethical decision making in the biomedical sciences and health care professions)

- **Autonomy:** the norms of respecting and supporting individual autonomous decisions
  - **Core behavioral norms**
    - **Veracity:** the professional duty to provide accurate, timely, objective, and comprehensive transmission of information, as well as the truthful ways professionals work to foster a patient's or client's understanding
    - **Privacy:** the professional duty to respect the right that individuals and families have to keep personal information, decisions, spaces, activities, and relationships under their own control
    - **Confidentiality:** the professional duty to prevent the re-disclosure of private information when patients or clients have a reasonable and legitimate expectation that the professional will not share that information with anyone else without their authorization
- **Beneficence:** the norms that prioritize relieving, lessening, or preventing harm; engaging in actions that provide benefits to others; and balancing the provision of benefits against the risks and costs of those actions, and **Non-Maleficence:** the norms of avoiding actions that would cause harm to others
  - **Core behavioral norm** (for both Beneficence and Non-Maleficence)
    - **Fidelity:** the obligation a professional has, after giving an explicit or implicit promise, to faithfully carry out an activity that benefits the patient or client or to abstain from an activity that would or could cause harm (e.g., avoiding **conflicts of interest,** that is, situations where professional judgments, decisions, or actions are at risk of being unduly influenced by personal interests, such as financial interests or friendships)
- **Justice:** the norms that support the fair distribution of benefits, risks, and costs among patients or clients and in society generally

and reinforce the particular ethical norms and values of their profession. However, some professional codes focus on nonmorally obligatory ideals, such as self-effacement, that are simply rules of etiquette. Beauchamp and Childress argue that the most useful codes are based on coherent, defensible, and comprehensive moral principles and behavioral norms grounded in these principles. The best ethical codes also address professional obligations of importance to patients, clients, and society, rather than just those that protect the authority, traditions, judgments, or reputation of the profession itself [1, pp. 7–8].

A brief review of the recent biomedical, library, and information sciences literature

A few recent studies have analyzed oaths taken by students graduating from schools of medicine. These generally conform with Beauchamp and Childress's framework but have an uneven focus on core principles and norms. Dickstein et al. studied oaths administered by accredited medical schools in 1989, finding that while Confidentiality was addressed by 75% of the oaths, Beneficence, Non-Maleficence, and Justice were each addressed by only 50% [2]. In addition, respect for patients' Autonomy was included in "few oaths," and Veracity was not evident in any. Orr et al. analyzed uses of the Hippocratic oath in US and Canadian medical schools in 1993, finding that one core principle and 2 core behavioral norms remained central to most modern oaths (Justice in 71%, Fidelity [maintaining a "covenant with patients"] in 100%, and Confidentiality in 97%) [3]. The most recent content analysis of US medical school oaths in 2000 by Kao and Parsi found, in descending order, the following core principles and norms: Confidentiality (in 91.5%), Fidelity to the patient (in 81.6%), Beneficence (in 60.3%, including avoiding conflicts of interest, e.g., "bias or prejudice" in 30.5%), Justice ("furthering a just society" in 19.1%), Non-Maleficence (in 18.4%), and patient Autonomy (in just 7.8%) [4].

Another 2004 study by Berkman et al. looked at gaps, conflicts, and consensus in ethics statements from a sample of 39 physician professional associations, group practices, and managed care organizations: Beneficence, Non-Maleficence, and Fidelity ("obligations towards patients") were most common (in 34 statements), followed by those dealing with patients' Autonomy (in 30 statements), Justice ("resource allocation or coverage" in 25 statements), Caring, Compassion, Conscientiousness, Privacy, and Confidentiality ("obligations to vulnerable populations" in 15 statements) [5]. Two studies said that the principle of Autonomy was not well represented in oaths (in "few oaths," Dickstein et al.; and in 7.8%, Kao and Parsi), but these researchers only looked for the word "autonomy," rather than oaths with words also specifying the norms of Veracity, Privacy, and Confidentiality that fall within the principle of Autonomy.

