

ETHICS IN OCCUPATIONAL HEALTH: Challenges for South African Health Professionals

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Working Paper No. 2

ISBN 0 7992 2026 4

Published by the Department of Public Health
University of Cape Town
Cape Town
June 2000

Based on a presentation to the third Mine Medical Officers Association Congress
Rustenberg, May 2000

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ETHICS IN OCCUPATIONAL HEALTH: Challenges for South African Health Professionals

Summary

Normative medical ethics as applied to occupational health may not fully assist the occupational medicine practitioner in dealing with the complexities of dual loyalties associated with workplace health care provision. Despite the high potential for workplace conflict to pose difficult ethical dilemmas, training in ethics for occupational practitioners is generally poor, and awareness of international codes on ethics in occupational health limited. For South African doctors, additional factors driving attention to ethical practice include the role of the Truth and Reconciliation Commission in exposing past complicity by health practitioners in human rights abuses, and the existence of statutory and non-statutory mechanisms which will place greater demands on health care providers at the workplace to meet ethical standards in ways that are more transparent and visible. Greater attention to ethical practices will be integral to restoring relationships of trust between workers and occupational health practitioners in South Africa.

The main Ethical Codes guiding occupational health practice are outlined, as well as some of the debates around revisions of these codes. These disputes relate to extent to which health professionals have duties to be proactive in protecting workers' health, and the lengths to which health professionals' practice must go to ensure independence from third party influence. In light of these codes, three key areas that typify ethical dilemmas in occupational medicine are explored: medical confidentiality; genetic screening; and hazard communication, with reference to the roles and responsibilities of the health professional.

The importance of maintaining confidentiality of medical information in assessing fitness for work, divulging only information relevant to fitness for a particular job is common to most codes. This implies that it is an ethical obligation for doctors to be familiar with the work environment, its tasks and requirements when conducting examinations to evaluate fitness for a job. Moreover, only tests that are relevant to the particular job tasks should be conducted. Genetic screening has the potential to result in gross discrimination against workers and, in general, have too many unanswered scientific questions to justify their use in pre-employment screening presently, particularly if medical testing is used in a predictive rather than preventive manner. Lastly, occupational health practitioners should see effective hazard communication as part of their ethical responsibilities and seek to implement and evaluate the way they inform workers of potential hazards and risks.

Given that international experience has shown that considerable uncertainty exists amongst occupational health professionals about what constitutes adequate ethical standards, the South African profession should seek ways to improve the consistency and adequacy of our own ethical practices. Such mechanisms include not only the adoption of ethical codes, but continuing medical education, an ombudsman function, peer review and audit, ethical scrutiny of company contracts and incorporation of ethical considerations in all quality assurance practices.

Introduction

It may be argued that ethics has always been a somewhat neglected aspect of professional practice in Occupational Health, largely because it was assumed that normative professional ethics could apply equally well to sub-specialties in the medical profession. It was a view that held that doctors who subscribed to the Hippocratic Oath and other professional codes should be able to apply these ethical principles in any circumstance where medical care was to be provided. For example, reports of occupational health service provision in South Africa (Lowe et al, 1990) and neighbouring countries (Loewenson and Stanton, 1999) suggest that the majority of doctors providing services to industry were not expected to hold any specific training qualifications in Occupational Health. Even if they were, such training did not specifically address ethical issues peculiar to occupational health. Even in developed countries, levels of training on ethics in occupational health are low (Watterson, 1994; Aw, 1997; Martimo et al, 1998).

Moreover, the traditional evolution of much of the discipline as a service to industry led to a natural downplaying of the potential for conflict around occupational health issues at the workplace. Health professionals do not feel comfortable with conflictual roles, and the nature of professionalism in medicine emphasises collaboration based on collegiality and consensus.

Yet, there can no doubt that the workplace is a setting where health care is fraught with the potential conflict. This stems not only from the conflictual nature of employer-employee relations, but because of the particular position in which health professionals are placed (Nemery, 1998). The medical practitioner providing occupational health services has, on the one hand, a contractual relationship with the employer (or perhaps sometimes the workers' Trade Union) while, on the other hand, ethical codes demand the placing the interests of his or her patient before all else. However, the interests of the individual patient may well conflict with the organisational interests of the employer, or indeed that of the Trade Union. Such conflicts present the medical practitioner with a situation of dual loyalty, and the need for ethical guidelines to negotiate the maze of such dual loyalties becomes critical. The advent of managed care had added additional layers of third party pressures, as funders, health care administrators and private-for-profit ventures will impose additional sets of obligations, implicit and explicit (Lax MB, 1996).