Other studies have looked at librarians' and other information professionals' ethical values, either analyzing codes of ethics or using surveys. One study focused on librarians working in health care or research settings [6], and another focused on member perceptions of the Medical Library Association (MLA) Code of Ethics for Health Sciences Librarianship [7]. Although the values specified in these studies were based on the particular context of each profession, the biomedical framework of Beauchamp and Childress's principles and norms still held up well. In particular, these studies suggested that information professions value:

- **Autonomy** by respecting the privacy and confidentiality rights of information seekers [6, 8–12], by opposing censorship and respecting the "intellectual freedom" of information users [8–13], and by maintaining "professional neutrality" in the interpretation of information provided [6, 9–11];
- **Beneficence** (and by implication **Non-Maleficence**) by striving for the "greatest possible skill and competence" [6, 14], by promoting "information

literacy'' [9–11, 13], and by ''placing [client] needs above other concerns'' [12, 14]; and

- **Justice** by promoting ''equality of access'' to information [6, 8–13], by providing resources representing a ''diversity of opinion'' [6, 9–11], and by respecting ''intellectual property rights'' [11, 12].

METHODS

Starting with the eleven ''goals and principles for ethical conduct'' in the MLA Code of Ethics for Health Sciences Librarianship (2010) [15] and the twenty ''principles of professional and ethical conduct'' in the Code of Professional and Ethical Conduct (2011) of the American Medical Informatics Association (AMIA) [16], we selected a total of eight professional associations' ethical codes to analyze using Beauchamp and Childress's framework of biomedical ethics moral principles and behavioral norms. Because many librarians working in nonprofit and for-profit biomedical and health care settings are not MLA members, we also included the eight ''principles expressed in broad statements to guide ethical decision making'' of the American Library Association (ALA) Code of Ethics (2008) [17] and the eight Professional Ethics Guidelines (2010) of the Special Libraries Association (SLA) [18]. To fully represent health information management professions, we included the eleven ''ethical principles'' in the American Health Information Management Association (AHiMA) Code of Ethics (2011) [19], in addition to AMIA. Finally, to represent the three core health professions depending on health information databases and other information management and decision support tools, we included the nine Principles of Medical Ethics (2001) of the American Medical Association (AMA) [20], the nine ''provisions'' of the Code of Ethics for Nurses (2001) of the American Nurses Association (ANA) [21], and the twelve ''ethical principles'' from the Public Health Code of Ethics (2002) of the American Public Health Association (APHA) [22].

Using the framework of Beauchamp and Childress's principles (Table 1), we analyzed whether each statement in each ethical code specified in whole, or in part, one or more of the four moral principles (Autonomy, Beneficence, Non-Maleficence, and Justice). We also attempted to determine whether any statements specified one or more of the core behavioral norms that fell under Autonomy (Veracity, Privacy, and Confidentiality) or under Beneficence and Non-Maleficence (Fidelity). However, in our initial analysis, we found many code statements that clearly specified the principle of Autonomy or of Beneficence but did not clearly specify any of the four core behavioral norms. Finally, the principle of Justice in Beauchamp and Childress's framework did not include any core behavioral norms. In their discussion of this principle, Beauchamp and Childress discussed the significant problems of ''our multilayered and sometimes fragmented conceptions of social justice,'' and they listed six different groups of theories that could be used to specify Justice norms [1, pp. 253–62]. Elsewhere, they also noted the value of descriptive or comparative methods [23] to investigate the behavioral norms expressed in professional codes [1, p. 2]. Therefore, we used these methods to empirically identify additional Justice behavioral norms as well as additional Autonomy and Beneficence behavioral norms beyond Beauchamp and Childress's core behavioral norms.

Note that the analysis was limited to the core statements in each code. Most of these codes also included additional introductory and explanatory materials to help readers interpret the code statements. Some codes also provided examples of how to balance and further specify their core code statements to deal with complex situations where equally valid moral principles or norms are in conflict. The AMA publishes a whole volume of legal opinions based on the principles in its Code of Medical Ethics [24]. In addition, the analysis presented here does *not* include a detailed analysis of the fifty-nine guideline statements provided in the AHiMA code as ''a non-inclusive list of behaviors and situations…to clarify [each of] the principles'' [19]. However, those guideline statements did help us to verify more accurate behavioral norm specifications for some of the AHiMA code statements.