In many senses, such pressures of dual loyalties are no different from those faced by medical practitioners processing disability grant applications for the State (Rosenstock and Cullen, 1995). However, while the essential duality (or multiplicity) of allegiance is common, the specific expression of this duality is often peculiar to the occupational health setting, and raises ethical conflicts that are not generic but particular to the occupational health domain. Moreover, it is important to remember that ethics does not provide an absolute set of rules but rather a set of principles to guide choices about appropriate behaviours. There are no right or wrong answers but rather answers that should be justifiable in a moral framework.

Irrespective of one's ethical framework¹, the doctor must balance and trade off one set of principles or one set of utility values against another to come to moral decision as to how to proceed. Yet the current body of medical ethical theory does not provide guidelines for how such trade-offs should be made, what criteria should be used to decide which principle or interest is more important, how such criteria should be tested, how transparent such decisions should be, etc. It is precisely in this area that our ethical codes are weakest, yet it is precisely in these areas that our challenges are greatest.

The roots of ethics in occupational health may be traced far back. Hippocrates himself admonished his followers in medicine to observe the patient's environment, while Ramazzini, the father of occupational medicine sought to extend medical practice into working class homes in pursuit of a healing mission that few of his colleagues at the turn of the 18th century were prepared to do. Indeed, if one looks at Legge's aphorisms (Sir Thomas Morison Legge being the first Medical Inspector of Factories in England) one can see ethical concerns emerging clearly in his call for workers' right-to-know and for the application of the hierarchy of control.

Legge's Aphorisms
Unless and until the employer has done everything - and everything means a good deal - the workman can do next to nothing to protect himself, although he is naturally willing enough to do his share.
If you can bring an influence to bear external to the workman (that is, one over which he can exercise no control) you will be successful; and if you cannot or do not, you will never be wholly successful.
Practically all industrial lead poisoning is due to the inhalation of dust and fume; and if you stop their inhalation, you will stop the poisoning
All workmen should be told something of the danger of the material with which they come into contact and not be left to find it out for themselves - sometimes at the cost of their lives.
Examples of influence - useful to a point, but not completely effective - which are not external, but depend on the will or the whim of the workers to use them, are respirators, gloves, goggles washing conveniences and waterproof sand paper.

¹ Utilitarian approaches to ethics are based on a consequential notion of morality - that the correct decision should be determined by the consequences of that decision, which should aim to maximise the greatest utility. Utilitarian ethics lies at the heart of public health, and much of occupational health, where decisions are made on the basis of seeking the greatest good for the greatest number of people with a given resource input. In contrast, principle-based ethics relies on a more deontological approach - the "correctness" of a choice is based on the inherent value of the action, and not on its consequence, and should be informed by a weighing of the principles involved. Traditionally, medical ethics has flagged four principles - beneficence, non-maleficence, autonomy and justice as key to informing medical practice. It is this model of medical ethics that is dominant in current professional training, and dominates normative discourse on medical ethics. Of course, there are overlaps, and eclectic approaches are often applied in practice, particularly when deciding on public health policy.

However, the modern ethical codes only begin to appear on the latter half of this century. For example, the 1976 American Occupational Medicine Association (AOMA) code was revised by the American College of Occupational and Environmental Health (ACOEH) in 1984. Later codes of the Royal College in the United Kingdom (UK) were first published in 1980 and regularly revised over the next two decades, while the International Congress on Occupational Health (ICOH) Code of Ethics was published in 1992. In general, the later codes tend to be more extensive and explicit, drawing on practical experience in developing professional responses to ethical dilemmas.

Medical Ethics in Occupational Health in South Africa

South Africa's Truth and Reconciliation Commission (TRC) placed the human rights abuses of apartheid onto centre stage of public attention and challenged all South Africans across a broad range of political and civil society structures to re-examine institutional and individual conduct under apartheid within a framework of moral choices. In its findings, the TRC report (Truth and Reconciliation Commission, 1998) highlighted how the health services were complicit in widespread human rights abuses under apartheid. In particular, a number of testimonies focused on the failure of health professionals to protect the health of workers from workplace hazards, actions argued to reflect "the tendency of health professionals to prioritise the interests of an uncaring industry under apartheid" (Baldwin-Ragaven et al, 1999:29). For example, a submission on Systematic Racial Discrimination and the consequences for the health of mine workers, showed how large numbers of miners with Tuberculosis were repatriated by the mining health system prior to 1985. This occurred in the full knowledge that a minority of such miners were likely to receive treatment in the homelands, and that many were likely to die as a result, and infect many family members in the process (White, 1997). If the profession is to shed this baggage, it needs to make a clear commitment to doing things differently to how business was done in the past.

A second factor driving greater scrutiny of professional accountability is the growth in statutory and non-statutory bodies aiming to promote a culture of human rights in South Africa, with spill-over into health care. For example, the Human Rights Commission (HRC) has wide powers to investigate and seek redress of situations where rights of citizens have been abused, and has made a number of interventions in health care settings. There should be little doubt that it would have the power to intervene in situations of ethical conflict in occupational health where rights are abused - for example, if employees reported systematic breaches in confidentiality or the use of workplace medical testing.