RESULTS

Ethics code statements specifying principles and norms

Almost all (88) of the statements in these 8 ethical codes specify at least 1 of Beauchamp and Childress's moral principles (Autonomy, Beneficence, Non-Maleficence, and Justice), and many statements include sections specifying more than 1 principle (Table 2). The principle of Autonomy is strongly represented, with 36 (41%) of the total statements, averaging more than 4 per code and ranging from 3 (for SLA) to 6 (for AHiMA and APHA) or from 25% of the total (for AMIA) to 55% of the total (for AHiMA). However, Beneficence is clearly the most central principle in all these codes, with a total of 54 (62%) statements, averaging more than 6 statements per code and ranging from 4 (for AMA) to 13 (for AMIA). Expressed as a percentage of all the statements in each code, Beneficence statements range from 36% (also for AHiMA) to 89% (for ANA) and make up 61% of the combined total. The principle of Non-Maleficence is represented by a total of just 3 (3%) statements, 1 each in 3 of the 8 codes. Finally, Justice is less well represented than Autonomy and Beneficence, but this principle is addressed by at least 1 statement of professional obligation in every code. The 20 statements specifying Justice behavioral norms make up 23% of the total, ranging from 1 (for MLA and AHiMA) to 5 (for AMIA) or from 9% (also for MLA and AHiMA) to 50% (for ALA) of the total in each code.

Only one statement in these eight codes does not directly address any of these moral principles: AMIA

Table 2
Professional ethical code statements specifying the 4 core biomedical moral principles*

		Autonomy			Beneficence			Non-Maleficence			Justice				
Professional associations	Number of ethical code statements	Code statement numbers specifying this principle	Number	(% of all code statements)	Code statement numbers specifying this principle	Number	(% of all code statements)	Code statement numbers specifying this principle	Number	(% of all code statements)	Code statement numbers specifying this principle	Number	(% of all code statements)	Total statements specifying the core principles	(% of all statements)
Medical Library Association (MLA)	11	1, 2, 3, 8	4	(36%)	1, 2, 4, 5, 6, 7, 9, 10, 11	9	(82%)	2	1	(9%)	1	1	(9%)	11	(100%)
American Library Association (ALA)	8	I, II, III, V	4	(50%)	I, V, VI, VII, VIII	5	(63%)	—	0	(—)	I, II, IV, V	4	(50%)	8	(100%)
Special Libraries Association (SLA)	8	1, 5, 7	3	(38%)	1, 2, 3, 6, 8	5	(63%)	—	0	(—)	1, 4	2	(25%)	8	(100%)
American Medical Informatics Association (AMIA)	20	IA1, IB, IC, IIA, IIIC	5	(25%)	IIB, IIC1-3, IIIA, IIIC, IVA–C, VA1–3, VB	13	(65%)	IC	1	(5%)	IA2, IB, IIIB, IIIC, IVA	5	(25%)	19	(95%)
American Health Information Management Association (AHiMA)	11	I, III, VIII, IX, X, XI	6	(55%)	II, IV, V, VI, VII	5	(45%)	IV	1	(9%)	I, XI	2	(18%)	11	(100%)
American Medical Association (AMA)	9	I, II, IV, VI	4	(44%)	I, V, VII, VIII	4	(44%)	—	0	(—)	III, IX	2	(22%)	9	(100%)
American Nurses Association (ANA)	9	1, 4, 5, 9	4	(44%)	1, 2, 3, 4, 5, 6, 7, 8	8	(89%)	—	0	(—)	3, 8	2	(22%)	9	(100%)
American Public Health Association (APHA)	12	2, 3, 6, 7, 8, 10	6	(50%)	1, 5, 9, 11, 12	5	(42%)	—	0	(—)	2, 4	2	(17%)	12	(100%)
Total no.	88		36			54			3			20		87	
Mean	11		4.5			6.8			0.4			2.5		10.9	
% of total	100%		41%			61%			3%			23%		(99%)	

* Note: Many code statements specify more than one principle or norm.