Moreover, non-statutory bodies have sought to prioritise consumer rights through lobbying and advocacy. The National Progressive Primary Health Care Network (PPHCN) have developed a Health Rights Campaign aimed at empowering users of services, who may be workers or family of workers, to insist on a set of minimum entitlements when using services. Coupled to the above, are moves from within the Department of Health (DOH) to promote patient rights. The DOH recently launched a Patient's Charter, and has included in its White Paper on the Transformation of the Health

Services (Department of Health, 1997) policies aimed at promoting a “caring service” and increasing patients rights to access to information, including medical records. Such moves to enable patients to assert rights will place greater demands on health care providers at the workplace to meet ethical standards in ways that are more transparent and visible.

While the tragedy of Bhopal (Cullinan et al, 1996) and cases such as the ongoing use of the banned fumigant DBCP in Central American banana plantations (Thrupp, 1991) have flagged unethical behaviours of corporates in occupational and environmental health internationally (La Dou, 1992), South Africa has also seen its fair share of national occupational health disasters. In the case of Thor chemicals (Van der Line 1995a and 1995b), much criticism was made of the failure of medical surveillance to trigger stricter remedial actions. Similarly, there is currently a UK court action by survivors and families of asbestos mining victims from the Northern Cape. High profile incidents like these are potent drivers of public calls for accountability, which occupational health practitioners should not ignore.

There are also developments in the international policy arena in occupational health that will have knock-on effects on our ethical practice. For example, the International Programme on Chemical Safety (IPCS) has come under severe criticism for the perceived influence exerted by industry on recent publications on asbestos and multiple chemical sensitivity (Castleman and Leman, 1998; Castleman, 1999). Similarly, the International Commission on Occupational Health has itself been criticised for the undue influence exerted by the pesticides and chemical industries on its membership and scientific outputs (Watterson, 1994). Issues related to partiality of industry-sponsored research and regulatory actions flowing from such research will remain highly contentious, and have resonance to our local situation as well.

It should be noted, of course, that a plethora of new legal and regulatory developments have taken place over the past 7 years with significant implications for practitioners' professional practice. But law and ethics do not always correspond, although law aims to capture social consensus on what is best ethical practice. Law may omit important ethical issues, or may contradict ethical practice, and similarly, laws and human rights do not always correspond. Practitioners need to be able to make “correct” choices about best practice, balancing rights, the law and ethical demands.

Why should we be concerned about ethics in occupational medicine practice?

The primary motivation for addressing ethics in occupational health must be to improve the quality of professional practice, in the form of better care for patients, and better services to industry. In doing so, the occupational health professional can hopefully find ways to ensure compliance with legal, professional, **and** ethical standards simultaneously.

However, it is also to meet public (and workers') expectations of the profession that ethics plays a key role. Plomp (1992) has shown that Dutch workers, asked their opinions on the role of occupational health doctors, voiced very high levels of uncertainty as to how the

doctors apply their professional standards in the balance between the demands of employers and workers, which undermines workers' trust in their occupational health services. Professional solutions which emphasise the independence of the doctor based on adherence to a set of professional standards would not address the power relations and dependency structures that characterise Occupational Health Services (OHS) or gain the confidence of the workers. If Dutch workers cannot trust occupational health doctors, how much more would such disjunctures apply in South Africa, where the legacy of racial discrimination, and labour conflict continue to mark OHS provision? Precisely because of the lack of a responsive health care infrastructure for workers in the rural Western Cape (London, 1990), workers' organisations established union-based primary care and occupational health initiatives more sensitive to workers' needs for employees in the canning industry (London, 1993).

A further issue is that of ethics in research, highlighted most recently by the high-profile case involving falsification of data by a highly regarded South African oncologist (Bateman, 2000). However, this probably represents a long-standing hiatus in ethical controls in South Africa. As far back as the 1970's, there is evidence of the suppression of scientific research into the hazards of asbestos by the Medical Research Council at the indirect insistence of the asbestos industry (Baldwin-Ragaven et al, 1999). However, it is encouraging that SIMRAC, for example, intends introducing an Ethics Policy to apply to all research submitted and conducted through SIMRAC grants (Dr Mary Ross, Personal Communication, March 2000).

Clearly, then, attention to ethical practice may assist substantially in contributing to greater trust amongst employees using OHS, as well as more broadly to attempts to develop a culture of human rights in health care in the new South Africa.