Table 3
Behavioral norms for ethical code statements specifying the principle of autonomy*

Professional associations	Total autonomy code statements	Statement numbers of core autonomy behavioral norms			Total statements specifying core behavioral norms	(% of total autonomy statements)	Statement numbers of other autonomy behavioral norms			Total statements specifying other behavioral norms	(% of total autonomy statements)
		Veracity	Privacy	Confidentiality			Maintains conditions supporting patient or client autonomy	Shows courtesy and/or respect to others	Maintains personal professional autonomy		
MLA	4	—	3	3	1	(25%)	1	2, 8	—	3	(75%)
ALA	4	—	III	III	2	(50%)	II	I, II, V	—	3	(75%)
SLA	3	1, 7	5	5	3	(100%)	—	—	—	0	(—)
AMIA	5	IA1, IIIC	—	IB, IC	4	(80%)	—	IIA	—	1	(20%)
AHiMA	6	IX	I, III	I, III, VIII	4	(67%)	—	X, XI	—	2	(33%)
AMA	4	II	—	—	1	(25%)	—	I, IV	VI	3	(75%)
ANA	4	—	—	—	0	(—)	—	1	4, 5, 9	4	(100%)
APHA	6	—	—	10	1	(17%)	3, 6, 7	2, 8	—	5	(83%)
Total no.	36	7	5	9	16	(44%)	5	13	4	21	(58%)
Mean	4.5	0.88	0.63	1.1	2		0.63	1.63	0.5	2.63	

* Note: Many code statements specify more than one principle or norm.

(VC.): "members should be mindful that their work and actions reflect on the profession and on AMIA." This statement's authors might argue that, by being "mindful" about how their actions "reflect on the profession," AMIA members will be reminded of one or more of Beauchamp and Childress's moral principles or of the behavioral norms derived from them. However, this statement does not clearly specify any *kind* of work or action that is (or is not) moral or ethical. The following sections provide more detail on how code statements specify core and additional behavioral norms for each of the four moral principles.

Autonomy. Altogether, the Autonomy principle is specified in thirty-six statements from these eight association ethical codes (Table 3 and online only Appendix A*). Fifteen of these code statements specify one or more of Beauchamp and Childress's three core Autonomy behavioral norms (Veracity, Privacy, and Confidentiality), each norm with at least one statement in half or more of the eight codes. Veracity is specified in five codes (ALA, AHiMA, AMA, and twice in both SLA and AMIA; for example, "shall…be honest in all professional interactions," AMA). Privacy, on the other hand, is included in just four codes (MLA, ALA, SLA, and twice in AHiMA) and always in combination with Confidentiality (for example, "respects the privacy of clients and protects the confidentiality of the client relationship," MLA). Confidentiality is also specified without Privacy in two additional codes (AMIA and APHA; for example, "should protect the confidentiality of information that can bring harm," APHA).

Among the remaining twenty-two code statements specifying Autonomy, our empirical analysis has determined that they include three additional Autonomy behavioral norms: (1) maintaining conditions that support or enable patients' or clients' Autonomy, (2) showing courtesy and/or respect to others, and (3) maintaining one's own personal professional Autonomy. The norm specifying the obligation to *show courtesy or respect to others* is specified much more frequently (thirteen times) than all other Autonomy norms, including the core Veracity, Privacy, and Confidentiality behavioral norms. The two remaining Autonomy behavior norms are each specified in only two or three codes. *Maintaining conditions that support patient or client Autonomy* is specified with one statement each in the MLA and SLA codes (for example, maintaining "conditions of freedom of inquiry, thought, and expression," MLA) and with three statements in the APHA code (for example, using "processes that ensure an opportunity for input from the community"). The final Autonomy norm is only specified in two ethical codes (AMA and three times in ANA). Rather than specifying an obligation to patients, clients, or professional colleagues, this norm obliges these health care professionals to *maintain their personal professional Autonomy* (for

* The supplemental appendixes include the behavioral norm specifications from every statement in all eight ethical codes.