Summary of the International Code of Ethics of Occupational Health Professionals (ICOH, 1992)
<ul style="list-style-type: none"> Occupational health practice must be performed according to the highest professional standards and ethical principles. Occupational health professionals must serve the health and social well-being of the workers individually and collectively. They also contribute to environmental and community health
<ul style="list-style-type: none"> The obligations of occupational health include protecting the life and the health of the worker, respecting human dignity and promoting the highest ethical principles in occupational health policies and programmes. Integrity in professional conduct, impartiality and the protection of the confidentiality of health data and of privacy of workers are part of these obligations
<ul style="list-style-type: none"> Occupational health professionals are experts who must enjoy full professional independence in the execution of their functions. They must acquire and maintain competence necessary for their duties and require conditions that allow them to carry out their tasks according to good practice and professional ethics.

The role of Ethical Guidelines

A number of different ethical guidelines exist that aim to address ethics in occupational health (Table 1). Probably the most substantive and detailed is that of the ICOH (ICOH, 1992) summarised in the box below.

However, even in the matter of ethical guidelines, disputes around the comprehensiveness and validity of such guidelines are common cause. For example, when the American College on Occupational and Environmental Medicine revised the existing 1976 American Occupational Medicine Association guideline (Teichman and Webster, 1994), the new draft was severely criticised (Frumkin et al, 1995) for reversing or seriously weakening the College's "commitment to self-policing, its concern with conflicts of interest in occupational health, its declaration of the need to base occupational health practice on thorough knowledge of the workplace, its commitment to clear, responsible hazard communication, and its commitment to cooperating with government public health efforts." Other US commentators have similarly rejected the ACOEM code in favour of the ICOH code (Brodkin et al, 1996) which sets itself up as a code applicable to all professionals in the occupational health field, and not specific to a particular profession.

Title	Date	Source
International Code of Ethics of Occupational Health Professionals	1992, last printing 1996	International Commission on Occupational Health (ICOH), 1992.
Guidance on Ethics for Occupational Physicians	Last update 1997	Royal College of Physicians, Faculty of Occupational Medicine, UK
Guidance on Ethics and Professional Conduct for Occupational Physicians	1999	Australasian Faculty of Occupational Physicians
Code of Ethical Conduct for Physicians providing Occupational Medical Services	1976	American Occupational Medicine Association
Code of Ethical Conduct	1993	American College of Occupational and Environmental Medicine
Guidelines on Ethical and Professional Conduct for Occupational Health Practitioners	2000	South African Society of Occupational Medicine

What is essentially in dispute in these codes is the extent to which health professionals have duties to be proactive in protecting workers' health, and the lengths to which health

professionals' practice must go to ensure independence from management influence. Matters of practicability also enter into some of the criticisms of codes in that highly aspirational idealistic codes are not easy to apply in practice (Rothstein, 1997). Some commentators have argued that ethical codes in occupational health do not take into account practical constraints and cultural biases, resulting in a failure to integrate expectations from management, employees and professional bodies (Rodham, 1998).

The South African Society of Occupational Medicine (SASOM) recently developed a comprehensive code that draws on most of the key documents listed in the table, available from the SASOM offices. However, Guidelines in themselves are unlikely to be effective in the absence of professional support for ethics. Aw (1997) showed extremely low levels of awareness of international ethical guidelines amongst doctors training in occupational health from the UK, Holland and Singapore who would be precisely the group one would expect to have the highest levels of attentiveness to ethical codes.

Critical areas for ethical dilemmas

Given the above perspective, this paper will focus on three areas warranting detailed attention, in which the ethical dilemmas in occupational medicine are typified. These include questions of confidentiality and disclosure of information; genetic screening; and, thirdly, hazard communication.

4. Confidentiality in occupational health

Confidentiality is one of the tenets of the doctor-patient relationship. However, it should be born in mind that confidentiality is not an absolute principle (Horan, 1993; Cullen and Rosenstock, 1994). Whereas Victorian physicians were precluded from notifying the partners of patients with syphilis whom they were treating because of strict adherence to the principle, today a variety of situations are recognised where it is accepted that it may be possible to breach medical confidentiality and release personal medical information. For example, certain medical conditions are notified on the basis that public health responses can protect the patient, his or her family or associates, or other community members. Generally, the rationale for justifying a breach of confidentiality relates to a balancing of the relative harms and benefits to all parties concerned, the fairness of the action (in other words, are the benefits and harms fairly distributed?), the extent to which rights could be protected, and whether the same public health objective could be achieved through an alternative method. Mostly, such abrogations of confidentiality once deemed ethically acceptable, are generally codified in law or policy that serves as a transparent procedure by which balancing principles and rights are traded off. In a democratic society the process of formulating law or policy ensures social acceptance of the product.

In the workplace setting, respect for, and operationalisation of confidentiality should be no different. However, there are particular circumstances where dual loyalties pose particular challenges to maintaining traditional adherence to confidentiality, even when we accept it being a relative principle. For example, in assessing fitness for work, the

practitioner has to provide information to management based upon their clinical assessment, in relation to their knowledge of the work environment. The question really is how much information, and what information.

Most ethical codes (see Table 2) recognise the principle that employers are not entitled to medical information but only to general advice about fitness for work - i.e. abilities and limitations of function. Of note is that the Royal College code identifies that different ethical obligations apply depending on the circumstances of the examination. Indeed, the Guidelines go as far as to argue that in the situation of pre-employment testing, the doctor must recognise that his or her primary responsibility is to the employer rather than the applicant. This is made explicit to avoid role confusion generated by the problem of dual loyalty. However, even under this circumstance, ethical constraints are significant. In particular, the nature of the health assessment should be appropriate to the task requirement, which implies an ethical duty of the doctor to be familiar with the specific hazards and tasks associated with that job. It is unethical practice to be asked to apply medical examinations that have no relationship to the specific needs of the job. In some ways, the Employment Equity Act (Department of Labour, 1999) sets analogous standards as those presented by the UK ethical code.

Table 2. Confidentiality of Medical Information - Comparisons of Best Ethical Occupational Health practice

Ethical Area	AOMA, 1976	ACOEM, 1993	Royal College, 1987	ICOH, 1992	SASOM, 2000
Divulging to (non-medical) employer	Employers entitled to advice re fitness for work; No diagnosis or specifics	Employers entitled to advice re fitness for work and accomodation required; No diagnosis or specifics, except in compliance with law; Otherwise possible with informed consent	No release of full medical details; Can report in broad conclusions on employment implications - abilities and limitations of function; Share report with worker first; Different ethical obligations depending on the purpose of the examination Audit results must be free of identifiers	Employers must receive only a statement of fitness for envisaged work; General information on work fitness or in relation to health requires informed consent	No clinical information without informed consent
Divulging to employer's medical advisor	At the request of the patient and according to traditional medical practice	According to accepted medical practice	Only with informed consent		
Divulging to other doctors	At the request of the patient and according to traditional medical practice	According to accepted medical practice		With the agreement of the worker	With worker's consent
Applicability of confidentiality		Doctors must make reasonable efforts to ensure those under their supervision respect confidentiality	To all health personnel; Also to clerical staff who must handle such information = doctor responsible. All staff to sign policy	Code applies to all disciplines in occupational health; At workplace nurse and doctor responsible for record confidentiality	
Circumstances where confidentiality may be broken	<ul style="list-style-type: none"> At patient's request Required by law Overriding public health concerns 	<ul style="list-style-type: none"> At patient's request Required by law Overriding public health concerns 	<ul style="list-style-type: none"> with informed consent in the patient's interest required by law 	<ul style="list-style-type: none"> particularly hazardous situation where safety of other endangered Legal requirement 	<ul style="list-style-type: none"> medical condition that poses hazard to worker, co-workers or public; and only after attempting consent

			<ul style="list-style-type: none"> • unequivocally in the public interest • to safeguard security / prevent crime • prevent serious public health risk • research (conditional) 		<ul style="list-style-type: none"> • required by the law
Circumstances where confidentiality does not apply			Use of data for audit of quality control	No possibility of identifying individual in collective data	
Patient access to records		Doctors should notify workers of rights to access their medical records	Policy needed to accommodate; may be advisable if company closing and no storage		
Whistleblowing	Actively oppose and strive to correct unethical conduct	-	If evidence emerges of a hazard, doctor's responsibility to workers must take precedence over proprietary restrictions; ? constrained by law	Doctor must respect secrecy of commercial information; but cannot conceal information necessary to protect health and safety of workers and community	If evidence emerges of a hazard, doctor's responsibility to workers must take precedence over proprietary restrictions; Must inform if colleague unethical
Hazard Communication	Communicate information about health hazards in timely and effective fashion to individuals and groups potentially affected and make appropriate reports to the scientific community; Communicate to patients significant findings and recommendations	Strive to expand and disseminate medical knowledge and participate in ethical research efforts as appropriate; Communicate to individuals and groups significant observations and recommendations	If evidence emerges of a hazard, doctor's responsibility to workers must take precedence over proprietary restrictions; Communicate medical findings to patients	Results of surveillance must be explained to worker; Doctor must inform workers of hazards in objective and prudent manner; no concealment of fact; emphasise prevention; Assist employer to provide information and training; encourage health promotion	

Somewhat to the converse of confidentiality, is the issue of whistle-blowing. What should a health professional do if he or she identifies a cluster of occupational illness or a hazardous exposure that requires intervention? First principles suggest that in most circumstances, negotiation with management will lead to an acceptable strategy for dissemination of the information to the benefit of employees and the productivity of the workplace, with resolution of the hazard. However, there may well be resistance, perhaps even from employee representatives who fear job losses, but more likely from management who fear litigation, labour unrest and regulatory action. In these circumstances, the contractual relationship between management and the occupational health profession becomes critical.