Table 4
Behavioral norms for ethical code statements specifying the principle of beneficence*

Professional associations	Total beneficence code statements	Statement numbers of core beneficence behavioral norms		Total statements specifying core behavioral norms	(% of total beneficence statements)	Statement numbers of other beneficence behavioral norms					Total statements specifying other behavioral norms	(% of total beneficence statements)
		Fidelity	Fidelity specified as avoiding conflicts of interest			Promotes conditions that provide social benefits	Works to benefit patients, clients or others	Works to benefit the institution	Promotes professional values and ideals	Maintains personal competence		
MLA	9	4	11	2	(22%)	1	2	5	6, 7, 9	10	7	(78%)
ALA	5	—	V, VI, VII	3	(60%)	—	1	—	VIII	—	2	(40%)
SLA	5	—	1, 8	2	(40%)	—	2	2, 3	6	—	3	(60%)
AMIA	13	—	IIIC	1	(8%)	IVA–B, VB	IIB, IVA	IIC1–2, IIIA, IVC	IIC3	VA1–3	12	(92%)
AHiMA	5	—	II	1	(25%)	—	VI	IV	II, VII	V	5	(100%)
AMA	4	VIII	—	1	(25%)	VII	I, V	—	—	—	3	(75%)
ANA	8	2	—	1	(12%)	8	1, 3, 4	6	—	5, 7	7	(88%)
APHA	5	—	—	0	(—)	1, 5, 9	—	12	—	11	5	(100%)
Total no.	54	3	8	11	(21%)	9	11	10	8	9	44	(81%)
Mean	6.6	0.38	1	1.38		1.1	1.4	1.3	1	1.1	5.5	

* Note: Many code statements specify more than one principle or norm.

example, be "free to choose whom to serve…and the environment in which to provide medical care," AMA).

Beneficence. The Beneficence moral principle is specified in fifty-four code statements (Table 4 and online only Appendix B). The core behavioral norm of Fidelity is included in these codes as either the obligation to faithfully carry out promised services for patients or clients or as the more specific obligation to avoid conflict of interest situations. The more general Fidelity norm is specified in just three codes (MLA, AMA, and ANA), with one statement each (for example, "nurse's primary commitment is to the patient," ANA). The norm of avoiding conflict-of-interest situations is specified much more frequently, a total of eight times in five codes (MLA, ALA, SLA, AMIA, and AHiMA), but not in the health care and public health profession codes (for example, "we distinguish between our personal convictions and professional duties," ALA). Our analysis of all the Beneficence code statements has determined that, in addition to Fidelity norms, they specify five additional behavioral norms for engaging in actions that provide benefits to others: (1) promoting conditions that provide social benefits, (2) working to benefit patients or clients, (3) working to benefit the institution, (4) promoting the profession's values and ideals, and (5) maintaining one's own personal professional competence.

Working to benefit patients or clients is the most frequently specified, in seven different codes (in all but APHA: for example, providing "clients with the highest level of service," SLA). Two other norms are specified in six different codes, but each in a different subgroup: *working to benefit the professional's institution* (in all but ALA and AMA: for example, maintaining "conditions of employment conducive to the provision of quality health care," ANA) and *maintaining one's own personal professional competence,* presumably for the benefit of clients and the institution as well as society at large (in all but ALA and SLA: for example, advancing professional "knowledge and practice through continuing education," AHiMA). The remaining two Beneficence norms are each specified in five codes: *promoting conditions that provide social benefits* (MLA, AMIA, AMA, ANA, and APHA: for example, implementing "effective policies and programs that protect and promote health," APHA) and *promoting each profession's values and ideals* (in MLA, ALA, SLA, AMIA, and AHiMA: for example, upholding "the philosophy and ideals of the profession," MLA).

Non-Maleficence. Non-Maleficence, is closely linked to the principle of Beneficence, but rather than *providing* benefits or *preventing* harm, this principle emphasizes *avoiding* actions that would cause harm to others. Beneficence norms specify the obligation to take actions that provide benefits, whereas Non-Maleficence norms specify the obligation to *not*

Table 5
Behavioral norms for ethical code statements specifying the principle of justice*

Professional associations	Total justice code statements	Promotes equitable access to services and resources	Promotes widespread access to services and resources	Protects and balances intellectual property rights	Upholds laws	Facilitates patients and clients in obtaining their rights	Facilitates and supports employees in obtaining their rights
MLA	1	—	1	—	—	—	—
ALA	4	I	II	IV	—	—	V
SLA	2	1	—	4	—	—	—
AMIA	5	—	IVA	IIIB	IB	IA2, IIIC	—
AHiMA	2	XI	—	—	—	I	—
AMA	2	—	IX	—	III	—	—
ANA	2	—	8	—	—	3	—
APHA	2	2	4	—	—	—	—
Total no.	20	4	6	3	2	4	1
Mean	2.5	0.5	0.75	0.38	0.25	0.5	0.13

* Note: Many code statements specify more than one principle or norm.

engage in actions that would cause harm. This distinction in Beauchamp and Childress's core moral principles is not recognized by other moral philosophers, who consider Non-Maleficence to be an aspect of Beneficence (Frankema, for example [25, p. 47]). Thus, Non-Maleficence is specified (or is indirectly specified) by only three statements in these eight codes.

We have determined that only three statements from these codes may be specifying an aspect of the Non-Maleficence principle: MLA (2.): "works without prejudice to meet the client's information needs"; AMIA (IC.): "should understand that inappropriate disclosure of biomedical information can cause harm, and so should work to prevent such disclosures"; and AHiMA (IV.): "Refuse to participate in or conceal unethical practices or procedures." However, none of these three statements unambiguously specifies a Non-Maleficence behavioral norm (that is, a clear obligation to avoid, or not engage in, harmful actions), rather they just imply this principle by their wording.

One of two dictionary definitions for the word "prejudice" in the MLA statement is: "detriment or injury caused to a person by unreasonable preconceived judgments or convictions" [26, p. 1428]; therefore, this wording could be interpreted as the obligation to work to avoid actions that would cause this kind of harm. However, four of the studies that we reviewed in the literature review section point to "professional neutrality" as a widely shared Autonomy behavioral norm among librarians and other information professionals [14, 17–19]. Thus, we suspect that "without prejudice" in this MLA code statement is based on the second dictionary definition for prejudice: the "state of holding unreasonable preconceived judgments or convictions" [26, p. 1428]. This definition suggests that this MLA code statement is more likely intended to specify the norm of showing respect for the clients' ability to make their own assessments of the value or usefulness of information resources (by avoiding preconceived judgments about them).

Similarly, working to "prevent" inappropriate disclosures that "can cause harm" in the AMIA statement is language that most clearly parallels the Beneficence definition language of "relieving, lessening or preventing harm." However, the "can cause harm" language in this code statement might also suggest to some AMIA members the Non-Maleficence norm of also *avoiding* actions that could cause harm.

Finally, the AHiMA code injunction to "refuse to participate in or conceal unethical practices or procedures" can be interpreted as an injunction to avoid those practices or procedures because they would cause harm to others. In fact, one of the example guideline statements that AHiMA provides with this code statement does clearly specify the Non-Maleficence behavioral norm of avoiding actions that would cause harm: "professional[s] shall not...engage in any relationships with a patient where there is a risk of...potential harm" [19].

Justice. None of Beauchamp and Childress's four core behavior norms (Veracity, Privacy, Confidentiality, and Fidelity) are specified in the moral principle of Justice. However, our empirical analysis has determined that nineteen statements from these codes specify six Justice behavioral norms for working to support the fair distribution of benefits, risks, and costs among patients or clients or in society generally: (1) promoting equitable access to services and resources, (2) promoting widespread access to services and resources, (3) protecting and balancing intellectual property rights, (4) upholding laws, (5) facilitating patients and clients in obtaining their rights, and (6) facilitating and supporting employees in obtaining their rights (Table 5 and online only Appendix C).

The most commonly specified Justice behavioral norm, by a wide margin, is *promoting widespread access to services and resources* (in all but SLA and AHiMA: for example, "promotes access to health information for all," MLA; and promotes "community, national, and international efforts to meet health needs," ANA). The next most frequently specified Justice norm is specified in four codes: *promoting equitable access to services and resources* (in ALA, SLA, AHiMA, and APHA: for example, providing "the highest level

Table 6
Summary of moral principles and behavioral norms specified in 8 association ethical codes