This is illustrated in the case of Dr David Kerns, an occupational physician who was director of the Occupational and Environmental Health Programme at Brown University in the USA in 1997 (Kerns, 1998). Dr Kerns signed a contract with the management of a nylon factory as part of a visit made by Faculty teachers and students who were being trained in occupational health. The contract included provisions relating to maintaining trade secrets (see box below).

Contract – Dr David Kerns, 1998

... The company possesses confidential and secret information as well as Trade Secrets related to the manufacture of one or more special types of flock, flock adhesive, flocked fabrics, printing techniques, and finishing techniques. We also consider as confidential the number, types, sizes, configuration and layout of our plant equipment and machinery as well as our sources of supply.

Therefore as a visitor ... all such information which may become known to you is to be considered secret and confidential. Both information which we may reveal directly to you as may be necessary in the conduct of business and information which, through your contact with us, may indirectly become known to you is to be considered confidential.

...

The purpose and scope of this agreement is to protect and limit the disclosure of the company's confidential information. Information will be disclosed on a "need to know" basis at the company's **sole** discretion.

...

If you agree to acknowledge and abide by the foregoing, please so indicate by signing the agreement witnessed by a company employee.

Fifteen months later, Dr Kern's Occupational Health Programme began consulting to the company, providing an occupational health service. In the course of his work, he discovered an association between exposure to nylon microfibres and a form of interstitial lung disease, a hitherto unrecognised occupational illness. He undertook

careful documentation of the outbreak, and submitted reports to the the Centre for Diseases Control (CDC) Morbidity and Mortality Weekly Report (MMWR) and presented the information at an American Thoracic Society meeting for peer review. He also undertook to inform management and workers at the plant of the problem and of ways to remediate the problem. However, management obstructed his investigation, sought to block public presentation of his research and put pressure on the University and the Hospital administration involved, both of whom caved in miserably to the economic threats posed to the cash strapped institution. Principle in management's strategy was the argument that Dr Kerns was releasing confidential information to which he had 15 months previously committed himself to keeping secret.

Examination of the nature and intent of the contract, suggests that it could hardly be justified to regard information on the relationship between microfibre exposure and interstitial lung disease as a trade secret. However, when it came to the crunch, management was prepared to use whatever leverage they could to put pressure on Dr Kerns to desist. As Howie Frumkin has pointed out (Frumkin, 1998), the case illustrates a number of issues:

- Although not the norm, gross attempts to cover up occupational disease can and do occur
- The advent of managed care, the decline of university autonomy and financial pressures have eroded traditional notions of academic freedom and public health responsibility, with obvious implications for ethical practice
- Personal choice matters - Dr Kerns stood on principle, and should be a role model for occupational health practitioners
- Support of colleagues, mobilised through email, professional journals, and the media was important to making sure the ethical choices were vindicated.

It is therefore not surprising that the ICOH Code on Ethics specifically calls for a clause on ethics to be incorporated in every contract of employment of an occupational health professional (ICOH, 1997).

5. Genetic screening

As medical science makes ever more rapidly increasing advances in understanding the genetic make up of the human organism, increasingly challenging and complex ethical challenges are likely to emerge for occupational health practice from the prospects of genetic testing and genetic screening (Jacobs, 1997; Soskolne, 1997; Van Damme and Casteleyn, 1998; Frank, 1999; Rawbone, 1999). Identification of workers who have unique susceptibility factors in their genetic make-up could carry the prospect of exclusion of those potentially at risk from the workplace - i.e. the use of genetic screening to select non-susceptible workers at pre-employment assessment (Jacobs, 1997). At face value, this is an action that may appear seemingly beneficent - it protects the potential employee from an exposure hazardous to their health. But in the absence of a social net and with high rates of unemployment, depriving the applicant of a potential job clearly carries more harm than protection. Moreover, it conflicts with one of the basic principles of OH practice - change the environment to suit the worker.

Table 3. Scientific Questions around Screening critical to Ethical Evaluation	
Area	Potential Questions
Accuracy	<ul style="list-style-type: none"> • What is the validity and reliability of the test? • To what extent is it influenced by the skill of the tester?
Relevance	<ul style="list-style-type: none"> • What are the predictive values of the test? • How well can it predict a particular outcome? • In practice, how well does it predict this outcome? • Is the relationship biologically plausible?
	<ul style="list-style-type: none"> • What is the measure of the risk? • What are the Relative Risk and the Risk Difference? • Is the strength of these measures of association meaningful?
	<ul style="list-style-type: none"> • Does the level of exposure influence the Relative Risk? • Is the causal agent adequately characterised? • Do we know what kind of exposure is critical?
	<ul style="list-style-type: none"> • Is the health outcome serious? For example, is the condition irreversible? How common is the condition and does it have high morbidity and/or mortality? • Does it have socio-economic impact?
Need	<ul style="list-style-type: none"> • Can the objective be met in another method? • Are other tests available that could detect the same disease or physiological changes at an earlier stage? • Can medical monitoring (for clinical measures) be as effective in meeting the objective?
	<ul style="list-style-type: none"> • Is the information produced essential to the objective? • Could primary prevention obviate the need for the test?
Acceptability	<ul style="list-style-type: none"> • Is the procedure acceptable to those screened? • Does the screening have acceptability to the wider community?
Consequence	<ul style="list-style-type: none"> • How many people will be excluded? • To prevent one case, how many would have to be excluded? • How many would be excluded on the basis of false positives?
	<ul style="list-style-type: none"> • Is there a social net? • Will an excluded worker be deprived of opportunity to get other jobs? • What are the social consequences?
	<ul style="list-style-type: none"> • Is there any treatment available for those tested positive? • Will it improve their health status or quality of life • Will knowledge of the outcome be an added burden to the worker?
	<ul style="list-style-type: none"> • Will the use of the test reduce pressure to control hazardous exposures? • What impacts will it have on workers' rights?
	<ul style="list-style-type: none"> • Will it have knock-on effects in institutions other than the workplace (e.g. used in schools or Universities to screen out susceptibles)?
	<ul style="list-style-type: none"> • What are the cost-benefit implications?

Source: adapted from Jacobs, 1997; Van Damme and Casteleyn, 1998

Furthermore, it reflects the use of testing in a predictive rather than preventive mode (Van Damme and Casteleyn, 1998; Koh and Jeyaratnam, 1998). Other less beneficent uses of such testing might be simply to save employers medical costs by screening out those workers at higher risk for non-occupational diseases (Jacobs, 1998; Koh and Jeyaratnam, 1998; Van Damme and Casteleyn, 1998). Thus a range of ethical abuses appear possible in relation to genetic screening. Indeed a 1994 European Working Group recommended the use of genetic susceptibility testing only for the purpose of preventing disease in a workforce. It specifically proscribed testing as a means of selecting the fittest workers, or for avoiding implementing adequate industrial hygiene, or for forcing work seekers to divulge information irrelevant to the job requirements. The Working Group also warned against the use of testing that would have the effect of increasing social inequality, and creating double standards in ethical standards pertaining to the workplace compared to what a democratic society deems appropriate (Soskolne, 1997).

Moreover, there are a range of scientific questions about the scientific value of screening tests that must be addressed before the ethical issues can be adequately negotiated. Van Damme and Casteleyn (1998) have summarised these scientific issues as relating to accuracy, relevance, need and consequence (see Table 3). In relation to genetic screening, current knowledge is too poor to answer most of these criteria adequately (Soskolne 1997; Jacobs, 1998). For example, the ability of most genetic screening tests for susceptibilities to predict an adverse outcome is bedeviled by low predictive values, relatively small relative risks, and lack of data on the dose-response relationship across a range of primary exposures. Genetic screening also isolates only one factor (susceptibility) in a complex multifactoral pathway in the causation of chronic illness (Van Damme and Casteleyn, 1998). Most importantly, the shift to susceptibility testing moves occupational health practice to focus on the individual, and away from primary prevention in the form of improved industrial hygiene and control of exposures (Soskolne, 1997; Van Damme and Casteleyn, 1998). Reliance on tests of poor scientific validity is itself an ethical failing and is specifically proscribed in the ICOH and UK codes.

In many senses these scientific questions are not specific to genetic screening (Jacobs, 1998) but are of particular concern principally because genetic biomarkers, unlike traditional biomarkers (Table 3), are largely markers of towards the proximal end of the exposure-outcome spectrum of biological effects (Soskolne, 1997; Van Damme and Casteleyn, 1998). They therefore would have low predictive value, yet their use in screening presumes a predictive value of sufficient strength to warrant application. Such assumptions carry the potential for severe abuse, and are the source of the ethical difficulties posed to occupational health professionals. Some commentators have warned that so severe are the ethical threats that the failure to develop adequate ethical codes may result in governments choosing regulatory controls over genetic screening rather than allowing professional self-monitoring aimed at meeting ethical standards (Soskolne, 1997; Koh and Jeyaratnam, 1998)

Genetic Screening	Other Biomarkers
Isolate one susceptibility factor early in the chain of causation	Usually well characterised marker later in the chain of causation
Often reliant on statistical association	Usually based on well-developed understanding of biological plausibility
Susceptibility may vary with exposure level	Unusual for biomarker to show effect modification
Changes our concepts of health and normal	Interpreted properly, do not affect what we consider healthy
Shifts emphasis to the (susceptible) individual	Compatible with increased emphasis on prevention through industrial hygiene measures
Identifies large numbers of people with small and often inconsequential risk	Identifies small numbers of people with highest risks
No possibility of financial compensation	Consequences may be financial compensation