Moral principles / Core behavioral norms / Other behavioral norms	Professional association codes of ethics (total number of statements in each code) MLA (11)	ALA (8)	SLA (8)	AMIA (20)	AHiMA (11)	AMA (9)	ANA (9)	APHA (12)	Total codes specifying each norm	Norms specified with 1 statement √	Norms specified with 2–4 statements* •
Autonomy											
Veracity		√	•	•	√	√			5	3	2
Privacy	√	√	√		•				4	3	1
Confidentiality	√	√	√	•	•			√	6	4	2
Support patient/client autonomy	√	√						•	3	2	1
Show courtesy/respect to others	•	•		√	•	•	√	•	7	2	5
Maintain personal autonomy						√	•		2	1	1
Beneficence											
Fidelity	√					√	√		3	3	0
Fidelity (avoid conflicts of interest)	√	•	•	√	√				5	3	2
Promote social benefits	√			•		√	√	•	5	3	2
Benefit patients/clients	√	√	√	•		•	•		6	3	3
Benefit institution	√		•	•	√		√	√	6	4	2
Promote professional values/ideals	•	√	√	√					4	3	1
Maintain personal competence	√			•	•	√	•	√	6	3	3
Non-Maleficence											
Avoid causing harm to others	√			√	√				3	3	0
Justice											
Promote equitable access		√	√		√			√	4	4	0
Promote widespread access	√	√		√		√	•	√	6	5	1
Protect intellectual property rights		√	√	√					3	3	0
Uphold laws				√		√			2	2	0
Facilitate patient/client rights				•	√		√		3	2	1
Facilitate employee rights		√							1	1	0
Total norms specified in each code	13	12	9	14	10	9	9	8			
Norms specified with 1 statement √	11	10	6	7	6	7	5	5			
Norms specified with 2–4 statements* •	2	2	3	7	4	2	4	3			

* This analysis distinguishes between norms that are specified with just one statement and those specified in from 2–4 statements in one code.

of service to all library users through…equitable service policies [and] equitable access," ALA). Two additional norms are each specified in just three codes: *facilitating patients and clients in obtaining their rights* (in AMIA, AHiMA, and ANA: for example, facilitating "patients' rights to access, review, and correct their electronic healthcare information," AMIA) and *promoting and balancing intellectual property rights* (in ALA, SLA, and AMIA: for example, advocating "balance between the interests of information users and rights holders," ALA). The two remaining specified Justice norms include *upholding laws* (in just the AMIA and AMA codes: for example, ensuring that "information management is consistent with applicable laws," AMIA) and *facilitating and supporting employees in obtaining their rights* (only in the ALA code: advocating "conditions of employment that safeguard the rights and welfare of all employees of our institutions").

Overall pattern of principle and norm specifications

To summarize this detailed review of the moral principles and behavioral norms specified in these 8 codes of ethics, we looked at their patterns of distribution across all 4 principles and 20 norms in our framework (Table 6). With twice as many statements as the average in the other 7 codes (20 vs. 9.7), the AMIA code specifies a larger number of all the norms in our framework (14), and it specifies the largest number of behavioral norms with 2 or more statements (7). However, the MLA and ALA codes also specify a proportionately large number of behavioral norms (13 and 12, respectively).

Comparing these eight codes by the number of moral principles and behavioral norms that they specify in common, MLA and AMIA stand out for sharing the largest number of behavioral norms (nine, including two Autonomy norms, all but one of the Beneficence norms, and one Justice norm). AMIA and AHiMA share eight norms, and the ALA code specifies a varying mix of eight behavioral norms in common with MLA, SLA, and AMIA (also under all three core moral principles, including three additional Autonomy norms and two additional Justice norms). AMIA and APHA also share another varying mixes of seven norms with MLA, SLA, AMA, and ANA (including, in every case, norms under all three core moral principles). Finally, the AHiMA code of ethics specifies a group of six behavioral norms in common with MLA (although these do not include any under Justice).

DISCUSSION

Overall, the statements of professional obligation in these eight association codes of ethics are generally

well grounded in Beauchamp and Childress's framework of moral principles. On the other hand, the core behavioral norms that they define require expansion with a number of additional shared norms that our empirical analysis has found specified within these moral principles. All eight of these association codes specify many common behavioral norms, most often including norms based on all three core moral principles, although there are some significant differences that distinguish the behavioral norms specified in individual association codes or in some subsets of these codes.