Source: adapted from Van Damme and Casteleyn, 1998

Van Damme and Casteleyn (1998) have gone further by arguing that the application of the Georgetown principles to the question of genetic testing is not appropriate. Whereas the principled approach to ethics is well suited to the individual clinical encounter, it does not offer meaningful specification of the principles in a social context. Thus the individual worker's decision to accept or reject pre-employment screening will have implications for other workers, and indeed for the collective of workers, since the policy will be widely applied to other workers. Once an individual worker voluntarily accepts screening, this will reduce the options for another worker to refuse consent. Instead they argue for an ethical approach based on a framework of social morality, in which the emphasis is on relationship between employees, employers and key stakeholders, and the process of establishing consensus around values or objectives of a policy. In this model, it is not so much the rightness of **what is done** in relation to some **norm**, but rather the correctness of **how it is done**, in relation to an **agreed framework amongst stakeholders** that determines what is ethical. Evidence is that such approaches are working well in the mining industry (Barnes, 1999).

6. Hazard Communication

A number of codes speak to the issue of the occupational health practitioner disseminating information to affected employees (see Table 2). For example, the AOMA code (1976) encourages occupational health practitioners to "communicate information about health hazards in timely and effective fashion to individuals and groups potentially affected and make appropriate reports to the scientific community." The ICOH Code

(1997) similarly calls for proactive engagement with workers and their representative in providing unbiased information on hazards and risk.

However, there is relatively little guidance on what level of detail should be provided, on what is included and what excluded, how the information is presented and, most importantly, how causal associations are interpreted. Health professionals tend to shy away from communicating with the lay public on risk assessments in the presumption that non-scientific people will fail to understand, or worse, misinterpret the data (Watterson, 1994). However, this presumes a somewhat naïve understanding of how policy is formed - that value-free science informs policy in a linear fashion. It also reflects the translation of a somewhat traditional and paternalistic view of medical practice into the arena of occupational health promotion - failing to respect the autonomy of individual workers, or the collective of workers. The ICOH Code is most explicit about placing obligations on the doctor to be proactive in informing potentially affected workers and is fully consistent with current moves in medicine more generally to promote greater attention to the needs of vulnerable groups throughout society as an ethical and professional responsibility.

Mechanisms for hazard communication in industry in South Africa rely almost entirely on the use of MSDS's (Kroon 1999; Cooke and Peens, 1999). Yet how effective are these in providing information to employees? Have they ever been evaluated? Is the data on which they are based unbiased? Do they provide enough information for workers to take action to protect their health? Occupational health practitioners cannot see these issues as divorced from their practice if they are to conform to the ethical standards of the profession.

Conclusion: Challenges to the South African occupational health professions

While the theoretical framework for ethical practice may be easily established in the form of codes, it is sobering to note that beliefs amongst occupational health practitioners are much harder to change. Data from Aw (1997) who investigated attitudes and beliefs amongst doctors training in occupational health across three countries showed how low were levels of awareness of ethical codes, and how widely health professional disagreed about criteria for ethical conduct (Table 5).

Percentage believing disclosure of Medical Information is ethical under the following circumstances	Location of participant		
	UK	Netherlands	Singapore
Danger possible to individual from work	27	8	46
Danger possible to public	64	33	63
Increased cost to organisation due to medical bills	0	4	25
Specific request from management	9	4	29
Information pertaining to biological monitoring	18	8	50
Information pertaining to environmental monitoring	50	25	79
Activity believed to be ethically acceptable			
Screening potential chefs for HIV, following management request	9	13	25
Screening train drivers for alcohol	77	38	79
Screening bus drivers for drugs	68	38	79
Screening chemical workers for genetic abnormalities	36	13	50
Excluding an obese person from a job for safety reasons	50	8	25
Recommending an able-bodied person over a disabled	5	17	33
Disclosing confidential product data if health and safety at stake	82	64	67

Source: Aw, 1997

Perhaps it is time for the profession to undertake some systematic appraisal of how consistent South African occupational health professionals are in our understandings of key ethical challenges facing the profession?

Ethical codes on their own are not sufficient. They need to be supplemented by other processes, such as peer review and audit, and appropriate Continuing Medical Education (CME). The profession should also consider establishing an ombudsman for occupational health. Such a service should service not only users of the service (workers) but also occupational health practitioners who require advice to deal with ethical conflicts and clarity on making sure that contractual obligations to third parties do not subvert ethical obligations. Indeed, all contracts between occupational health practitioners and third parties should include an explicit acknowledgement of the ethical responsibilities of the professional so as to protect him or her from victimisation should they adhere to ethical practice. Lastly, moves towards Quality Assurance in occupational health should be encouraged, with ethics a major component of audit.

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