We have already noted that the ALA code is the only one that specifies the Justice norm of facilitating employee rights and that only the 2 core health care profession codes (AMA and ANA) specify the norm of maintaining one's personal professional autonomy. The ALA membership is very large (over 57,000 members [27]) and includes a high percentage of librarians working in public, government-funded, and other institutional settings where employee rights are a particular concern. Medicine and nursing, on the other hand, are much older professions where personal professional autonomy is a core concern. The physician-patient relationship has even been held in court decisions to be "independent of state administrative supervision" [24, pp. lix–lx]. Nurses, who have typically worked under the supervision or direction of a physician, have also been concerned about their ability to use their independent professional judgment effectively to provide the best care and services for their patients. This care-and-treatment, provider-patient relationship is not as central to the other six professions included in this study, where work may affect health care but professional relationships are not typically focused so centrally on patients whose lives depend on their professional judgment.

Other outliers include the MLA, ANA, and APHA codes, which all fail to specify the core Autonomy behavioral norm of Veracity; the ANA code, which also fails to specify the other two core Autonomy behavioral norms of Privacy and Confidentiality; and the AMA code, which does specify Veracity but does not specify either Privacy or Confidentiality. It is not clear why MLA and two of the three health professions associations (ANA and APHA) choose not to (or have neglected to) specify Veracity, although Beauchamp and Childress note that, going all the way back to the Hippocratic oath, codes of medical ethics have ignored this behavioral norm, even though "the virtues of honesty, truthfulness and candor are among deservedly praised character traits of health professionals and researchers" [1, p. 302]. Perhaps these association codes do not specify Veracity because, as Beauchamp and Childress note, the definition and importance of this behavioral norm "have long been disputed" [1, p. 302], or because as Baier has noted, honesty is "a hard virtue to exhibit [and] a hard one to design" [28, p. 109]. It is also not clear why AMA and ANA do not specify either Privacy or Confidentiality in their codes, since as Beauchamp and Childress note, these behavioral norms pervade medical practice and research and, Confidentiality, at least, "has a long history in medical ethics" [1, p. 311].

CONCLUSIONS

Our analysis of the moral foundations of the codes of ethics of these eight associations representing librarians, informaticians, health information management professionals, physicians, nurses, and public health professionals strongly suggests that these codes are all substantially based on the foundation of the core biomedical moral principles that Beauchamp and Childress propose in their *Principles of Biomedical Ethics,* even though a substantial majority of the members of two of these associations (ALA and SLA) work in non-biomedical and non–health care settings. The moral principles of Autonomy, Beneficence, and Justice are well represented in the code statements of every association. The moral principle of Non-Maleficence, on the other hand, is rarely, if ever, specified in these ethical codes, but this is likely because this moral principle is thought by many moral philosophers to be just another aspect of the principle of Beneficence.

The findings from this analysis also demonstrate that a substantial majority of these association codes specify at least three of the four core behavioral norms (Veracity, Confidentiality, and Fidelity) that Beauchamp and Childress argue underlie biomedical ethical decisions involving work with patients, other clients, and human research subjects. The moral principle of Non-Maleficence, the fourth of these core behavior norms that Beauchamp and Childress describe (Privacy), is less frequently specified, most likely because these professions view Privacy as an aspect of Confidentiality, that is, "the professional duty to prevent the re-disclosure of *private* information" (Table 2). Finally, our analysis shows that a substantial majority of these association codes also specify a shared group of additional Autonomy and Beneficence behavioral norms as well as one Justice behavioral norm, all derived empirically from our careful analysis of the content and wording of the statements in all eight ethical codes.

What then are the implications of these findings for effective interprofessional collaboration and the principled development, management, and use of information resources and technologies in biomedical research, health care, and public health? Since accepted ethical norms of behavior help to define the culture of a profession, including its shared vision and ideals of service, we would argue that these findings suggest many opportunities for, as well as some potential impediments to, effective interprofessional communication and collaboration among the members of these professional groups working together in biomedical research, health care, and public health settings. These shared values give the members of MLA and AMIA particularly strong opportunities for effective communication and collaboration. In fact, because these two associations also

share a substantial common core of moral principles and behavioral norms with the other six associations included in this study, health sciences librarians and informaticians are especially well positioned to serve as facilitators and translators of the challenges and opportunities for effective development, management, and collaborative use of health information resources and technologies in these settings.

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